The London School of Economics and Political Science

A dark force for good as well as bad in the organisation? Investigating the relationship between Dark Triad personality traits, self-control, and workplace outcomes

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"Everyone sees what you appear to be, few experience what you really are."

— Niccolò Machiavelli, The Prince

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Declaration

I certify that the thesis I have presented for examination for the PhD degree of the London School of Economics and Political Science is solely my own work.

I declare that my thesis consists of 98,709 words.

Abstract

The 'Dark Triad' (DT) comprises three common but distinct malevolent personality traits: - Machiavellianism, narcissism and psychopathy. Understanding the motivations and behaviours of Machs, Narcs and Psycs, all of which have deficits of self-control and are associated with negative traits, is important because they are dominant in leadership and management positions. Yet little is known about workplace outcomes associated with high DT individuals - positive and negative - and causal mechanisms underlying their behaviours. This research project seeks to address this gap. The thesis comprises five papers which present the findings from 10 on-line experiments involving more than 5,700 respondents made up entirely of experienced working professionals. Paper 1 presents two correlational studies. Papers 2-5 comprise eight RCTs which investigate how four situational and affective mechanisms linked to self-control (moral disengagement, boredom, flattery and positive affect), influence DT behaviour, in relation to negative outcomes (Papers 2 & 3) and positive outcomes (Papers 4 & 5).

Dark Triad people are difficult to influence, notwithstanding their low self-control. We bored them, flattered them and put them in a good mood. None of these mechanisms changed their moral decision-making. As expected, we found that people high in DT traits are prone to unethicality. They have a high propensity to morally disengage, both before and after acting unethically. We found that for 'normal' people, guilt, but not shame, has a trade-off relationship with post-moral disengagement which suggests it plays a regulatory response role to assuage guilt. However, for people high in DT traits the trade-off is not seen, which implies that something else drives DT's tendency to post-morally disengage. We speculate may be the need to retain consistency with the pre-moral disengaging self.

Boredom negatively influences moral awareness but had no effect on moral decision-making (cheating) and does not affect high DT people differently to low DT people, which will be welcome news to management.

Flattery induces positive affect and promotes co-operation but has no effect on either of creativity or ethicality, nor does it affect DT people differently to 'normal' people. Management should look to exploit the association of flattery with co-operation. Our results show the limits of flattery. We speculate that flattery works through a mix of affect and cognition, with the exaggerated praise from the flatterer inducing positive affect, but knowledge of the flatterer's ulterior motive invokes a rational cognitive response which sees the flattery for what it is – i.e. disingenuous – and as a result flattery-induced positive affect is diluted and fails to act as 'pure' positive affect capable of stimulating cognitive fluidity necessary for enhanced creativity and increased unethicality.

Positive affect promotes co-operation, but not for those with high DT traits. This suggests that for DT people cognitive models of self-control are more persuasive than strength models. This aligns with our conclusions about self-control in DT people based on our study of moral disengagement. Positive affect also influences people to cheat, but not at a level more than they otherwise would. These findings suggest that positive affect can overcome basic intrinsic self-control that we all have to help us avoid the low levels of potential guilt associated with small-risk unethical activities (and DT people to overcome inhibitions to co-operate), but it is not sufficiently strong an influence to deal with higher levels of inhibition, or anticipatory guilt associated with more extensive unethicality. Our results also confirm that following an unethical act, people feel more positive ('cheater's high'). Moreover, we show that this effect is partially mediated through post-moral disengagement, which is a novel result, suggesting that moral disengagement is an important mechanism initiated following a moral breach to help a person to rationalise their behaviour and deal with negative moral emotions - primarily guilt – but we now know that it also makes them feel good. We show that DT moderates the relationship path between post-moral disengagement and positive affect, such that a mediation model is applicable, but only for cases of high DT. Consequently, a person high in DT traits receives a "double whammy" of cheater's high – primarily from the act of cheating, and secondly by morally disengaging. This goes some way to explain why DT people cheat – apart from any financial gains it feels good to do so, thereby giving managers more to think about in terms of how they can deter unethical behaviour by high DT individuals.

There remains some darkness around the Dark Triad. They have no special creative abilities, they are poor at co-operating, and are highly unethical. In short, they are not nice people. So why are DT individuals so (apparently) successful? We speculate that they succeed in large part because they are skilled in the 'dark arts' of impression management. We found that Machs and Narcs use flattery and ingratiation. We suggest that this 'skill', combined with self-confidence and tenacity, are what do the trick. We hope that future research will probe this further.

Based on our findings we outline several implications for management, and specify practical steps that managers can take in seeking higher performance from DT staff which relate to recruitment, training and dyadic working practices. We also highlight relevant traits and emotions associated with DT people that could be targeted including moral identity, self-esteem and guilt. At the conclusion of each paper, we set out limitations and recommendations for future work.

Dedicated to my mother and the memory of my late father David Whitehead

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To everyone mentioned above – I hope our paths will cross again.

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Part 1

Setting the scene

Chapter 1

Introduction

1.1 Background

Enron, Worldcom, and more recently FTX and Theranos: - there have been several high-profile frauds and financial scandals over the last twenty years or so, involving prominent individuals whose names have become seared into the public's consciousness such as Kenneth Lay, Bernie Madoff, Sam Bankman-Fried and Elizabeth Holmes to name just a few. Over the same period there has been an upsurge in academic interest in 'dark' personality traits in the workplace (LeBreton et al., 2018), as well as an increased fascination in the wider business literature around 'toxic leadership', 'snakes in suits' and 'bad bosses' (Furnham et al., 2013). In contrast, prior to the late 1990s, research on personality primarily focused on the positive traits needed to achieve managerial success (Higgs, 2009). The five-factor model (FFM) of personality (Costa & McCrae, 1992) allowed researchers to map the numerous individual personality traits to just five: - openness to experience; conscientiousness; extraversion; agreeableness; and neuroticism. Subsequently Ashton & Lee (2001) proposed the alternative HEXACO 6-dimensional model, with traits that partially overlap the FFM, but which importantly incorporate a trait to capture integrity: i.e., honesty-humility (H-H). Extensive research has confirmed the power of the H-H factor component to predict integrity (e.g., Lee et al., 2010). Moreover, a low H-H factor is related both to unethical behaviour (Ashton & Lee, 2008), and to counterproductive work behaviour (CWB) (Lee et al., 2005). As researchers have sought to better understand what constitutes a 'bad character' (Furnham et al., 2013), they have homed in on the H-H factor, and specifically on the three so-called 'Dark Triad' traits comprising Machiavellianism, narcissism and psychopathy, a term coined by Paulhus & Williams (2002) to encourage researchers to study the three traits as a constellation (Jones & Paulhus, 2017).

Yet the characteristics of such personalities remain relatively understudied and to some extent misunderstood (Spain et al., 2014). This is all the more surprising given the prevalence of Dark Triad people in our midst – they constitute perhaps 15% of the general population (Gustafson & Ritzer, 1995), but may occupy most senior leadership positions in organisations (Furtner et al., 2017). Worse still, Cohen (2016) suggests that the business world serves as a 'virtual magnet' for psychopaths within which the 'base rate' for this personality may be 3% (compared with 1% in the general population).

There is little research available concerning the actual levels of negative behaviour perpetrated by people with elevated dark traits, the conditions that shape their moral actions, or the cognitive mechanisms at play (Spain et al., 2014). Even less is known about the beneficial outcomes associated with dark personalities, a situation we consider to be somewhat surprising given their perceived prevalence in leadership positions and influence in modern organisations, combined with the level of academic and managerial effort that is directed at understanding leadership. For ease of reference, in this thesis we use the terms "Mach" or "Machs" (to refer interchangeably to the trait of Machiavellianism or to a person or persons with Machiavellian traits), and similarly we use the terms "Narc(s)" and "Psyc(s)". From the few studies available, it is apparent that Machs are strategic and adaptable, Narcs are charismatic and creative, and Psycs are creative and courageous (Judge et al., 2009), all of which could be expected to result in superior performance from these personalities and positive outcomes for organisations.

1.2 Personal interest and motivations

I am not a typical (or young) research student. Prior to starting this PhD project, I gained 27 years of experience in the professional services industry during which I worked closely for and alongside people I believe were high in Dark Triad traits. During this period, I experienced a range of behaviours from colleagues and superiors that resulted in both positive and negative outcomes, and from which I gained valuable experience. As indicated above, fraud and unethical behaviour are associated with Dark Triad personalities, but it is important to convey that at no point in my career did I experience any such blatant acts by colleagues. However, it became clear to me early in my career from watching people who were rapidly advancing in their careers, that an important aspect of career progression involved the 'dark arts' of ingratiation, self-promotion, and credit-taking. Such tactics were commonplace in the organisations where I worked and were being deployed by people who I felt to be talented and who did not therefore 'need' to rely on such tactics to advance in their careers. This got me wondering what drove such people. I also became convinced that an environment where Dark Triad personalities thrived was not necessarily optimal for the organisation, as it sometimes led to toxic work environments where information was not sufficiently shared, resulting in inadequate co-operation in the workplace, the loss of talented staff (who simply did not want to 'play the game'), and invariably sub-optimal service delivery to clients. I was convinced that the organisations where I worked could achieve more for themselves and for clients. Consequently, at some point towards the middle of my career I decided that it would be highly informative (and interesting) to conduct academic research on Dark Triad personalities in the workplace, although I doubted I would get the opportunity to do so. Following my move into semi-retirement in 2018, I was gratefully provided with such an opportunity to research this subject area at LSE. This thesis represents the outcome which I hope proves to be helpful to both researchers and practitioners.

1.3 Dark Triad: historical roots and workplace behaviour

Having briefly introduced the Dark Triad in the introduction to this thesis above, it is informative to:- set in context the historical roots of the DT construct in relation to its conceptualisation in clinical and political psychology; detail how the DT concept extends previous conceptualisations; explain the overlapping traits and qualitative differences between the sub-components and the DT composite measure; and outline the (albeit limited) positive attributes attached to each DT dimension.

People have been interested in studying aversive (or 'abnormal') personalities since the early days of psychology as a formal discipline, for example with the work of Allport (1937). However, as Furnham et al. (2013) point out, the personality disorder literature relies heavily on the contrast between what is termed 'clinical' and 'subclinical' people or samples. We adopt the terminology as provided by Furnham et al. (2013), i.e.: - a clinical sample refers to a sample of people who are undergoing some form of clinical supervision; whereas a subclinical sample refers to a sample who represent the broader population and who are not currently under any clinical guidance. In this thesis our samples are drawn exclusively from a subclinical participant pool. Moreover, as we use the Dark Triad scales devised by Paulhus & Williams (2002) for Mach, Narc, Psyc and DT composite, measurements of these traits are continuous and thus we refer for example to people as being high/low in DT or Mach traits, rather than being 'DT individuals' or 'a Mach'.

It is instructive to be cognisant of the differing trajectories in the evolution of the DT sub-components as matters of study and medical interest. Both the Narc and Psyc constructs originated from the clinical realm and are still considered to be personality disorders. In contrast, Mach was never seen as some form of personality disorder, but rather emerged from political psychology (which is concerned with the foundations, dynamics and outcomes of political behaviour based on social and cognitive mechanisms) – and specifically on the writings of the political philosopher and activist Nicolo Machiavelli. Indeed, during the 1970s Mach as a construct was the first of the DT sub-components to be studied by psychologists after a questionnaire measure was devised based on Machiavelli's original methods and recommendations (Christie & Geis, 1970; Furnham et al., 2013). Personality researchers frequently refer to the Narc and Psyc constructs as having subsequently 'migrated' into mainstream psychological research from their clinical roots (Furnham et al., 2013) with the introduction of tailored questionnaires and measures as was previously seen for Mach: - i.e. Narc during the 1970s following the work of Raskin & Hall (1979); and Psyc in the 1980s led initially by Ray & Ray (1982).

So how does the DT construct extend prior conceptualisations and what does research tell us about the DT subcomponent traits (both good and bad)? In short, Dark Triad researchers use measures that look at all three subcomponents *concurrently* rather than incorporating just one trait as was typically the case previously, usually applying one of two brief measures: – (i) the 12-item Dirty Dozen (Jonason & Webster, 2010); and (ii) the 27-item Short Dark Triad (SD3, Jones & Paulhus, 2014). In this research project we choose to use the SD3 measure in line with numerous other scholars as we believe it provides a more favourable balance of length and predictive power. The original rationale for bringing together the three distinct but related DT traits (Mach, Narc and Psyc) as a cluster was to encourage researchers to study them as a constellation (Jones & Paulhus, 2017), primarily because empirical findings suggested an overlap whereas theoretically each was believed to have a distinctive origin (Furnham et al., 2013). In the more than 20 years since the Dark Triad term was introduced, results have been mixed regarding an empirical overlap: - however some robust and consistent results are evident: - (i) all three correlate positively, with small-medium Pearson coefficients; (ii) Mach/Psyc correlate at the highest level; (iii) Mach/Narc correlate the least. That said, there is no consensus concerning the extent to which the correlational findings arise because of: - psychometric properties linked to the measures, common components, item overlap, or something else (Furnham et al., 2013). Moreover, published intercorrelation results make us question whether in our analyses we should apply the DT composite measure as a predictor variable, or use each of the Mach, Narc and Psyc measures separately. Here there seems to be consensus – the subcomponents are not equivalent constructs and should all be measured for the same sample for which multiple regression will determine their unique and independent contributions as theory predicts (Paulhus & Williams, 2002). In our analyses we adopt this methodology, but also look at the DT composite measure as a single predictor variable which will encompass the overlapping trait elements as outlined below (e.g. disagreeableness, callousness, and interpersonal antagonism), but equally the composite may lose predictive power where there are competing trait aspects amongst the three DT subcomponents (which we are seeking to uncover in our studies).

As touched on above, the Dark Triad construct expands on the two main broad personality models FFM (Costa & McCrae, 1992) and HEXACO (Ashton & Lee, 2001) in respect of aversive personality traits. From the FFM model, as would be expected, two dimensions show particularly strong and consistent negative associations with each of the DT subcomponents, i.e. agreeableness and conscientiousness, with some nuances between Mach, Narc and Psyc (Miller et al., 2010). More importantly, the introduction of the honesty-humility (H-H) factor within the HEXACO model provided researchers with a more direct and relevant assessment of dark personality – indeed the H-H factor strongly loads on each of the DT subcomponents (Lee & Ashton, 2005). Consequently, research into the Dark Triad

can be seen as personality research that dissects the HEXACO model, and specifically the H-H factor, and thereby expands personality research theoretically and empirically as regards aversive personality traits.

Finally, we summarise what research tells us about each of the DT traits, and how these differ qualitatively. Machs tend to distrust others, engage in amoral manipulation, and have a desire to maintain interpersonal control (Dahling et al., 2009; LeBreton et al., 2018). These individuals are strategic rather than impulsive (Jones & Paulhus, 2014), with their sole concern being their own reputation and success (Hare & Neumann, 2008). On the positive side, Machs are good at applying strategic and management tactics; are adaptable in an office environment where they can contribute and be co-operative; and *when necessary* can apply pro-social strategies (D'Souza et al., 2019). Narcs are the least dark of the Dark Triad cluster (Jones & Paulhus, 2017). Their key characteristic is ego. Narcs boast, seek attention and have a strong sense of entitlement, yet they have low self-esteem and seek validation (Harrison et al., 2018). As a result of this collision between pretentious identity and inherent insecurity (Jones & Paulhus, 2017), Narcs need continuous ego re-enforcement which can be self-destructive (Morf & Rhodewalt, 2001; Vazire & Funder, 2006). Narcissistic individuals seek power and prestige, but their self-absorption (Emmons, 1987), exploitative tendencies and lack of empathy mean that they tend to thrive only in short-term interactions (Harrison et al., 2018). More optimistically, Narcs have an array of attractive attributes (D'Souza et al., 2019) including vision, charisma, and high intelligence, and have a knack for attracting followers. Moreover, Narcs are often seen as competent with strong leadership skills. Psycs are considered the most toxic of the Dark Triad (LeBreton et al., 2018): - they are highly manipulative, callous, irresponsible, and often have criminal tendencies (Williams et al., 2007). Moreover, Psycs are decisive, take risks, lack self-control, and resemble Narcs by focussing their behaviour in the short-term (Jones & Paulhus, 2017). As a result, Psycs struggle to make meaningful personal relationships (Hare, 1991). Psycs also have some attractive traits, some of which overlap with Mach traits, e.g., they can have high levels of charisma and charm; are creative thinkers; display boldness (and so can take difficult decisions); and communicate well (Pilch, 2020; D'Souza et al., 2019).

Taken together, we see that there is some overlap across the three Dark Triad elements which we expect to show strongly within the DT composite measure: - on the negative side in relation to callousness, a lack of empathy and a predisposition to deceive (Jones & Paulhus, 2010; Wai & Tiliopoulos, 2012; Baughman et al., 2014), and on the positive side, Dark Triad individuals are strong leaders, persuasive, and have good crisis management skills (D'Souza et al., 2019).

1.3.1 Dark Triad and negative workplace outcomes

Research shows that the relationships between the Dark Triad and organisational outcomes are extremely complex and varied (Le Breton et al., 2018). In respect of negative outcomes involving selfishness and unethicality, relatively few empirical studies have been undertaken, most of which concern unethical behaviour and counter productive work behaviour (CWB) (Spain et al., 2014).

In a recent study of selfishness, Deutchman & Sullivan (2018) looked at self-maximizing and uncooperative behaviour in a series of economic games in the laboratory. The study demonstrated that Dark Triad status predicts defection and selfishness, particularly in respect of Machs whose self-interest comes out strongest amongst the Dark Triad cluster. In respect of workplace selfish behaviours, studies show that Dark Triad traits are positively linked to careerism (Crawshaw & Brodbeck, 2011; Chiaburu et al., 2013b), and to certain impression management tactics (Bolino & Turnley, 2003; Park et al., 2011), most notably Narcs (Spain et al., 2014) and Machs (Becker & O'Hair, 2007). As regards unethical behaviour, although there are some contradictions, most studies suggest that there is a positive association between Dark Triad individuals and unethical behaviour that leads to negative outcomes in the workplace (Harrison et al., 2018; Templer, 2018; O'Boyle et al., 2012). Cohen (2016) reports that Dark Triad people have heightened feelings of comfort in ambiguous environments where the probability of being caught for engaging in unethical behaviour is lower. Other recent research suggests that the Dark Triad personality traits affect different parts of the unethical decision-making process (Harrison et al., 2018): - Machs are motivated to act unethically but also seek to alter perceptions of the opportunities open to them to deceive; Narcs are motived to act unethicality for their personal benefit, but also to limit perceptions of their abilities to do so successfully; and Psycs spend effort rationalising their unethicality. Lastly, work by Jonason & O'Connor (2017) suggests that unethical behaviour by Dark Triad people is related to their tendency to take short cuts, particularly Machs and Psycs.

1.3.2 Dark Triad and positive workplace outcomes

We group the limited research findings linking Dark Triad people with positive organisational outcomes under four key aspects of corporate health and growth, i.e. (i) job performance; (ii) citizenship; (iii) creativity & innovation; and (iv) leadership and leadership emergence, and briefly comment on how these outcomes are related to Dark Triad personalities.

Job performance
Job performance has been heavily researched in relation to *bright* personality traits which overwhelmingly show robust positive associations (Barrick & Mount, 1991; Smith et al., 2018). By contrast, the link between Dark Triad traits and job performance is inconclusive (LeBreton et al. 2018). So far only three studies have probed the relationship between Dark Triad and job performance. O'Boyle et al. (2012) report a small negative relationship for both Machs and Psycs, and no association for Narcs. The studies by Reina et al. (2014) and Blickle & Schutte (2017) each looked at single components of the Dark Triad in relation to job performance, i.e., in respect of Narcs and Psycs respectively. Narcissism in a CEO was shown to have a small positive impact on firm performance (but only when the Narc was perceived to have a strong organisational identity with the organisation (Reina et al., 2014). Psychopathy has no association with job performance; however the relationship is weakly positive when moderated for higher levels of education, and is negative for lower levels of education (Blickle & Schutte, 2017). We suggest that these inconsistent results linking the Dark Triad to job performance are both surprising and concerning, given that perhaps most senior leadership positions are occupied by Dark Triad people (Furtner et al., 2017), and we echo the call by Judge et al. (2009) and others for more research on job performance as it relates to the Dark Triad.

Citizenship
Organisational citizenship behaviour (OCB) is typically discretionary and less tied to formal rewards than are task behaviours, comprising actions such as volunteering for additional responsibilities, helping co-workers, and tolerating inconveniencies. In sum, these behaviours involve social and voluntary actions that prioritize others and the group over the self (LePine et al., 2002). We could only locate four studies that show how Dark Triad is related to OCB. The relationship is complicated (Smith et al., 2018), something we consider surprising given the primary Dark Triad traits outlined above which prioritize personal goals over social balance (O'Boyle et al., 2012), i.e., we would intuitively expect to find a strong *negative* relationship between the Dark Triad and OCB (LeBreton et al., 2018). Although most studies do indeed show a negative relationship between Dark Triad personality and OCB, for Machs this shifts to a positive association when there is perceived self-benefit or recognition, a finding which points to the means-focused priority of these personalities (Smith et al., 2018). Moreover, Webster & Smith (2019) found that in the right organisational climate (e.g., where there is high involvement management), Machs and Narcs actually engage in rates of OCB equivalent to people low in Dark Triad traits. Given the limited studies on this topic, we agree with LeBreton et al., (2018) that further work is needed to better understand the negative relationship between OCB and the Dark Triad, and the relevant causal mechanisms that might mediate this relationship to see whether citizenship could be positively influenced for Dark Triad people.

Creativity & innovation
Creativity in the workplace exhibited by individuals and teams is a key driver of innovation and success (Zhou & Hoever, 2014). Earlier we saw that amongst the brighter aspects of Dark Triad personality traits is enhanced creativity in Narcs and Psycs (Judge et al., 2009). However, creativity is one of the least studied outcomes related to the Dark Triad (Spain et al., 2014) and the few studies undertaken show inconsistent findings. For example, Eysenck (1993) found a positive relationship between creativity and Psycs, whereas subsequent studies by other researchers found negative relationships with this Dark Triad sub-component (Dahmen-Wassenberg et al., 2016; Wisse et al., 2015). For Narcs research findings are even more complicated and inconsistent. Goncalo et al. (2010) found that although Narcs believe themselves to be creative, they are no more creative than anyone else. Machs have levels of innate creativity that are not different from the rest of the population (D'Souza et al., 2019), and so the findings of a negative association between Machs and creativity in two separate studies (Wisse et al., 2015; Dahmen-Wassenberg et al., 2016) may point to their sense of carefulness and instrumentality which stifles any inherent creative traits. Clearly, the picture is somewhat confused regarding the relationship between creativity in the workplace and Dark Triad people. We believe that given the importance of creativity to the modern organisation, this relationship is ripe for further study.

Leadership and leadership emergence
Scholarly interest in leadership continues to stress a trait approach (Zaccaro, 2012). As regards the Dark Triad, empirical findings on the link between DT and leadership are inconsistent. For example, several studies have shown that narcissism plays an important role in both leadership success and failure (Rosenthal & Pittinsky, 2006). Other studies suggest that Machs succeed in part because they are proficient in forming political alliances (Deluga, 2001), and Narc CEOs are associated with organisational success (and failure) because they tend to favour big, bold actions which grab attention and lead to big wins (or losses) (Chatterjee & Hambrick, 2007). Overall, studies are suggestive

that *context* is important as a determinant of whether dark personality traits play a positive or negative role in leader effectiveness (Spain et al., 2014). Research findings linking Dark Triad people with *leadership emergence* is more consistent - i.e., there is a positive association, particularly in respect of Narcs (Brunell et al., 2008). This is perhaps not surprising given the Narc tendency for grandiosity and striving for social appreciation, meaning they have an inherent interest in leadership and an intrinsic motivation to lead (Furtner et al., 2017). Consequently, it is likely that many leadership positions are occupied by Narcs (Maccoby, 2000), albeit they tend to lose favour over time (Ong et al., 2016). In contrast, Machs migrate more to management and administration, whereas Psycs are relatively passive and uninterested in leadership roles (Furtner et al., 2013).

1.4 Dark Triad and causal mechanisms that may influence workplace outcomes

We have briefly reviewed the intrinsic Dark Triad personality traits and outlined how these personalities are associated with both positive and negative outcomes in the workplace, with a view to informing our research agenda for this thesis. We now consider potential causal mechanisms that might underlie cognitive and affective processes affecting Dark Triad people as they engage in such behaviours, with a view to informing our research agenda for this thesis.

There is a large body of research devoted to decision-making in the context of both cognition and affective processes (Trevino et al., 2006; Trevino et al., 2014; Jacobsen & Pascual-Ezama, 2018). We restrict our interest to mechanisms and influences related to self-control for three primary reasons. First, self-control capacity is an important aspect of intrinsic Dark Triad personality (Jonason & Tost, 2010; Jones et al., 2011; Lyons & Rice, 2014), indeed these individuals are "*characterised by deficits in self-control*" (Furnham et al., 2013). Second, as we outline below, cognitive and affective mechanisms related to self-control have been shown to influence both negative workplace outcomes (i.e. through moral disengagement and boredom), and positive outcomes (through contextual and affective influences such as flattery and positive mood which can induce behaviours). Third, for the most part, Dark Triad behaviour has not been assessed through the lens of self-control, an approach which provides the opportunity to contribute to both theory and practice affecting Dark Triad individuals. We expand on these themes in the rest of this section.

1.4.1 Self-control

Self-control can be defined as "*the capacity to alter or override dominant response tendencies, and to regulate behaviour, thoughts and emotions*" (De Ridder et al., 2012, p.77). Without self-control, an individual would engage in automatic, habitual, or innate behaviours (Muraven et al., 2007). Two broad types of explanation have been suggested to conceptualise self-control (Arber, 2017; Inzlicht & Berkman, 2015; Dang et al., 2017), i.e. (i) it is a function of *cognitive capacity*, whereby self-control is solely under the control of the individual; or (ii) it is related to *shifts in motivation / attitudes* which are affected by context and the prevailing situation. In this research project we consider mechanisms that fall into each of these two theoretical perspectives to explain self-control. For example, moral disengagement (which involves deliberate deactivation of self-regulatory processes (Bandura, 1999)), suggests a cognitive explanation of self-control, whereas boredom (like ego depletion) assumes a failure of self-control due to a lapse in motivation. In recent years much research around motivational/attitudinal shift explanations for self-control has focused on the Baumeister et al. (1994) self-regulatory strength model which suggests that various types of self-control tap into a common, limited resource, albeit this model has since been challenged due to issues with replicability (Murtagh & Todd, 2004).

Evolutionary life history theory (Jonason & Tost, 2010) posits that Dark Triad individuals are likely to have limited self-control. Pursuant to this theory, cognitive systems will co-occur with life strategies (Figuerdo & Jacobs, 2011), and specifically a 'fast life' strategy (which is a feature of Dark Triad people), is likely to be manifested both in personality traits and in limited self-control and will facilitate (or not impede) a short-term opportunistic focus. Based on the few empirical studies have been undertaken to date (for which there are some inconsistent findings), low self-control is indeed a feature of Dark Triad personality (Jonason & Tost, 2010; Jones et al., 2011; Lyons & Rice, 2014). Overall, Jonason & Tost (2014) report that Dark Triad individuals (particularly Machs and Psycs) are associated with limited levels of self-control, a disregard for the consequences of their actions, and attention deficit. Conversely, Jones & Paulhus (2011) and Lyons & Rice (2014) both report that low self-control is an important influence on how Narcs and Psycs (but not Machs) behave. Further work is needed to untangle the inconsistencies reported in the relative levels of trait self-control amongst the Dark Triad and how trait and state self-control interact when self-control related mechanisms are induced. The few studies undertaken so far give grounds for optimism – previous studies have shown that it is possible to positively influence Dark Triad individuals who have moderate levels of self-control, for example transformational leadership has a particularly positive influence on Mach followers (Belschak et al., 2015), and under this type of leadership the selfish behaviour of a Mach follower can be transformed into pro-organisational behaviour (Furtner et al., 2017).

1.4.2 Moral disengagement

Although most people know right from wrong, some find it easier than others to disregard their moral principles. This act of disengagement has been termed 'moral disengagement' (Bandura, 1986). Moral disengagement explains how people breach their personal ethics by deactivating moral self-regulatory processes through the use of several interrelated cognitive mechanisms, such as moral justification (Lee et al., 2019), which allows the moral disengager to avoid the psychological discomfort known as cognitive dissonance associated with inconsistent behaviour (Festinger, 1957). Several studies have shown that moral disengagement provides a persuasive explanation for the enactment of unethical behaviour in the workplace through self-regulation, and the ability to inhibit or override motivational tendencies (Schmeichel & Baumeister, 2004). Studies have shown that an individual's propensity to morally disengage is positively related to increased unethical behaviour (Aquino et al., 2007), and negatively related to higher-order qualities of personality such as moral identity and empathy (Aquino & Reed, 2002).

The ability to morally disengage could suggest a level of self-control over the moral cognition process which requires effort to resist unwanted behaviours (Trevino et al., 2014). Alternatively, if this ability is trait-based, then when activated by a situational cue it will be automatic (Russell et al., 2017). So far there have been just a handful of studies that have looked at the relationship between the Dark Triad and moral disengagement, none of which have involved causal studies. In a correlational study Egan et al. (2015) found that Mach and Psyc traits are both associated with moral disengagement, which, given the positive association between the Dark Triad and unethical behaviour (Baughman et al., 2014), suggests that moral disengagement may have a causal role in unethical behaviour. We believe that this possibility is now ripe for RCT studies which will help us determine whether moral disengagement is a relevant mechanism for Dark Triad individuals, the extent to which it can be induced, and to what extent moral disengagement is a trait feature of DT personality. Moreover, conducting such studies would answer the calls by Newman et al. (2017), and Detert et al. (2008) for increased research into how individual differences predict moral disengagement, and by Smith et al. (2018) for more work on how the Dark Triad components relate to moral disengagement.

1.4.3 Boredom

Boredom is a negative emotion (Van Tilburg & Igou, 2016) which has a self-regulatory function (Bench & Lench, 2013). In the last decade or so boredom has attracted heightened interest from behavioural scientists, medics, and other social scientists (Van Tilburg & Igou, 2017). Boredom is marked by a strong desire to do something else that is more exciting, interesting, meaningful, or more generally in line with the subject's wishes and desires (Elpidorou, 2017). It has also been shown to correlate with a number of negative outcomes in the workplace including CWB (Bruursema et al., 2011; depression (Gordon et al., 1997); impulsivity (Watt & Vadanovich, 1992); and decreased job satisfaction (Kass et al., 2001). Despite the call from Elpidorou (2017) and others to assess the relationship between boredom and morality, as yet this linkage remains unexamined.

Given these associations between boredom and negative workplace outcomes, we suggest that boredom might have a similar effect on behaviour as does ego-depletion. Ego-depletion has attracted intense interest from researchers in recent years and has been instrumental in shaping our understanding of self-control: – i.e. it proposes that self-control is a finite resource that can be depleted in the short term, much like a human muscle (Baumeister & Heatherton, 1996), and thus opposes the idea of a self-control model based on unlimited cognitive capacity (Arber, 2017) as suggested for example by the moral disengagement process mentioned above. Pursuant to ego depletion theory, once depletion has occurred, an individual is more likely to act in an automatic and impulsive way (Gailliot & Baumeister, 2007), and it becomes more difficult to resist self-centred temptations, resulting in the pursuit of selfish or unethical acts (Gino et al., 2011). In short, when self-control breaks down, selfishness is likely to emerge, even at the expense of others (Banker et al., 2017).

There have been no studies that have looked at possible links between boredom and Dark Triad individuals. This is perhaps surprising for three reasons. First, as we saw above from the studies linking Dark Triad individuals to procrastination and impulsivity, both of which are closely related to diminished self-control (Lyons & Rice, 2014; Jones et al., 2011). Dark Triad people are known to have low self-control which could render them prone to boredom. Second, Oprea et al. (2019) suggest that Dark Triad traits could represent important individual differences in understanding boredom at work. For example, Machs are prone to avoid and delegate burdensome job demands to get ahead, which could stifle the mental and emotional intensity of their work and result in increased boredom due to lack of stimulation; and Psycs are more likely to cut corners at work (Jonason & O'Conner, 2017) and this, together with their need for a fast life (Jones, 2014), could render them overly prone to boredom. Third, in a study of ego depletion by Job et al. (2010), the researchers speculated that in one condition participants may have become depleted not through ego depletion but rather through boredom (which they found may have had a similar effect as ego depletion), for which the researchers called to be tested and replicated in future research. Consequently, we believe

that it would be informative to address the research gap, i.e. to test experimentally whether boredom is a potential causal mechanism of adverse behaviour which is relevant to Dark Triad individuals that works in a similar way to ego depletion, i.e., by depleting self-control leading to negative outcomes in the form of unethical behaviour and impaired moral awareness.

1.4.4 Flattery and positive affect

The final two potential causal processes that we plan to investigate and believe may have important influences on Dark Triad behaviours are related, but are distinct – i.e., flattery, and positive affect (mood). Flattery is one of the oldest tactics of social influence and is incredibly robust in its effectiveness (Chan & Sengupta (2010). Flattery involves the 'dark art' of seeking to curry favour from a target by providing exaggerated favourable feedback which makes the target feel good, and who is therefore inclined to reciprocate to the personal benefit of the flatterer (Long, 2021). Why is this of interest to us? Because from the limited empirical data available (and less persuasively from extensive anecdotal evidence), Dark Triad people are known to engage in selfish ingratiatory behaviour to get ahead – including the use of flattery – and thus we suggest their behaviour may be influenced by *being flattered*. Moreover, Dark Triad people are known for their high self-regard (which flattery plays to), and low levels of self-control (which pursuant to the De Ridder et al. (2012) reference reproduced earlier, captures a person's tolerance to emotions.

In recent years researchers have started to look at the consequences of moods and emotions in the workplace as they influence both negative and positive outcomes (Brief & Weiss, 2002). Negative outcomes and negative mood have been known to be related for some time (Trevino et al., 2014). In a series of experiments Tice et al. (2007) showed that experiencing positive emotions may help people to self-regulate more effectively when their self-control might otherwise fail (Nealis et al., 2016). Two types of positive outcomes associated with positive affective states are particularly relevant to us because they are found to be enhanced by being in a good mood, i.e.: - (i) creative problem solving (Isen, 1999; Madjar et al., 2002); and (ii) citizenship, co-operation and general helping behaviour (Isen & Barron, 1991). However, it is important to also note the findings of a recent study of the effect of positive mood on moral judgment undertaken by Vincent et al. (2013) which showed that positive mood promotes the ability to morally disengage because it increases cognitive flexibility, so that events can be redefined and evaluated in different ways (Isen, 2000), which could mean that for Dark Triad individuals a positive mood might actually *increase* unethical behaviour.

These findings are of increased relevance given the results of a recent DRM study undertaken by Pilch (2020), which has established relationships in respect of momentary positive and negative affective states for Dark Triad individuals. This showed that (i) Machs experience negative affect - which is explained by them seeing the world as "dog-eat-dog", i.e., surrounded by enemies, against which negative emotions are a defensive protective mechanism; (ii) Narcs are the least affected by momentary positive or negative affect; and (iii) Psycs mostly experience negative affect, except when they display boldness when they show positive effect (Pilch, 2020; Garcia et al., 2015). Consequently, we propose testing the propositions that (i) flattery, and (ii) positive affect can induce positive behaviours in Dark Triad individuals as regards co-operation, creativity, and ethicality.

1.5 Research questions, models and key hypotheses

In the short rationale above we outlined why we are interested in the behaviour of Dark Triad personalities, and identified several potential mechanisms linked to self-control that might have a causal role in a number of positive and negative outcomes affecting such people in the workplace. In this thesis we conduct experiments which test all four mechanisms discussed above (moral disengagement, boredom, flattery and positive affect), and how these influence three of the outcomes highlighted as being relevant to Dark Triad people (co-operation/citizenship; creativity; and ethicality). We believe that we have identified an important research gap that will be of interest to both academics and practitioners, and which can be distilled into the following overarching research question and sub-questions which will direct this research project:

What is the relationship between Dark Triad personality traits, self-control related mechanisms and influences, and positive and negative behaviours in the workplace?

1. What role do mechanisms related to self-control (i.e., moral disengagement and boredom) play in causing Dark Triad individuals to engage in selfish and unethical behaviour?
2. What role do affective and contextual influences related to self-control (i.e., positive mood and flattery) play in motivating Dark Triad individuals to produce positive outcomes in the workplace in the form of increased citizenship, creativity, and ethicality?

3. How do the findings affecting high DT individuals inform current theories of self-control, personality, moral psychology, and organisational behaviour?
4. What workable interventions could help managers better harness positive workplace outcomes from Dark Triad individuals?

The above research questions direct our specific hypotheses for each of the five papers comprising this research project. Paper 1 includes two correlational studies which look to establish how each DT component is associated with (i) negative workplace outcomes; and (ii) positive workplace outcomes, and the role some other workplace variables such as organisational support play pursuant to the proposed model shown in Fig. 1.1. Based on these findings, we then conduct eight RCT-based studies which investigate how specific *mechanisms* relate firstly to negative outcomes (Paper 2 and Paper 3), and secondly to positive outcomes (Paper 4 and Paper 5).

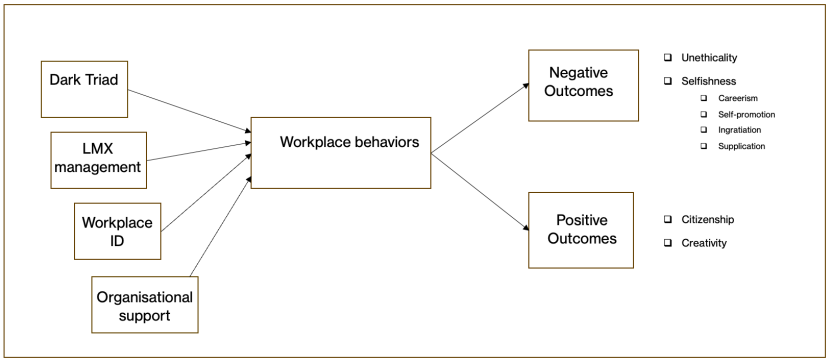
For each of the four RCT-based papers we develop models in which the three DT components are predictor variables together with covariates linked to self-control as shown by the respective schematic model diagrams shown below in Figs 1.2 – Fig 1.5. For each paper we build specific hypotheses based on the above broad research questions. Our primary aim is to establish how DT traits and other self-control related constructs (such as self-esteem and moral identity) associate with the manipulation to influence the respective outcome measures. In addition, we typically look to augment our proposed models by developing hypotheses which incorporate looking at interactions in which DT and other variables are tested as potential moderators. In practice, we occasionally found that experimental results obtained went against our predictions or otherwise were somewhat surprising – in which case we performed some exploratory analyses which we are careful to describe as such. Further, in Paper 5 (and in supplemental analyses in Chapter 7), we incorporate hypotheses which test the nature of the underlying mechanism subject to the intervention, to see whether there is evidence of mediation (and moderated mediation by DT) – i.e. in relation to whether cheating leads to enhanced positive affect ("cheater's high") mediated by post-moral disengagement (Paper 5); and in supplemental analyses presented in Chapter 7 concerned with whether unethical behaviour leads to guilt mediated by post-moral disengagement (Paper 2); and whether flattery leads to co-operation mediated by positive affect (Paper 4).

For each of Papers 1 – 5 we briefly set out the respective proposed model and main hypotheses.

Paper 1 – correlational study of how DT relate to positive and negative workplace outcomes

This paper comprises two correlational studies. Study 1 looks at several negative outcomes or behaviours that are often found in the workplace and which can serve to lower morale or cause toxicity, the main outcomes being unethical pro-organisational behaviour (UPB), careerism, self-promotion, and ingratiation. Prior research has indicated that people high in DT traits are linked to such behaviours. More positively, Study 2 is concerned with constructive behaviours at work in the form of OCB. OCB has been subdivided into that directed at and benefitting individuals in the workplace (OCB-I), and organisation-focussed OCB (OCB-O). We also look at creativity as a positive outcome which is highly prized in modern organisations. The proposed model underlying the measured variables is shown in Fig.1.1.

Fig 1.1: Schematic diagram showing the model proposed in Paper 1 regarding the relationship between the key covariate influences on workplace behaviour that are associated with positive and negative outcomes



The main hypotheses are as follows:

Study 1
Dark Triad and negative outcomes

UPB:

H2a & b *Mach and Psyc is each positively associated with UPB.*

Careerism:

H3a & b *Mach and Narc is each positively associated with careerism.*

Self-promotion:

H3c & d *Mach and Narc is each positively associated with self-promotion.*

Ingratiation:

H3e & f *Mach and Narc is each positively associated with ingratiation.*

Study 2
Dark Triad and positive outcomes

Organisational citizenship behaviour:

H6a *Mach is negatively associated with OCB-I.*
H6b *Narc is positively associated with both OCB-I and OCB-O.*
H6c *Psyc is negatively associated with both OCB-I and OCB-O.*

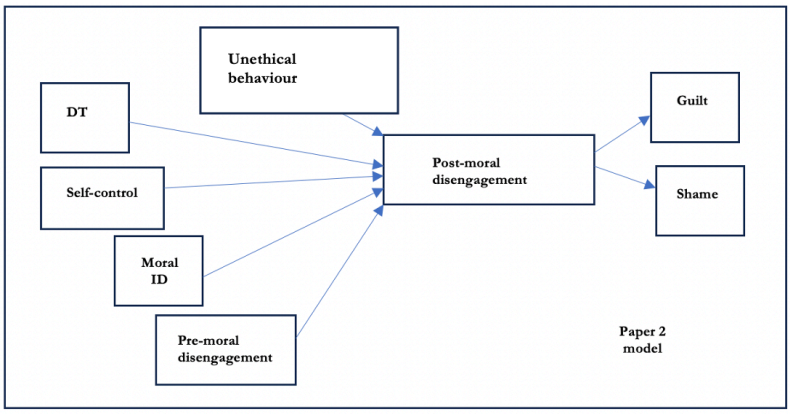
Creativity:

H7a & b *Narc and Psyc is each positively associated with creativity.*

Paper 2 – RCT, post-moral disengagement as the mechanism

In Paper 2 our primary concern is to understand how unethical behaviour relates to both pre- and post-moral disengagement, and how the post-moral disengagement mechanism then relates to resultant negative emotions guilt and shame as depicted in the schematic model diagram shown in Fig. 1.2. We also look at the relationship that DT plays in these relationships.

Fig. 1.2 Schematic diagram showing the model proposed in Paper 2 regarding the relationship between the mechanism post-moral disengagement and negative emotions



The main hypotheses explored are as follows:

DT and pre-moral disengagement

H3c-e *Each of Mach, Narc and Psyc is positively associated with pre-moral disengagement.*

Unethical behaviour and negative emotions

H4a *People who engage in unethical behaviour show more negative emotions than do people in a non-unethical behaviour control group, (i.e., both guilt and shame rise following unethical behaviour).*

DT and post-moral disengagement

H5a *DT traits are positively associated with post-MD.*

Post-moral disengagement and negative emotions

H5b *Post-MD is negatively associated with guilt.*

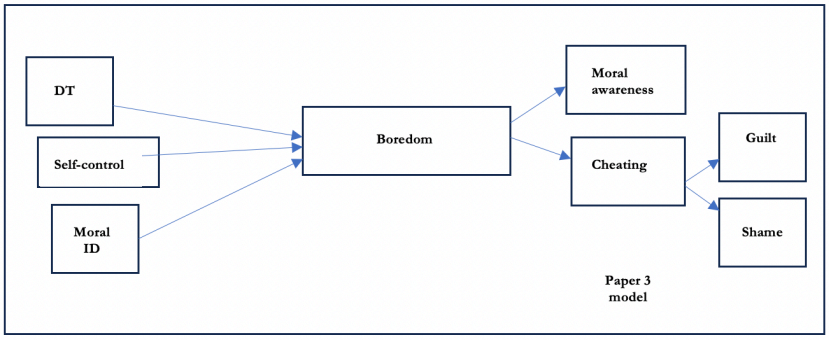
H5c *Post-MD is positively associated with shame.*

H5d *The negative relationship between post-moral disengagement and guilt is moderated by DT traits. More specifically, we expect the relationship to be weaker as DT traits increase.*

<u>Paper 3 - RCT, boredom as the mechanism</u>

In Paper 3 we look at a second mechanism that may relate to negative workplace outcome as well as to people high in DT – i.e. boredom. In this case we look at two negative outcomes in separate studies, i.e. reduced moral awareness (Study 1) and increased cheating behaviour and resultant negative emotions (Study 2), as depicted in the schematic model diagram shown in Fig. 1.3.

Fig. 1.3 Schematic diagram showing the model proposed in Paper 3 regarding the relationship between the mechanism boredom and negative behaviours and emotions



The primary hypotheses are as follows:

<u>Study 1</u>

DT and boredom propensity

H1a -c *Mach, Narc and Psyc is each positively associated with boredom propensity.*

Boredom and moral awareness

H2 *Boredom negatively influences moral awareness.*

Self-control and moral identity associated with moral awareness

H3a *Self-control is positively associated with moral awareness.*

H3b *Moral identity is positively associated with moral awareness.*

DT and moral awareness

H4a & b *Each of Mach and Psyc is negatively associated with moral awareness.*

<u>Study 2</u>

Boredom and cheating

H5a & b *Boredom positively influences (i) decision to cheat and (ii) the level of cheating.*

Dark Triad and cheating

H6a *Mach, Narc and Psyc is each positively associated with (i) decision to cheat and (ii) level of cheating*

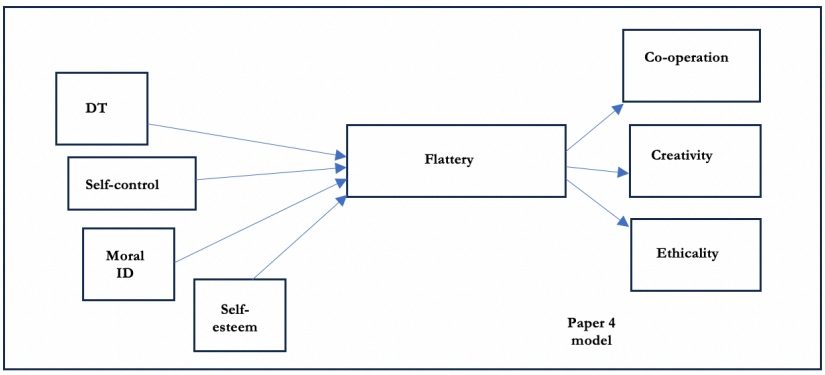
Cheating and negative emotions

H9a -d *cheating promotes guilt, but has no association with shame.*

<u>Paper 4 - RCT, flattery as the mechanism</u>

In Paper 4 we turn to positive outcomes that are important in the workplace. We conduct three RCT studies that consider the outcomes co-operation (Study 1), creativity (Study 2) and ethicality (Study 3). For each we focus on a mechanism that is relevant to all walks of life, which we all know to work, and which may be particularly relevant to DT people – i.e. flattery, as depicted in the model shown in Fig 1.4. Research suggests that creativity can be divided into two types: - convergent creative thinking (which requires focusing in depth on single issues); and divergent creative thinking (which requires more holistic and open-ended thinking (Bar, 2009)).

Fig. 1.4 Schematic diagram showing the model proposed in Paper 4 regarding the relationship between the mechanism flattery and positive behaviours co-operation, creativity and ethicality



Our main hypotheses underlying these three studies are as follows:

<u>Study 1</u>

Flattery and positive effect in the target

H1 *Flattery increases positive affect.*

DT and flattery usage as a tactic

H2a & b *Machs and Narcs are each positively associated with flattery usage tendency (FUT)*

The effect of flattery on co-operation

H3 *Flattery positively influences co-operation*

H4 *Flattery usage tendency is negatively associated with co-operation.*

DT and co-operation

H6a *DT is negatively associated with co-operation*

H6b *The relationship between flattery and co-operation is moderated by DT traits: - for those with high DT traits the positive relationship between flattery and co-operation is weaker than for those with low DT traits*

<u>Study 2</u>

DT and (self-assessed) creativity

H8 *Narcs are positively associated with self-assessed creativity.*

Flattery influences creativity

H9a *Flattery reduces convergent creativity*

H9b *Flattery increases divergent creativity*

Self-assessed creativity does not predict demonstrated creativity

H10 *Creativity (self-assessed) is not related to either convergent creativity (H10a) or divergent creativity (H10b).*

DT and demonstrated creativity

H12a & b *Narc and Psyc is each negatively associated with convergent creativity*

H12c *Dark Triad traits are positively associated with divergent creativity.*

Study 3

Receiving flattery influences someone to cheat

H13a & b *Flattery positively influences both a) decision to cheat; and b) level of cheating.*

People who flatter are associated with cheating

H14a & b *Flattery usage tendency is positively associated with cheating: - i.e. a) the decision to cheat; and b) cheat level*

Flattery, DT, and cheating

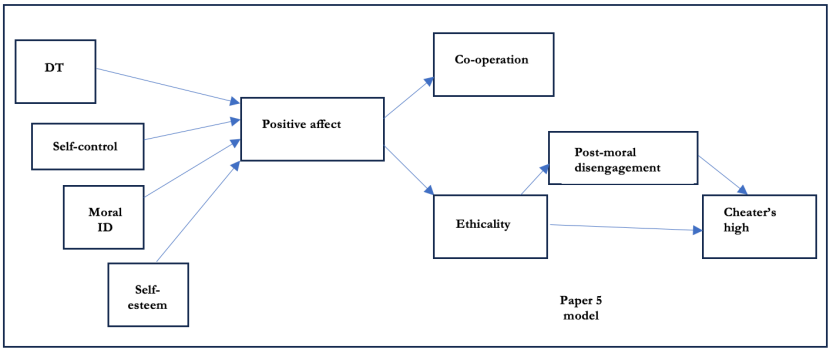
H17a & b *DT traits are positively associated with cheating - i.e. a) the decision to cheat; and b) cheat level*

H17c *The positive relationship between DT (Narc) and cheating level is moderated (enhanced) by flattery.*

Paper 5- RCT, positive affect as the mechanism

For Paper 5 we continue with positive outcomes with two RCTs that look at co-operation (Study 1) and ethical behaviour (Study 2) for which positive affect is the manipulated mechanism. In both cases we apply tests used in our prior studies. The proposed model is shown schematically in Fig 1.5. In respect of ethical behaviour we propose a mediation model in which unethical behaviour leads to heightened positive affect ('Cheater's high') mediated by post-moral disengagement, and through exploratory analyses suggest that this relationship is moderated by DT personality traits.

Fig. 1.5 Schematic diagram showing the model proposed in Paper 5 regarding the relationship between the mechanism positive affect and positive behaviours (i) co-operation; and (ii) ethicality (mediated via post-MD)



The primary hypotheses for each study are as follows:

Study 1

Positive affect and co-operation

H1 *Positive affect promotes co-operation.*

Dark Triad and co-operation

H2 *DT is negatively associated with co-operation.*

Dark Triad, positive affect and co-operation

H3 *The positive relationship between positive affect and co-operation is moderated (weakened) by DT traits.*

Study 2

Positive affect predicts cheating

H5a & b *Positive affect positively influences cheating:- a) decision to cheat; and b)level of cheating.*

Dark Triad predicts cheating

H6a & b *DT traits are positively associated with cheating: - a) decision to cheat; and b)with level of cheating.*

H6c *The positive relationship between DT and cheating is moderated (enhanced) by positive affect.*

Cheating leads to 'cheater's high'

H7 *People who cheat experience "cheater's high" – i.e. an increase in positive affect*

Cheater's high is mediated through post-moral disengagement

H8a *Cheating promotes post-moral disengagement*

H8b *Post-moral disengagement promotes subsequent positive affect (controlling for cheat level)*

H8c *Post-moral disengagement acts as a partial mediator between cheating and positive affect [i.e. a mediation model is applicable]*

Dark Triad moderates the mediation model underlying cheater's high

H9 *Dark Triad moderates (strengthens) all three positive relationship paths in the mediation model. i.e., the relationship between cheating and positive affect is mediated through post-moral disengagement and moderated by DT traits.*

1.6 Analytic approach

Across all 10 studies in this thesis we adopt a consistent approach as to how we measure key variables and analyse data. Our design will necessarily affect results obtained and their interpretation. Our goal is to (i) obtain results that will be relevant and of interest to practitioners – viz a viz involving effect sizes that exceed the "small" effect size criteria that is frequently used in social science studies (Cohen, 1992); whilst (ii) finding novel results that are 'real' (which often involve small effect sizes (Funder & Ozer, 2019)). Consequently, we select sample sizes to meet this desired effect size criterion, and incorporate a reasonably large number of measures for relevant covariates and control variables based on theory and prior work that will best allow us to pick up key associations. Throughout, we conclude on hypotheses based on the interpretation of results from multiple regression analyses using SPSS. Further, in all studies we seek to identify more nuanced relationships such as moderation, mediation and moderated mediation involving DT and mechanism variables by applying models within the PROCESS application (Hayes, 2013).

As indicated above in Section 1.3, in focusing on DT personalities, we respond to the call from Jones & Paulhus (2017) by primarily looking at the three sub-components (Mach, Narc and Psyc) as a *constellation*, rather than focusing on a single sub-component or on the DT composite measure, using the SD3 continuous measure (Jones & Paulhus, 2017). This choice of design will enable us to pinpoint the differential contribution to an outcome that each DT component brings which we hope will help us to meet our goal to uncover novel findings. That said, we acknowledge that by incorporating several covariates and dissecting the DT into its components, our models will have a certain level of complexity that may provide a relatively refined level of analysis in the variance of an outcome variable, but which at the same time may serve to detract from corresponding effect sizes and/or provide different interpretations to hypotheses than would be obtained from more parsimonious models or bivariate correlational results, something we take care to be cognisant of in each study.

1.7 Layout of the thesis

The thesis comprises five papers, written in the style of stand-alone research papers, plus this short introduction chapter and a brief concluding chapter. Overall, the thesis comprises the results of 10 on-line RCT experiments, for which more than 5,700 respondents participated. Paper 1 sets the scene and incorporates two correlational studies which investigate how Dark Triad people relate to negative outcomes (i.e., selfish, and unethical behaviour) and positive outcomes (creativity and organisational citizenship behaviour). The results of Paper 1 are used to inform subsequent papers. Paper 2 and Paper 3 each look at a different mechanism and its association with negative outcomes involving Dark Triad individuals, i.e. moral disengagement (Paper 2) and boredom (Paper 3). Paper 4 and Paper 5 look at the influence of two situational mechanisms (flattery and positive affect respectively) in relation to positive outcomes, i.e., co-operation and ethicality (plus creativity in the case of the flattery study).

The original plan was to conduct laboratory-based experiments. Due to COVID and the unavailability of the LSE laboratory during an extended period, it was necessary to switch to on-line studies, a change which we feel did not restrict the informativeness of our experimental results. In each paper we detail the experimental set-up and limitations, summarise contributions to theory and practice, and suggest areas for future research.

The thesis ends with a short conclusion (Chapter 7). In Chapter 7 we firstly set out some broad reflections that cut across all the studies, i.e.: - we discuss effect sizes, consider the consequentiality of our findings, and highlight some key questions that researchers may wish to build upon. Second, the concluding chapter presents the results of supplementary analyses which may be fruitful for future study, comprising a post-hoc exploration to test whether the mechanisms examined in Paper 2 (post-moral disengagement) and Paper 4 (flattery) support moderated mediation models in which DT acts as moderator. Chapter 7 ends with a short summary highlighting the main contributions to theory presented in this PhD project.

Chapter 2

Two correlational studies investigating how Dark Triad personalities claim to behave in the workplace in relation to positive and negative outcomes (Paper 1)

2.1. Introduction

The term 'Dark Triad' represents three distinct personality traits (Machiavellianism, narcissism, and psychopathy) which were brought together as a cluster to encourage researchers to study the three traits as a constellation (Jones & Paulhus, 2017). Understanding how Dark Triad (DT) people behave is important because they constitute perhaps 15% of the general population (Gustafson & Ritzer, 1995), but dominate management and senior leadership positions in organisations (Furtner et al., 2017). In this paper for ease of reference we use the terms "Mach" or "Machs" (to refer interchangeably to the trait of Machiavellianism or to a person or persons with Machiavellian traits), and similarly we use the terms "Narc(s)" and "Psyc(s)" in the same vein.

Most prior research on Dark Triad people has looked at their association with negative outcomes including selfishness (Harrison et al., 2018) and counter productive work behaviour (Harms et al., 2011), yet there are many inconsistencies in findings. Even less work has been performed which has looked at positive outcomes associated with DT people. This is surprising given their prevalence in leadership roles – again, there is a certain amount of inconsistency in findings, but there is consensus that Machs are strategic and adaptable, Narcs are charismatic and creative, and Psycs exhibit charm and boldness (Judge et al., 2009; D'Souza et al., 2019), all of which could be expected to result in superior performance, career advancement, and positive outcomes for organisations. All businesses are focussed on getting the most from their employees, both in terms of amplifying positive outputs and in preventing - or, more realistically, minimising - negative outcomes. Huge sums are invested each year in improving management support systems and processes, and in fostering healthy teamwork and co-operative practices.

Prior research on the Dark Triad has focused on classroom studies involving students with little or no work experience which may give us cause to question the relevance to findings to the wider working population. In the present research we conduct two correlational studies with the goal of pursuing the following research question: - *to what extent are experienced professionals who are high in DT traits associated with workplace outcomes that are (i) negative, and (ii) positive; and how are these impacted by antecedents related to managerial support?* Within negative outcomes we consider both unethical and selfish workplace behaviours, and for positive outcomes we assess organisational citizenship and creativity, each of which is a key output of concern to leadership. The findings inform subsequent papers in this thesis involving RCT studies which consider possible mechanisms linked to self-control and contextual and affective influences typically found in the work environment. Our goal is to better understand the cognitive processes and motivational drivers underlining dark personality behaviour and how management practice might adapt to optimise performance form such individuals.

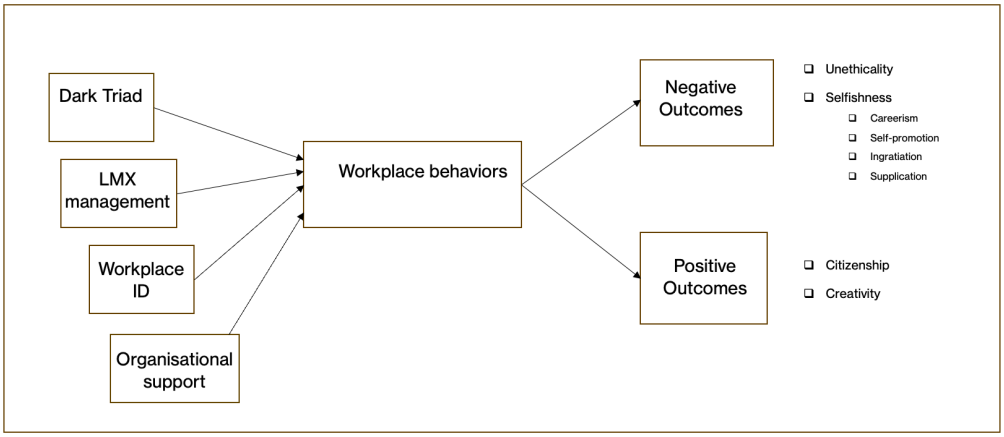
The rest of this paper is organised as follows; Section 2.2 discusses the main theoretical perspectives underpinning this study and develops the hypotheses to be tested; Sections 2.3 and 2.4 describe the methods and results and present brief commentary on findings for each of the two correlational studies assessing negative and positive outcomes respectively; Section 2.5 comprises an overall discussion of our findings, implications for theory and practice, and limitations; and Section 2.6 concludes.

2.2. Theory and hypothesis development

2.2.1 Theoretical rationale

Our approach to addressing the above research question is captured in the schematic diagram presented at Fig. 2.1. We develop our hypotheses in three stages and present them below in Section 2.2.2. First, we briefly outline what we know about DT traits in relation to the negative and positive outcomes of interest. Second, we discuss three managerial support antecedents which are important in most organisations for shaping desired behaviours and organisational norms (i.e., LMX dyad quality, workgroup identification and perceived organisational support). Then, with this context we set out seven hypotheses which relate firstly to the two negative outcomes (unethical and selfish behaviour, H1 – H3) and subsequently to the two positive outcomes (citizenship and creativity, H4 – H7).

Fig 2.1: Schematic diagram depicting key variables and outcomes



Dark Triad personality traits

The bulk of prior work on the Dark Triad is concerned with their associated negative or maladaptive traits. Moreover, although empirical findings indicate that the three DT sub-components (Mach, Narc and Psyc) are positively correlated, any apparent equivalence is illusionary, as theoretically each represents a conceptually distinct construct from the other two (Jones & Paulhus, 2017; Vernon et al., 2008; O'Boyle et al., 2012). Consequently, given our research question above, it is necessary to be cognisant of the full spectrum of negative and positive personality traits in relation to each sub-component of the Dark Triad, which we now briefly set out in turn.

Machiavellianism has been studied since the 1970s. More recently it has been defined as "*a tendency to distrust others, a willingness to engage in amoral manipulation, a desire to accumulate status for oneself, and a desire to maintain interpersonal control*" (Dahling et al., 2009; LeBreton et al., 2018). These individuals are strategic rather than impulsive (Jones & Paulhus, 2014), with their sole concern being their own reputation and success (Hare & Neumann, 2008). Yet Machs also have some redeeming features. Machs are good at applying strategic and management tactics; are adaptable in an office environment where they can contribute and be co-operative; and when necessary, they can apply pro-social strategies (D'Souza et al., 2019).

Narcissism is often considered as the least dark of the Dark Triad cluster (Jones & Paulhus, 2017). Its key characteristic is ego. Narcs boast, seek attention, and have a strong sense of entitlement, yet they have low self-esteem, exhibit an inner fragility, and seek validation (Harrison et al., 2018). As a result of this clash between grandiose identity and underlying insecurity (Jones & Paulhus, 2017), Narcs are on a continuous quest for ego re-enforcement which can be self-destructive (Morf & Rhodewalt, 2001; Vazire & Funder, 2006). Narcissistic individuals seek power and prestige, but their self-absorption (Emmons, 1987), exploitative tendencies, and lack of empathy mean that they tend to thrive only in short-term interactions (Harrison et al., 2018). More positively, Narcs have an array of attractive attributes (D'Souza et al., 2019): - for example they often have vision, charisma, and high intelligence, and are able to attract followers. Moreover, Narcs are seen as competent, have strong leadership skills, and display self-sufficiency and superiority, which is often associated with enhanced organisational performance.

Psychopathy is typically seen as the most toxic element of the Dark Triad (LeBreton et al., 2018). Williams et al. (2007) summarise psychopathy along four dimensions which capture what most researchers see as the defining characteristics of a Psyc.: - (i) interpersonal manipulation (grandiosity, lying, superficial charm); (ii) callous affect (lack of empathy and remorse); (iii) erratic lifestyle (impulsivity, irresponsibility and sensation seeking); and (iv) criminal tendencies. Moreover, research shows that Psycs are decisive, take risks, lack self-control, and resemble Narcs in manifesting their behaviour in the short-term (Jones & Paulhus, 2017). As a result, Psycs struggle to make meaningful personal relationships (Hare, 1991). Within the Dark Triad, Psycs most resemble Machs – indeed some researchers claim that this dyad should be considered alone – i.e., the so-called 'malicious two' (Rauthmann & Kolar, 2012). Although it might surprise some people given this catalogue of dark traits, even Pyscs have some positive attributes, some of which overlap with Mach traits. For example, Psycs often have high levels of charisma and charm, are creative thinkers, display boldness, and have strong presentation skills (Pilch, 2020; D'Souza et al., 2019).

Looking at research evidence in aggregate we see that there is some overlap across the three Dark Triad elements. On the negative side, people high in DT traits are associated with callousness (Jones & Paulhus, 2010); a lack of empathy

(Wai & Tiliopoulos, 2012), and a predisposition to deceive (Baughman et al., 2014. More positively, Dark Triad individuals show strong leadership skills, are persuasive, and have good crisis management skills (D'Souza et al., 2019).

Managerial and organisational support

We consider three measures of managerial and organisational support which collectively provide an important snapshot of the quality of management and encouragement that people feel in the workplace, each of which can influence workplace behaviour and is frequently used in organisational studies: - (i) dyadic (LMX) relationship; (ii) work group identification; and (iii) perceived organisational support.

First, empirical studies have shown that the "quality" of key dyadic relationships at work predicts some key organisational outcomes, including performance and attitude (Gerstner & Day, 1997). Leader-member exchange (LMX) theory focuses attention on the characteristics and quality of the relationship, interaction, and exchange between a leader and subordinate, i.e., the "LMX dyad" (Stewart, 2010). It suggests that each relationship is unique, varies in quality, and should be studied as a dyad (Anand et al., 2012). Moreover, LMX is a theory that can be applied throughout an organisation and across different types of organisations (Northouse, 2010). In the corporate world, as in society generally, a person's upward trajectory can often depend on their status vis-à-vis within a relevant in/out-group. Pursuant to LMX theory, in/out-group status is solely determined by LMX quality: - in-group membership is signified by a high quality LMX relationship (characterized by trust, respect, and expanded role responsibilities); whereas out-group membership is signified by a low quality LMX relationship (characterised by more formal role-defined interactions and contractual exchanges (Janssen & Van Yperen, 2004)).

Second, workgroup identification is seen by researchers as an important process by which individuals in an organisation can create identity in the organisation. Workgroup ID can be best understood as an ongoing process of negotiating the relationship between the self and the group (Sluss & Ashforth, 2008) involving "*the forging, maintenance, and alteration of linkages between persons and groups*" (Scott et al., 1998, p. 304; Vough, 2012). Initial work on identification in the workplace centred on organisational identification, but more recently scholars have found workers identify less with distal bodies such as the organisation, and more strongly with proximal targets such as departments or workgroups (van Dick et al., 2008) – for example, workgroup identification is more highly correlated with workgroup satisfaction and climate than is organisational identification (Vough, 2012). Consequently, we include workgroup identification as an important illustration of the quality of managerial and organisational support provided to workers.

Third, we consider organisational support. Eisenberger et al. (1997) proposed organisational support theory to explain how an employee develops beliefs concerning the extent to which the organisation values their contribution and cares about their well-being, i.e., 'perceived organisational support' (POS). Employee beliefs arise to (i) meet an employee's socio-emotional needs, and (ii) enable an employee to determine the extent to which increased work effort will be rewarded. POS can be linked to LMX theory in that, as Eisenberger et al. (2002) argue, supervisors act as agents of the organisation so employees view their supervisor's favourable or unfavourable view of them as indicative of the organisation's support, and moreover staff are aware that a supervisor's evaluation of a subordinate is conveyed to upper management, further contributing to an employee's association of supervisor support with POS (and LMX quality). Other studies have reinforced this social exchange view that employee commitment to the organisation is strongly influenced by the perception of the organisation's commitment to them (Eisenberger et al., 1986). Consequently, we should expect that a positive sense of organisational support can lead to enhanced performance and outcomes, and its absence to frustration and negative outcomes.

Negative workplace outcomes

We are primarily interested in two distinct types of negative workplace behaviour, i.e. (i) unethical, and (ii) selfish behaviour which result in unfavourable consequences (or the potential for such) somewhere in the organisation. Following Zhang et al. (2014), we use the term 'unethical behaviour' to include: - cheating; dishonesty; immorality; and deception. In addition, we also adopt the more corporate-specific term introduced by Umphress et al. 2010 'unethical pro-organisational behaviour' (UPB) to depict unethical behaviour undertaken as a voluntary act with the primary aim of helping the organisation, and which may or may not benefit the perpetrator (Umphress et al., 2010). In keeping with other scholars, we use the label 'selfish behaviour' for behaviour that "*prioritizes one's own interests and benefits over those of others, but which does not involve illegality or the breach of moral codes of conduct*" (Lu et al., 2018; Noval, 2016; Dubois et al., 2015). Rather, selfish behaviour involves subtle, ambiguous, and masked behaviour – but it may nonetheless harm the organisation at some level (Chiaburu et al., 2013b; Bolino et al., 2016). In the workplace, selfish behaviours that fit this definition include those linked to image and self-presentation, i.e., primarily the two forms of behaviour labelled as 'careerism' and 'impression management' which are conceptually similar but are distinct (Bratton & Kacmar, 2004) as we illustrate further below.

Unethical behaviour – UPB

Three theoretical perspectives emerge from the literature to explain the motivations for UPB, based on: - (i) social identity theory; (ii) social exchange theory; and (iii) social exclusion concepts. First, according to social identification theory, part of a person's self-concept derives from their membership of social groups, resulting in salient social identities (Tajfel, 1982; Umphress et al., 2010). Organisational identification is one such social identification whereby an individual can strongly identify with the organisation and internalise its successes and failures (Mael & Ashforth, 1992). This identification with the organisation can be sufficiently strong that it results in a "*psychological merging of self and organisation*" (van Knippenberg & Sleebos, 2006; Chen et al., 2016), that might influence someone to voluntarily disregard personal moral standards and cognitive processes and undertake UPB to aid the organisation and protect and maintain that person's membership in the organisation (Ashforth & Anand, 2003; Umphress et al., 2010; Hogg et al., 1995). Second, social exchange theory proposes that based on the norms of reciprocity (Goulder, 1960), quality relationships develop through the exchange of resources between two parties (Blau, 1964). In an organisational setting, pursuant to social exchange theory, strong positive reciprocity beliefs can prompt individuals to act in ways that serve to maximise returns for the exchange partner, e.g., a supervisor, workgroup, or organisation (Perugini & Galluci, 2001). The effect will be heightened when positive reciprocity beliefs are combined with a strong sense of organisational identification, potentially leading to increased willingness to conduct UPB as a social exchange resource (Umphress et al., 2010; Bryant & Merritt, 2019). Third, according to the principles of social exclusion, everyone desires to be socially included (Thau et al., 2014). Consequently, group members will be motivated to maintain a strong inclusionary status by being seen to be valuable contributors to the group (Baumeister & Leary, 1995). Moreover, anyone at risk of exclusion will be motivated to demonstrate their value and boost their inclusionary status through enhanced contributions to the group (Allen & Badcock, 2003). UPB may allow an employee to increase the level of their contribution to the group beyond what is possible via ethical means, and consequently a person who is at risk of exclusion may resort to UPB motivated by a desire to improve their inclusionary status (Thau et al., 2014).

Selfish Behaviour - Careerism

Careerism is defined as "*the propensity to pursue career advancement through non-performance-based means*" (Feldman & Weitz, 1991, p.237). Careerists consider that their career goals are inconsistent with those of the organisation; that dishonest behaviour is sometimes needed to get ahead; and that it is essential to create an "*illusion of success*" (Feldman & Klich, 1991; Chiaburu et al., 2013a), all the while motivated by the pursuit of personal advancement rather than long-term organisational success (Bratton & Kacmar, 2004). Careerists behave instrumentally at work using tactics such as politicking, deception and presenteeism (Crawshaw & Brodbeck, 2011). From a theoretical perspective, three explanations have been posited to explain a careerist orientation, vis-à-vis; - (i) organisational justice/fairness; (ii) trust (social exchange); and (iii) fixed dispositional factors. First, research suggests that careerists place importance in their perceptions of fairness of organisational decision-making and the associated structures and systems for allocating career development opportunities (Chiaburu et al., 2013b). When a careerist's sense of fairness and organisational justice is challenged, and where loyalty and commitment may not necessarily be rewarded, they will divert from effort based on formal, transparent, and consistent procedures (Feldman & Weitz, 1991). Second, a careerist has high exchange ideology beliefs which represent a strong quid pro-quo mindset based on the reciprocal relationship between employer and employee (Crawshaw & Brodbeck, 2011; Chiaburu et al., 2013b). When exchange ideology beliefs are compromised a careerist will lose trust, believe there is a psychological contract breach, and become dissatisfied (Chiaburu et al., 2013a). Third, some theorists believe that careerists have relatively fixed dispositional traits and beliefs including a propensity for political orientation, career ambition, and short-termism (Bratton & Kacmar, 2004).

Selfish Behaviour - Impression management

Impression management (IM) describes image-related behaviours that are often seen as self-centred and selfish, and which can have negative consequences for others or the firm, whereby an actor seeks to "*create, maintain, protect or otherwise alter an image held by a target audience*" (Bolino et al., 2008; Bozeman & Kacmar, 1997). IM is therefore fundamentally dyadic in nature in which actors affect the evaluations of targets (Bolino et al., 2008). Jones & Pittman (1982) identified five distinct forms of IM that are associated with specific desired images: - (i) *self-promotion* (which involves boasting, taking credit and highlighting connections to important others, and is used in order to be seen as competent); (ii) *ingratiation* (which involves flattery, opinion conformity and favour doing in order to be seen as likeable); (iii) *exemplification* (which involves excessive apparent effort in order to be seen as dedicated); (iv) *supplication* (which involves showing weakness so others will provide assistance, in order to be seen as needy); and (v) *intimidation* (which involves threats or bullying to demonstrate power) (Klotz et al., 2018; Bolino & Turnley, 2003). In this study we follow a number of other researchers (e.g., Klotz et al., 2018), and restrict our focus to the four impression management techniques that are not associated with unethical behaviour (i.e., we exclude intimidation).

Positive workplace outcomes

We now turn to look at positive outcomes and what the literature tells us about how these are linked to Dark Triad personalities. There is a vast research domain on the beneficial outcomes in the workplace associated with "bright" personality traits, represented by models such as the 'Big 5' five-factor model, and the six-factor HECACO model (Smith et al., 2018; Costa & McCrae, 1992; Ashton et al., 2004). By contrast, despite calls for research that goes beyond these well-established models (Judge et al., 2009), and the somewhat limited but obviously brighter traits associated with the Dark Triad that we outlined above, there have been relatively few studies so far that have considered positive outcomes associated with "dark" personality traits, including those associated with the Dark Triad.

There are various forms of positive outcomes associated with organisational behaviour (Smith et al., 2018). Most researchers in the field (e.g., Spain et al., 2014; LeBreton et al., 2018) focus on the most important outcomes related to corporate health and growth, i.e., job performance; leadership and leadership emergence; citizenship; and creativity & innovation. All these outcomes are challenging to assess in a correlational study, which typically involves self-assessment and can be assessed only to a limited extent in a laboratory setting. Given our desire to obtain results that are as robust to real-world scrutiny as possible, and which inform follow-on RCT studies in this thesis, we concentrate on two of these positive outcomes that are most amenable to on-line study, i.e., citizenship and creativity.

Organisational citizenship behaviour (OCB)

Over the last 30 years or so researchers have sought to better understand employee behaviours that boost the social and psychological climate in the workplace to drive enhanced organisational effectiveness (Bolino et al., 2012; Organ, 1990). Such behaviours are typically discretionary and less tied to formal rewards than are task behaviours. These behaviours include a range of actions such as co-operating with others, volunteering for additional responsibilities, helping co-workers, tolerating inconveniencies, and generally doing more than the job requires (Borman & Motowidlo, 1993). In short, these behaviours involve social and discretionary actions that prioritize others and the group over the self (LePine et al., 2002). Different labels have been attached to such behaviours by researchers, including 'contextual performance' (Organ, 2018), and 'prosocial organisational behaviour' (Cohen, 1980); however, we adopt what is perhaps the most frequently used term 'organisational citizenship behaviour' (OCB), or 'citizenship'. OCB is defined as "*performance that supports the social and psychological environment in which task performance takes place*" (Organ, 1997, p. 95). Subsequently researchers have subdivided OCB into different forms, including altruism, compliance, courtesy, and sportsmanship to name just four (Ocampo et al., 2018). We follow most current researchers by adopting a two-dimensional framework first proposed by Williams & Allen (1991) which comprises OCB directed at individuals in the workplace (OCB-I), and organisation-focussed OCB (OCB-O). This framework captures the various OCB characteristics meaningfully and parsimoniously (Jang et al., 2022). OCB-I benefits individuals, for example assisting a colleague to complete their work efficiently or providing cover, whereas OCB-O primarily benefits the organisation, for example promoting the brand and generally helping the organisation to achieve its goals and enhance its reputation (Lee & Allen, 2002).

We were only able to locate six studies which consider how the Dark Triad is related to OCB. These how some overlap but also some inconsistencies (Becker & O'Hair, 2007; Boddy et al., 2010; Smith et al., 2016; Smith et al., 2018; Szabo et al., 2018; and Webster & Smith, 2019). Given the principal Dark Triad traits outlined earlier which prioritize personal goals over social balance (O'Boyle et al., 2012), we would intuitively expect to find a strong negative relationship between the Dark Triad and OCB (LeBreton et al., 2018). Boddy et al. (2010) looked only at Psycs, and as expected found a robust negative relationship with OCB. Smith et al. (2016) considered the full Dark Triad cluster, and similarly reported a negative association with OCB for each DT sub-component – however in respect of Machs a *positive* relationship with OCB was seen in cases when the OCB was both challenging and where there was a perceived self-benefit or recognition - a finding which points to the means-focused priority of a Mach (Smith et al., 2018). This finding for Machs is also consistent with that of Becker and O'Hair (2007), who found that the negative Mach/OCB relationship was weakened when the target of the citizenship act was an individual rather than the organisation, which the authors interpret as being motivated by the possibility of recognition and subsequent reciprocity, something which is less likely if the target of the OCB is the organisation. Webster and Smith (2019) provide encouraging findings as to how we might combat the detrimental effects of the Dark Triad in relation to OCB: - they found that in the right workplace environment – such as a high involvement management climate - Machs and Narcs engage in rates of OCB equivalent to people low in Dark Triad traits. Lastly, Szabo et al. (2018) found that amongst the DT only Psyc negatively predicted OCB, which they consider an important distinction compared with Mach (which they found was a non-significant predictor of OCB-O and a weak *positive* predictor of OCB-I), given the common core of DT traits shared by Psycs and Machs. Clearly, based on the few studies performed to date, the picture regarding the link between dark traits and OCB is complicated and marked by inconsistent results.

Creativity & innovation

Creativity in the workplace is a key driver of innovation and success (Zhou & Hoever, 2014). Despite the importance of creativity to the modern economy, this multifaceted construct is not well understood, in part because it suffers from a multitude of definitions, many of which conflict (Puryear et al., 2016). As Puryear and colleagues point out, at the root of this confusion is the lack of consensus on how best to operationalize the construct - as an issue of *ideation* (i.e., the ability to come up with ideas), or one of *production* (i.e., the generation of a product). Moreover, researchers have developed tests that conceptualise creativity as an either/or construct. As an ideation construct, creativity is typically measured via tests of divergent thinking that focus on the fluency and flexibility of a respondent's thought process. Production-based measures of creativity consider outcomes that are "*novel and useful*" (Shalley et al., 2004) and require participants to reflect on the quality and quantity of their creative efforts (Puryear et al., 2016).

Demonstrated creativity can be quantified with relative ease and consensus, both in field studies (Zhou & George, 2001; Amabile, 1996), and in the laboratory (Zhou & Shalley, 2011). In correlational studies, researchers rely on self-assessment of creativity which is most commonly termed "creative self-efficacy" (CSE) and defined as "*the belief one has the ability to produce creative outcomes*" (Tierney & Farmer, 2002). CSE is considered an important construct that evolved from Bandura's (1997) concept of self-efficacy, which is a trait that directs what an individual seeks to achieve and the level of effort that will be expended in so doing. Consequently, CSE is a self-judgement of creative ability which ultimately affects innovative outcomes (Shaw et al., 2012).

In psychology, the link between personality and creativity has a rich history, dating back to the work of Guilford (1950), and later following the development of factor models of personality by the likes of Eysenck (1993) and McCrae and Costa (1987). Many regard the seminal work on the subject to be the meta-analysis of Feist (1998) which found that the largest and most consistent positive predictor of creativity was openness to experience, followed by extraversion, with agreeableness and neuroticism having the greatest negative influences on creativity (Puryear et al., 2016).

Creativity is one of the least studied outcomes related to the Dark Triad (Spain et al., 2014). Indeed, we could only identify a handful of studies that link the Dark Triad and creativity, and these show inconsistent findings. Eysenck (1993) demonstrated the expected positive relationship between creativity and psychopathy, however subsequent studies by other researchers found Psyc/creativity relationship to be negative (Dahmen-Wassenberg et al., 2016; Wisse et al., 2015). The findings for Narcs are even more complicated and inconsistent. Goncalo et al. (2010) looked only at Narcs and found that: - (i) although they *believe* themselves to be creative, they are no more creative than anyone else; and, tellingly (ii) Narcs *appear* to be more creative when pitching, as their innate enthusiasm (erroneously) influences this judgment of them, a result which LeBreton et al. (2018) suggest represents a further demonstration of the manipulative powers of the narcissist. When the leader is a Narc working with a subordinate, Goncalo et al., (2010) found that resultant creativity of the group increased, a result which seems to be inconsistent with other studies of 'toxic leadership' which suggest that Narc leaders cause stress and lead to people feeling less inclined to take chances which negatively affects creativity (Aryee et al., 2007; Liu et al, 2012). Moreover, somewhat worryingly the Wisse et al. (2015) study suggests that Narcs may even devalue innovative performance by their subordinates due to their own grandiose self-concept (LeBreton et al., 2018). Machs have levels of innate creativity that are no different to the rest of the population (D'Souza et al., 2019), and so the findings of a negative association between Machs and creativity in two separate studies (Wisse et al., 2015; Dahmen-Wassenberg et al., 2016) perhaps points to their sense of carefulness and instrumentality which stifles inherent creative traits.

Clearly the picture is somewhat confused regarding the relationship between creativity in the workplace and Dark Triad people, hence our interest in seeking to explore this association with a population of employed professionals.

2.2.2 Hypotheses

Managerial quality and workplace support, and negative outcomes (H1)

In respect of UPB, prior studies show that there is a "dishonesty shift" when a person makes a decision as a group member (Kocher et al. 2017). Indeed, a group member will engage in UPB to secure a better outcome for the group motivated by (i) strong reciprocity beliefs (Umphress et al., 2010), and may in fact feel pressured to engage in UPB if they believe it would help the supervisor (Bryant & Merritt, 2019); and (ii) a desire to improve the in-group member's inclusionary status (Thau et al., 2015). As outlined above, in/out-group status is closely linked to LMX quality (Janssen & Van Yperen, 2004)). Consequently, we hypothesise:

> ***H1a*** *In-group membership (LMX quality) is positively associated with UPB.*

Conversely, a person who closely identifies with their workgroup and peers is likely to seek to protect the organisation from harmful or unethical acts in the workplace. Similarly, a person who senses strong support from the wider organisation will feel no impetus to engage in UPB and go against their moral inclination, and indeed will do what they can to protect the organisation. Thus:

H1b *Workgroup identification is negatively associated with UPB.*
H1c *Perceived organisational support is negatively associated with UPB.*

Research tells us that careerists pursue their own career goals at the expense of the goals of their team and/or organisation (Crawshaw & Brodbeck, 2011; Feldman & Weitz, 1991). As in-group status in professional organisations is primarily determined by the strength of the LMX dyadic relationship with one's immediate boss (which is based on trust, respect and responsibility giving and taking), we argue that careerism and in-group status will be negatively associated, i.e.,

H1d *In-group membership (LMX quality) is negatively associated with careerism.*

People use impression management tactics to present themselves favourably in the workplace and advance their careers (Diekman et al., 2015), with self-promotion used to be seen as competent, and ingratiation to appear likeable (Jones & Pittman, 1982). Given that competency and likeability are positive attributes that an ambitious person will want to convey in a competitive environment where the dyadic LMX relationship is paramount to in-group status and career progression, we suggest that both types of IM behaviours which seek these goals will be positively associated with in-group status:

H1e *In-group membership (LMX quality) is positively associated with self-promotion.*
H1f *In-group membership (LMX quality) is positively associated with ingratiation.*

Dark Triad and negative outcomes (H2 & H3)

People high in Dark Triad traits are predisposed to deceive (Baughman et al., 2014). Recent studies have shown that although there is some contradiction, Dark Triad personalities are more likely to: - (i) get involved in unethical acts (Harrison et al, 2018; Templer, 2018); (ii) undertake acts which harm the organisation, its members, or both (O'Boyle et al., 2012); and (iii) feel comfortable in ambiguous environments where the probability of being caught is lower (Cohen, 2016). In relation to selfish behaviour at work, the limited studies performed so far suggest that Dark Triad personality is linked to both careerism (Crawshaw & Brodbeck, 2011; Chiaburu et al., 2013b), and certain IM tactics (Bolino et al., 2003; Park et al., 2011). Based on the theoretical summary presented above, we can present a number of predictions linking the three DT personality traits to both unethical and selfish outcomes in the workplace.

Castille et al. (2018) argue that Mach selfishness can enhance willingness to engage in UPB, and to do so constitutes doing 'whatever it takes'. Moreover, undertaking unethical behaviour is economically rational as the unethical behaviour benefits the company, and the individual's interests are aligned with those of the organisation, i.e., they (the perpetrator) ultimately benefits personally. Therefore, we predict:

H2a *Mach is positively associated with UPB.*

Following Stevens et al. (2012), Psycs are more likely to act unethically due to the combination of manipulative tendencies, reduced affect towards others, and a tendency towards violating social norms. Moreover, Psycs have difficulty resisting an immediate reward, even when the risk of punishment is high (Jones & Paulhus, 2017; Crysel et al., 2013). Thus,

H2b *Psyc is positively associated with UPB.*

Turning to selfish behaviour at work, as we saw above the hallmark of Machiavellianism is strategic manipulation (Jones & Paulhus, 2017; Christie & Geus, 1970), which is rooted in selfishness (Castille et al., 2018). Machs do whatever is required. Narcs feel entitled and are prone to boasting whilst craving validation (Harrison et al., 2018). Consequently, we argue that both Machs and Narcs will engage in both careerism and impression management (particularly self-promotion and ingratiation), all of which are selfish acts focused on image. Thus:

Careerism:

H3a *Mach is positively associated with careerism.*
H3b *Narc is positively associated with careerism.*

Self-promotion:

H3c *Mach is positively associated with self-promotion.*
H3d *Narc is positively associated with self-promotion.*

Ingratiation:

H3e *Mach is positively associated with ingratiation.*
H3f *Narc is positively associated with ingratiation.*

Finally, we turn to the two remaining aspects of impression management: - exemplification and supplication. Exemplification is a form of behaviour that seeks to create a positive impression by more extreme means, which typically involves excessive *apparent* effort to effectively fool management about the commitment and dedication of the individual, for example staying late at the office primarily to be seen doing so by senior management. This 'playing the game' takes keen political skill which we suggest will best fit with a Mach personality. Supplication is a form of impression management whereby individuals seek to capitalise on the norm of social responsibility whereby targets will be compelled to cover for the shortcomings of the supplicant (Bolino et al., 2016), for example claiming lack of knowledge to avoid difficult work and shun responsibility. Oftentimes this type of behaviour is seen as risky and can lead to lower performance management outcomes (Kacmar et al., 2013), however given how Psycs in particular avoid responsibility and take risks (Hart et al., 2020), we posit that Psycs in particular are likely to adopt this type of selfish behaviour. Thus:

Exemplification:

H3g *Mach is positively associated exemplification.*

Supplication:

H3h *Psyc is positively associated with supplication.*

Workplace support and positive outcomes (H4 & H5)

Prior results and intuition suggest that a work environment in which people feel supported generally by their organisation, and where they feel a positive attachment to their team, peers, and to their immediate boss will be one where there is reciprocation in the form of enhanced OCB. We argue that the *level* at which organisational or management support is provided will be relevant to the form of OCB an employee will undertake. In our study the proximity of support is measured at three levels - i.e., at the organisational, workgroup, and dyad levels – as represented by our measures of organisational support, workgroup identification, and LMX quality respectively. At the organisational level, social exchange theory (Blau, 1964) suggests that people work for both direct and indirect rewards, and these 'exchanges' create relationships which develop and strengthen when there is, inter alia, a sense of trust, fairness, and mutual support (Cropanzano & Mitchell, 2005). Consequently, people who experience strong organisational support will reciprocate by way of engaging in OCB-O. Similarly, at the team and dyad level, group cohesion theory explains the tendency for individuals to engage in OCB directed at team members (Harper at el., 2015), hence we would expect that LMX is positively associated with OCB-I, and that workgroup identification (which conveys support at a level intermediate between dyadic and organisational levels), will be positively associated with both OCB-I and OCB-O, i.e.:

Organisational citizenship behaviour:

H4a *Organisational support is positively associated with OCB-O.*
H4b *Workgroup identification is positively associated with OCB-I and with OCB-O.*
H4c *LMX is positively associated with OCB-I.*

As we saw above, creativity and innovation have a complex association with both the workplace environment and personality. However, we suggest that as for our predictions regarding OCB, people who have creative traits are more likely to demonstrate them in a supportive workplace environment. Thus:

Creativity:

H5a *Organisational support is positively associated with creativity.*
H5b *Workgroup identification is positively associated with creativity.*
H5c *LMX is positively associated with creativity.*

Dark Triad and positive outcomes (H6 & H7)

As we have seen, selflessness is negatively associated with the Dark Triad who have a focus on the self over others: - a trait which manifests in them forging poor interpersonal relationships and constructing a social imbalance with low-DT colleagues (Webster & Smith, 2019) This would suggest that people high in DT traits would shun both types of OCB. However, we argue that some specific aspects of each DT sub-component may bring nuance to its relationship with each form of OCB. OCB-I is more 'other' oriented than is OCB-O and often goes unnoticed by senior colleagues (Kidder & Parks, 2001), consequently OCB-I will typically be undertaken by people with empathetic and selfless traits. On the other hand, OCB-O is more salient and readily recognised by senior colleagues, so this type of behaviour may be engaged in by people who have empathetic traits, but also those who seek recognition, i.e., who are competitive, and achievement orientated (Jang et al., 2022).

Starting with the 'malicious two', given the tendency of Machs and Psycs towards selfishness, and their low levels of self-control, we predict that each is highly unlikely to engage in OCB-I. As regards OCB-O which can be self-beneficial over time, we suggest that Machs will 'do the minimum', i.e., take a cold strategic approach which will result in them showing neither a positive nor negative association with OCB-O. This is notwithstanding the likely opportunity for career development that OCB-O may open up. We suggest that Machs will perform an overall cost/benefit assessment and cynically conclude that there may be more cost-effective ways to get ahead in the workplace, e.g. through self-promotion and ingratiation. On the other hand, Psycs have such low self-control and empathy that we predict this personality type will be negatively associated with OCB-O. Conversely, as Narcs like to be appreciated, require ego-reinforcement (Vazire & Funder, 2006), and are extremely ambitious (Emmons, 1987), we posit that they are likely to engage in *both* forms of OCB. In respect of OCB-I, we suggest that Narcs will be forthcoming because help directed at an individual is invariably appreciated and may well result in an immediate show of gratitude and recognition (which plays well to the Narc ego), and result in a potential delayed quid pro quo down the line which could be career enhancing. Of course all of this requires some discipline to defer immediate reward which Narcs will not find easy to do. However, Narcs have the highest self-control amongst the DT (Jonason & Tost, 2014; Pechorro et al., 2022), hence we predict that Narcs will be able to overcome this conflict and engage in OCB. Thus:

Organisational citizenship behaviour

H6a *Mach is negatively associated with OCB-I.*
H6b *Narc is positively associated with both OCB-I and OCB-O.*
H6c *Psyc is negatively associated with both OCB-I and OCB-O.*

As indicated above, creativity is a highly complex phenomenon. Results from prior studies are inconsistent. Judge et al. (2009) reported enhanced creativity in Narcs and Psycs, whereas Lebuda et al. (2021) found weak but significant positive associations with creativity for Machs and Narcs. A third study by Hmieleski & Lerner (2016) on MBA students showed that Narcs were associated with entrepreneurial intentions, and that for students with entrepreneurial intentions all three DT sub-components were associated with unproductive entrepreneurial motives. Finally, a correlational study of college students conducted by Galang et al. (2016) found that traits related to psychopathy - specifically boldness - correlate with creative achievement. This may be a facet of disinhibition that is an intrinsic part of the Psyc personality. Disinhibition is a trait which underlies both risk taking and callousness and is thought to result from an overabundance of dopamine in creative people that drives their quest for rewarding but risky novel experiences found in the creative process (Galang et al., 2016). Lastly, we suggest that it is also worth considering the evidence on leadership emergence within the DT to inform our predictions on the association of DT with creativity - vis-à-vis the creative trait is so highly prized in some business segments that a capacity for creativity and innovation may be a good precursor to a leadership position. Narcs tend to grandiosity and strive for social appreciation, meaning they have an inherent interest in leadership and an intrinsic motivation to lead (Furtner et al., 2017). Consequently, it is likely that many leadership positions are occupied by Narcs (Maccoby, 2000), albeit they tend to lose favour over time (Ong et al., 2016). In contrast, Machs migrate more to management and administration, and Psycs are relatively passive and uninterested in leadership roles (Furtner et al., 2013). But what about prospects for enhanced creative abilities within the Dark Triad? Based on the above rationale it would appear that the only tangible link to *actual* creativity within the DT may relate to the boldness trait associated with Psyc. However, given the ego of a Narc, we should expect that in a self-assessed measure (such as that applied in this study), Narcs will tend to overrate their abilities whatever creative skills they possess. Hence, taken together, we predict that only Narcs and Psycs will be associated with creativity, i.e.:

Creativity

H7a *Narc is positively associated with creativity.*
H7b *Psyc is positively associated with creativity.*

To test hypotheses H1-H7 we conducted two on-line correlational studies using measures as detailed in the next section for negative outcomes (Study 1) and positive outcomes (Study 2).

2.3 Study 1 – Negative Outcomes

2.3.1 Method

The survey incorporates proven measures of personality traits, selected behaviours and situational factors, and control variables. Some prior studies in moral behaviour in the workplace have been criticised for being insufficiently realistic or replicable (Trevino et al., 2014). Moreover, we are cognisant of the call by Bolino & Turnley (2003) for more studies on impression management using actual working professionals. Therefore, to make our study as relevant as possible a key element of the experimental design was to ensure the participant pool was screened so that it comprises solely experienced professionals who are currently employed in an organisation and who are thereby dealing with morale decision making and dyad-based relationships on a daily basis. Consequently, we were not able to utilise the LSE student pool for this study and instead relied on an external service provider (Prolific) to access the target population.

Participants and Procedure

Study 1 comprises an on-line correlational study which obtained advance approval from the LSE Research Ethics Committee. In this research project we are interested in effect sizes that may have practical application: - which we consider to exceed the "small" effect size criteria that is frequently used in social science studies. Consequently, in determining a-priori what should be our sample size, we elected to seek a minimum effect size that was intermediate between the small-medium effect size categories (i.e. we utilised a Cohen's $f^2 = 0.1$ effect size: small/ medium effects are categorised with Cohen's $f^2 = 0.02/0.15$, per Cohen (1992)). Thus sample size was determined through a power analysis hypothesizing an intermediate small/medium effect size Cohen's $f^2 = 0.1$, statistical power level of .90 and statistical significance of .05. For the sample size estimate calculation we used G-Power (Faul et al., 2009), which suggested a sample size of 160. To account for attrition and limit any concerns over type 1 and type 2 errors, we oversampled by targeting 300 participants.

The experiment was administered on-line by Prolific using a survey designed on the Qualtrics platform. Prior to going live, the survey was pre-tested on a small group of LSE PhD students and design improvements were made based on feedback from that process.

Participants were pre-screened such that they: - (i) were currently working in full-time employment in a professional or managerial position; (ii) had work experience of a minimum of 4 years; (iii) were based in an Anglophone country (i.e., UK, US, Canada, or Australasia); and (iv) spoke English as a first language. All participants gave informed consent. The average time to complete the survey was 18 minutes. The final sample of 294 participants (162 females, 132 males), had an average age of 40.0 years (SD = 10.4; range 22 – 73).

Measures

Dependent variables
Unethical pro-organisational behaviour (UPB). We used the six-item scale developed by Umphress et al. (2010). Items assessed a respondent's agreement of their willingness to perform UPB on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Sample items include "If it would help my organisation, I would misrepresent the truth to make my organisation look good", and "If needed I would conceal information from the public that could be damaging to my organisation".

Selfish behaviour – Careerism. We assessed careerism with 18 items from the scale provided by Feldman & Weitz (1991) focused on selfish (but not unethical) careerist behaviour. Illustrative items are "It's hard to get ahead in an

organisation on sheer merit alone", and "The key to success is who you know, not what you know". We retained the Likert scale as published, i.e., a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Selfish behaviour – Impression management (Self-promotion, Ingratiation, Exemplification, Supplication). We used the Bolino & Turnley (1999) scale which has separate groupings of four or five questions for each of the four IM constructs (note we chose not to use the fifth measure of intimidation). Items assess a respondent's agreement of how frequently they had used each IM strategy in the last six months on a 5-point Likert scale ranging from 1 (*never*) to 5 (*often*). Sample items include: - Self-promotion, "Let others know that you are valuable to the organisation"; Ingratiation, "Compliment your colleagues so they will see you as likable"; Exemplification, "Come to the office at night or on weekends to show that you are dedicated"; Supplication, "Pretend to know less than you do so you can avoid an unpleasant assignment".

Independent variables

Dark Triad. We follow more than 100 prior researchers in assessing the Dark Triad through the Short Dark Triad (SD3) inventory (Jones & Paulhus, 2017). The 27-item SD3 scale measures each of the three personality traits (Mach, Narc and Psyc), each with nine items. The SD3 has shown convergent validity and reliability with Cronbach alphas ranging from .71 to .80 (Jones & Paulhus, 2014). Items request the respondent to indicate their level of agreement with statements relevant to each trait using a 5-item Likert scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*). Sample items include: - Mach, "Most people can be manipulated"; Narc, "Many group activities tend to be dull without me"; and Psyc, "Payback needs to be quick and nasty". Prior research has shown that each sub-component measure (Mach, Narc, and Psyc), as well as the SD3 composite measure (DT composite) has discriminant validity in respect of unethical behaviour (Aghababaei & Blachnio, 2015; LeBreton et al., 2018; Persson et al., 2019), so in keeping with several scholars (e.g., Jensen et al., 2022) we apply all four measures.

LMX quality (in/out-group status). This was measured with the seven item LMX scale for employee/supervisor relationship quality developed by Graen & Uhl-Bien (1995). It uses a 5-point Likert scale. Sample items are "The leader understands my job problems and needs", and "The leader recognises my potential".

Organisational support. We used the Eisenberger et al. (1986) 17-item short version 'Perceived Organisational Support' (POS) scale. Respondents are required to indicate to what extent they agree or disagree with statements relating to organisational support at work using a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Sample items are "The organisation really cares about my wellbeing", and "If given the opportunity, the organisation would take advantage of me".

Workgroup identification. We adopted the Vough (2012) schematic measure for workgroup identification which presents two columns of circles that overlap to various degrees. Respondents are asked to think of the left set of circles as themselves, and the right set of circles as the workplace in-group, and to pick which set of circles best represents their identification. Circles are labelled A-E and range from as "*no overlap*" to "*complete overlap*".

Control variables

To account for variance in the dependent variables that might be explained by factors other than independent variables, we also measured control variables that prior studies have shown to be associated with some unethical and selfish behaviours in the workplace: - *gender, age* (Berry et al., 2007); *formal education* (Bucciol et al., 2013), for which we use a dummy variable scale ranging from 1 (lowest, no degree) to 3 (highest, postgraduate); *position at work* (Chow & Choi, 2003), for which we employ a dummy variable scale spanning 1 (below manager) to 3 (senior management / leadership); *tenure* (Castille et al., 2018; Farmer & Van Dyne, 2010), i.e. time spent in current role; and *social class* via the MacArthur Scale of Subjective (SES) which is the most widely-used index of social class rank (Kraus et al., 2012), and comprises a single schematic item depicting a 10-rung ladder in which respondents indicate their situation whilst growing up relative to others in society.

Analytical Procedure

Before analysing our data, we first undertook some data cleaning steps to remove (i) outliers (i.e., respondents who completed the survey in a very short time period) and (ii) participants who failed any of the three attention check items (e.g., "For this question please select '*strongly disagree*' "). This resulted in the removal of a total of a total of six respondents, to leave a final sample size of 294. Next, all multi-item scales were tested for reliability using Cronbach's α, with all scales (except one) exceeding the common α = .70 standard of reliability (Nunnally, 1967): UPB α= .87; careerism α= .88; self-promotion α= .81; ingratiation α= .81; supplication α= .88; LMX in/out-group status α=.91;

organisational support α=.96; Mach α=.83; Narc α=.75; Psyc α=.77. The exemplification measure yielded a Cronbach α = .68: - however, given that this was only marginally below our reliability threshold, we decided the to retain this measure with due caution.

Ordinary least squares regression analyses were used to test the hypotheses. Using common reporting standards, four hierarchical regressions were calculated for each dependent variable which allows us to separately assess the effect of controls (model 1) and the sequential addition of the independent variables and predictor variables: - workplace support variables (organisational support; workgroup identification; LMX quality - model 2); DT composite (model 3); and the three DT sub-component measures (model 4). In respect of the multiple regression calculations, multi-collinearity did not pose a problem as the highest VIF was 1.82, which is well below the threshold of 10 at which multi-collinearity may distort regression results (Cryer & Miller, 1994). We also tested the data to ensure that the other necessary conditions for multiple regression were met. From a review of a histogram of standardised residuals we were able to confirm that the data contained approximately normally distributed errors. By applying a similar review to a scatterplot of standardised residuals we confirmed that the data met the assumptions of homogeneity of variance and linearity. Lastly, for each regression we applied the Durbin-Watson test of independence of errors and confirmed that the assumption was met in each case, for which we obtained Durbin-Watson scores in the range 2.1-2.2 (i.e., close to the idealised value of 2.0).

2.3.2 Results and discussion

The means, standard deviations, and Pearson bivariate correlations for all variables in our sample are reported in Table 2.1. The hierarchical multiple regression results are presented in Tables 2.2 – 2.7 for the six behavioural outcome variables, i.e.: - Table 2.2 (DV = UPB); Table 2.3 (DV = careerism); Table 2.4 (DV = self-promotion), Table 2.5 (DV = ingratiation), Table 2.6 (DV = exemplification), and Table 2.7 (DV=supplication).

Descriptive statistics

From Table 2.1 we see that participants show moderate proneness to engage in UPB albeit with reasonably high variability (M=2.48, SD =1.01) based on the 5-item Likert scale, a finding which mirrors those of previous scholars (e.g., Detert et al., 2008). By contrast, respondents report relatively higher levels of selfish behaviour at work: - i.e., careerism (M=3.21, SD=0.59), and in respect of positive IM tactics: - self-promotion (M=2.71, SD =0.85), ingratiation (M=3.41, SD =0.82), and exemplification (M=2.58, SD =0.80), with an as-expected low incidence of the negative IM tactic supplication (M=1.68, SD=0.65). The relative level of IM tactic usage seen in our sample is in line with levels seen in other studies, e.g., Bolino & Turnley (2003) and Klotz et al. (2018).

Dark Triad personality measures are in line with expectations (Mach, M=3.14, SD=0.65; Narc, M=2.54, SD=0.60; Psyc, M=1.97, SD=0.57; and DT composite, M=2.55, SD=0.47). Moreover, DT measures are substantially similar to those seen in prior studies: - for example our participant pool mean score for Mach (M=3.14) can be compared with the measure of M=3.04 reported by Egan et al. 2015), and the measures for males/females of M=3.19/2.92 found by Persson et al. (2019).

Table 2.1 Pearson correlation matrix, scale means, and standard deviations

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. UPB	2.48	1.01	1											
2. Careerism	3.21	0.59	0.24***	1										
3. Self-promotion	2.71	0.85	0.15**	0.11	1									
4. Ingratiation	3.41	0.82	0.11*	0.07	0.48***	1								
5. Exemplification	2.58	0.80	0.25***	0.19**	0.41***	0.39***	1							
6. Supplication	1.68	0.64	0.22***	0.23***	0.27***	0.21***	0.54***	1						
7. Org Support	4.26	0.87	0.03	-0.16**	0.03	0.09	-0.07	-0.06	1					
8. Workgroup ID	2.85	0.95	-0.05	-0.20***	0.11	0.12*	0.05	-0.04	0.13*	1				
9. In-group LMX	3.52	0.78	-0.05	-0.38***	0.15**	0.17**	-0.01	-0.17**	0.18*	0.39***	1			
10. Mach	3.14	0.65	0.48***	0.49**	0.26***	0.14*	0.26***	0.27***	-0.08	-0.03	-0.15*	1		
11. Narc	2.54	0.60	0.13*	-0.10	0.39***	0.18**	0.18**	0.12	0.11	0.29***	0.14	0.23***	1	
12. Psyc	1.97	0.57	0.43***	0.27***	0.16**	0.12	0.22***	0.30***	-0.11	0.06	-0.13*	0.56***	0.34***	1
13. DT composite	2.55	0.47	0.46***	0.30***	0.36***	0.15*	0.29***	0.30***	-0.04	0.13*	-0.06	0.80***	0.68***	0.82***

N=294. * p<0.05; ** p<0.01; *** p<0.001

The correlations show some interesting relationships. We note that as expected the Dark Triad components show (i) moderately positive correlations in respect of Mach/ Narc (r = .23, p< .001) and Psyc/ Narc (r = .34, p< .001); and

(ii) a relatively strong positive correlation between the 'malicious two' (Rauthmann & Kolar, 2012), i.e., Mach and Psyc (r = .56, p< .001), associations which are closely in line with prior findings (e.g. Deutchman & Sullivan, 2018).

Also prominent and relevant to our regression analyses in the next section are the relatively strong positive associations between specific Dark Triad traits and unethical and selfish behaviours, i.e., notably Mach is correlated with both UPB (r = .48, p< .001) and careerism (r = .49, p< .001); Narc is associated with self-promotion (r = .39, p< .001); and Psyc is correlated with UPB (r = .43, p< .001). We note that the components of the Dark Triad are only weakly correlated with LMX in-group status, which suggests that these individuals operate relatively independent of such relationships. In respect of control variables (which are not shown in Table 2.1), we find a positive correlation between male gender and each of the DT traits, a finding which mirrors prior studies (e.g., Jonason & Davis, 2018), i.e.: - Mach (r = .20, p< .01); Narc (r = .16, p< .01); and Psyc (r =.33, p < .001).

There have been no previous studies that have looked at unethical and selfish behaviours in the same study, or with careerism and IM measured together. We can see that there is a statistically significant weak to moderate positive correlation between UPB and each of the four forms of selfish behaviour, i.e.: - careerism (r = .24, p<.001); self-promotion (r = .15, p< .01); ingratiation (r =.11, p<.05); exemplification (r = .25, p<.01); and supplication (r=.22, p<.001), a finding which aligns with previous work which suggests that unethical and selfish behaviours are conceptually distinct and orthogonal (Lu et al. (2018). It is notable that careerism shows moderate association with both exemplification and with supplication - which are the most extreme forms of IM - but no association with either of the more positive forms of IM (self-promotion and ingratiation), findings which lend weight to the belief that careerism and IM are conceptually distinct constructs (Bratton & Kacmar, 2004). Within the IM measures we see moderately positive intra-correlations, with the self-promotion/ ingratiation association showing a relatively strong positive correlation (r=.48, p<.001), a result which is in line with previous studies (e.g., Bolino & Turnley, 2003).

As a final point we note that excepting the DT composite measure with each of its three sub-components, there is no inter-correlation in our data set that is above r = .56, which is well below the level of 0.7 at which many conservative scholars believe could give rise to collinearity issues (Allison, 1999) - indeed most correlations are below 0.2. Moreover, as indicated above, we also tested multi-collinearity in the multiple regressions which all display low VIFs, hence we do not consider that our data has multi-collinearity limitations.

Regression analysis and hypothesis test results

The association of managerial quality and workplace support with negative outcomes

H1 makes predictions regarding the association of managerial relationships, identification, and workplace support, with four negative dark side behaviours encountered in the workplace (UPB, careerism, self-promotion, and ingratiation). First, for UPB:

> ***H1a*** *In-group membership (LMX quality) is positively associated with UPB.*
> ***H1b*** *Workgroup identification is negatively associated with UPB.*
> ***H1c*** *Perceived organisational support is negatively associated with UPB.*

Table 2.2 shows the hierarchical regression results for DV=UPB (which, for model 4 with the three DT sub-components as covariates, R^2 =.324, F(14, 279) = 9.542, p<.001). Model 3 results show findings using the single DT composite measure. (Note that across all our results in this paper, model 3 typically shows similar IV trends and regression parameters to model 4, henceforth we focus on model 4 results and only mention model 3 results in the narrative where relevant and by exception). H1a is not supported. Similarly, both H1b and H1c are not supported. Model 2 (see Table 2.2.) indicates that there is no additional predictive power on UPB by the addition of the three measures representing workplace support. These results suggest that the immediate environment faced by staff at work has no influence on the level of UPB they undertake, which is both surprising and concerning as it suggests the environment is ineffective in deterring such behaviour.

Next, H1 also predicted that the quality of managerial dyad relationships (which as we have outlined, often determine in-group status and career progression), influences careerism, as well as two positive impression management practices (self-promotion and ingratiation):

> ***H1d*** *In-group membership (LMX quality) is negatively associated with careerism.*
> ***H1e*** *In-group membership (LMX quality) is positively associated with self-promotion.*
> ***H1f*** *In-group membership (LMX quality) is positively associated with ingratiation.*

Table 2.3 presents the hierarchical regression results for DV= careerism (R^2 =.400, $F(14, 279)$= 13.301, p<.001). Table 2.4 shows hierarchical regression results for DV= self-promotion (R^2 =.233, $F(14, 279)$= 6.039, p<.001). Hierarchical regression results for DV = ingratiation are set out in Table 2.5 (R^2 =.129, $F(14, 279)$= 2.956, p<.001).

We see from Table 2.3 that in support of H1d, in-group status is strongly negatively associated with careerism at the 0.1% level (β = - .273; p<.001). Moreover, we note that the addition of the three measures representing workplace support explains an additional 13.9% of the total variance in careerism (model 2). Both H1e (Table 2.4) and H1f (Table 2.5) are supported at the 5% level of significance, i.e., in-group status is positively associated with both self-promotion (β = .145; p< .05) and with ingratiation (β = .142; p< 0.05).

Table 2.2 Regression results for DV UPB

Hierarchical model	(1) Control variables	(2) Workplace support	(3) DT composite	(4) DT components	Hypothesis
	DV = Unethical pro-organisational behaviour (UPB)				
Control variables					
Gender	-0.075 (-1.252)	-0.080 (-1.318)	0.061 (1.099)	0.086 (1.602)	
Age	-0.075 (-0.791)	-0.058 (-0.905)	-0.026 (-0.455)	-0.013 (-0.235)	
Education2 - grad	-0.052 (-0.851)	-0.052 (-0.841)	-0.020 (-0.374)	0.006 (0.123)	
Education3 -post grad	0.063 (1.030)	0.056 (0.908)	0.084 (1.522)	0.126* (2.364)	
Work2 - managmt	0.066 (0.997)	0.079 (1.180)	0.068 (1.152)	0.121* (2.097)	
Work3- Sen. managmt	-0.002 (-0.037)	0.023 (0.316)	0.028 (0.424)	0.017 (0.265)	
Tenure	-0.103 (-1.667)	-0.100 (-1.604)	-0.102 (-1.848)	-0.110* (-2.101)	
Social class	-0.049 (-0.817)	-0.035 (-0.568)	-0.012 (-0.213)	0.010 (0.203)	
Explanatory variables					
Workplace Support					
Organisational support		0.041 (0.688)	0.048 (0.896)	0.082 (1.595)	**H1c**
Workgroup identification		-0.059 (-0.849)	-0.133* (-2.125)	-0.070 (-1.149)	**H1b**
LMX quality		-0.029 (0.476)	0.027 (0.477)	0.074 (1.349)	**H1a**
Dark Triad personality					
DT composite			0.489*** (8.880)		
Machiavellianism				0.394*** (6.400)	**H2a**
Narcissism				-0.069 (-1.206)	
Psychopathy				0.277*** (4.242)	**H2b**
_cons B	3.687*** (9.222)	3.760*** (6.436)	0.095 (0.168)	-0.665 (-1.029)	
Number of observations	294	293	293	293	
R^2	0.035	0.039	0.250	0.324	
Δ R^2		0.004	0.211	0.074	

Gender is coded such that male = 0 and female = 1. t statistics in parentheses. * p<0.05; ** p<0.01; *** p<0.001

Table 2.3 Regression results for DV careerism

Hierarchical model	(1) Control variables	(2) Workplace support	(3) DT composite	(4) DT components	Hypothesis
	DV = Careerism				
Control variables					
Gender	-0.114 (-1.953)	-0.105 (-1.918)	-0.028 (-0.512)	-0.023 (-0.454)	
Age	-0.107 (-1.723)	-0.148* (-2.554)	-0.131* (-2.338)	-0.118* (-2.310)	
Education2 - grad	-0.022 (-0.373)	-0.026 (-0.472)	-0.009 (-0.171)	0.034 (0.693)	
Education3 -post grad	-0.151* (-2.510)	-0.147** (-2.626)	-0.132* (-2.451)	-0.064 (-1.285)	
Work2 - managmt	-0.103 (-1.603)	-0.081 (-1.339)	-0.087 (-1.493)	-0.046 (-0.849)	
Work3- Sen. managmt	-0.153* (-2.309)	-0.062 (-0.936)	-0.060 (-0.936)	-0.086 (-1.467)	
Tenure	-0.031 (-0.509)	-0.001 (-0.010)	-0.002 (-0.031)	-0.020 (-0.401)	
Social class	-0.057 (-0.973)	-0.031 (-0.571)	-0.019 (-0.356)	-0.002 (-0.049)	
Explanatory variables					
Workplace Support					
Organisational support		-0.066 (-1.203)	-0.062 (-1.185)	-0.033 (-0.680)	
Workgroup identification		-0.048 (-0.764)	-0.088 (-1.439)	-0.005 (-0.092)	
LMX quality		-0.347*** (-5.984)	-0.316*** (-5.646)	-0.273*** (-5.259)	**H1d**
Dark Triad personality					
DT composite			0.226*** (4.926)		
Machiavellianism				0.470*** (8.110)	**H3a**
Narcissism				-0.163** (-3.027)	**H3b**
Psychopathy				0.001 (0.008)	
_cons B	3.853*** (19.512)	5.005*** (18.761)	4.001*** (12.217)	3.495*** (11.373)	
Number of observations	294	293	293	293	
R^2	0.076	0.215	0.278	0.400	
ΔR^2		0.139	0.063	0.122	

Gender is coded such that male = 0 and female = 1. *t*-statistics in parentheses. * p<0.05; ** p<0.01; *** p<0.001

In respect of both, the addition of workplace support variables adds only moderate predictive power – i.e. a 2.5% R^2 change for DV = self-promotion (Table 2.4, model 2); and a 2.9% R^2 change for DV = ingratiation (Table 2.5, model 2). These findings indicate that those people who have higher quality LMX dyadic relationships with their immediate boss, and who therefore have more in-group status, are significantly less likely to act in a careerist way. This is a welcome finding for management. However, less welcome will be the result that the same high quality dyadic relationships are *positively* associated with self-promotion and ingratiation, activities which can demotivate colleagues and which some researchers believe can contribute to the politicisation of an organisation.

The association of Dark Triad personality with negative outcomes

H2 and H3 predict how Dark Triad traits are associated with unethical and selfish workplace behaviours. H2 relates to UPB:

> ***H2a*** *Mach is positively associated with UPB.*
> ***H2b*** *Psyc is positively associated with UPB.*

From Table 2.2 we find that in support of H2a and H2b, each of Mach (β = .394, p<.001) and Psyc (β = .277, p<.001) respectively is strongly positively associated with UPB at the 0.1% level. We also note that from model 3 (Table 2.2),

the DT composite measure is even more strongly associated with UPB than is either Mach or Psyc sub-component measure (β = .489, p< .001). These results confirm the darkness within the 'malicious two' and the risks that Machs and Psycs pose in the work situation. In addition, we confirm the utility of the DT composite measure in relation to unethical behaviour.

The H3 group of eight hypotheses consider how the DT is related to careerism and the four forms of impression management. First, we considered careerism:

H3a *Mach is positively associated with careerism.*
H3b *Narc is positively associated with careerism.*

Table 2.3 shows that H3a is supported at the 0.1% level (β = .470, p<.001). This finding suggests just how ruthless Machs can be in pursing their careers, and given that careerism has negative collateral impact, highlights the attendant risks to an organisation that Machs pose. H3b is not supported for Narc. Indeed, the result is strongly in the opposite direction to that hypothesised and shows a negative association between Narc and careerism at the 1% level (β = -.163, p<.01). This result is surprising and we speculate may be reflective of Narc self-deception (Jones & Paulhus, 2017), with people high in this trait being unable to admit (even in an anonymous, no-risk survey), behaviours they engage in.

Moving on to self-promotion and ingratiation which are close cousins, we hypothesised:

H3c *Mach is positively associated with self-promotion.*
H3d *Narc is positively associated with self-promotion.*

H3e *Mach is positively associated with ingratiation.*
H3f *Narc is positively associated with ingratiation.*

From Table 2.4 we see that both H3c and H3d are supported with Mach (β = .251, p<.001) and Narc (β = .342, p<0.001) respectively strongly positively associated with self-promotion at the 0.1% level. We also note that from model 3 (Table 2.4), the DT composite measure is even more strongly associated with self-promotion than is any of the DT sub-component (β = .395, p<.001). Table 2.5 shows that our predictions associating DT traits with ingratiation are also supported, albeit less strongly than for self-promotion and at the lower significance level of 1%: - H3e (Mach, β = .200, p<0.01); and H3f (Narc, β = .144, p<0.01). These findings emphasise the self-centred focus of Machs and Narcs in the workplace, and suggest the risk that flattery and bootlicking may develop where such personalities dominate, activities which can pose severe risk management and office climate challenges at work.

Finally, as regards the more extreme and negative forms of impression management (exemplification and supplication respectively), we predicted vis-à-vis:

H3g *Mach is positively associated exemplification.*
H3h *Psyc is positively associated with supplication.*

Table 2.6 presents the hierarchical regression results for DV= exemplification (R^2 =.137, F(14, 279)= 3.170, p<.001). Table 2.7 shows hierarchical regression results for DV= supplication (R^2 =.165, F(14, 279)= 3.939, p<.001).

Table 2.4 Regression results for DV self-promotion

Hierarchical model	(1) Control variables	(2) Workplace support	(3) DT composite	(4) DT components	Hypothesis
			DV = Self-promotion		
Control variables					
Gender	-0.016	-0.017	0.097	0.063	
	(-0.266)	(-0.289)	(1.669)	(1.100)	
Age	-0.078	-0.058	-0.041	-0.032	
	(-1.226)	(-0.918)	(-0.549)	(-0.707)	
Education2 - grad	-0.021	-0.019	0.006	0.005	
	(-0.340)	(-0.319)	(0.111)	(0.098)	
Education3 -post grad	-0.038	-0.036	-0.014	-0.016	
	(-0.614)	(-0.593)	(-0.251)	(-0.283)	
Work2 - managmt	0.111	0.095	0.087	0.044	
	(1.678)	(1.437)	(1.412)	(0.724)	
Work3- Sen. managmt	0.054	0.007	0.011	0.004	
	(0.801)	(0.102)	(0.162)	(0.057)	
Tenure	-0.103	-0.116	-0.118*	-0.122*	
	(-1.678)	(-1.893)	(-2.073)	(-2.178)	
Social class	0.038	0.022	0.041	0.022	
	(0.639)	(0.361)	(0.723)	(0.401)	
Explanatory variables					
Workplace Support					
Organisational support		0.014	0.019	-0.006	
		(0.232)	(0.343)	(-0.109)	
Workgroup identification		0.051	-0.009	-0.028	
		(0.732)	(-0.132)	(-0.432)	
LMX quality		0.132*	0.177**	0.145*	**H1e**
		(2.080)	(2.994)	(2.469)	
Dark Triad personality					
DT composite			0.395***		
			(6.920)		
Machiavellianism				0.251***	**H3c**
				(3.823)	
Narcissism				0.342***	**H3d**
				(5.630)	
Psychopathy				-0.056	
				(-0.808)	
_cons B	3.023***	2.374***	0.231	0.417	
	(10.407)	(5.642)	(0.642)	(0.404)	
Number of observations	294	293	293	293	
R^2	0.032	0.057	0.194	0.233	
ΔR^2		0.025	0.137	0.039	

Gender is coded such that male = 0 and female = 1. *t*-statistics in parentheses. * $p<0.05$; ** $p<0.01$; *** $p<0.001$

Table 2.5 Regression results for DV ingratiation

Hierarchical model	(1) Control variables	(2) Workplace support	(3) DT composite	(4) DT components	Hypothesis
			DV = Ingratiation		
Control variables					
Gender	0.139*	0.136*	0.194**	0.174**	
	(2.345)	(2.294)	(3.195)	(2.942)	
Age	-0.119	-0.097	-0.084	-0.087	
	(-1.896)	(-1.536)	(-1.347)	(-1.403)	
Education2 - grad	-0.021	-0.019	-0.006	0.001	
	(-0.341)	(-0.314)	(-0.102)	(0.025)	
Education3 -post grad	-0.109	-0.113	-0.102	-0.090	
	(-1.786)	(-1.863)	(-1.706)	(-1.497)	
Work2 - managmt	0.096	0.083	0.079	0.060	
	(1.469)	(1.274)	(1.229)	(0.919)	
Work3- Sen. managmt	0.140*	0.089	0.091	0.082	
	(2.079)	(1.242)	(1.290)	(1.160)	
Tenure	0.018	0.004	0.004	-0.002	
	(0.295)	(0.073)	(0.061)	(-0.034)	
Social class	0.055	0.042	0.051	0.043	
	(0.934)	(0.701)	(0.875)	(0.731)	
Explanatory variables					
Workplace Support					
Organisational support		0.058	0.061	0.051	
		(0.986)	(1.049)	(0.868)	
Workgroup identification		0.048	0.018	0.021	
		(0.707)	(0.269)	(0.310)	
LMX quality		0.132*	0.154*	0.142*	**H1f**
		(2.093)	(2.488)	(2.271)	
Dark Triad personality					
DT composite			0.201***		
			(3.361)		
Machiavellianism				0.200**	**H3e**
				(2.864)	
Narcissism				0.144**	**H3f**
				(2.222)	
Psychopathy				-0.075	
				(-1.016)	
_cons B	3.381***	2.575***	1.524**	1.507**	
	(12.222)	(6.434)	(3.036)	(2.942)	
Number of observations	294	293	293	293	
R^2	0.049	0.078	0.113	0.129	
ΔR^2		0.029	0.035	0.016	

Gender is coded such that male = 0 and female = 1. *t*-statistics in parentheses. * $p<0.05$; ** $p<0.01$; *** $p<0.001$

Table 2.6 Regression results for DV exemplification

Hierarchical model	(1) Control variables	(2) Workplace support	(3) DT composite	(4) DT components	Hypothesis
			DV = Exemplification		
Control variables					
Gender	0.004	0.016	0.104	0.105	
	(0.071)	(0.266)	(1.738)	(1.729)	
Age	-0.053	-0.050	-0.029	-0.028	
	(-0.849)	(-0.776)	(-0.479)	(-0.450)	
Education2 - grad	-0.118	-0.123*	-0.103	-0.098	
	(-1.933)	(-2.008)	(-1.758)	(-1.648)	
Education3 -post grad	-0.081	-0.077	-0.056	-0.048	
	(-1.327)	(-1.290)	(-0.956)	(-0.793)	
Work2 - managmt	0.126	0.121	0.114	0.120	
	(1.928)	(1.822)	(1.798)	(1.847)	
Work3- Sen. managmt	0.080	0.068	0.071	0.068	
	(1.188)	(0.938)	(1.019)	(0.968)	
Tenure	-0.119	-0.114	-0.115	-0.117*	
	(-1.943)	(-1.844)	(-1.948)	(-1.978)	
Social class	0.027	0.018	0.033	0.035	
	(0.456)	(0.301)	(0.563)	(0.598)	
Explanatory variables					
Workplace Support					
Organisational support		-0.077	-0.073	-0.069	
		(-1.290)	(-1.278)	(-1.194)	
Workgroup identification		0.051	0.005	0.016	
		(0.740)	(0.082)	(0.238)	
LMX quality		-0.012	0.023	0.029	
		(-0.184)	(0.378)	(0.466)	
Dark Triad personality					
DT composite			0.306***		
			(5.172)		
Machiavellianism				0.186**	**H3g**
				(2.674)	
Narcissism				0.095	
				(1.474)	
Psychopathy				0.114	
				(1.541)	
_cons B	2.889***	3.113***	1.542**	1.452**	
	(10.585)	(7.794)	(3.157)	(2.890)	
Number of observations	294	293	293	293	
R^2	0.046	0.053	0.135	0.137	
ΔR^2		0.007	0.082	0.002	

Gender is coded such that male = 0 and female = 1. *t*-statistics in parentheses. * $p<0.05$; ** $p<0.01$; *** $p<0.001$

Table 2.7 Regression results for DV supplication

Hierarchical model	(1) Control variables	(2) Workplace support	(3) DT composite	(4) DT components	Hypothesis
			DV = Supplication		
Control variables					
Gender	-0.175**	-0.171**	-0.093	-0.077	
	(-2.979)	(-2.906)	(-1.567)	(-1.278)	
Age	0.089	0.076	0.094	0.099	
	(1.420)	(1.208)	(1.544)	(1.639)	
Education2 - grad	-0.058	-0.057	-0.040	-0.034	
	(-0.960)	(-0.951)	(-0.683)	(-0.589)	
Education3 -post grad	-0.099	-0.097	-0.082	-0.073	
	(-1.640)	(-1.606)	(-1.401)	(-1.238)	
Work2 - managmt	0.094	0.093	0.087	0.112	
	(1.454)	(1.433)	(1.390)	(1.755)	
Work3- Sen. managmt	-0.084	-0.063	-0.061	-0.061	
	(-1.251)	(-0.886)	(-0.883)	(-0.877)	
Tenure	-0.057	-0.048	-0.049	-0.049	
	(-0.933)	(-0.786)	(-0.833)	(-0.840)	
Social class	0.039	0.042	0.055	0.065	
	(0.665)	(0.702)	(0.949)	(1.133)	
Explanatory variables					
Workplace Support					
Organisational support		0.001	0.004	0.019	
		(0.003)	(0.066)	(0.331)	
Workgroup identification		0.028	-0.013	0.006	
		(0.405)	(-0.198)	(0.082)	
LMX quality		-0.168**	-0.137*	-0.117	
		(-2.683)	(-2.252)	(-1.900)	
Dark Triad personality					
DT composite			0.271***		
			(4.636)		
Machiavellianism				0.134	
				(1.958)	
Narcissism				0.005	
				(0.072)	
Psychopathy				0.203**	**H3h**
				(2.787)	
_cons B	1.616***	2.050***	0.935*	0.805*	
	(7.472)	(6.541)	(2.420)	(2.038)	
Number of observations	294	293	293	293	
R^2	0.064	0.088	0.153	0.165	
ΔR^2		0.024	0.065	0.012	

Gender is coded such that male = 0 and female = 1. *t*-statistics in parentheses. * $p<0.05$; ** $p<0.01$; *** $p<0.001$

From Table 2.6 we see that H3g is supported at the 1% level, with Mach moderately positively associated with exemplification (β = .186, p<.01). Interestingly, the DT composite measure (model 3) provides a stronger association at higher significance (β = .306, p<.001). Table 2.7 results show that H3f is supported at the 1% level, with Psyc moderately positively associated with supplication (β = .203, p<0.01), and as with exemplification, the DT composite measure (model 3) shows a stronger and more highly significant association with supplication (β = .271, p<.001). These results augment earlier results demonstrating just how important career progression is to Machs, and further illustrate the risks associated with Psyc employees who are associated with supplication, a highly selfish tendency which could negatively impact efficiency and team moral in the workplace.

A summary of conclusions for Study 1 hypotheses is presented in Table 2.8.

Table 2.8 Summary of hypothesis conclusions – Study 1

Hypothesis	DV	Hypothesis supported (Y/N)	Table
Managerial quality & workplace support predict negative outcomes			
i) UPB			
H1a In-group membership (LMX quality) is positively associated with UPB	UPB	N	2.2
H1b Workgroup identification is negatively associated with UPB	UPB	N	2.2
H1c Perceived organisational support is negatively associated with UPB	UPB	N	2.2
ii) Careerism			
H1d In-group membership (LMX quality) is negatively associated with careerism	Careerism	Y	2.3
iii) Impression management			
H1e In-group membership (LMX quality) is positively associated with self-promotion	Self-promotion	Y	2.4
H1f In-group membership (LMX quality) is positively associated with ingratiation	Ingratiation	Y	2.5
Dark Triad traits predict negative outcomes			
i) UPB			
H2a Mach is positively associated with UPB	UPB	Y	2.2
H2b Psyc is positively associated with UPB	UPB	Y	2.2
ii) Careerism			
H3a Mach is positively associated with careerism	careerism	Y	2.3
H3b Narc is positively associated with careerism	careerism	N	2.3
iii) Impression management			
Self-promotion			
H3c Mach is positively associated with self-promotion	self-promotion	Y	2.4
H3d Narc is positively associated with self-promotion	self-promotion	Y	2.4
Ingratiation			
H3e Mach is positively associated with ingratiation	ingratiation	Y	2.5
H3f Narc is positively associated with ingratiation	ingratiation	Y	2.5
Exemplification			
H3g Mach is positively associated exemplification	exemplification	Y	2.6
Supplication			
H3h Psyc is positively associated with supplication	supplication	Y	2.7

2.4 Study 2 – Positive Outcomes

2.4.1 Method

Study 2 followed the same method as for Study 1, except for the outcome measures which for this experiment are based on two positive outcomes: - organisational citizenship behaviour (OCB); and self-assessed creativity. We maintained the same experimental design for purposes of comparability, except we used approximately double the number of respondents in this Study 2 as compared with Study 1. The experiment comprises an on-line correlational study with participants restricted, inter alia, to those in current employment and with at least four years of work experience. In this way we sought to identify participants who have experience of being subject to the type of situational support and dyadic relationships typically found in organisations and which shape the positive behaviours we are considering, with the aim that our results will be both realistic and replicable. We subsequently undertook hierarchical regression analyses to test our hypotheses.

Participants and Procedure
Prior to commencing Study 2, we first obtained approval from the LSE Research Ethics Committee. This on-line correlational study was designed on a Qualtrics platform and administered by Prolific, for which participants were paid for their time at a rate above the minimum wage rate. In line with best practice, all participants were: - required to give prior informed consent; provided with a brief outline of the goals of the study; and advised that they would be free to discontinue their participation at any stage and still receive payment.

We determined the appropriate sample size a-priori following the same procedure as for Study 1, i.e. by applying a power analysis using the well-known G-Power software (Faul et al., 2009). Thus sample size was determined through a power analysis hypothesizing a minimum intermediate small/medium effect size Cohen's $f^2 = 0.1$, and applying conservative assumptions for statistical power (0.95) and statistical significance level ($\alpha = .05$). The power analysis indicated a minimum sample size of 285. We chose to oversample by approximately double by targeting 600 participants to provide ample leeway to cover any attrition and type 1 and type 2 constraints.

In total we applied four pre-screening conditions to the participant pool: - (i) in full-time employment; (ii) at least 4 years of work experience; (iii) based in either UK, US, Canada, Australia or New Zealand; and (iv) English as a first language. The average time to complete the survey was 15.5 minutes. Two participants were identified as outliers regarding the time taken to complete the survey, and three others were deemed to not have given it adequate attention, meaning that five in total were excluded from the data set giving a final sample of 595 participants (303 females, 292 males), with an average age of 41.4 years (SD = 10.7; range 24 – 64).

Measures

Dependent variables
Organisational citizenship behaviour (OCB). We used the 16-item scale developed by Lee & Allen (2002). This comprises eight items for each of OCB-I and OCB-O. Items assess a respondent's agreement of their willingness to perform various OCB tasks and norms on a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*). Sample items for OCB-I include "I assist others at work with their duties"; and for OCB-O include "I attend functions that are not required but help the organisation's image". Cronbach alphas for organisational citizenship: - OCB-I (α=.84); OCB-O (α= .89).

Creativity. Self-assessed creativity was measured with the 11-item Short Scale of Creative Self (SSCS) provided by Karwowski et al. (2018). This measures CPI (creative personal identity) - the belief that creativity is an important element of an individual's personality (Puryear et al., 2016), and also CSE (creative self-efficacy). The six-item CSE and five-item CPI subscales can be used stand-alone or studied together as a combined SSCS scale (Karwowski et al., 2018; Shaw et al., 2021). Self-assessed creativity is an individual's assessment of their potential and creative abilities (Hughes et al., 2013). Illustrative items are "I am good at proposing original solutions to problems" (CSE), and "I think I am a creative person" (CPI). We retained the SSCS Likert scale as published, i.e., a 5-point scale ranging from 1 (*definitely not*) to 5 (*definitely yes*). Cronbach alphas for self-assessed creativity: - CSE (α=.85); CPI (α= .93); SSCS composite (α= .93).

Independent and control variables
For Study 2 we repeated the same measures for personality, organisational support, and controls as for Study 1. Cronbach scores were: - Mach α=.79; Narc α=.76; Psyc α=.77; DT (composite) α=.86; LMX in/out-group status α=.91; organisational support (POS) α=.96.

Analytical Procedure

We exposed the data to the same cleaning and regression assumption checks as for Study 1. We also applied the same Cronbach reliability check for all scales, all of which exceeded the threshold α=.7 as indicated above. The final sample size obtained was N=595. The key assumptions for the data underlying multiple regression were met (no outliers; independence of errors; errors normally distributed; homogeneity of variance; and linearity). In our initial modelling multi-collinearity was an issue in the multiple regressions which showed high VIF measures in respect of three control variables (tenure; work -manager; work-senior manager), however by omitting the work-manager control variable this issue was resolved such that no VIF exceeded 2.5 (comfortably below the threshold score at which multi-collinearity distortion can be present (Cryer & Miller, 1994)), and with no adverse impact on the goodness of fit.

As for Study 1, we assessed the validity of our Study 2 hypotheses using ordinary least squares regression analyses, adopting the same sequence of four hierarchical models in which DT composite is included in model 3, and the three DT subcomponents are included in model 4.

2.4.2 Results and discussion

Table 2.9 presents means, standard deviations, and Pearson bivariate correlations for all variables. The hierarchical multiple regression results are presented in Table 2.10a (DV= OCB-I), Table 2.10b (DV= OCB-O), and Table 2.11 (DV= creativity).

Descriptive statistics

From Table 2.9 we see that participants reported engaging in both types of OCB with scores mirroring previous studies (e.g., Weikamp & Goritz, 2016), i.e., OCB-I (M=3.66, SD =0.60); and OCB-O (M=3.25, SD =0.75), and with a similar relative OCB-I/OCB-O score weighting of 1.1. The aggregate SSCS score for creativity (M=3.54, SD =0.81) is broadly in line with other published results which deal with adult participants (rather than children or adolescents), Karwowski et al., (2018).

Dark Triad personality means and standard deviations are highly consistent with those obtained in Study 1, i.e., the Study 2/Study 1 means compare as follows: Mach (M=3.08/3.14); Narc (M=2.33/2.54); Psyc (M=2.03/1.97); and DT composite (M=2.52/2.55). The same is true for managerial and workplace support measures (with the exception of organisational support for which we note variance between the two studies), i.e., Study 2/Study 1 mean comparisons: - workgroup identification (M=2.75/2.85); LMX quality (M=3.56/3.52); organisational support (M=3.24/4.26).

Table 2.9 Pearson correlation matrix, scale means, and standard deviations

	M	SD	1	2	3	4	5	6	7	8	9	10
1. OCB-I	3.66	0.60	1									
2. OCB-O	3.25	0.75	0.65**	1								
3. Creativity	3.54	0.81	0.24***	0.28***	1							
4. Org. support	3.24	0.81	0.24***	0.56***	0.13***	1						
5. Workgroup ID	2.75	0.97	0.25***	0.39***	0.28***	0.40***	1					
6. LMX quality	3.56	0.82	0.28***	0.40***	0.09*	0.63***	0.38***	1				
7. Mach	3.08	0.60	-0.11**	-0.01	0.01	-0.12**	0.10*	-0.10*	1			
8. Narc	2.44	0.57	0.15***	0.28***	0.37***	0.12**	0.35***	0.09*	0.27***	1		
9. Psyc	2.03	0.59	-0.20***	-0.11**	0.02	-0.15***	0.04	-0.12**	0.57***	0.32***	1	
10. DT composite	2.52	0.45	-0.07	0.07	0.17***	-0.07	0.21***	-0.06	0.80***	0.68***	0.82***	1

N=595. * p<0.05; ** p<0.01; *** p<0.001

The correlation results demonstrate some key associations that are important to our hypotheses. In respect of OCB, the two measures OCB-I and OCB-O show a consistent range in correlations across the DT components: Narcs were positively correlated to both measures at the 1% level of significance, but most strongly to the organisational form which is the most salient in terms managerial attention (OCB-O, r= .28, p<.001); Pyscs were negatively correlated to

both measures, also at a high significance level and most strongly in respect of the individual form of OCB which is least salient to superiors (OCB-I, r =-.20, p<.001); and Machs were weakly negatively correlated with OCB-I (r= -.11, p<.01) and showed no association with OCB-O. In line with our predictions, all three measures of workplace support were positively correlated with both types of OCB, and most strongly in relation to OCB-O, i.e.: - organisational support (r= .56, p<.001); workgroup identification (r =.39, p<.001); and LMX quality (r =.40, p<.001). Creativity was correlated solely with Narc amongst the Dark Triad components (r= .37, p< .001) in line with our prediction, however Psyc showed no association. Moreover, creativity (like OCB) was positively associated with each workplace support variable, albeit at lower levels of association and statistical significance compared with the OCB correlations, and most notably in respect of workgroup identification (r = .28, p< .001).

Regression analysis and hypothesis test results

For dependent variable OCB-I directed at the individual, we see from Table 2.10a that the regression variables explain 18.2% of the variance in OCB-I (F(13, 582) = 9.994, p< .001). Table 2.10b shows that the explained variance in organisationally directed OCB (OCB-O) is even higher at 43.2% (F(13, 582) = 34.089, p< .001). Regression results for DV = creativity presented at Table 2.11 show that 20.6% of the variance in creativity is explained, (F(14, 581) = 10.773, p< .001).

Managerial quality and workplace support predict positive outcomes

Hypotheses H4a-c predicted that OCB would be a positive outcome of higher levels of organisational support, closer workplace identification and better managerial quality, i.e., constructs which represent progressively reduced distal involvement with an employee. From Table 2.10b we see that organisational support is highly positively associated with OCB-O (β = .405, p<.001), in support of H4a. H4b is supported as workgroup identity is shown to be positively associated with both forms of directed OCB, albeit less strongly and at lower significance level than we saw for organisational support: - OCB-I (β = .128, p< .01; Table 2.10a) and OCB-O (β = .092, p< 0.05; Table 2.10b). Finally, managerial quality at the dyad level also positively predicts individually directed organisational citizenship as shown at Table 2.10a (β = .180, p<.001) in line with H4c. In summary, these findings suggest that the level and quality of support have important associations with OCB, primarily in respect of OCB directed at the individual.

Hypotheses H5a-c deal with how the three different levels of workplace support positively relate to creativity in the workplace. Table 2.11 shows that of these only workgroup identification is associated with creativity (β = .188, p< .001) in support of H5b. Both H5a and H5c are not supported, indicating that neither organisational support nor LMX quality respectively relate to creativity, findings which suggest creativity is more challenging to nurture in the workplace than is citizenship behaviour.

Dark Triad traits predict positive outcomes

Our predictions regarding the association of DT traits with positive outcomes were suitably cautious given what we know of these personality types. Overall, we obtained mixed results regarding support for our hypotheses.

In respect of OCB, and on the positive side, we found support for H6b regarding the positive association of Narc with both OCB-I (β = .137, p=.011, Table 2.10a), and with OCB-O (β = .188, p< .001, Table 2.10b), which suggests people high in Narc traits at least appreciate the positive value of citizenship behaviour to career enhancement. Of course this assumes that Narcs responded honestly), albeit we cannot rule out some level of self-delusion which Narcs are known for which we alluded to earlier given the surprising finding of the negative association between Narcs and careerism. Furthermore, our prediction in H6a that Machs would negatively relate to OCB-I (because this is the least likely form of OCB to be noticed by senior colleagues, so why would they 'waste' their time?), proved to be overly pessimistic, as we found no significant association (see Table 2.10b). However, Psycs provided support for H6c with negative associations with both OCB-I (β = - .172, p< .001, Table 2.10a) and with OCB-O (β = - .123, p< .001, Table 2.10b), providing evidence of the self-centred and detached nature of such individuals in the workplace.

Our two hypotheses on how DT people relate to creativity similarly found mixed support (see Table 2.11). We had expected both Narc (H7a) and Psyc (H7b) to separately positively relate to creativity. There was strong support for the Narc relationship (β = .319, p<.001), but no support in respect of the predicted relationship between Psyc and creativity. Again, we must be careful to be cognisant of the risk of self-de associated with Narcs, particularly as our measure of creativity was based on self-assessment. The finding for Psycs seems to contradict the stereotype of the creatively gifted, but maverick Psyc entrepreneur (Akhtar et al., 2013).

A summary of conclusions for Study 2 hypotheses is presented in Table 2.12.

Table 2.10a Regression results for DV OCB-I

Hierarchical model	(1) Control variables	(2) Workplace support	(3) DT composite	(4) DT components	Hypothesis
DV = Organisational citizenship behaviour – Individual (OCB-I)					
Control variables					
Gender	0.175*** (4.351)	0.165*** (4.267)	0.148*** (3.718)	0.124** (3.110)	
Age	0.008 (0.204)	0.068 (1.699)	0.057 (1.383)	0.028 (0.683)	
Education2 - grad	0.049 (1.178)	0.056 (1.406)	0.053 (1.330)	0.049 (1.265)	
Education3 -post grad	0.032 (0.790)	0.033 (0.851)	0.035 (0.903)	0.027 (0.691)	
Work3- Sen. managmt	-0.033 (-0.530)	-0.016 (-0.279)	-0.020 (-0.348)	-0.017 (-0.294)	
Tenure	0.197 (3.204)	0.120* (1.999)	0.131* (2.177)	0.110 (1.851)	
Social class	0.050 (1.231)	0.053 (1.379)	0.055 (1.418)	0.052 (1.359)	
Explanatory variables					
Workplace Support					
Organisational support		0.025 (0.500)	0.018 (0.348)	-0.001 (-0.012)	
Workgroup identification		0.161*** (3.588)	0.176*** (3.856)	0.128** (2.766)	**H4b**
LMX quality		0.186*** (3.721)	0.180*** (3.600)	0.180*** (3.637)	**H4c**
Dark Triad personality					
DT composite			-0.071 (1.696)		
Machiavellianism				-0.028 (-0.596)	**H6a**
Narcissism				0.137** (3.160)	**H6b**
Psychopathy				-0.172*** (-3.476)	**H6c**
_cons B	2.982*** (16.276)	2.190*** (10.734)	2.443*** (9.672)	2.561*** (10.128)	
Number of observations	595	595	595	595	
R^2	0.065	0.151	0.155	0.182	
ΔR^2		0.086	0.004	0.027	

Gender is coded such that male = 0 and female = 1. t statistics in parentheses. * p<0.05; ** p<0.01; *** p<0.001

Table 2.10b Regression results for DV OCB-O

Hierarchical model	(1) Control variables	(2) Workplace support	(3) DT composite	(4) DT components	Hypothesis
DV = Organisational citizenship behaviour - Organisation (OCB-O)					
Control variables					
Gender	0.113** (2.911)	0.081* (2.486)	0.097** (2.902)	0.071* (2.142)	
Age	-0.036 (-0.893)	0.030 (0.864)	0.040 (1.165)	0.013 (0.376)	
Education2 - grad	0.031 (0.769)	0.050 (1.498)	0.053 (1.589)	0.049 (1.512)	
Education3 -post grad	-0.052 (-1.309)	-0.050 (-1.525)	-0.052 (-1.587)	-0.060 (-1.870)	
Work3- Sen. managmt	-0.035 (-0.596)	-0.019 (-0.383)	-0.015 (-0.305)	-0.012 (-0.254)	
Tenure	0.358*** (6.061)	0.228*** (4.543)	0.217*** (4.311)	0.199*** (4.020)	
Social class	0.068 (1.739)	0.067* (2.073)	0.066* (2.034)	0.062 (1.955)	
Explanatory variables					
Workplace Support					
Organisational support		0.414*** (9.706)	0.421*** (9.866)	0.405*** (9.626)	**H4a**
Workgroup identification		0.152*** (4.037)	0.137*** (3.584)	0.092* (2.382)	**H4b**
LMX quality		0.065 (1.538)	0.070 (1.674)	0.070 (1.702)	
Dark Triad personality					
DT composite			0.068* (1.962)		
Machiavellianism				0.059 (1.528)	
Narcissism				0.179*** (4.935)	**H6b**
Psychopathy				-0.123** (-2.983)	**H6c**
_cons B	2.108*** (9.554)	0.523* (2.448)	0.216 (0.818)	0.328 (1.274)	
Number of observations	595	595	595	595	
R^2	0.132	0.404	0.408	0.432	
ΔR^2		0.272	0.004	0.024	

Gender is coded such that male = 0 and female = 1. t statistics in parentheses. * p<0.05; ** p<0.01; *** p<0.001

Table 2.11 Regression results for DV creativity

Hierarchical model	(1) Control variables	(2) Workplace support	(3) DT composite	(4) DT components	Hypothesis
DV = Creativity (self-assessed)					
Control variables					
Gender	0.022 (0.543)	0.033 (0.829)	0.066 (1.640)	0.047 (1.201)	
Age	0.087* (2.088)	0.155*** (3.725)	0.177*** (4.236)	0.137*** (3.362)	
Education2 - grad	0.009 (0.221)	0.009 (0.219)	0.015 (0.371)	0.013 (0.342)	
Education3 -post grad	0.035 (0.851)	0.031 (0.793)	0.028 (0.700)	0.017 (0.434)	
Work2 - managmt	-0.070 (-0.426)	-0.132 (-0.828)	-0.133 (-0.844)	-0.202 (-1.323)	
Work3- Sen. managmt	-0.097 (-0.409)	-0.176 (-0.763)	-0.170 (-0.743)	-0.260 (-1.174)	
Tenure	0.325 (1.404)	0.330 (1.470)	0.309 (1.390)	0.366 (1.703)	
Social class	0.012 (0.301)	0.019 (0.489)	0.016 (0.419)	0.016 (0.431)	
Explanatory variables					
Workplace Support					
Organisational support		0.011 (0.204)	0.026 (0.503)	-0.002 (-0.036)	**H5a**
Workgroup identification		0.281*** (6.158)	0.251*** (5.440)	0.188*** (4.092)	**H5b**
LMX quality		-0.027 (-0.537)	-0.016 (-0.308)	-0.019 (-0.389)	**H5c**
Dark Triad personality					
DT composite			0.140*** (3.343)		
Machiavellianism				-0.052 (-1.132)	
Narcissism				0.319*** (7.423)	**H7a**
Psychopathy				-0.037 (-0754)	**H7b**
_cons B	2.291*** (4.276)	1.528** (2.826)	0.845 (1.473)	0.993 (1.788)	
Number of observations	595	595	595	595	
R^2	0.064	0.130	0.146	0.206	
ΔR^2		0.066	0.016	0.060	

t-statistics in parentheses. * $p<0.05$; ** $p<0.01$; *** $p<0.001$

Table 2.12 Summary of hypothesis conclusions – Study 2

Hypothesis	Hypothesis supported (Y/N)	Table
Managerial quality & workplace support predict positive outcomes		
Organisational citizenship behaviour		
H4a Organisational support is positively associated with OCB-O.	Y	2.10b
H4b Workgroup identification is positively associated with OCB-I and with OCB-O.	Y	2.10a; 2.10b
H4c LMX is positively associated with OCB-I.	Y	2.10a
Creativity		
H5a Organisational support is positively associated with creativity.	N	2.11
H5b Workgroup identification is positively associated with creativity.	Y	2.11
H5c LMX is positively associated with creativity.	N	2.11
Dark Triad traits predict positive outcomes		
Organisational citizenship behaviour		
H6a Mach is negatively associated with OCB-I.	N	2.10a
H6b Narc is positively associated with both OCB-I and OCB-O.	Y	2.10a; 2.10b
H6c Psyc is negatively associated with both OCB-I and OCB-O.	Y	2.10a; 2.10b
Creativity		
H7a Narc is positively associated with creativity.	Y	2.11
H7b Psyc is positively associated with creativity.	N	2.11

2.5 General Discussion

This paper comprises two correlational studies looking at the relationship between dark personality traits and (i) two forms of workplace outcome which are negative to the organisation - unethical acts, and selfish behaviour (careerism and impression management), and (ii) two outcomes that benefit the organisation - organisational citizenship and creativity - and at how other important contextual organisational and managerial support variables relate to such behaviour. The two studies cover a broad research domain and areas of high interest to management practitioners because of the attendant risks and benefits. Future work will need to demonstrate causality in the identified relationships.

Results from Study 1 indicate that there is a strong nuanced association between components of the Dark Triad and different unethical and selfish behaviours in the workplace. In short, our findings demonstrate that Narcs are inclined to use selfish tactics focussed on image (careerism, self-promotion and ingratiation); Psycs undertake unethical behaviour, and Machs act both selfishly and unethically at work (i.e., they "do whatever it takes" (Castille et al., 2018)). We also explored how in-group status predicts unethical and selfish behaviours in the workplace, which suggests some important implications for the role of the supervisor/subordinate dyad relationship in controlling or promoting such behaviours.

Results from Study 2 provide management with limited grounds for optimism regarding DT employees. Of people high in Dark Triad traits, only Narcs are positively associated with organisational citizenship behaviour (an association we need to treat with caution given the Narc tendency for self-deception), whereas Machs are Psycs are both negatively associated with OCB directed at individuals, a matter for concern given the likelihood that these personalities will be in leadership positions. The findings for creativity are similarly bleak as regards the Dark Triad – only Narcs believe they are creative, a claim which comes with the same health warning as for citizenship relating to this personality type. More positively, the findings showed that for the general workforce managerial and workplace support has a positive effect of OCB, and a strong workgroup identity enhances creativity.

This correlational study has looked at positive and negative outcomes associated with Dark Triad personalities in the workplace, which is a matter of great interest to researchers and management practitioners given the prevalence of these personalities in leadership positions (Furtner et al., 2017). The results suggest that management has its work cut out managing DT individuals in terms of limiting their negative tendencies and fostering positive behaviours, but as we have touched on there are grounds for optimism that with the right contextual, organisational and motivational influences improvements are possible. These findings have implications for personality and organisational behaviour theory, as well as managerial practice. Below we discuss theoretical and practical implications of our findings, together with some limitations and directions for future research.

2.5.1 Theoretical Contributions

Our research makes four main theoretical contributions to the extant literature that touch upon several research themes within the domains of moral psychology, aversive personality, organisational behaviour, and workplace citizenship and creativity.

First, we contribute to the moral psychology literature as this study is the first to consider empirically both unethical and selfish behaviours in the workplace in the same sample. Consequently, our results advance our understanding of the relationship between, and distinctiveness of, unethical and selfish behaviour. They are considered to be conceptually distinct, but previous studies have tended to confound these constructs (Dubois et al., 2015). More specifically, because our results show clear distinctions in how Dark Triad personality traits differentially relate to unethical and selfish outcomes, we contribute to the personality literature and move towards meeting the challenge of Lu et al. (2018) in helping to "tease apart the constructs of ethicality and selfishness". Future work could look to better understand theoretically the association between unethical and selfish behaviours and the extent of orthogonality (Dubois et al., 2015), particularly amongst Dark Triad individuals given different organisational contexts and influences. It would be insightful for example to examine the types of unethical behaviour individuals are drawn to, and what this says about moral behaviour and personality - for example by testing the suggestion posited by Lu et al. (2011) as whether success-oriented people are prone to unethical behaviour which is also selfish (i.e., it benefits them), whereas norm-oriented individuals get involved in 'unselfish' unethical behaviour that involves no direct self-benefit.

Second, we contribute to the aversive personality literature as, to the best of our knowledge, this study is the first to look at how the Dark Triad is linked to negative behaviour in the workplace in the form of unethical behaviour, careerism and impression management. Previous studies have typically considered one of the three Dark Triad sub-components and one form of negative behaviour (e.g., Castille et al. 2018 who looked at Mach and unethical behaviour; Chiaburu et al. 2013b who considered Psyc and careerism). By considering the triad as a cluster, we address the call by Jones & Paulhus (2017) to look at the trait distinctions amongst the Dark Triad. Our results confirm the strong association of Dark Triad traits with 'dark side' behaviours vis-à-vis: - Narcs use selfish tactics based on image (careerism, self-promotion and ingratiation); Psycs engage in unethical behaviour; and Machs act both selfishly and unethically at work – but also add additional nuance to our understanding of the conceptual differences between the three traits.

Moreover, our results confirm the conceptual closeness of the Mach/Psyc 'malicious two' dyad (Rauthmann & Kolar (2012) as regards propensity to engage in unethical behaviour (e.g. Gelenn & Sellbom, 2015; Jones & Paulhus, 2017). Our results go further however, and demonstrate some distinctions; - e.g., regarding propensity for selfish behaviour via self-promotion and ingratiation (which applies to Machs but not Psycs); and supplication which constitutes a risky and less strategic workplace tactic (which Psycs engage in, but Machs do not, a finding that highlights the pervading Psyc trait disposition for overt deceitfulness (Stevens et al., 2012)). Turning to Narcs, our finding that they are not associated with unethical behaviour is in line with theory and corroborates prior studies which suggest that Narcs are the least morally suspect (Jones & Paulhus, 2017). Similarly, our result that Narcs engage in self-focused impression management pursuits aligns with what we know about their deep tendency for self-absorption (Emmons, 1987). On the other hand, our finding that Narcs are negatively associated with careerism is novel and might be explained on the basis that as careerism is a long-term endeavour, people high in Narc traits may doubt their ability to successfully engage in careerism as a pursuit given Narc short-term focus and low self-control (Harrison et al., 2018) which we suggest supports an evolutionary life history theory explanation of DT traits (Jonason & Tost, 2010). Taken together, our work disaggregates the Dark Triad cluster and demonstrates nuances in how Machs, Narcs and Psycs operate in the work environment which has implications for theory and how to manage these individuals.

Third, we also contribute to the creativity and citizenship literatures by investigating the organisational, contextual and personality drivers of these outcomes. Dark Triad individuals show limited association with either positive outcome – indeed only Narcs are associated with each. This finding aligns with prior research but in relation to creativity raises questions about the efficacy of having high DT individuals in start-up and entrepreneurial situations – particularly Psycs – where creativity and the need for team spirit and citizenship are paramount. More optimistically the finding that Pyscs (but not Machs) are negatively associated with OCB suggests that Machs might be 'persuadable' to partake in OCB given the right environmental conditions, although we posit there is need for caution and investigation of the Narc claims of being creative (and engaging in OCB) as these could reflect self-promotion and self-deception to which Narcs are prone (Jones & Paulhus, 2017). More generally our findings that the type of OCB (i.e., directed at the individual or the organisation) is dependent on the proximity of organisational support is novel and speaks to the organisational behaviour literature by highlighting the specific importance of support at the workplace identification level to motivate both OCB-I and OCB-O, whilst posing questions about the effectiveness of LMX dyadic relationships which positively relate to OCB-I but not OCB-O, which could give rise to silo issues and non-optimal working across teams, something that should be taken up in future studies.

Fourth, we contribute to the organisational behaviour, identity and leadership literatures as this study is amongst the first to use the LMX construct to probe how in/out group status based on the quality of dyadic working in the supervisor / subordinate relationship predicts negative outcomes in the workplace. More generally, the results enable us to add to the wider literature on how organisational settings and managerial practices might *contribute* to dark side behaviour, and allow us to add insights to social exchange theory which underpins the LMX model. LMX theory is based on leaders (supervisors) developing one-on-one relationships with members (subordinates) and acting as managers and mentors to guide the workplace behaviour of subordinates (Janssen & Van Yperen, 2004). Most prior work has looked at the link between LMX and positive outcomes. Indeed, we are aware of only one prior study linking LMX with unethical behaviour (Bryant & Merritt, 2019), and one that looks at the LMX/ IM relationship (Wulani & Lindawati, 2019). We found no correlation or interaction effect of LMX in-group status and Dark Triad personality on negative behaviour, which suggests Dark Triad individuals operate somewhat independently of such dyadic relationships when engaging in negative behaviours. We find that in-group status predicts moral and selfish behaviour, but the relationship is limited and nuanced.

Our first finding in relation to LMX – that in-group status is *not* associated with unethical behaviour – is a result that conflicts with the findings of Bryant & Merritt, 2019 and Umphress et al. (2010) who found that unethical behaviour was linked to strong organisational identification and reciprocity beliefs. Our findings suggest that the LMX dyadic relationship is *not* sufficiently strong an influence as to motive an in-group member to suppress moral concerns and engage in unethical acts that benefit the organisation in order to enhance their LMX in-group status. This result places interesting theoretical bounds on the role of the LMX dyad relationship in affecting unethical behaviour, and points to the need for further investigation of the reciprocity belief construct and its relationship with in-group status to affect moral behaviour at work (Bryant and Merritt, 2019). Our second finding related to LMX - that in-group status reduces careerism - is novel and represents a strong endorsement of the positive effect of dyadic working for in-group members. Our third main finding in respect of LMX quality – vis-à-vis that in-group membership is positively associated with selfish behaviours - mirrors that of Wulani & Lindawati (2019) who looked at impression management as a single construct. Our findings show that in-group members revert to both self-promotion and ingratiation tactics, presumably to improve and maintain their in-group status. Moreover, in-group membership is negatively associated with supplication, which suggests that the appearance of being needy or inadequate is actively avoided in a dyadic setting. Taken together, our results concerning LMX quality raise questions for future research concerning: - (i) the efficacy of the LMX dyad relationship to positively foster talent within in-group members based on actual merit (as opposed to image) and to develop OCB and creative potential; (ii) the role of the dyad in reducing unethical behaviour by setting the right cultural environment; (iii) how the dyad relationship can be optimised to influence Dark Triad personalities to limit negative behaviours, for example through supervisor/subordinate personality matching; and (iv) the extent to which LMX relationships are vulnerable to workplace behaviours that can cause and maintain toxic environments, by the likes of flattery, bootlicking and unethical behaviour.

2.5.2 Implications for Practice

We emphasize that our findings indicate correlational relationships rather than ones derived from manipulation and causation, and consequently we suggest that they should be replicated and confirmed through RCT studies before being acted upon by managers. That said, the results of this study provide some implications that may be relevant to general managerial practice. The participant pool comprised experienced professionals. Our results show that professionals engage in both selfish and unethical behaviours, particularly if they have Dark Triad personalities. Unethical behaviour is costly for organisations (Cialdini et al., 2004). The financial implications of careerism and impression management are less clear-cut, but both behaviours can have negative consequences for firms (Chiaburu et al, 2013a). Consequently, firms will wish to know who is likely to undertake this type of behaviour and what they can do to reduce its incidence. Organisational support is positively associated with OCB, particularly workgroup identification, which also promotes creativity, so this should be a target for management.

First, in respect of positions involving highly ethical roles or risky situations, firms should adopt recruitment procedures that identify and screen out Dark Triad individuals who are most prone to engage in unethical behaviour. This relates to those high in Mach and Psyc traits who often wear a "mask of sanity" (Cleckley, 1941). Screening could also look for people more prone to impression management by emphasizing high self-esteem and low self-monitor traits (Bratton & Kacmar, 2004).

Second, in order to reduce careerism firms should develop career progression models and performance evaluation tools that are seen to be fair, such that they engender trust amongst staff. This should also reduce the incidence of impression management which can lead to a toxic environment. Leadership training should focus on transformational leadership and ethical leadership techniques to develop trust amongst staff that performance – rather than the

perception of performance and impression management – will be seen and rewarded by leadership. Transformational leadership has also been shown for example to positively influence Machs towards more positive behaviour that will benefit the firm, including citizenship behaviours (Belschak et al., 2015, Castille et al., 2018).

Third, based on our findings that suggest dyadic working does *not* serve to negatively influence unethical behaviour, and moreover these dyadic relationships are *positively* associated with impression management, organisations must look to improve LMX supervisor/subordinate relationships. This will come down to awareness and training so that managers know of the financial risks of unethical behaviour amongst staff who may be highly rated, and ensure that their LMX relationships promote ethical practices and the importance of internal controls. This will also involve some level of investment in ethical infrastructure including whistle-blowing channels and training. In addition, managers should be made aware of the organisational culture risks of permitting the normalisation of self-promotion and ingratiation tactics amongst subordinates to boost career advancement, so that they actively look to establish better and more appropriate LMX relationships that develop talent, rather than a talent for self-promotion.

2.5.3 Limitations and Directions for Future Research

As for any research project, this research it is not without limitations. First, the data used in the two on-line studies is cross-sectional. Consequently, we cannot make predictions of causality or rule out reverse causality. Future work could use longitudinal studies to permit causal predictions. Second, as we used survey data at a single point in time, the results are prone to bias through common method variance. However, we believe that the risk is substantially mitigated because respondents were advised at the commencement of each survey that responses were anonymous and there were no right/wrong answers (Podsakoff, 2003). Third, the surveys rely entirely on self-reports which brings the potential risk of social desirability bias. However, as self-report data are collected anonymously, it can be relied upon to reveal the behaviour experienced by respondents (Wulani & Lindawati, 2019; Thau et al., 2009). Lastly, our measure of unethical behaviour (UPB) relied on willingness to engage in this type of behaviour (Umphress et al., 2010), and it is well known that intentions do not always predict actual behaviour (Sheeran, 2002). Moreover some personality types are associated with self-deception – e.g., Narcs (Jones & Paulhus, 2017) – which may also affect self-report responses.

Future research would benefit from assessing the same relationships tested here using different methodological approaches. More specifically, we recommend adopting RCT methodology so that investigations could look to infer causal relationships and underlying mechanisms that drive behaviour, which could involve laboratory or on-line experiments. For example, unethical behaviour can be simulated by providing respondents with an opportunity to cheat (e.g., Gino et al., 2011), and citizenship behaviour can be proxied by giving participants the option to co-operate (e.g. Thau et al., 2004). Perhaps the most persuasive research results would be obtained from field studies within organisations, but there are clear challenges to gaining access to this type of data given corporate sensitivities around ethics, culture, and reputation.

In addition, it would be informative to investigate causal mechanisms linking Dark Triad personality to positive and negative outcomes. This would involve undertaking randomised control experiments and measuring actual (rather than self-reported) behaviour, and assessing potential mediator and moderator variables. We suggest that mechanisms linked to self-control are worthy of focused study on the basis that, inter alia, Dark Triad individuals are "characterised by deficits in self-control" (Furnham et al., 2013); and it is known that cognitive and affective mechanisms related to self-control influence negative outcomes (e.g., through moral disengagement, ego depletion, boredom), as well as positive outcomes (e.g., positive mood has been shown to encourage citizenship and enhance creative problem solving (Isen, & Barron, 1991; Madjar et al., 2002)). Given the results herein showing the penchant for Dark Triad individuals to engage in self-promotion and ingratiation tactics, and prior work that has demonstrated some Dark Triad traits to be closely associated with positive and negative affect (Pilch, 2020), we posit that flattery may also be worthy of study in relation to the DT. This line of study would provide opportunities to develop theory on the linkage of aversive personality and cognitive mechanisms. It would also be of interest to management practitioners to help them identify contextual risks and opportunities for achieving desired outcomes, and devise neutralisation strategies when dealing with Dark Triad staff.

Finally, future research could investigate the extent to which positive behaviours that benefit the organisation - such as OCB - are associated with consistency and maintained self-control in respect of moral behaviour in the workplace, or conversely whether there is some form of moral licensing amongst staff whereby individuals who show heighted citizenship behaviours 'permit' themselves to engage in unethical and/or selfish behaviours (e.g., Merritt et al., 2010). This would involve looking at positive and negative behaviours in the same experiment. Linked to this line of research could be the investigation of how people can develop and strengthen self-control when faced with moral situations or opportunities to show citizenship, and forego self-benefit. Some studies have shown that self-control can be built

by practice (Gino et al., 2011), which is something that would be of great interest to managers given what we know about the low self-control of Dark Triad individuals.

2.6 Conclusion

There has been a surge of interest in recent years in dark personalities in the workplace. The primary aim of this correlational study was to further our understanding of the relationship between the Dark Triad and negative and positive outcomes in the workplace, and how other important contextual organisational and demographic variables correlate with such behaviour. Future work will need to demonstrate causality in the identified relationships. We conducted two on-line correlational studies which sampled professional working people in on-line surveys looking at negative outcomes (Study 1, N=294), and positive outcomes (Study 2, N=595). Results from Study 1 indicate that there is a strong nuanced association between components of the Dark Triad and different unethical and selfish behaviours in the workplace. Narcs are inclined to use selfish tactics focussed on image (careerism, self-promotion, and ingratiation); Psycs undertake unethical behaviour, and Machs act both selfishly and unethically. In-group status does not predict unethical behaviour, but is positively associated with impression management, which suggests some important implications for the role of the supervisor/subordinate dyadic relationship in controlling or promoting such behaviours. Results from Study 2 show that of people high in Dark Triad traits, only Narcs are positively associated with OCB, whereas Machs and Psycs are both negatively associated with OCB directed at individuals. In respect of creativity, only Narcs believe they are creative. More positively, the findings showed that for the general workforce a strong workgroup identity enhances creativity, and managerial and workplace support has a positive effect on OCB. The findings suggest various avenues for future work that can extend theory and provide further practical insights to managers.

Part 2

Negative outcomes

Chapter 3

Moral disengagement as an underlying mechanism underpinning unethical behaviour in Dark Triad individuals (Paper 2)

3.1 Introduction

Following the preponderance in recent years of high-profile financial scandals, often involving dominant personalities, as in the cases of Enron, Madoff and more recently FTX, interest in explanations that might shed light on (i) the cognitive processes underlying unethical behaviour, and (ii) the role that personality plays in this process, have drawn the interest of academics and the public alike. In the main, to date academic interest has looked at these as two distinct questions.

One cognitive process that underlies moral behaviour which has increasingly gained traction amongst academics is moral disengagement (MD), (Bandura, 1999). Most people know right from wrong. But some find it easier than others to disengage from their moral principles. MD is a model that explains how people breach their personal ethics by deactivating moral self-regulatory processes using several interrelated cognitive mechanisms, such as moral justification (Lee et al., 2019). In this way, people can avoid the psychological discomfort known as cognitive dissonance associated with inconsistent behaviour (Festinger, 1957). Several empirical studies have shown that moral disengagement provides a persuasive explanation for the enactment of unethical behaviour in the workplace through self-regulation and the ability to inhibit or override motivational tendencies (Schmeichel & Baumeister, 2004). Indeed, studies have shown that an individual's propensity to morally disengage is positively related to increased unethical behaviour (Aquino et al., 2007), and is negatively related to higher-order qualities of personality such as moral identity and empathy (Aquino & Reed, 2002). Bandura's theory of MD has been applied by researchers primarily as a process that occurs *in advance* of any unethical activity (Newman et al., 2017). More recently, scholars have begun to consider applications of MD theory to explain behaviour *post* some unethical act, whereby the moral disengagement process acts to ease or eliminate any moral burden and negative emotions associated with a moral violation – i.e., *'post-moral disengagement'* (Tillman et al., 2018), which some scholars consider has both state-like and trait-like qualities (Newman et al., 2017). The ability to morally disengage could shed light on how self-control affects moral decision-making. Deliberate disengagement suggests a level of self-control over the moral cognition process. If this ability is trait-based, then when activated by a situational cue it will be automatic (Russell et al., 2017) and require little effort. On the other hand, if moral disengagement is not trait-like, it will require effort to resist unwanted behaviours associated with moral decisions (Trevino et al., 2014).

Some personality researchers have recently focused on a different take on morality centred on what makes up a 'bad character' (Furnham et al., 2013). This work has seen scholars move beyond the positive traits associated with the five-factor model (FFM) of personality (Costa & McCrae, 1992) and the alternative HEXACO 6-dimensional model (Ashton & Lee, 2001) which incorporates traits that partially overlap the FFM, but which importantly incorporates a trait to capture integrity: i.e., honesty-humility (H-H). Extensive research focussed on the H-H factor component has shown the power of this construct to predict moral behaviour (e.g., Lee et al., 2010), and has led to the isolation of the three 'Dark Triad' (DT) traits – as coined by Paulhus & Williams (2002) - comprising Machiavellianism, Narcissism and Psychopathy - as an important personality grouping relevant to unethical behaviour. All three sub-components of the Dark Triad are predisposed to deceive (Baughman et al., 2014), and are associated with negative outcomes in the workplace, including selfishness (Harrison et al., 2018) and counterproductive work behaviour (CWB) (Harms et al., 2011). Indeed, the Dark Triad is associated with other amoral traits, for example manipulation is a feature of Machiavellianism, and an absence of conscience is common to psychopaths (Furnham et al., 2013). Yet there is little research on how self-control related traits affect the moral actions of people high in DT traits, or the cognitive mechanisms at play (Spain et al., 2014). We suggest that a focus on DT personality is important for organisational behaviour research because these personality types may occupy most senior leadership positions in organisations (Furtner et al., 2017), and make up around 15% of the general population (Gustafson & Ritzer, 1995). Consequently, in this study we focus on how moral disengagement affects DT personalities, which for ease of reference we use the terms "Mach" or "Machs" (to refer interchangeably to the trait of Machiavellianism or to a person or persons with Machiavellian traits), and similarly we use the terms "Narc(s)" and "Psyc(s)" in the same vein.

This paper looks to combine these two threads of contemporary research to address the primary research question:

How does moral disengagement affect people high in DT traits (both prior to, and following unethical behaviour), and how does this inform theories of moral disengagement and our understanding of self-control in relation to moral decision-making?

We are not aware of any RCTs that have explored the relationship between DT and moral disengagement, and were able to identify just one correlational study which found a positive association between propensity to morally disengage and each of Mach and Psyc (Egan et al., 2015). However, work that has looked at MD and personality more generally has shown that people who morally disengage are typically "bad apples" and people who show undesirable personal characteristics (Ogunfowora et al., 2022; Kish-Gephart et al., 2010; Trevino et al., 2014). Moreover, we could only locate five studies in the literature that have considered post-moral disengagement as a construct (Shu et al., 2011;

Tillman et al., 2017; Tillman et al., 2018; Ogunfowora et al., 2022; and Ogunfowora et al., 2023), none of which involved personality or self-control measures. To explore our research question, we draw on and adapt the experiment first conducted by Tillman et al., (2018) which sets up a hypothetical situation and allocates people randomly to one of four groups, three of which involve participants being told they acted unethically which then led to adverse consequences. The fourth group is a control group who did not act unethically. We adapted the experimental set-up for an on-line configuration to incorporate personality and self-control measures which allowed us to assess in an RCT design how people high in DT traits are affected by moral disengagement both prior to and following an unethical 'act', and how they subsequently experience negative moral emotions guilt and shame.

The rest of this paper is set out as follows; Section 3.2 discusses the main theoretical perspectives underpinning this study and develops the hypotheses to be tested; Section 3.3 describes the method and results; Section 3.4 presents a discussion of our findings, implications for theory and practice, and outlines limitations of the study; and Section 3.5 contains a short conclusion.

3.2 Theory and hypothesis development

We address the above research question by developing hypotheses based on a short review of current knowledge. First, we outline what is known about moral disengagement (pre and post). We then introduce the personality type we are specifically interested in, Dark Triad, and what is known about their moral behaviour and how moral disengagement may affect them. We then summarise present knowledge on two constructs related to self-discipline which can serve to help us cope with the temptation to morally transgress – self-control and moral identity, and end with a review of resultant negative emotions guilt and shame. With this context we then construct five hypotheses on which we base our experimental study.

3.2.1 Theoretical rationale

Moral disengagement

Most people desire to act, and to be seen to act, ethically (Shu et al., 2011). People also seek consistency in their moral beliefs and in their moral behaviour (Bandura, 1996). When a person creates a moral standard/moral action 'gap', they experience psychological discomfort, a feeling known as cognitive dissonance (Festinger, 1957; Elliot & Devine, 1994). Moral disengagement (MD) theory was proposed by Bandura (1999) to explain how people sometimes depart from personal standards of ethical behaviour. According to social cognitive theory (SCT) (Bandura, 1986), ethical conduct is regulated through self-regulatory mechanisms such as guilt, remorse, and self-censure, each of which guides good behaviour and deters misconduct. However, these self-regulatory processes can be deactivated using various moral disengagement techniques - such as blaming the victim, claiming a decision is necessary as it serves a higher purpose, or blurring responsibility - thereby freeing the perpetrator from a troubled conscience (Trevino et al., 2014). In other words, moral disengagement makes it easier to commit an immoral act by reducing or eliminating the experienced cognitive dissonance (Jacobsen et al., 2018). Moreover, moral disengagement is positively correlated with *actual* unethical behaviour in the workplace, and so can be considered an indirect proxy for white-collar offending (Egan et al., 2015). Some researchers have treated moral disengagement as a standalone theory, however Bandura (1986, 1999) stresses that it is strictly a facet of SCT. Consequently, MD should be considered as a cognitive theory applicable to the interaction of the triad of self, environment, and individual behaviour, within which moral agency and reasoning are actioned through a linear sequence of eight mechanisms embedded in moral standards (Newman et al., 2017).

According to Bandura (1986), the eight cognitive mechanisms comprise the following, which progress in sequence: - (i) moral justification; (ii) euphemistic labelling; (iii) advantageous comparison; (iv) displacement of responsibility; (v) diffusion of responsibility; (vi) disregard or distortion of consequences; (vii) dehumanization; and (viii) blame attribution. More recently, additional rationalization techniques have been identified by researchers in certain situations, for example when helping others (Ashforth & Anand, 2003), or one's team (Umphress et al., 2010). An example helps illustrate how MD plays out in the real world. According to Kish-Gephart et al. (2014), Bernie Madoff used at least three MD mechanisms to (unsuccessfully) explain his conduct: - (i) *blame attribution* (claiming that clients invested knowing the attendant risks); (ii) *diffusion of responsibility* (blaming the government); and (iii) *advantageous comparison* (accusing the government of being history's largest ever Ponzi scheme).

As indicated above, scholars have applied MD theory primarily in experimental situations in which cognitive processes occur *prior* to the enactment of unethical behaviour (Shu et al., 2011; Newman et al., 2017). In so-doing, researchers have typically considered and measured the construct of moral disengagement as a trait – i.e. as a '*propensity to morally disengage*' (Detert et al., 2008; Moore et al., 2012). Henceforth we refer to this construct as "pre-moral disengagement"

(or "pre-MD"). Following an unethical act, the perpetrator will seek to employ MD mechanisms that rationalise in some way their *actual* behaviour (termed "re-disengagement" by Tillman et al. (2018)), as in the case of Madoff above. We follow Tillman et al. (2018) and use the term "post-moral disengagement" (or "post-MD") for this construct. Post-MD has both trait-like and state-like qualities (Ogunfowora et al., 2022), and is highly dependent on the specific context (Tillman et al., 2018). As Newman et al., (2017) argue, Bandura's conceptualisation of moral disengagement has stood the test of time. However, one area where results have been contradictory relates to how negative emotions are associated with post-MD. MD theory suggests that pre-moral disengagement would serve to inoculate a person who is contemplating acting unethically from anticipatory guilt, and similarly post-moral disengagement would act in the same way to assuage actual guilt felt by an individual post-misconduct. From the few studies undertaken so far, results on this are mixed: - Tillman et al. (2018) and Ogunfowora et al. (2023) found that following unethical behaviour guilt is negatively associated with post-MD (suggesting that the moral disengagement helps attenuate resultant guilt), whilst shame has a positive association; whereas Hildebrandt & Barclay (2020) found that guilt and shame were both positively associated with post-MD, a result which suggests that post-moral disengagement may not fully dispel the psychological discomfort of cognitive dissonance.

For completeness we mention two related concepts that we believe are closely aligned with our designation of pre- and post- MD constructs: - (i) self-concept maintenance, and (ii) motivated ethical blindness. A central premise of social psychology is that people strive to maintain a positive self-image both privately and publicly (Shalvi et al., 2015; Allport, 1955). Mazar et al. (2008) posit in their self-concept maintenance theory (SCM), that a person's decision choices are guided by a desire to avoid having to update their self-image of being a morally upstanding individual. Pursuant to SCM, people will therefore act unethically when the opportunity arises, but will do so within a limited framework that stops short of certain moral boundaries, and well below the maximum level available to them. We suggest that SCM can be considered as a parallel concept to pre-MD, as it explains how an individual will choose to assess a moral situation within a narrow boundary that prevents dissonance and allows the maintenance of the moral self. Cognitive dissonance is experienced when a person is aware of the moral issues associated with their behaviour (Jacobsen et al., 2018), a situation which can lead to motivated ethical blindness, a term introduced by Gino et al. (2010) to represent a deliberate decision strategy that entails ignoring unethical actions when processing information if it serves a person's self-interest. We suggest that motivated ethical blindness has similar characteristics to post-moral disengagement in that it can shield someone from dissonance.

Dark Triad and moral disengagement

As outlined above, the term 'Dark Triad' (DT) introduced by Paulhus & Williams (2002) groups together three distinct but related exploitative personality constructs Machs, Narcs, and Psycs (Szabo et al., 2018). Our primary interest in this constellation of traits relates to their relative success in leadership and management (Furtner et al., 2017). Consequently understanding how these personalities think and act is something that should be of high concern to organisations - particularly how their moral decision making may be affected by moral disengagement. We briefly outline what research tells us in this regard.

Machiavellianism has been defined as "*a tendency to distrust others, a willingness to engage in amoral manipulation, a desire to accumulate status for oneself, and a desire to maintain interpersonal control*" (Dahling et al., 2009; LeBreton et al., 2018). Machs are manipulative (Szabo et al., 2018), strategic (Jones & Paulhus, 2014), heavily concerned with personal success (Hare & Neumann, 2008), and possess an aberrant view of morality (LeBreton et al., 2018). Narcissism is the least dark of the DT cluster (Jones & Paulhus, 2017). Narcs can be defined by ego and an overriding sense of entitlement, being boastful and attention-seeking, yet harbour an inner fragility and low self-esteem (Harrison et al., 2018). Psycs are the most toxic of the triad (LeBreton et al., 2018), and are associated with a host of maladaptive tendencies including lying, callousness, irresponsibility and criminality (Williams et al., 2007). Given this catalogue of negative and problematic traits, it is no surprise that people high in DT traits are associated with problems in the work environment including CWB (Harms et al., 2011).

But what is known about the Dark Triad and moral disengagement? In short, there have only been a handful of studies to date, all of which have focused on pre-moral disengagement (or propensity to morally disengage) rather than post-moral disengagement. In a correlational study Egan et al. (2015) reported that pre-MD is based on, inter alia, Mach and Psyc-type traits, but Narc has no relation. Wu et al. (2020) found that Dark Triad personality (using a composite measure) were positively associated with pre-moral disengagement, a relationship that was heightened with low perspective taking and low empathic tendencies. Prior research findings on moral disengagement and the DT, taken together, suggest that each component of the DT is positively associated with both pre- and post-disengagement, particularly in the case of Machs (with their disregard for morality) and Psycs (with their pendent for callousness and irresponsibility).

Moral identity

Research has shown that moral identity is an important aspect of self-concept and individuality (Xu et al., 2023). Although there is no consensus on a definition of moral identity, there seems to be broad agreement with the early work on moral identity by Blasi (1984) that there exists a set of common moral traits likely to be central to most people's moral self-definition. We follow the definition of moral identity proposed by Aquino & Reed (2002, p.1424) as "*a self-conception organized around a set of moral traits*". Pursuant to this definition, moral identity can be understood as being trait-specific but may also encompass a specific mental image of what a moral person might think, feel, and do (Aquino & Reed, 2002; Kihlstrom & Klein, 1994), and acts as a self-regulatory mechanism that motivates moral actions (Hardy & Carlo, 2011). Moreover, people who claim their moral identity to be very important to them strive harder to act consistent with their internal moral compass (Gino et al., 2011; Aquino & Reed, 2002), and are characterised by relatively high moral self-regulation (Gino et al., 2011). We have not been able to locate any studies that probe how moral identity relates to moral disengagement, however several studies have shown that people with a strong sense of moral identity tend to get involved relatively less in unethical behaviour (Lefebvre & Krettenauer, 2019), and given the above definition of moral identity we would expect it to relate negatively to propensity to morally disengage.

Self-control

Self-control can be defined as "*the capacity to alter or override dominant response tendencies, and to regulate behaviour, thoughts and emotions*" (De Ridder et al., 2012, p.77). Without self-control, an individual would engage in automatic, habitual, or innate behaviours (Muraven et al., 2007). There is debate amongst scholars about the extent to which self-control is primarily trait or state-based (Evans et al., 2011). Moreover, two broad types of explanation have been suggested to conceptualise self-control (Arber, 2017; Inzlicht & Berkman, 2015; Dang et al., 2017), i.e.: - (i) it is a function of *cognitive capacity* and is solely under the control of the individual; or (ii) it is related to *shifts in motivation / attitudes* which are affected by context and the prevailing situation. Moral disengagement, which as we outlined above involves deliberate deactivation of self-regulatory processes (Bandura, 1999), suggests a cognitive explanation. This view of self-control contrasts with the model suggested by ego depletion - another mechanism that has been the subject of recent studies involving moral activity – which argues that unethical behaviour results from a failure of self-control, whereby self-control is capable of being depleted for motivational reasons (Baumeister & Heatherton, 1996).

Based on evolutionary life history theory, Jonason & Tost (2010) argue that Dark Triad individuals are likely to have limited self-control. This theory suggests that cognitive systems will co-occur with life strategies (Figuerdo & Jacobs, 2011), and specifically a 'fast life strategy' (which is a feature of Dark Triad people), is likely to be manifested both in personality traits and in limited self-control which facilitate (or do not impede) a short-term opportunistic focus, characteristic of this life strategy. Although few empirical studies have been undertaken to date, for which there are some inconsistent findings, low self-control has indeed been shown to be an important aspect of Dark Triad personality (Jonason & Tost, 2010; Jones et al., 2011; Lyons & Rice, 2014). Overall, Jonason & Tost (2014) report that Dark Triad individuals (particularly Machs and Psycs) are associated with limited levels of self-control, a tendency not to consider future consequences of actions, and high rates of attention deficit. This finding for Machs is not consistent with that of Paulhus (2014) who found that Machs have the highest level of self-control amongst Dark Triad individuals, a finding which echoes those of Jones & Paulhus (2011) on impulsivity, and Lyons & Rice (2014) on procrastination amongst the Dark Triad :- both studies suggest that low trait self-control is an important influence on how Narcs and Psycs (but not Machs) behave. As a final point, we note that the relative level of self-control attached to people high in DT traits may ultimately be less relevant to Dark Triad people in relation to moral decision making because if moral disengagement is trait-like (or primarily trait-like) in DT people - and therefore 'automatic' - then subsequent unethical behaviour will effectively by-pass self-control constraints, irrespective of whether these are at lower levels compared with low-DT people.

Negative emotions – guilt and shame

The two most prevalent forms of negative moral emotion – guilt and shame – have been heavily studied in psychology, yet whilst there is substantial consensus amongst researchers that they represent distinct emotions, there remains some debate about what differentiates them (Miceli & Castelfranchi, 2018). Guilt and shame are an important consequence of amoral behaviour which motivate people to act in line with societal or group norms in order to avoid such negative emotions in advance (De Hooge, 2014). Consequently, given our primary research question it is important to be cognizant of differences between these emotions and how each might relate to Dark Triad individuals.

Guilt and shame are closely related, are strongly correlated, are typically experienced at the same time, and represent different emotional responses to self-criticism (Eisenberg, 2000; Miceli & Castelfranchi, 2018). Both emotions result from a perceived violation of an individual's moral standards (Tillman et al., 2018), and do two things: - they inform the environment about the success or otherwise of a person's goals, and they motivate an individual to change the current situation by initiating suitable goal setting (Miceli & Castelfranchi, 2018). Guilt is attached to a sense of personal responsibility (Kacmar et al., 2019), and implies the power and willingness to harm. On the other hand, shame does not involve a sense of personal responsibility, but rather is a response to a perceived discrepancy between an individual's actual and sense of ideal self, implying perceived powerlessness to meet desired ideal-self standards and

self-worth concerns (Miceli & Castelfranchi, 2018). In summary, guilt arises when a person feels they have done a "bad thing", whereas shame arises when an individual senses they have been, or are, a "bad person". These differences are found to have different motivational outcomes. Guilt tends to lead to restorative or self-punishment actions, whereas shame motivates activities associated with either retreat or self-identity enhancement (Miceli & Castelfranchi, 2018). Research therefore suggests that guilt is more transient an emotion than is shame, and consequently we might expect that if post-moral disengagement serves to act as a coping mechanism following some breach of an ethical norm (as we argue above), then guilt (rather than shame) might be amenable to a trade-off with post-MD to help the transgressor cope with the ensuing emotional discomfort following a violation of moral self-standards.

There is limited research on the association of DT traits and negative emotions. Although Giammarco & Vernon (2015) did not look specifically at moral-related guilt, they reported that in contrast with their expectations only Narcs exhibited a negative association with overall guilt, whereas Machs and Psycs were negatively correlated with some forms of guilt, and positively associated with others. Two forms of guilt that highlight differences amongst the Dark Triad relate to survivor guilt and self-hate guilt. The Giammarco & Vernon study showed that Narcs were strongly negatively associated with survivor guilt which can be explained by the Narc sense of superiority and consequent lack of guilt for such beliefs, and similarly only Narcs were found to be negatively associated with self-hate guilt, whereas Machs and Psycs both showed positive associations with self-hate guilt, which the researchers rationalized as being due to feelings amongst these personality groups of not deserving other people's respect and indeed deserving the adverse happenings they encountered. These results confirm that guilt is complex and multi-dimensional construct (Giammarco & Vernon, 2015). From the narrow perspective of moral-related guilt (and shame) in relation to the Dark Triad, we would expect their focus on the self and proclivity for unethical behaviour would suggest that they are negatively associated with this specific type of guilt.

3.2.2 Hypotheses

Dark Triad and self-control (H1)
From above it is clear that self-control capacity (or lack thereof) is an important aspect of intrinsic Dark Triad personality (Jonason & Tost, 2010; Jones et al., 2011; Lyons & Rice, 2014). Although there is some level of contradiction in the relative strength of self-control across the three DT sub-components, there seems to be consensus that DT individuals are 'characterised by deficits in self-control' (Furnham et al., 2013). Consequently, we hypothesise in H1 that each component has a negative association with self-control:

H1a *Mach is negatively associated with self-control.*
H1b *Narc is negatively associated with self-control.*
H1c *Psyc is negatively associated with self-control.*

Dark Triad and moral identity (H2)
All of the DT are 'bad apples' in terms of morality (Jonason et al., 2014). Yet within this cluster there is a pecking order – the so-called "malicious two" i.e., Machs and Psycs have particularly dark traits (Rauthmann & Kolar, 2012). Machs have undue concern for the self, and often achieve their goals through deception or bullshit (Blotner & Bergold). Psycs are impulsive, irresponsible, and insensitive to others (Szabo et al., 2018). Consequently, as moral identity is an intrinsic part of self-identity (Xu et al., 2023), we hypothesis that both these DT traits are negatively associated with moral identity. Narcs are also dark characters, albeit less so. In an objective assessment of moral identity, based on prior research findings we would expect Narcs to rank lower than 'normal' people, but higher than either of the malicious two. However, the measure used in this study is self-assessed, and given the Narc ego and tendencies for both self-promotion and self-deception (Jones & Paulhus, 2017), we predict that Narc will register a positive association with moral identity. Hence

H2a *Mach is negatively associated with moral identity.*
H2b *Psyc is negatively associated with moral identity.*
H2c *Narc is positively associated with moral identity.*

Prior to unethical behaviour – relating moral disengagement to moral identity, self-control, and DT traits (H3)
According to Bandura (1999), people who readily morally disengage prior to acting unethically do so as a deliberate act which can be categorised as 'motivated cognition' (Shu et al., 2011 p.344). This would suggest that propensity to morally disengage prior to unethical behaviour (i.e. pre-MD) is a trait that would be resisted (or would not be encountered) by individuals who have good self-control or a strong sense of moral identity, implying a negative association with each trait, i.e.

H3a *Self-control is negatively associated with pre-MD.*
H3b *Moral identity is negatively associated with pre-MD.*

It is well established that propensity to morally disengage is a predictor of unethical behaviour (Shu et al., 2011). Each of the DT subcomponents is associated with unethical behaviour (Kish-Gephart et al., 2010). Consequently, we predict that each DT trait is positively associated with propensity to morally disengage: -

H3c *Mach is positively associated with pre-moral disengagement.*
H3d *Narc is positively associated with pre-moral disengagement.*
H3e *Psyc is positively associated with pre-moral disengagement.*

Moreover, we anticipate a tension between moral identity and dark traits, which will manifest in moral identity weakening the predicted positive relationship between DT traits and propensity to morally disengage. This relationship is important because moral identity may be malleable and develop over time (Krettenauer & Hertz, 2015; Shu & Gino, 2012). Hence,

H3f *The positive relationship between Dark Triad traits and pre-moral disengagement is moderated by moral identity. More specifically, we expect the relationship to be weaker as moral identity increases.*

Subsequent to unethical behaviour – onset of negative emotions (H4)
Bandura's (1999) moral disengagement theory argues that people will violate their moral standards and bypass self-regulatory processes and avoid self-sanctions in the form of subsequent negative emotions (i.e., guilt and shame). More recent work by Ogunfowora et al. (2023) and Tillman et al. (2018) suggests that, subsequent to unethical behaviour, guilt is not fully extinguished, but rather persists. Based on the research findings on moral disengagement and moral emotions outlined above, we argue that the process of post-MD follows a rapid linear process, whereby an unethical act results in instantaneous enhanced levels of both forms of negative emotion (guilt and shame) resulting from the violation of self-moral standards, and these heightened feelings are rapidly followed by the cognitive process of moral disengagement which is enacted to assuage the discomfort, but which primarily affects guilt, being the emotion associated with responsibility and power. As a result, compared with a situation in which there has been no breach of moral standards (e.g., in our experimental case, the control group), resultant guilt and shame would both be expected to increase, albeit there may be some partial trade-off with post-moral disengagement. Moreover, these feelings will be intensified once the consequences of the ethical breach are known and become salient as this serves to turn a theoretical consequence into a real consequence, and the more severe the consequence the greater will be the level of negative emotion. Hence,

H4a *People who engage in unethical behaviour show more negative emotions than do people in a non-unethical behaviour control group, (i.e., both guilt and shame rise following unethical behaviour).*

H4b *People who engage in unethical behaviour and then learn of the consequences of their behaviour: - (i) show more resultant guilt and shame than when they were unaware of the consequences; and (ii) show higher levels of guilt and shame the more severe of outcome.*

Subsequent to unethical behaviour – relating moral disengagement to negative emotions and DT traits (H5)
Given our H3 prediction that people high in DT traits will be positively associated with pre-moral disengagement, it follows that these personalities are likely to maintain consistency with their pre-unethical selves, and continue to morally disengage following an unethical act, thus:

H5a *DT traits are positively associated with post-MD.*

We saw above how negative emotions guilt and shame arise following a breach of moral standards. Research suggests that guilt is a more transient emotion than is shame. Moreover, guilt is linked to the moral act rather than the self, and tends to lead to restorative actions, which shame does not (Miceli & Castelfranchi, 2018). Consequently, we might expect that if post-moral disengagement serves to act as a coping mechanism following a breach of ethical norms (as we argue above), then guilt (but not shame) might be amenable to a trade-off with post-MD to help the transgressor cope with the ensuing emotional discomfort arising from a violation of moral self-standards. In this case, people will intuitively post-morally disengage, but only the feelings of guilt will be assuaged and resultant guilt (i.e., guilt measured

following an unethical act and post-moral disengagement) will show a negative relationship with post-MD, whereas resultant shame will be positively associated with post-MD. Hence;

H5b *Post-MD is negatively associated with guilt.*
H5c *Post-MD is positively associated with shame.*

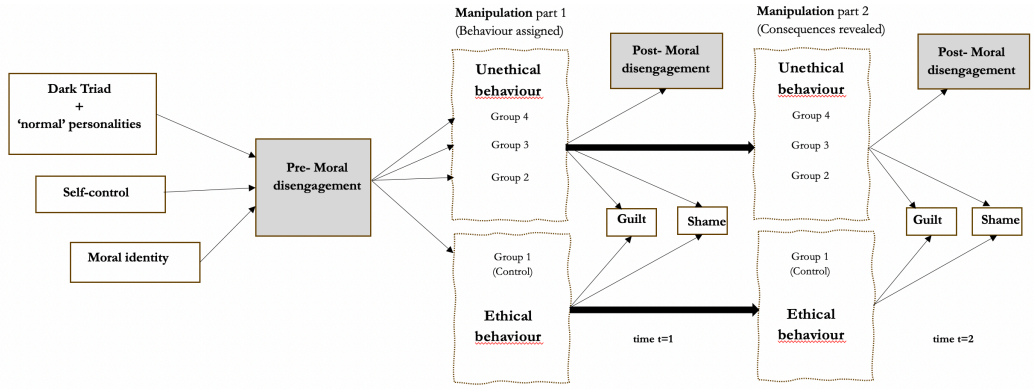
Lastly, we suggest that the predicted negative relationship between post-moral disengagement and guilt will be moderated – i.e. weakened – by the level of DT traits, given our expectation outlined above that people high in DT traits will not be affected by increased guilt following an unethical act, and consequently will not obtain guilt relief from post-moral disengagement.

H5d *The negative relationship between post-moral disengagement and guilt is moderated by DT traits. More specifically, we expect the relationship to be weaker as DT traits increase.*

3.3 Method

We follow the novel experimental design of Tillman et al. (2018) which is one of the first studies to look at post-MD and its association with negative emotions. A schematic diagram of the experimental design and measurement flow is presented at Fig. 3.1.Participants were randomly assigned to one of four groups – a control group (which was allocated an ethical role), and three treatment groups which were manipulated through the allocation and assumption of a role in which participants were told they had undertaken an unethical act for which there were three forms of (incrementally serious) consequences, dependent on group allocation.

Fig 3.1 Schematic diagram depicting the experimental flow and measurements for the four participant groups prior to and following manipulation 1 (ethical/unethical behaviour) and manipulation 2 (awareness of consequences)



We assessed moral disengagement at three points in time: - first as pre-moral disengagement, i.e., prior to any allocation of roles and as part of the initial measures along with personality traits, self-control, and moral identity. The second measure of moral disengagement at t=1 occurred after participants had been randomly allocated to roles, i.e., after respondents had been told they had acted either ethically or unethically – thus this is a first measure of post-moral disengagement. The negative emotions that are thought to accompany amoral behaviour (guilt and shame) were also measured at this point. The third measure of moral disengagement happened at time t=2, after respondents had been informed of the consequences of their unethical action (i.e., one of the three outcomes) or ethical action (a benign outcome). At time t=2 we again measured post-moral disengagement - i.e., at this later point in time when more information was available to the moral disengager. We also re-measured guilt and shame at time t=2. The post-moral disengagement scales completed by the treatment group were devised by Tillman et al. (2018) and are specific to this experiment and scenario. The control group, which were assigned a benign role not involving any unethical or inappropriate behaviour, also completed the negative emotion scales at the same time points for comparative purposes.

Our study differs from the Tillman et al. (2018) experimental design in a number of ways. First, we assume that the moral disengagement process is one that kicks in rapidly after an unethical act is perpetrated and instantaneous negative moral emotions are encountered, such that post-moral disengagement is a response to these moral emotions

and influences *resultant* negative emotions which we can measure. Hence we follow the measurement sequence adopted by Ogunfowora et al. (2023) and measure post-moral disengagement prior to negative emotions. Second, we amended the text of the scenario to make the situation more work-related (rather than directed at students), and we also amended the three treatment outcomes to make them less severe (with the aim of making them seem more plausible). Third, given our research question we introduced personality and self-control measures at the initial phase of the survey. Fourth, because of our goal of making the results as representative as possible, rather than relying on students with limited experience of dealing with moral issues and moral disengagement, we restricted respondents to experienced working professional above the age of 23.

3.3.1 Participants and Procedure

We obtained prior approval for the online survey from the LSE Research Ethics Committee. We were guided on sample size based on the Tillman et al. (2018) study which had 182 respondents, and elected to enhance statistical power by targeting 600 participants. The survey was designed on the Qualtrics platform and administered by Prolific. In advance of going live, we were able to pre-test the survey and make improvements based on feedback from 15 respondents.

Pre-screening of participants was undertaken to ensure that each: - (i) was currently working in full-time employment in a professional or managerial position; (ii) had work experience of a minimum of 4 years; (iii) was based in an Anglophone country (i.e., UK, US, Canada or Australasia); and (iv) spoke English as a first language. All participants gave informed consent. The average time to complete the survey was 14 minutes. In total 11 participants were excluded because they either: - (i) took excessive time to complete the survey (five respondents), or (ii) failed to respond adequately to attention check items (six respondents). The final sample of 589 participants (296 females, 293 males), had an average age of 40.2 years (SD = 11.2; range 23 – 73).

Manipulation

After the random allocations to one of four groups (one control, three treatment), respondents were asked to read the following hypothetical scenario and their (allocated) response (adapted from Tillman et al. 2018):

It is 11pm on a Thursday night. You have been attending a residential 3-day corporate technical course to prepare you for a work-related exam which is important for your career progression. The course is being held at a training centre near the industrial area. You have been studying hard in your room since 6pm, and will sit the final exam tomorrow, so you decide to call it a night to get a good night's sleep. Typically, on a Thursday night you meet with a few of your office workmates for drinks or a meal. None of your office friends are studying for the exam or attending the course. This evening your friends have been celebrating a birthday at a house party that is close to the training centre, and earlier in the day you told them that you would try to meet them later. They jokingly appointed you as the designated driver even though you don't have a car. But they knew you had an important final exam that you needed to do well on, so they'll understand if you do not show. You get into bed and start to doze off. After a while, the phone rings. You wake up and answer it. It's your friend Pat who sounds really drunk. Pat's voice worries you, but since you don't have a car, you would have to walk over to the house party (about a mile away), drive Pat's car home, and then make your way back to your room at the training centre. You are aware that taxi and Uber services are poor around this part of town. You think to yourself "I really have to do well on this exam tomorrow and need my sleep. It's only a mile away..."

Respondents then read a screen of how they had 'responded', with the control group seeing the following:

" ...but they can't make it home safely". You tell Pat that although you really need your rest you are on your way. Pat says "thank you, I drank way too much; I don't even remember where my car is". You walk over to the house party, find Pat and the others, get them all in Pat's car and drive them back to Pat's place. Once at Pat's place, you stay until everyone has fallen asleep and then walk back to your room. You turn off your phone and get back into bed.

By contrast, the treatment group saw the following:

"... they can make it home safely". You tell Pat that you really need to get your rest and that the drive isn't that far. Pat begs you to come saying "I drank way too much; I don't even remember where my car is". You tell Pat to go find the car and drive slowly. Everything will be ok. You turn off your phone and get back into bed.

Participants were then tested for post-moral disengagement, guilt, and shame (i.e., at time =1).

Next, participants learned of what subsequently happened with Pat (i.e., at time =2). The control group saw the following message:

The next morning when you turn on your phone you see that you have a message from Pat. Pat is very thankful that you came back to pick them up. Pat says that if it weren't for you, they wouldn't have made it home safely last night. Pat says that it is good to have friends like you who take their responsibilities as a designated driver seriously. Before moving onto the next page take a few seconds think about this news.

Each of the three treatment groups randomly saw a message which depicted one of three outcomes (low, medium or high severity), as below:

The next morning when you turn on your phone you see that you have a message from one of your friends.

[Low severity outcome]: *Pat was pulled over minutes after leaving the party. Pat was arrested and has been charged with drink-driving. Pat will have to attend court and will almost certainly lose his license, have to pay a fine, and he will not be allowed to drive for at least a year. No-one was hurt.*

[Medium severity outcome]: *Pat has been in an accident. Pat drove head on into a telephone pole minutes after leaving the party and has been taken to hospital with minor injuries. The doctor thinks Pat will be able to go home later today. Pat was arrested and has been charged with drink-driving. Pat will have to attend court and will almost certainly lose his license, have to pay a fine, and he will not be allowed to drive for at least a year. No-one other than Pat was hurt.*

[High severity outcome]: *Pat has been in an accident. Pat drove into a mini-van minutes after leaving the party, and Pat and the mini-van driver have both been taken to hospital with minor injuries. The doctors think that Pat and the mini-van driver will be able to go home later today. Pat was arrested and has been charged with drink-driving. Pat will have to attend court and will almost certainly lose his license, have to pay a fine, and he will not be allowed to drive for at least a year.*

As the significance of the situation begins to sink in, you remember that you told Pat that everything would be OK. Before moving onto the next page take a few seconds think about this news.

Immediately after reading about the outcome (i.e., at time t=2), all participants then completed the same measures for post-moral disengagement, guilt and shame, and completed the survey by answering several standard demographic items.

3.3.2 Measures

Dependent variables

Guilt. We used the five-item Wrongdoing subscale within the Kubany et al. (1996) Trauma Related Guilt Inventory (TRGI). Respondents were asked to "*take a moment to think about what just happened in the scenario and the decision you made*" and to select the most appropriate response from a 5-point Likert scale ranging from 1 (*not at all true*) to 5 *extremely true*). Measures were taken at time 1 (immediately following the manipulation, $\alpha = .93$), and subsequently at time 2 (after respondents were informed of the consequences of their decision, $\alpha = .94$). Sample items include "I had some thoughts that I should not have had", and "I did something that went against my values".

Shame. This was assessed using the 3-item Behavioural Shame subscale on doing wrong developed by Andrews et al. (2002) within their Experience of Shame Scale (ESS). As for the guilt measure, in the shame measure respondents were asked about how they felt about their decision, both at time 1 ($\alpha = .72$) and at time 2 ($\alpha = .72$). Illustrative items are "How likely are you to feel ashamed of what you did?", and "How likely are you to worry about what people think of you because of what you did?". We retained the Likert scale as published, i.e., a 5-point scale ranging from 1 (*very unlikely*) to 5 (*very likely*).

Pre-moral disengagement. We used the Moore et al. (2012) Propensity to Morally Disengage Scale (PMDS) which is an 8-item measure ($\alpha = .75$). This has one question based on each of Bandura's (1999) eight forms of moral disengagement. The PMDS uses a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample questions include "Taking personal credit for ideas that are not your own is no big deal", and "Taking something without the owner's permission is ok as long as you're just borrowing it".

Self-control. This was assessed using the 13-item Brief Self Control Scale (BSCS) measure of general self-control (α = .89) designed by Tangney et al. (2004) which applies a 5-point Likert scale to questions on how well statements describe them, with responses ranging from 1 (*not at all*) to 5 (*very much*). Two examples of questions are: "I am good at resisting temptation", and "I often act without thinking through all the alternatives".

Moral identity. We used the 5-item scale (α = .82) developed by Aquino & Reed, (2002). This asks respondents to think about a person, which might be themselves, whose characteristics include being "caring, compassionate, fair, friendly, generous, helpful, hardworking, honest and kind", and to imagine how that person would think, feel, and act. Participants were then asked to answer questions on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample questions include "It would make me feel good to be a person who has these characteristics", and "I strongly desire to have these characteristics".

Independent variables

Post-moral disengagement – diffusing responsibility. This measure was only applied to those participants in the unethical behaviour treatment group. We used the 5-item scale developed by Tillman et al. (2018) which is specific to this experimental design. The scale measures two categories of Bandura's (1999) model of moral disengagement relating to minimizing personal involvement and blaming those affected. Measurements were taken at time 1, and subsequently at time 2. Sample items include "*Make it clear to Pat that you recognise your action of not providing a ride to him was a misstep, but you felt that you had no alternative*"; and "*Tell Pat that there were circumstances beyond your control which caused you to wrongly refuse to give him a ride*". Subsequently, at time 2 – i.e., after being told of the consequences of Pat's drink-drive actions – respondents were asked "*Now that you are aware of what happened last night, please indicate how likely you would be to do each of the following…".* Participants were then provided with the same questions as at time 1, albeit in a different order. A 5-point Likert scale was used ranging from 1 (*very unlikely*) to 5 (*very likely*). Cronbach α was .83 (time 1) and .87 (time 2).

Post-moral disengagement – minimising actions. This measure was also only taken for respondents in the unethical behaviour treatment group. For this measure we similarly used the Tillman et al. (2018) 5-item scale, which utilises a 5-point Likert scale ranging from 1 (*very unlikely*) to 5 (*very likely*). The scale uses two categories from Bandura's (1999) moral disengagement model which involve reconstruing personal conduct (so that it is no longer immoral), and playing down the significance of resulting negative consequences. Respondents were presented with five questions as part of the same question block as for PMD-diffusing responsibility and at the same points in time (i.e., at time t=1, and t=2), and asked how they would respond to each item. Sample items include "*Admit that you did not give Pat a ride when he asked but remind him that your actions did not hurt anyone*"; and "*Accept responsibility for not giving Pat a ride, but try to make your actions appear less severe than they actually are*". Cronbach α was .73 (time 1) and .75 (time 2).

Post-moral disengagement – total. This measure comprises the aggregation of the two more specific measures of post-moral disengagement (i.e., PMD-diffusing responsibility; and PMD-minimising actions) and is computed so that we capture a broader measure of this construct. Cronbach α was .82 (time 1) and .86 (time 2).

Dark Triad. We used the well-known Short Dark Triad (SD3) inventory (Jones & Paulhus, 2017). The SD3 scale comprises a 27-item measure of the Dark Triad, made up of three separate scales each of nine items representing the three Dark Triad sub-component personality traits Mach, Narc, and Psyc. Each component as well as the composite measure ('DT composite') has been shown to have discriminant validity in respect of moral behaviour, hence we follow numerous other researchers (e.g., Jensen et al., 2022) in applying all four measures. Items request the respondent to indicate their level of agreement with statements relevant to each trait using a 5-item Likert scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*). Sample items include: - Mach: "Most people can be manipulated"; Narc: "Many group activities tend to be dull without me"; and Psyc: "Payback needs to be quick and nasty". The scale used a 5-point Likert scale ranging from 1 (*very unlikely*) to 5 (*very likely*). Cronbach alphas: Mach (α=.82); Narc (α=.78); Psyc (α=.73); DT composite (α=.85).

Control variables

We measured several control variables relating to key demographics which prior studies have shown can be relevant to issues of moral behaviour in relation to our respondent population comprising experienced working professionals. These include: - *gender* and *age* (Berry et al., 2007); *formal education* (Bucciol et al., 2013), for which we use a dummy variable scale ranging from 1 (lowest, no degree) to 3 (highest, postgraduate); and *position at work* (Chow & Choi, 2003), for which we employ a dummy variable scale spanning 1 (below manager) to 3 (senior management / leadership).

3.3.3 Analytical Procedure

In order to confirm that respondents had properly understood the role they had been allocated, and the manipulation narratives at time 1 and time 2, the survey ended with them completing a 4-item manipulation check scale as designed by Tillman et al. (2018) to reflect each of the four conditions. Sample questions included "I made sure Pat did not drive drunk"; and "Pat was in an accident that involved another vehicle and driver". Answers were scored on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

All scales were tested for reliability, all of which yielded Cronbach alpha scores above α=.7. As we apply independent t-tests in the analysis, we subjected the data to Levene's test of equality of variance which showed that this assumption was not met, consequently degrees of freedom were adjusted accordingly in the relevant analyses. We also tested the data to ensure it met the key assumptions of multiple regression. First, outliers were removed. These comprised five respondents who we judged took an inordinate length of time to complete the survey. A further six participants were excluded as they failed basic attention checks, to leave a final sample of N=589. Second, we applied the Durbin-Watson test of independence of errors – this assumption was met with all regressions yielding Durbin-Watson scores in the range 2.1-2.2 (i.e., close to the idealised value of 2.0 such that we can consider the assumption of independence of error terms met. We confirmed that the data contained approximately normally distributed errors by reviewing a histogram of standardised residuals. Similarly, we were able to confirm that the data met the assumptions of homogeneity of variance and linearity by reviewing a scatterplot of standardised residuals. Finally, for each regression model we were able to confirm that the data met the assumptions of collinearity as all VIF measures yielded values below 2.5, i.e., well below the threshold of 10 at which multi-collinearity may distort regression results (Cryer & Miller, 1994).

We ran three separate regressions to assess the relationships of interest amongst pre-manipulation variables. The first tests the association of each DT trait with self-control (H1). The second regression assesses the relationship between DT traits and moral identity (H2). The third regression tests how DT traits, self-control and moral identity predict pre-moral disengagement (H3a-e). Next, we tested whether there was evidence of moderation in the relationship between DT traits and pre-moral disengagement, given our hypothesis (H3f) that the (positive) relationship between Dark Triad traits and pre-moral disengagement is moderated (weakened) by moral identity, the results for which are presented in the form of a regression table and simple slopes graph.

We then looked at the three post-manipulation outcomes: - post-moral disengagement, and the two resultant negative emotions which follow unethical behaviour and post-moral disengagement, i.e., guilt and shame. First, we ran independent samples t-tests to determine (i) whether people who act unethically exhibit more negative emotions than do people in a control group (H4a), and (ii) whether negative emotions are higher once people know the consequences, and whether more severe consequences result in higher levels of negative emotion (H4b). Second, we assessed the relationship between DT traits and post-moral disengagement (H5a) from bivariate correlations, and ran two regressions to explore how our pre-manipulation predictor variables and post-moral disengagement measures together predict resulting negative emotions, i.e., guilt (H5b), and shame (H5c). For each dependent variable we included separate regressions for time 1 and time 2 measures. Finally, we ran moderation regressions to test whether the relationship between post-moral disengagement and guilt was moderated by DT (H5d) and obtained simple slopes graphs depicting these results.

3.4 Results

3.4.1 Descriptive statistics

Table 3.1a and Table 3.1b present the means, standard deviations, and Pearson bivariate correlations for all variables relating respectively to the control group (group 1); and the treatment groups (groups, 2, 3, and 4 which include the additional measures relating to post moral disengagement). As would be expected, means and correlations for corresponding variables are substantially similar between the two tables. Consequently, we comment primarily on the results presented in Table 3.1b. It is evident that the means for both shame and guilt are substantially higher for the treatment groups than for the control group – e.g., at time 1 the means for the treatment group compared to those for the control group yielded the following: guilt (M=3.51, SD =1.21/M=1.34, SD = 0.59) and shame (M=3.53, SD =1.04/M=1.35, SD=0.71), which is supportive of hypothesis H4a. Also notable is that for the treatment group the means for guilt and shame were lower at time 2 versus time 1, i.e.: guilt (M=3.36, SD= 1.27/ M=3.51, SD=1.21); shame (M= 3.40, SD =1.08 /M= 3.53, SD =1.04), which is the opposite direction to our hypothesis H4b. Dark Triad personality measures are in line with those seen in prior studies (e.g., Egan et al., 2015).

The correlation results demonstrate some key associations that are important to our hypotheses. We note, as expected, the medium/strong correlations between guilt and shame (time 2: r =.73, p<.001; time 1: r=.66; p<.001), albeit these values are somewhat higher than those reported by Tillman et al. (2018) (time 2: r= .50, p<.001; time 1: r=.48; p<.001). We also see differences in how guilt and shame correlate with the primary measures of PMD:- guilt is negatively correlated with PMD-minimising actions (e.g., at time 2: r =-.28, p<.01) which is in line with our prediction in H5b, whereas at the same time interval shame is positively correlated with PMD-diffusing responsibility (r=.16, p<.001), which aligns with H5c. We also note that at time 1 shame shows a negative association with PMD-minimising actions which is not seen at time 2, which suggests there may be temporal changes in negative emotions between the measurement time points. Another correlation of note is pre-MD/post-MD, which shows a range from r=.18, p<.001, to r=.32, p<.001 across the measures and time intervals, thereby mirroring the figures reported by Tillman et al. (2018).

The Dark Triad personality measures show some interesting associations, both intra-triad and with moral disengagement. We see that for the control group the Mach/Psyc bivariate correlation is unusually low (r = .40, p<.001). This should be compared with the result for the non-control grouping (r = .53, p<.001). Prior studies have shown some variation in how Mach and Psyc correlate – for example Furnham et al. (2013) report that from a meta study of nearly 100 samples, in more than 25% of the cases the Mach/Psyc Pearson correlation >0.5, whereas Szabo et al. (2018) report a correlation r = 0.46, p<.01. Across the other 9 studies comprising this thesis the Mach/Psyc correlation shows a small range from r = 0.48 (Paper 3, Study 1) to r = 0.58 (Paper 5, Study 1). It is not clear why the Mach/Psyc correlation is so low for the control group here, as at this level (r =.40) it casts doubt on the so-called 'malicious two' concept (Rauthmann & Kolar, 2012) by which these two DT subcomponents have significantly overlapping traits. We posit that this result may be a random anomaly, something that could be readily verified in a replication study. In respect of pre-MD, in line with H3, Mach (r=.55, p<.001) and Psyc (r=.58, p<.001) show positive medium/strong correlations, whereas for Narc the association is low/medium (r=.25, p<.001). As regards the association of DT with post-MD measures, we also see that Mach and Psyc show similar (i.e., low, positive) associations with PMD-minimising actions (r=.16, p<.001 for each), whereas in respect of PMD-diffusing responsibility only Mach (r=.14, p<.01) and Narc (r=.13, p<.001) show an association, findings which align with H5a. Finally, in line with theory we see that moral identity is positively correlated with self-control (r=.23, p<.001), and negatively associated with pre-MD (r=-.36, p<.001).

Table 3.1a Pearson correlation matrix, scale means, and standard deviations (control group).

	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Guilt (T2)	1.33	0.54	1										
2. Shame (T2)	1.33	0.72	0.62***	1									
3. Guilt (T1)	1.34	0.59	0.87***	0.58***	1								
4. Shame (T1)	1.35	0.71	0.61***	0.84***	0.66***	1							
5. Self-control	3.36	0.67	-0.02	-0.08	-0.05	-0.10	1						
6. Moral identity	4.52	0.57	-0.29***	-0.14	-0.27***	-0.11	0.15	1					
7. Pre-MD	1.79	0.56	0.06	0.16	0.08	0.11	-0.32***	-0.17*	1				
8. Mach	2.93	0.66	0.08	0.14	0.10	0.10	-0.27***	-0.31***	0.49***	1			
9. Narc	2.43	0.61	-0.07	-0.08	-0.01	-0.07	0.23***	0.05	0.20*	0.16*	1		
10. Psyc	2.04	0.63	0.10	0.04	0.12	0.03	-0.34***	-0.29***	0.58***	0.40***	0.29***	1	
11. DT composite	2.46	0.46	0.05	0.05	0.09	0.03	-0.18*	-0.26***	0.59***	0.74***	0.65***	0.78***	1

N=149. * p<0.05; ** p<0.01; *** p<0.001

Table 3.1b Pearson correlation matrix, scale means, and standard deviations for groups 2, 3 & 4 (manipulation groups)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Guilt (T2)	3.36	1.27	1															
2. Shame (T2)	3.40	1.08	0.66***	1														
3. Post-MD – diffuse (T2)	2.62	1.09	-0.09*	0.16***	1													
4. Post-MD – minimise (T2)	1.89	0.81	-0.28**	-0.08	0.54***	1												
5. Post-MD – total (T2)	2.25	0.84	-0.20***	0.07	0.91***	0.83***	1											
6. Guilt (T1)	3.51	1.21	0.84***	0.53***	-0.07	-0.19***	-0.14***	1										
7. Shame (T1)	3.53	1.04	0.68***	0.74***	0.08	-0.07	0.02	0.73***	1									
8. Post-MD – diffuse (T1)	2.87	1.03	0.07	0.22***	0.78***	0.37***	0.69***	0.10*	0.23***	1								
9. Post-MD – minimise (T1)	2.34	0.83	-0.32***	-0.08	0.46***	0.69***	0.64***	-0.29**	-0.14***	0.43***	1							
10. Post-MD – total (T1)	2.60	0.79	-0.12**	0.10*	0.75***	0.61***	0.79***	-0.09	0.08	0.88***	0.81***	1						
11. Self-control	3.36	0.68	-0.03	-0.10*	-0.08	-0.10*	-0.10*	-0.01	-0.11*	-0.10*	-0.09	-0.11*	1					
12. Moral identity	4.56	0.55	0.12**	0.15**	-0.02	-0.21***	-0.12*	0.14***	0.11*	0.07	-0.10*	-0.01	0.23***	1				
13. Pre-MD	1.79	0.56	-0.23***	-0.05	0.18***	0.25***	0.24***	-0.25***	-0.12*	0.12*	0.32***	0.25***	-0.25***	-0.36***	1			
14. Mach	2.96	0.65	-0.16***	0.01	0.14***	0.16***	0.14***	-0.17***	-0.02	0.12*	0.24***	0.20***	-0.20***	-0.26***	0.55***	1		
15. Narc	2.50	0.63	-0.08	-0.04	0.13***	0.12*	0.13***	-0.06	-0.06	0.11*	0.15***	0.15***	0.17***	0.02	0.25***	0.25***	1	
16. Psyc	1.98	0.55	-0.17***	-0.10*	0.08	0.16***	0.16***	-0.19***	-0.11*	0.03	0.20***	0.13***	-0.38***	-0.42***	0.58***	0.53***	0.31***	1
17. DT composite	2.47	0.46	-0.18***	-0.06	0.16***	0.19***	0.29***	-0.18***	-0.08	0.12*	0.26***	0.22***	-0.17***	-0.28***	0.60***	0.79***	0.69***	0.79***

N=440. * p<0.05; ** p<0.01; *** p<0.001

3.4.2 Regression analysis and hypothesis test results

Dark Triad and self-control (H1)

H1 makes predictions regarding the negative association of DT personality traits with self-control. Table 3.2 shows the multiple regression results for DV= self-control with the three DT sub-components as covariates. DT personality traits explain 23.7% of the variance in self-control ($F(3, 585) = 60.60$, $p<.001$). H1a for Mach ($\beta = -.083$, $p=.047$) is weakly supported at the 5% level, and H1c for Psyc ($\beta = -.427$, $p<.001$) is strongly supported at high significance. Our prediction for Narc (H1b) is not supported, and rather shows a strong and highly significant association in the *opposite* direction, i.e., surprisingly Narc is positively associated with self-control ($\beta = .332$, $p<.001$).

Table 3.2 Regression results for DV=self-control

	DV = self-control					
	B	**SE**	**β**	**t**	**sig**	**Hypothesis**
Const	3.738	0.137		27.354	<0.001	
Mach	-0.086	0.043	-0.083	-1.993	0.047	**H1a**
Narc	0.360	0.041	0.332	8.741	<0.001	**H1b**
Psyc	-0.508	0.051	-0.427	-10.052	<0.001	**H1c**
R^2	0.237					
F (3, 585)	60.695	p<0.001				
N	588					

Dark Triad and moral identity (H2)

Table 3.3 presents the multiple regression results for DV= moral identity with the three DT sub-components as covariates ($F(3, 585) = 42.48$, $p<.001$). The Dark Triad traits together explain 17.9% of the variance in moral identity. Each of Mach ($\beta = -.126$, $p=.004$), and Psyc ($\beta = -.368$, $p<.001$) is negatively related to moral identity, in support of hypotheses H2a and H2b respectively. Similarly, there is a strong positive association between Narc and moral identity ($\beta = .168$, $p<.001$), in support of H2c.

Table 3.3 Regression results for DV = moral identity

	DV = moral identity					
	B	**SE**	**β**	**t**	**sig**	**Hypothesis**
Const	5.213	0.116		45.115	<0.001	
Mach	-0.107	0.037	-0.126	-2.921	0.004	**H2a**
Narc	0.149	0.035	0.168	4.267	<0.001	**H2c**
Psyc	-0.357	0.043	-0.368	-8.348	<0.001	**H2b**
R^2	0.179					
F (3, 585)	42.476	p<0.001				
N	588					

Moral identity, self-control, and DT traits – association with pre-moral disengagement (H3)

Table 3.4 presents regression results for DV = pre-MD which incorporates all predictive variables of interest relating to self-control and DT personality traits, plus control variables linked to moral behaviour. The covariates explain 43.1% of the variance in pre-MD ($F(11, 577) = 39.81$, $p<.001$). H3a is not supported as self-control does not significantly negatively predict pre-MD ($\beta = -.062$, $p=.089$). However, moral identity positively predicts pre-MD at the 5% level of significance ($\beta = -.085$, $p=.017$), in support of H3b. Also as predicted, we find support for H3c, H3d and H3e in that each of the DT components is positively associated with pre-MD, most strongly in respect of Mach and Psyc: - Mach ($\beta = .305$, $p<.001$); Narc ($\beta = .076$, $p=.037$); Psyc ($\beta = .339$, $p<.001$).

Table 3.4 Regression results for DV=pre-moral disengagement

	DV = pre-moral disengagement					
	B	**SE**	**β**	**t**	**sig**	**Hypothesis**
Const	0.895	0.254		3.518	<0.001	
Gender	0.11	0.037	0.010	0.303	0.762	
Age	-0.003	0.002	-0.054	-1.593	0.112	
Education2 - grad	-0.063	0.043	-0.056	-1.465	0.143	
Education3 - post grad	-0.071	0.049	-0.055	-1.441	0.150	
Work2 - managmt	-0.001	0.041	-0.001	-0.017	0.986	
Work3 – Sen. managmt	0.008	0.053	0.005	0.151	0.880	
Self-control	-0.051	0.030	-0.062	-1.706	0.089	**H3a**
Moral ID	-0.086	0.036	-0.085	-2.384	0.017	**H3b**
Mach	0.262	0.032	0.305	8.289	<0.001	**H3c**
Narc	0.068	0.032	0.076	2.091	0.037	**H3d**
Psyc	0.332	0.043	0.339	7.781	<0.001	**H3e**
R^2	0.431					
F (11, 577)	39.808	p<0.001				
N	588					

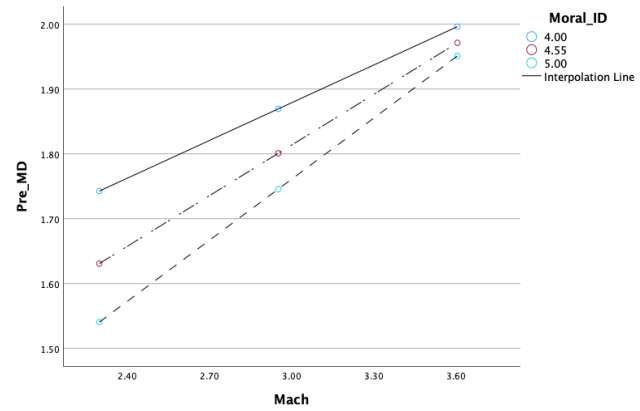
In order to test H3f, i.e., whether the positive relationship between Dark Triad traits and pre-moral disengagement is moderated by moral identity (i.e. more specifically, the expectation that the relationship is weaker as moral identity increases), we conducted a moderation analysis by re-running the regression with DV = pre-moral disengagement in SPSS using the PROCESS macro model 1 (Hayes, 2013). We ran the regression three times with each of Mach, Narc and Psyc separately interacting with moral identity to predict pre-MD. We found partial support for our hypothesis – i.e., only in respect of Mach and Psyc, but for Narc our hypothesis was not supported. Table 3.5a and Table 3.5b show the regression results for Mach and Psyc respectively.

For Mach the interaction was significant (B=0.120, *p*=.008), indicating that the relationship between Mach and pre-MD was moderated by moral identity. Fig 3.2a depicts the interaction simple slopes curve of Mach on pre-MD. The interaction was probed by testing the conditional effects of Mach at three levels of moral identity, one standard deviation below the mean, at the mean, and one standard deviation above the mean. As shown in Table 3.5a and Fig. 3.2a, the interaction was significant at all three levels of moral identity, most strongly at high levels of moral identity (effect=.314, *p*<.001), albeit the reducing effect of high moral identity on pre-MD is less at high levels of Mach.

Table 3.5a Moderation regression showing the interaction effect of moral disengagement on the relationship between Mach and pre-MD.

	DV = pre-moral disengagement					
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Mach	-0.286	0.210	-1.363	0.173	-0.698	0.126
Moral ID	-0.478	0.153	-3.132	0.002	-0.778	-0.178
Mach*Moral ID interaction	0.120	0.045	2.643	0.008	0.031	0.209
Gender	0.026	0.037	0.690	0.490	-0.048	0.099
Age	-0.003	0.002	-1.520	0.129	-0.006	0.007
Education2 - grad	-0.072	0.043	-1.669	0.096	-1.566	0.013
Education3 - post grad	-0.086	0.049	-1.716	0.087	-1.812	0.012
Work2 - managmt	0.006	0.041	0.153	0.878	-0.074	0.087
Work3 – Sen. managmt	0.021	0.053	0.393	0.695	-0.083	0.124
Self-control	-0.047	0.030	-1.577	0.115	-0.106	0.012
Narc	0.068	0.032	2.105	0.036	0.005	0.131
Psyc	0.325	0.043	7.623	<0.001	0.241	0.408
Constant	2.689	0.724	3.712	0.001	1.266	4.110
Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.438	0.181	37.451	12	576	<0.001
Test of unconditional interaction		**ΔR^2**	**F**	**df1**	**df2**	**p**
Mach*Moral ID		0.007	6.985	1	576	0.0084
Conditional effect of Mach on pre-MD at values of Moral ID (moderator)	**MID**	**effect**	**SE**	**t**	**p**	**LLCI**	**ULCI**
	3.999	0.194	0.041	4.766	<0.001	0.114	0.274
	4.554	0.261	0.032	8.274	<0.001	0.199	0.322
	5.000	0.314	0.037	8.469	<0.001	0.241	0.387

Fig 3.2a Simple slopes diagram showing the moderating effect of moral identity on the relationship between Mach personality and pre-moral disengagement.



For Psyc, Table 3.5b confirms that the interaction Psyc*Moral ID was borderline significant (B=-0.091, p=.054), indicating that the relationship between Psyc and pre-MD was moderated by moral identity, albeit it at a marginal level of significance. Fig 3.2b depicts the interaction simple slopes curve of Psyc on pre-MD. It is evident that the slope is significant at all three levels of moral identity, but most strongly at low levels of moral identity and with the largest effect seen at high levels of Psyc (effect =0.286, p<.001), which suggests that if moral identity is malleable as some scholars claim, this trait might be targeted for enhancement by managers in relation to staff who are high in Psyc traits as a means of reducing propensity to morally disengage.

Table 3.5b Moderation regression showing the interaction effect of moral disengagement on the relationship between Psyc and pre-MD.

DV = pre-moral disengagement

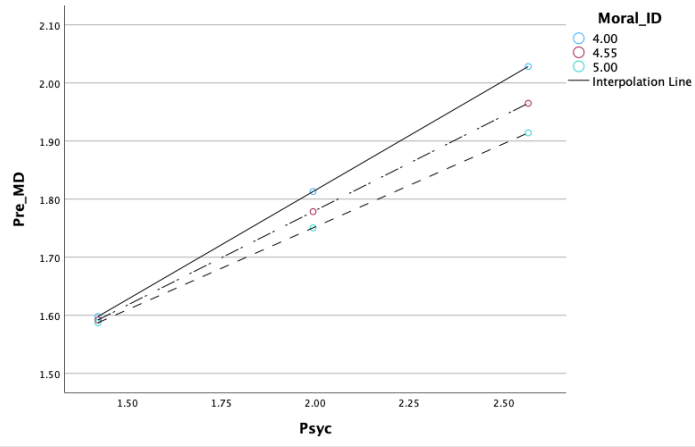
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Psyc	0.738	0.215	3.433	0.001	0.316	1.160
Moral ID	0.118	0.119	1.055	0.292	-0.102	0.337
Psyc*Moral ID interaction	-0.091	0.047	-1.926	0.054	-0.183	0.001
Gender	0.006	0.037	0.150	0.881	-0.067	0.078
Age	-0.003	0.002	-1.493	0.136	-0.006	0.008
Education2 - grad	-0.063	0.043	-1.464	0.144	-0.144	0.022
Education3 - post grad	-0.070	0.049	-1.435	0.152	-0.167	0.026
Work2 - managmt	-0.003	0.049	-0.076	0.939	-0.084	0.077
Work3 – Sen. managmt	0.004	0.053	0.069	0.945	-0.098	0.107
Self-control	-0.051	0.030	-1.690	0.092	-0.109	0.08
Mach	0.270	0.032	8.487	<0.001	0.208	0.333
Narc	0.066	0.032	2.053	0.041	0.003	0.130
Constant	-0.056	0.555	-0.101	0.920	-1.147	1.034

Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.435	0.182	36.971	12	576	<0.001

Test of unconditional interaction	**ΔR^2**	**F**	**df1**	**df2**	**p**
Psyc*Moral ID	0.004	3.708	1	576	0.054

Conditional effect of Psyc on pre-MD at values of Moral ID (moderator)	**MID**	**effect**	**SE**	**t**	**p**	**LLCI**	**ULCI**
	3.999	0.376	0.048	7.784	<0.001	0.281	0.471
	4.554	0.326	0.043	7.633	<0.001	0.242	0.410
	5.000	0.286	0.049	5.834	<0.001	0.190	0.382

Fig 3.2b Simple slopes diagram showing the moderating effect of moral identity on the relationship between Psyc personality and pre-moral disengagement.



Change in negative emotions subsequent to unethical behaviour (H4)

H4a predicted that people who 'acted' unethically in the experiment (i.e., those in the treatment groups 2, 3 and 4), experienced heightened negative emotions compared to those people who did not act unethically (i.e., those in the control group, group 1). To test this hypothesis, we conducted two independent-samples t-tests to compare (i) guilt and (ii) shame at time 1 between the unethical (N=440) and ethical (N=149) conditions. In respect of guilt, there was a significant difference between the scores for the unethical condition (M=3.509, SD=1.210) and the ethical condition (M=1.344, SD=0.590); t(587) =21.013, SE = 0.103, p<.001, Cohen's d=1.08). The results for shame also show a significant difference between the scores for the unethical condition (M=3.532, SD=1.038) and the ethical condition (M=1.358, SD=0.714); t(587) = 23.722, SE = 0.092, p<.001, Cohen's d=0.97). These results support H4a and confirm that people who act unethically experience enhanced feelings of guilt and shame with large effect sizes.

Table 3.6 Difference in means between time 1 and time 2 for guilt and shame by condition (control vs treatment; and treatment severity low/ medium/high) for the four groups.

Group	Condition	N	Guilt			Shame		
			Diff in means (time 2-time 1)	t	p	Diff in means (time 2-time 1)	t	p
1	Control	149	-0.010	-0.159	0.874	-0.031	-0.948	0.345
2	Treatment (low)	145	**-0.187**	-3.117	0.002	**-0.179**	-2.772	0.006
3	Treatment (med)	150	-0.082	-1.505	0.134	-0.867	-1.580	0.116
4	Treatment (high)	145	**-0.169**	-2.916	0.004	-0.113	-1.630	0.105

H4b predicted that people who engage in unethical behaviour show more negative emotions after they learn of the consequences of their behaviour, and that higher levels of negative emotions are felt depending on the severity of the outcome. To test this hypothesis, for each negative emotion guilt and shame we conducted four separate paired-samples t-tests, i.e. for the control group (group 1), and for each of the three treatment groups (2, 3, and 4 which were informed of increasing levels of severity of outcome: - low, medium, high). The results are shown in Table 3.6. As expected, given that there was no improper activity assigned to the control group, respondents in this group showed no difference in either type of negative emotion between time t=1 and t=2.

As regards differences between time 1 and time 2 in the three treatment groups, although there is some inconsistency in the results, broadly we note that for guilt, in two of the three treatment conditions guilt level actually *fell* once the consequence were known to the perpetrator (treatment (low); M_{diff} =-0.187, t(144) =3.117, p=.002; treatment (high); M_{diff} =-0.169, t(144) =2.916, p=.004). By contrast, the results for shame show that for two of the three treatment conditions there was *no change* in levels of shame once consequences were known (although again there was some inconsistency, with the treatment (medium) condition showing a fall in feelings of shame (M_{diff} =-0.179, t(144) =2.772, p=.006). Consequently, H4b is not supported: - i.e., after a person learns of the consequences of their unethical behaviour, guilt does not increase as we had predicted, but rather it falls; shame does not increase but is unchanged, and the extent of severity of outcome does not affect either guilt or shame. Although these results do not support our

H4b hypothesis, we note that they mirror those obtained by Tillman et al. (2018). Moreover, we set out in the discussion section of this paper a possible explanation underlying these findings.

Relating post-moral disengagement to DT traits and negative emotions subsequent to unethical behaviour (H5)
In H5a we predicted that Dark Triad traits would positively predict post-moral disengagement, in the same way that we envisaged (correctly, in H3c, H3d & H3e) that these personality traits would predict pre-moral disengagement. The data shows that H5a is partially supported. We see from correlations at Table 3.1b that Mach and Psyc show the same (i.e., low, positive) association with PMD-minimising actions (r= .16, p<.001), whereas in respect of PMD-diffusing responsibility it is Mach (r= .14, p<.01) and Narc (r= .13, p<.001) which show a positive association. If we use the composite PMD-total measure, each sub-component DT trait shows a significant, low positive association: - Mach (r= .14, p<.001); Narc (r= .13, p<.001); Psyc (r= .16, p<.001), as does DT composite (r= .29, p<.001).

To assess how our combined pre-manipulation predictor variables and post-moral disengagement measures together predict resulting negative emotions, we ran multiple regressions with dependent variables guilt and shame. The results are shown at Table 3.7 (DV = guilt) and Table 3.8 (DV=shame), which include separate regressions for time 1 and time 2 outcomes, for which model 1 incorporates the composite measures for DT and post-MD, and model 2 utilises as covariates the DT sub-components (Mach, Narc and Psyc) and both primary post-MD measures (PMD-diffusing responsibility, and PMD-minimising actions).

H5b predicted that post-moral disengagement is negatively associated with guilt. From Table 3.7 we can see that this hypothesis is partially supported. Although there is some inconsistency between time 1 and time 2 in respect of the association of the covariate PMD-diffusing responsibility with guilt (with the time 1 regression showing a positive association (β =.268, p<.001) whereas there was no association at time 2), there is consistency regarding the negative association of PMD-minimising actions with guilt at time 1 (β = -.354, p<.001) and at time 2 (β = -.277, p<.001), in line with our H5b.

Table 3.7 Regression results for DV=guilt

	Dependent variable DV = Guilt				
	Time 1		Time 2		
	Model 1	Model 2	Model 1	Model 2	Hypothesis
Gender	0.040 (0.813)	-0.001 (-0.029)	0.073 (1.496)	0.057 (1.181)	
Age	-0.026 (-0.520)	-0.006 (-0.118)	-0.064 (-1.294)	-0.061 (-1.248)	
Education2 - grad	-0.039 (-0.687)	-0.092 (-1.681)	0.048 (0.840)	0.017 (0.291)	
Education3 -post grad	-0.060 (-1.035)	-0.083 (-1.585)	-0.036 (-0.634)	-0.048 (-0.844)	
Work2 - managmt	-0.016 (-0.308)	0.012 (0.236)	0.006 (0.117)	0.014 (0.265)	
Work3 - Sen. managmt	0.029 (0.528)	0.034 (0.670)	0.044 (0.816)	0.033 (0.613)	
Self-control	-0.078 (-1.586)	-0.081 (-1.585)	-0.080 (-1.629)	-0.096 (-1.820)	
Moral ID	0.060 (1.142)	0.008 (0.157)	0.050 (0.963)	-0.005 (-0.097)	
Pre-MD	-0.223*** (-3.605)	-0.154* (-2.555)	-0.159** (-2.598)	-0.142* (-2.299)	
Mach		-0.014 (-0.254)		-0.032 (-0.555)	
Narc		0.035 (0.684)		0.016 (0.293)	
Psyc		-0.078 (-1.186)		-0.078 (-1.146)	
DT composite	-0.040 (-0.655)		-0.057 (-0.959)		
Post-MD total	-0.035 (-0.719)		-0.157*** (-3.287)		**H5b**
Post-MD diffusing		0.268*** (5.305)		0.071 (1.285)	**H5b**
Post-MD minimising		-0.354*** (-6.865)		-0.277*** (-4.952)	**H5b**
_cons B	4.775*** (6.045)	5.225*** (6.546)	5.040*** (6.109)	5.850*** (6.635)	
Number of obs	439	439	439	439	
R^2	0.080	0.186	0.095	0.128	
F (14, 425)		6.940 p<0.001		6.406 p<0.001	
F (11, 428)	3.370 p<0.001		4.061 p<0.001		

* p<0.05; ** p<0.01; *** p<0.001

Table 3.8 Regression results for DV= shame

	Dependent variable DV = Shame				
	Time 1		Time 2		
	Model 1	Model 2	Model 1	Model 2	Hypothesis
Gender	0.092 (1.868)	0.053 (1.109)	0.085 (1.736)	0.064 (1.326)	
Age	-0.015 (-0.306)	-0.001 (-0.016)	-0.059 (-1.170)	-0.059 (-1.208)	
Education2 - grad	0.067 (1.161)	0.012 (0.217)	0.107 (1.857)	0.064 (1.120)	
Education3 -post grad	0.086 (1.478)	0.055 (0.987)	0.090 (1.561)	0.066 (1.160)	
Work2 - managmt	-0.068 (-1.281)	-0.036 (-0.723)	-0.050 (-0.941)	-0.036 (-0.694)	
Work3 - Sen. managmt	-0.062 (-1.147)	-0.056 (-1.070)	-0.065 (-1.1195)	-0.078 (-1.457)	
Self-control	-0.147** (-2.962)	-0.143** (-2.755)	-0.132*** (-2.666)	-0.151** (-2.846)	
Moral ID	0.081 (1.532)	0.034 (0.655)	0.167** (3.185)	0.101 (1.867)	
Pre-MD	-0.124* (-2.000)	-0.074 (-1.206)	-0.013 (-0.207)	-0.003 (-0.051)	
Mach		0.087 (1.532)		0.066 (1.134)	
Narc		0.007 (0.144)		0.008 (0.142)	
Psyc		-0.094 (-1.418)		-0.129 (-1.890)	
DT composite	0.001 (0.001)		-0.026- (0.432)		
Post-MD total	0.089 (1.822)		0.074 (1.520)		**H5c**
Post-MD diffusing		0.324*** (6.342)		0.240*** (4.316)	**H5c**
Post-MD minimising		-0.263*** (-5.031)		-0.189*** (-3.357)	**H5c**
_cons B	3.620*** (5.316)	3.920*** (5.649)	2.637*** (3.706)	3.440*** (4.555)	
Number of obs	439	439	439	439	
R^2	0.071	0.165	0.074	0.120	
F (14, 425)		6.006 p<0.001		4.393 p<0.001	
F (11, 428)	2.995 p<0.001		3.092 p<0.001		

* p<0.05; ** p<0.01; *** p<0.001

H5c predicted that post-moral disengagement is positively associated with shame. From Table 3.8 we can see that this hypothesis is also partially supported, albeit there is some inconsistency in respect of the direction of association between PMD-diffusing responsibility (positive association at time 1 and time 2), and PMD-minimising actions (negative association at time 1 and time 2). This finding suggests that one type of post-moral disengagement (minimising actions) acts on shame much like it does on guilt by assuaging the negative emotion at both time 1 (β = -.263, p<.001) and at time 2 (β = -.189, p<.001), i.e., this result does not support H5c as the association is in the opposite direction to what we had expected. However, for the other measure of post-MD (diffusing responsibility) the findings support H5c as the association with shame is positive at both time 1 (β = .324, p<.001) and at time 2 (β = .240, p<.001).

In terms of making sense of the mixed results for post-moral disengagement between time 1 and time 2, we posit that as participants had become aware of the consequences of their actions at time 2, the scenario facing participants would have become more salient at that stage than it had at time 1, thus time 2 might be seen as a more robust timepoint in which to capture what is happening in the post-MD/negative emotion relationship. At time 2 both of the covariates PMD-minimising actions and PMD-total show significant *negative* associations with guilt as predicted. Consequently, we assessed H5d (which predicted that DT traits moderate the negative association between post-MD and guilt), using the data for time 2 and PMD-total as a covariate. The results of the moderation analyses are shown in Table 3.9a (Mach as moderator) and Table 3.9b (DT composite as moderator). Again, we found partial support for H5d: - both Mach and DT composite were shown as predicted to moderate (i.e., weaken) the negative relationship between post-moral disengagement and guilt. For Mach, the interaction post-MD*Mach was significant at the 1% level of significance (B=0.314, p=.006). This indicates that the negative relationship between post-MD and guilt was moderated by Mach traits. Fig 3.3a shows the interaction simple slopes curve of post-MD on guilt. As shown in Table 3.9a and Fig. 3.3a, the interaction was significant at very low (one standard deviation below the mean) and medium (mean) levels of Mach as the curve flattens, but was not significant at very high levels of Mach (one standard deviation above the mean).

Table 3.9a Moderation regression results for DV=guilt with post-MD moderated by Mach

DV = Guilt

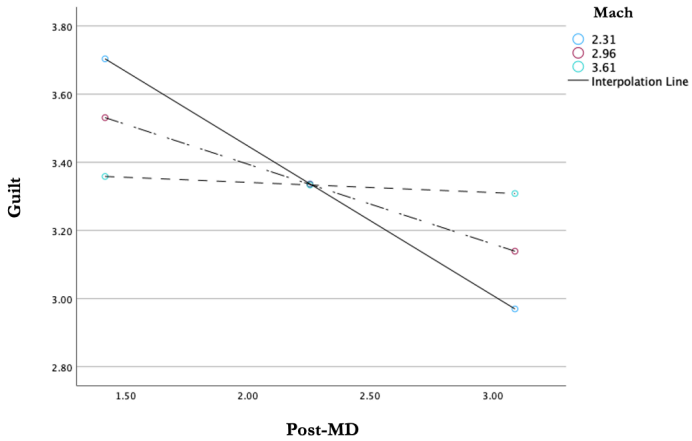
	B	SE	t	p	LLCI	ULCI
Post-MD	-1.163	0.339	-3.430	0.001	-1.829	-0.496
Mach	-0.710	0.264	-2.686	0.008	-1.230	-0.191
Post-MD*Mach interaction	0.314	0.113	2.768	0.006	0.091	0.537
Gender	0.155	0.121	1.286	0.199	-0.082	0.393
Age	-0.007	0.006	-1.244	0.214	-0.018	0.004
Education2 - grad	0.128	0.145	0.880	0.379	-0.157	0.413
Education3 - post grad	-0.092	0.163	-0.565	0.572	-0.412	0.228
Work2 - managmt	0.008	0.137	0.056	0.955	-0.262	0.278
Work3 – Sen. managmt	0.137	0.171	0.798	0.425	-0.200	0.473
Self-control	-0.192	0.099	-1.941	0.053	-0.386	0.002
Moral identity	0.067	0.124	0.544	0.587	-0.176	0.311
Pre-MD	-0.353	0.140	-2.516	0.012	-0.628	-0.772
Narc	0.059	0.107	0.546	0.586	-0.153	0.270
Psyc	-0.175	0.158	-1.109	0.268	-0.485	0.135
Constant	7.270	1.120	6.292	<0.001	5.069	9.471

Model summary	R^2	MSE	F	df1	df2	p
	0.1125	1.467	3.848	14	425	<0.001

Test of unconditional interaction	ΔR^2	F	df1	df2	p
Post-MD*Mach	0.016	7.661	1	425	0.059

Conditional effect of post-MD on guilt at values of Mach (moderator)	Mach	effect	SE	t	p	LLCI	ULCI
	2.307	-0.438	0.100	-4.371	<0.001	-0.635	-0.241
	2.957	-0.234	0.073	-3.230	0.001	-0.377	-0.092
	3.608	-0.030	0.107	-0.280	0.779	-0.239	0.179

Fig 3.3a Simple slopes graph showing how the relationship between post-MD and guilt is moderated by Mach



More specifically, a Johnson-Neyman analysis showed that the interaction remains significant at the 5% level up to Mach levels of 3.33 (which is relatively high given the mean M=2.96, and one standard deviation above the mean level = 3.61), and renders this result of interest to practitioners who must deal with such personalities in the workplace.

From Table 3.9b and the simple slopes diagram at Fig 3.3b, we see that using DT composite as the covariate measure of Dark Triad also yields a positive significant interaction for post-MD*DT at the 5% level of significance (B=0.402, *p*=.012), suggesting that DT composite moderates the negative post-MD/guilt relationship in the same way as does Mach, i.e., by weakening the relationship. The interaction was significant for very low levels of DT composite (-1 SD below mean), and at the mean level of DT composite, up to a measure of 2.80 (somewhat above the mean for DT composite M=2.47). These results suggest that for people with higher levels (but not necessarily very high levels) of

Mach traits and DT composite traits, there is no trade-off between post-MD and guilt (as there is for people lower in these traits), and as such guilt will be retained when these personalities engage in unethical behaviour. The implications of this finding are discussed in the next section.

Table 3.9b Moderation regression results for DV=guilt with post-MD moderated by Psyc

DV = Guilt

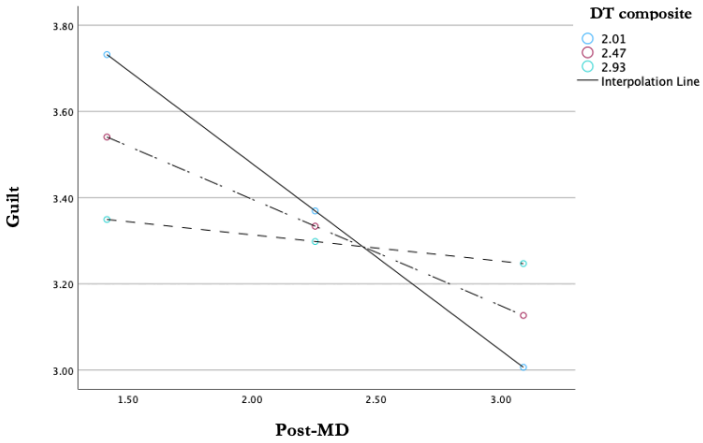
	B	SE	t	p	LLCI	ULCI
Post-MD	-1.241	0.404	-3.073	0.002	-2.035	-0.447
DT	-0.983	0.365	-2.691	0.007	-1.702	-0.265
Post-MD*DT interaction	0.402	0.159	2.526	0.012	0.089	0.715
Gender	0.178	0.120	1.487	0.138	-0.057	0.413
Age	-0.006	0.006	-1.093	0.275	-0.017	0.005
Education2 - grad	0.134	0.144	0.931	0.353	-0.149	0.417
Education3 - post grad	-0.093	0.161	-0.579	0.563	-0.410	0.223
Work2 - managmt	0.001	0.137	0.004	0.997	-0.269	0.270
Work3 – Sen. managmt	0.140	0.170	0.820	0.413	-0.195	0.475
Self-control	-0.145	0.090	-1.602	0.109	-0.322	0.033
Moral identity	0.118	0.119	0.991	0.322	-0.116	0.352
Pre-MD	-0.366	0.137	-2.672	0.008	-0.635	-0.097
Constant	7.018	1.134	6.189	<0.001	4.789	9.246

Model summary	R^2	MSE	F	df1	df2	p
	0.108	1.469	4.301	12	427	<0.001

Test of unconditional interaction	ΔR^2	F	df1	df2	p
Post-MD*DT	0.013	6.378	1	427	0.012

Conditional effect of post-MD on guilt at values of DT composite (moderator)	DT	effect	SE	t	p	LLCI	ULCI
	2.009	-0.433	0.106	-4.100	<0.001	-0.641	-0.226
	2.471	-0.247	0.072	-3.437	<0.001	-0.389	-0.106
	2.934	-0.061	0.100	-0.609	0.543	-0.258	0.136

Fig 3.3b Simple slopes graph showing how the relationship between post-MD and guilt is moderated by DT composite



3.5 Discussion

This study has looked at how an important cognitive mechanism that is closely linked to unethical behaviour (moral disengagement), may be impacted by personality, and specifically in respect of those people high in Dark Triad traits. This is a matter of importance to organisations because of the relative number of DT individuals who graduate to leadership positions, and the evidence from research which shows that DT people are associated with unethical and counterproductive work behaviour. However, to the best of our knowledge this is the first study of its kind to investigate these relationships.

An overarching driver for this study was to better understand the 'function' of moral disengagement prior to (pre-moral disengagement) and more importantly, in the period *following* an unethical act (post-moral disengagement), i.e., by building on the recent work of Tillman et al. (2018) and Ogunfowora et al. (2023) to assess how moral disengagement relates to resultant guilt and shame, and what this suggests triggers this cognitive mechanism. We also sought to understand how moral disengagement resembles, and is linked to, self-control - which some researchers also believe acts like a cognitive process – in terms of automaticity and limitability. We investigated these relationships by adapting the experimental design of Tillman et al. (2018), most notably in respect of the scenario script, the ordering sequence of measures post manipulation, adding measures key to our study including self-control and personality measures, and using a participant pool made up of experienced professionals expected to have relatively stable moral identities. Our results make several theoretical contributions to the extant literature and provide some important implications for managerial practice.

3.5.1 Theoretical Contributions

Our research advances moral disengagement theory, self-control theory, and our understanding of how personality relates to both constructs in respect of moral behaviour.

First, we contribute to the moral disengagement theory literature by demonstrating firstly that negative emotions guilt and shame are associated with unethical behaviour following a breach of moral code (findings which are consistent with prior studies), but more importantly that resultant guilt and shame relate differently to post-moral disengagement. More specifically, although we obtained some mixed results between time 1 (when the unethical act occurred) and time 2 (when consequences became apparent) in respect of how the two disaggregated components of post-moral disengagement related to guilt and shame, if we focus on time 2 (which we argue is when the reality of the moral situation is most salient), the aggregated measure of post-moral disengagement shows an interesting result that fits with theory in how it predicts resultant guilt and shame differently. We find that the aggregate measure of post-moral disengagement *negatively* predicts guilt, but has no relationship with shame. These findings suggest that guilt, but not shame, has a trade-off relationship with post-moral disengagement which may have implications on the functionality of moral disengagement, i.e., it helps assuage moral guilt and thereby acts as a regulatory response. Tillman and colleagues reported that their similar finding of a negative relationship between guilt and post-moral disengagement was in the opposite direction to what they had predicted, but we suggest that in concordance with Ogunfowora et al. (2023), the result can be explained by considering the process sequence of the underlying mechanism (and measurements), which involves unethical behaviour that instigates instantaneous negative emotions, which in turn cause post-moral disengagement to (partly) assuage these feelings, and so reduce measured resultant guilt Consequently, when we measure post-moral disengagement and resultant guilt we find a negative relationship. This result strongly suggests that in the immediate aftermath of an unethical act and instigation of the post-moral disengagement process, guilt is reduced. However, we cannot say anything about how long this effect lasts, or whether moral disengagement persists, and if it does whether the trade-off relationship between moral disengagement and guilt maintains, all of which are fertile areas for future research.

Second, we also contribute to the moral disengagement theory literature by showing that post-moral disengagement relates to guilt differently, depending on the specific *form* of post-moral disengagement. This is a novel result, and helps us to start to disaggregate the post-moral disengagement construct in respect of negative emotions. Pursuant to Bandura's (1986) theory, moral disengagement is an aggregation of eight cognitive mechanisms which progress sequentially. In our study we found that the post-moral disengagement factor which encompasses two of Bandura's MD mechanisms - moral justification and advantageous comparison (i.e, 'minimising actions and reconstructing actions', Tillman et al. 2018) showed a *negative* relationship with guilt, whereas the factor comprising two different MD mechanisms euphemistic labelling and displacement of responsibility (i.e., 'diffusing and displacing responsibility'), showed *no relation* with guilt. Our results suggest that MD mechanisms which involve cognitive mis-construal of reprehensible behaviour so as to make the actions appear morally justifiable (Detert et al., 2008) help assuage guilt, whereas those that seek to diminish someone's personal role and any harm caused do not. We speculate that this

finding may reflect a limit in the 'power' of moral disengagement as a cognitive panacea – vis-à-vis moral disengagement can readily help mitigate resultant guilt when the form of moral disengagement relates to minimising the act (i.e., it is less personally directed), but it has a tougher time 'fooling' the perpetrator (in terms of helping reduce resultant guilt) when it relates to personal responsibility, which is a hallmark of moral guilt (Kacmar et al., 2019). We suggest that future research could further examine the limits of moral disengagement to assuage guilt by considering measures based on the remaining four MD mechanisms of Bandura's (1986) theory not used by us in this experiment.

Third, we further contribute to the moral disengagement theory literature and the personality theory literature through our novel finding that following unethical behaviour, the subsequent trade-off between post-moral disengagement and guilt is lessened for low-medium level Machs and Psycs, and is eliminated entirely for high Machs and Psycs. This suggests that people high in Mach and Psyc traits are not motivated to engage in post-moral disengagement by any resultant relief in resultant guilt, i.e. as a regulatory response. In this case something else must drive post-moral disengagement behaviour in high Machs and Psycs. Bandura (1996) showed that people seek consistency in their moral behaviour. We speculate that our finding could be explained by Machs and Psycs having a strong desire for consistency with their pre-moral disengaging selves, something which we feel is plausible given their high sense of self (Paulhus & Williams, 2002), for which a need for self-consistency reflects a cognitive response (Swann et al., 1987), as does moral disengagement in response to unethicality. Future research could examine the drivers of post-moral disengagement in Dark Triad people and isolate the importance of consistency in moral action for such personalities, in comparison to other domains of decision-making such as co-operation and reciprocity which are also of high importance in the workplace.

Fourth, we contribute to the moral disengagement and personality literatures by investigating how people high in DT traits relate to pre- and post-moral disengagement. This is important because of the association that each of pre-moral disengagement and DT personality separately has to unethical behaviour. Extant research is sparse in this area and has primarily examined the association of DT personality and its proclivity to pre-moral disengage. Our findings strongly corroborate such findings for each sub-component of the triad, but most strongly for the 'malicious two' Mach and Psyc (notwithstanding the unusually low bivariate Mach/Psyc correlation result of r =.40 obtained for the control group, which we believe may be an anomaly for which a replication study could readily determine). We extend prior research by showing that controlling for DT personality, moral identity is positively predictive of propensity to morally disengage, but self-control is not which speaks to the valency of moral identity above and beyond dark personality, and the dominance of these personality traits over self-control in respect of pre-moral disengagement. We speculate that this finding suggests that pre-moral disengagement is trait-like for people high in DT traits, and therefore such personalities are likely to automatically respond to moral situations by pre-morally disengaging, for which restraints linked to self-control will be diminished. More positively, our result that moral identity has a moderating effect on pre-moral disengagement for Machs and Psycs is novel and suggests that moral identity could be a legitimate target of development for these personality types. Another important result relates to our finding that the Dark Triad are positively associated with post-moral disengagement - albeit to a lesser extent than for pre-moral disengagement - which suggests that post-unethical behaviour rationalisation is of relatively lesser importance to DT personalities than is the initial pre-action moral sanction. We believe that relative use of pre- and post-moral disengagement by the DT (and other personality types) is another area that is ripe for further research as it will shed light on the importance of the 'downstream' moral disengagement mechanisms making up the latter half of Bandura's (1986) eight mechanisms which mostly deal with post-act rationalisation and dealing with consequences. This would be highly informative for practitioners in terms of helping them to understand the extent to which post-moral disengagement is inevitable following pre-moral disengagement, and better equipping them to diagnose existing ethical problems in the workplace which prolonged post-moral disengagement may obscure.

3.5.2 Implications for Practice

Our research has important implications for managerial practice. We have demonstrated the close association that exists between unethical actions and both pre- and post-moral disengagement. Prior research has primarily dealt with the former, but our results show that Bandura's (1986) theory must also be considered relevant to the period immediately following unethical activity, and perhaps over longer periods.

First, management should prioritise reducing pre-moral disengagement (or propensity to morally disengage). This would be the optimal remedy as it would limit ethical problems before they are actualised. Our findings suggest that in respect of people high in DT traits, managers might look to target moral identity as this acts to reduce pre-moral disengagement in low-medium Machs, and in high Psycs. As indicated in the section on limitations, this particular finding represents a correlational relationship rather than one derived from manipulation and causation, and consequently we suggest that it should be replicated and confirmed through an RCT study before being acted upon

by managers. Indeed, this correlational result is no panacea, as research is inconsistent on the extent to which moral identity is malleable in adults (Krettenauer & Hertz, 2015), and we suspect that finding Machs and Narcs with mid-high level moral identity would be a challenge. Firm-wide awareness training would be needed centred on explaining what moral disengagement is, who is prone to it and in what situations, and the attendant risks in terms of resultant guilt and shame. Moreover, staff would need to see a consistent and continuous message from the top that the organisation values an ethical culture as part of its values, with appropriate behaviour visibly rewarded.

Second, to tackle post-moral disengagement in high DT people, our results suggest that managers should look to emphasise the well-being risk to staff that is attached to acting unethically and then subconsciously seeking respite by post-morally disengaging. This would involve management explaining the consequences of resultant negative emotions guilt and shame, particularly if these persist over time, and making clear to staff that post-moral disengagement only partially insinuates them in the immediate period following some unethical act (although it may endure much beyond this). Further, it should be communicated that for high Mach and Psyc personalities the relative harm from guilt is more acute given our finding that when they act unethically they get no trade-off in reduced guilt by morally disengaging. Management should also emphasise that other negative consequences related to guilt could materialise as others have pointed out, such as reduced performance and emotional exhaustion (Ogunfowora et al., 2023), which could further erode well-being and competitive standing in the workplace.

Third, organisations could further target guilt by having robust investigative procedures and controls in place which are well funded and publicised, conveying a clear message that whilst the firm values and trusts staff, it necessarily has resilient controls in place. Moreover, the message should be that however smart staff think they are, the bulk of unethical activity is discovered and perpetrators punished, both by the firm and in terms of criminal sanction. In this way, the salience of corporate policies and messaging will serve to reduce both pre- and post-moral disengagement, and in respect of the latter may encourage culpable staff to 'come clean' to reduce the personal guilt burden, or more realistically at least refrain from repeating the behaviour.

Fourth, senior management should look to instil the right type of leadership and management in the organisation which will be the 'carrot' to augment the 'stick' of enhanced investigative policies and procedures referred to above. A great deal of research has been undertaken in recent years on the importance of ethical leadership (Brown & Trevino, 2006). In sum, ethical leadership can transform the culture of an organisation and set the tone of what is expected on a day-to-day basis. An effective ethical leader could make the risks of moral disengagement salient and greatly impact its inhibition by creating the right environment and promoting role-model behaviour. The tone at the top – i.e., at board level - would also need to be right. Finally, an organisation's human capital recruitment function should build-in policies for assessing trait moral disengagement, moral identity and personality measures (including the Dark Triad) so that management has a good understanding of its new recruits, can design bespoke ethics training, and can better match personalities to positions that involve higher moral risks.

3.5.3 Limitations and Directions for Future Research

Our findings need to be qualified by several limitations which present opportunities for future research.

First, this chapter comprises an RCT study which we undertook with the intention of gaining causal evidence. However, some of our regression findings rely on correlational results which did not involve manipulation of the predictor variable – e.g. the observed association between moral identity and pre-moral disengagement for people high in DT traits – in which case it should be acknowledged that until such time our results are replicated and confirmed in RCTs, the relevance for management practice must necessarily be seen to be less than for those results that are based on causal evidence.

Second, and as pointed out by Tillman et al. (2018) who designed the original experiment we adapted for this paper, our findings on pre- and post-moral disengagement are based on a scenario in which respondents were assigned a role of ethical/unethical behaviour, rather than them actually undertaking either action. We acknowledge that this is an important limitation as it could affect the intensity of internalisation of the moral situations and therefore the relationships between subsequent post-moral disengagement and resultant negative emotions. However, we suggest that this risk is partially mitigated given the manipulation test results which showed that respondents in the different groups had understood the scenario and taken it seriously. That said, we recommend that follow-on studies should look to design experiments in which respondents have a choice of whether to act unethically or not so that there is agency and full ownership of action taken. This could involve a scenario where respondents are initially placed in small groups in which there is some level of personal/team attachment, whereby anyone acting unethically necessarily harms the group which will better simulate real-world team working and enable moral guilt and shame to be borne. In this

way we believe that it will be possible to demonstrate the robustness of the relationships shown herein between post-moral disengagement and resulting guilt and shame.

Third, we undertook an on-line experiment using random assignment and a manipulation that has been validated in previous research which provided robust and consistent evidence that unethical (assigned) behaviour led to post-moral disengagement and heightened levels of resultant guilt and shame. Future research could benefit from using a different methodological approach, for example a laboratory study which could similarly utilise random assignment but also introduce the element of team association as well as agency in the ethical decision as indicated in the previous paragraph. Another possibility would be to conduct a field study within an organisation so as to properly represent the realities of the workplace.

Fourth, our experimental findings involve a post-moral disengagement cognitive process that necessarily unfolds over a very short (almost instantaneous) period of time - involving the unethical act which causes negative moral emotions, which influence a person to post-morally disengage (measured), following which resultant negative emotions occur (measured). Consequently, this experimental design says nothings about the durability of the resultant guilt and shame. Nor does it provide any clue as to how time affects a person's readiness to post-morally disengage at a later stage, (once someone has had time to process and ruminate on their behaviour), or how resultant guilt and shame relate at that point in time (be it minutes, hours or days later), something that would be of great value to theoreticians of moral disengagement and practitioners alike. We encourage researchers to consider future experimental designs that incorporate delayed measures of these key constructs to better reflect how such situations typically play out in the workplace – e.g., a salient and intense unethical activity is typically followed by a prolonged period of dormancy which sometimes ends with an intense discovery period much later down the line.

Lastly, in our experiment the two measures of post-moral disengagement were based on four of Bandura's (1986) eight cognitive processes that make up the moral disengagement construct. Future research could create moral disengagement factors based on the other four mechanisms and investigate how these relate to guilt and shame, which will inform moral disengagement theory and provide practitioners with additional insights for identifying actual moral disengagement behaviours in the workplace.

3.6 Conclusion

This study demonstrates that moral disengagement is a complex cognitive mechanism. Early experimental work investigated Bandura's (1986) theory of moral disengagement by focussing on moral cognition *preceding* an unethical act – i.e., 'propensity to morally disengage' or 'pre-moral disengagement'. With this study and recent work by Tillman et al. (2018) and Ogunfowora et al. (2023) we are starting to learn more about moral disengagement *following* unethical activity – i.e., 'post-moral disengagement', and importantly its relationship with aversive personality and with resultant guilt and shame. Our results show that the Dark Triad are strongly positively associated with pre-moral disengagement, and positively relate to post-moral disengagement (but to a lesser extent). In addition, for non-DT people the aggregate measure of post-moral disengagement was shown to have a negative association with guilt, but no association with shame. These findings suggest that guilt, but not shame, has a trade-off relationship with moral disengagement which may suggest moral disengagement plays a regulatory response role to assuage guilt. For people high in DT traits, the trade-off with guilt is not seen which implies that for this personality type something else drives their tendency to post-morally disengage, which we speculate may be the need to retain consistency with their pre-moral disengagement selves. Our findings enable us to set out several areas of theory and management practice for which our results provide implications, and detail areas for fruitful further research.

Chapter 4

Is boredom an underlying mechanism underpinning unethical behaviour in Dark Triad individuals? (Paper 3)

4.1 Introduction

The modern world seems to be awash with all manner of forms of readily available entertainment, news and information, yet the experience of boredom is a common problem across a variety of cultures (Bench & Lench, 2019). Indeed, one recent study found that almost two thirds of participants experienced boredom at least once across a 10-day period (Chin et al., 2017), and other studies have reported as many as 91% of respondents claiming to have suffered from boredom (Eastwood et al., 2012). Because of boredom's ubiquity, many consider it a trivial matter that can be overcome by simply doing something of interest (Eastwood et al., 2007). This perhaps explains why boredom has until recently escaped sustained academic research, notwithstanding the fact that boredom is associated with a range of detrimental psychological and physical outcomes including aggression, depression, risk-taking and impulsiveness, to list just a few (Van Tilburg et al., 2019; Eastwood et al., 2012; Van Tilburg & Igou, 2012). The world of work is not immune – far from it - boredom has been shown to correlate with a number of adverse outcomes in the workplace including counterproductive work behaviour (CWB) (Bruursema et al., 2011) and decreased job satisfaction (Kass et al., 2001). The situation has changed substantially over the last 15 years or so, as boredom has attracted heightened interest from behavioural scientists, medics and other social scientists (Van Tilburg & Igou, 2017a), with important advances made in our empirical and theoretical understanding of what boredom is, its characteristics, and its functional purpose.

Over the corresponding period the fields of organisational behaviour, behavioural science and personality research have seen sustained interest in moral and ethical behaviour in the workplace (Trevino et al., 2006), a time interval which has coincided with a number of major corporate financial and ethical scandals associated with the likes of Bernie Madoff, Theranos, Wirecard and FTX. Given the risks and financial sums involved, researchers and practitioners alike have sought to better understand the situational and contextual antecedents of unethical behaviour, and the types of people who succumb. Paulhus & Williams (2002) introduced the term 'Dark Triad' (DT) to refer to the constellation of three distinct personality traits -Machiavellianism, narcissism, and psychopathy – each of which is associated with low self-control, high impulsivity and negative outcomes in the workplace including CWB (Paulhus, 2014; Harms et al., 2011). Ominously, people high in DT traits make up perhaps 15% of the population, and the bulk of leadership positions in organisations (Gustafson & Ritzer, 1995; Furtner et al., 2017).

However, despite the known association between boredom and impulsiveness (Moynihan et al., 2017), and the call from Elpidorou (2017) and others to assess the relationship between boredom and morality, this potential linkage remains substantially unexamined. Moreover, there have been very few studies that have looked at possible associations between boredom and Dark Triad individuals, a situation we find surprising for a couple of reasons. First, Oprea et al. (2019) argued that DT traits could represent important individual differences in understanding boredom at work. For example, Machiavellians are prone to avoid and delegate burdensome job demands to get ahead (which could stifle the mental and emotional intensity of their work and result in increased boredom due to lack of stimulation); and psychopaths are prone to cutting corners at work (which, together with their need for a 'fast life' (Jones, 2014), could render psychopaths overly prone to boredom in the workplace (Jonason & O'Conner, 2017). Second, we note that in a study which applied an ego depletion manipulation, Job et al. (2010) conjectured that in one condition participants may have become depleted not through ego depletion, but through boredom, which they speculated may have had a similar effect to ego depletion, a possibility the researchers called to be tested and replicated in future research on boredom.

Taken together, we consider that the association of boredom, DT personality traits, and ethical behaviour represents an important identified research gap which will provide an opportunity to obtain results that could contribute to personality research, boredom theory and moral psychology literatures, and which may be of high relevance to management practitioners. We are concerned to understand whether boredom might explain the association of Dark Triad individuals with negative behaviours in the workplace – both in terms of awareness of moral issues and actual actions - which if true could be rectified relatively easily. Consequently, this study addresses the specific research question: *"Is boredom an underlying mechanism underpinning moral awareness and unethical behaviour in Dark Triad individuals?"*.

In the present research we conduct two on-line RCTs and apply a boredom manipulation to assess moral awareness as the outcome variable in Study 1, and subsequently we measure unethical behaviour as the outcome variable (in the form of cheating behaviour) in Study 2. The participant group comprises experienced working professionals of all personality types, but our focus is on DT personality traits which we measure pre-manipulation. For ease of reference, henceforth in this paper, we use the terms "Mach" or "Machs" to refer interchangeably to the trait of Machiavellianism or to a person or persons with Machiavellian traits, and similarly we use the terms "Narc(s)" and "Psyc(s)" in the same vein.

The rest of this paper is set out as follows; Section 4.2 discusses the main theoretical perspectives underpinning this study and develops the hypotheses to be tested; Sections 4.3 and 4.4. describe the method and results from the two

studies; Section 4.5 presents a discussion of our findings, implications for theory and practice, and limitations; and Section 4.6 concludes.

4.2 Theory and hypothesis development

We address the above research question by developing hypotheses based on a short review of current knowledge. First, we outline what is known about boredom. We then introduce the target personality type - the Dark Triad - and outline what is known about its association with boredom, and moral awareness and moral behaviour. Lurking behind the research question the present study seeks to address, is the role that self-restraint related traits may play in the relationship between boredom, the Dark Triad and moral decision-making – i.e. self-control and moral identity, as these are to some extent malleable. Consequently, we next summarise relevant present knowledge on these two constructs, and round off the theoretical rationale by summarising the relevance of negative moral emotions (guilt and shame) to ethical behaviour involving the Dark Triad, as these can also provide a line of attack for management to curb errant behaviour at work. With this context we then construct nine hypotheses which form the basis of our two experiments.

4.2.1 Theoretical rationale

Boredom

It is instructive to first define boredom. Indeed Vodanovich (2003) complained that progress in the field had been impeded by the absence of a succinct and generally agreed upon definition of boredom. More recently LePera (2011) argued that although definitions have minor differences, most refer to two critical concepts: (i) some form of situational/ environmental *monotony*, and (ii) some level of *constraint*. Both components are captured in the Mikulas & Vodanovich (1993) definition: - "*a state of dissatisfaction resulting from a combination of uninteresting environment and attentional constraint*" and in the Eastwood et al. (2012) definition "*the aversive experience of wanting, but being unable, to engage in satisfying activity*". In keeping with most modern scholars (e.g., Chan et al., 2018), in this study we will adopt the Eastwood et al. (2012) definition. In so doing, we believe that in order to have a more complete appreciation of the phenomena of boredom, it is important to augment the definition by setting out an outline of:- (i) what characterises boredom and specifically distinguishes it from other similar but different sensations (Moynihan et al., 2021); (ii) the differences between trait and state boredom; (iii) the consequences of boredom; and (iv) the different theoretical perspectives underlying the purpose of boredom (Eastwood et al., 2012). We will briefly outline what is known for each of these in turn.

Recent studies have specified that boredom is a negative emotion (Van Tilburg & Igou, 2016). Boredom is characterised by low arousal and an inability to focus (Moynihan et al., 2021), consequently people experiencing boredom feel that their situation is uninteresting, inadequately stimulating or challenging, and effectively devoid of any purpose (Van Tilburg & Igou, 2016). So is boredom just another negative emotion? This question was recently addressed in a comparative study involving various other adverse emotions, namely: - sadness, anger, frustration, fear, disgust, depression, guilt, shame, regret, and disappointment (Van Tilburg & Igou, 2017a). The study found boredom to be clearly distinguishable from other emotions in terms of concept, state experiences, and individual differences, with boredom scoring mildly in terms of negative valence and marked by a distinct lack of meaning in the present situation.

Since the 1970s researchers have known that that susceptibility to boredom (or boredom proneness) is a personality trait that varies greatly between individuals (Sundberg & Bisno, 1983). Most research has focused on boredom propensity (and its correlates) rather than state boredom. High boredom proneness correlates with (i) higher frequency of boredom; (ii) greater intensity of boredom when bored; and (iii) a higher perception that life is boring (Tam et al., 2021). The most widely used measure is the Boredom Proneness Scale (BPS, Farmer & Sundberg, 1986). BPS is a self-reported measure and is therefore intrinsically subjective, but it has been shown to be broadly robust (LePera, 2011), albeit recently there has been some debate amongst scholars about the theoretical characterization of the construct and criticism over its measurement (Tam et al., 2021; Struk et al., 2017).

So, what is known about state boredom? The bulk of studies on state boredom have looked at its consequences, with only a handful focusing on its measurement as a construct (Chin et al., 2017). State boredom is a variable that captures the intensity of boredom felt, which studies show is independent of trait boredom (Koert-Baker, 2016). Boredom research continues to rely heavily on subjective self-report measures of how bored a person is feeling in the moment, whereas more objective measures based on observation (e.g., slouching, doodling, or fidgeting), and physiological reactivity (e.g., skin conductance levels) would greatly add to our ability to measure state boredom (Eastwood et al.,

2012). Recent findings show that state boredom is particularly characterised by perceptions of meaninglessness (Chan et al., 2018). Several studies have found correlations between boredom propensity (and in some cases state boredom), and negative outcomes involving social, emotional and psychological problems (e.g. LePera, 2011). These include: - lower academic achievement (Caldwell & Smith, 2006); increased depression, neuroticism, and anxiety (Gordon et al., 1997); increased use of alcohol or drugs (Paulson et al., 1990); higher gambling (Blaszczynski et al., 1990); increased aggression and hostility (Rupp & Vodanovich, 1997); enhanced impulsivity (Watt & Vadanovich, 1992); higher impatience and sensation seeking (Kass & Vadanovich, 1990); higher levels of self-reflectivity (Seib &Vadanovich, 1998); decreased job satisfaction (Kass et al., 2001); feelings of hopelessness and loneliness (Farmer & Sundberg, 1986); and more extreme political orientation (Van Tilburg & Igou, 2017b). In short, boredom tends to have an adverse impact on well-being (Tam et al., 2021).

There is as yet no "unified theory" of boredom. Rather, in broad terms boredom theory has developed by looking at different mechanisms that give rise to boredom, and in relation to possible explanations of the functionality of boredom (Eastwood et al., 2012; Chin et al., 2017). The first mechanism we consider draws from psychoanalytic theory. This suggests that boredom arises when an individual searches for, but is unable to obtain mental engagement, and indeed is incapable of articulating their desires regarding engagement (Mercer-Lynn et al., 2014). As a result, a person who is bored looks to the world for activity, but as they do not know what it is they are looking for, they fail to find it (Eastwood et al., 2012; Fenichel, 1953). A second related mechanism derives from a cognitive theory of boredom which considers how a bored individual perceives the environment they are situated in, i.e., as "uninteresting" (Fisher, 1993) or even "monotonous" (Hill & Perkins, 1985), causing the person to become disengaged and suffer from an inability to concentrate (e.g., Eastwood et al., 2012; Fisher 1993). Within this theoretical perspective, attention deficit has been identified as a causal factor for boredom proneness (Harris, 2000). Most cognitive models consider boredom to be an aversive state that arises because a person tries to allocate attentional resources to a situation which is no longer interesting, intentions that are in conflict with the natural tendency of the mind to reduce and remove attention (LePera, 2011). Thus, additional effort is required "to plug the attention gap" (Eastwood et al., 2012). However, if attention can be cultivated, for example through applying mindfulness, then boredom proneness can reduce (Trunell et al., 1996). A third mechanism comes from existential theory and considers boredom to be an existential impetus arising in situations where there is a lack of meaning in the bored person, resulting in a sense of emptiness and apathy, plus an absence of emotion (Chin et al., 2017; Eastwood et al., 2012). A bored person will therefore seek to pursue a more meaningful activity. Alternatively, boredom can lead to avoidance strategies. Pursuant to the existential escape hypothesis (Wisman, 2006), feelings of meaninglessness inherent in state boredom are manifest in an individual's sense of self-awareness, causing the afflicted person to undermine their self-awareness through destructive escape activities associated with the likes of consumption, impulsivity, and conformity (Moynihan et al., 2021). Lastly, boredom can be perceived as being physiological in nature, caused by a mismatch between the level of arousal needed by an individual, and that provided by the environment (de Chenne, 1988; Chin et al., 2017).

Finally, what does theory tell us about the possible function or purpose of boredom? Two overarching explanations have been put forward, both of which suggest a self-regulatory functionality. First, that boredom motivates us (either directly, or through avoidance), to look for a suitable challenge, meaning, novelty or fun (Moynihan et al., 2021; Chan et al., 2018; Van Tilburg & Igou, 2012; Bench & Lench, 2013); and second that boredom helps us to economise on cognitive processing, a scarce resource (Chin et al., 2017).

Boredom and the Dark Triad – how does this combo relate to morale awareness and cheating?

We are primarily interested in the Dark Triad cluster of personalities because of their prevalence in leadership and management in organisations (Furtner et al., 2017) – i.e., DT individuals wield power and influence and are involved in key decision-making in the workplace. The moniker 'dark' is apt, as research has shown these personalities exhibit a host of unsavoury and exploitative behaviours (Szabo et al., 2018). Machs are distrusting, manipulative, and self-centred (LeBreton et al., 2018; Szabo et al., 2018; Hare & Neumann, 2008). Narcs are entitled and egotistical yet are fragile and have low self-esteem (Harrison et al., 2018). The most toxic of the triad are Psycs who are known for lying, irresponsibility and criminality (Williams et al., 2007). Perhaps not surprisingly, people high in DT traits are associated with problems in the work environment including CWB (Harms et al., 2011) and unethicality (Harrison et al., 2018; Templer, 2018; O'Boyle et al, 2012).

In short, we could not find any previous study that has looked at how boredom relates to moral awareness which is defined by Rest (1986) as the "*interpretive process through which an individual recognizes that a moral problem exists in a situation or that a moral standard or principle is relevant to some set of circumstances*". Moreover, Rest (1986) considers moral awareness as the critical initial step a multi-stage ethical decision-making process. Recognising ethical issues, and reasoning through moral dilemmas both require cognitive resources (e.g., Bazerman et al., 2011). Some researchers consider that boredom may 'work' in a similar way to ego depletion, for example Job et al. (2010). A study by Gino et al., (2011)

found that resource depleted people showed reduced levels of moral awareness. The limited work that has considered the link between boredom and moral decision-making has provided inconsistent findings, albeit a very recent study by Feng et al. (2022) found that boredom positively influenced cheating, mediated (attenuated) by self-efficacy. The 2011 study by Gino and colleagues found that resource depletion also positively predicted cheating due to people who were depleted of their self-control resources being effectively robbed of the crucial executive resources necessary to identify moral situations and act in line with their moral beliefs.

Similarly, there is a dearth of findings on how the Dark Triad relate to boredom – indeed we were only able to locate one study that has considered this association (Yang et al., 2022), which found that state boredom influenced Dark Triad people (measured as a composite construct) to experience negative outcomes (i.e., depression, anxiety, and stress). This may result from impaired regulatory self-control affecting Dark Triad people related to the state of boredom, and the association with negative outcomes perhaps give us a hint of how the DT might be influenced by boredom in respect of the negative outcomes of concern to us, i.e. impaired moral awareness and unethical behaviour.

The relevance of self-control, moral identity, and negative moral emotions

Self-control

We have touched on research on boredom research which suggests that traits related to self-control (or self-efficacy) may be important for combating or facilitating how boredom may influence someone, including people high in DT traits. Self-control is defined by De Ridder et al. (2012, p.77) as "*the capacity to alter or override dominant response tendencies, and to regulate behaviour, thoughts and emotions*". Life without self-control would not be pleasant and would involve automatic, habitual, or innate behaviours (Muraven et al., 2007).

Two broad types of explanation have been suggested to conceptualise self-control (Arber, 2017; Inzlicht & Berkman, 2015; Dang et al, 2017). One line of reasoning believes that self-control is a function of *cognitive capacity*, a resource that is solely under the control of the individual. The alternate view is that self-control relates to *shifts in motivation / attitudes,* which are affected by context and the prevailing situation. In recent years a number of researchers have characterised the motivational shift model of self-control as a finite resource akin to a muscle (i.e. the so-called 'strength' model of self-control (Baumeister et al., 1994)). Moral disengagement, which is the subject of study in Paper 2 of this thesis, involves deliberate deactivation of self-regulatory processes (Bandura, 1999), suggesting a cognitive explanation for self-control. Conversely, several studies of ego depletion (e.g. Gino et al., 2011) have found that this mechanism acts to override or deplete self-control inhibitors, leaving someone vulnerable to the temptations of short-term gains associated with unethical behaviour – i.e., for motivational reasons (Baumeister & Heatherton, 1996) and thereby suggestive of a motivational shift explanation for self-control.

We can theorise how self-control relates to Dark Triad personality by applying evolutionary life history. This theory suggests that cognitive systems will co-occur with life strategies and specifically a 'fast life strategy' - a feature of Dark Triad people - is likely to manifest both in personality traits and in limited self-control, each of which facilitates (or does not impede) short-term opportunistic focus which is characteristic of this life strategy (Figuerdo & Jacobs, 2011). Consequently, evolutionary life history theory suggests that Dark Triad individuals are likely to have limited self-control (Jonason & Tost, 2010). From the few empirical studies undertaken, findings have been somewhat inconsistent, however self-control has indeed been shown to be an important aspect of Dark Triad personality (Jonason & Tost, 2010; Jones et al., 2011; Lyons & Rice, 2014). Jonason & Tost (2014) report that Dark Triad individuals (particularly Machs and Psycs) are associated with limited levels of self-control, high rates of attention deficit, and a tendency not to consider future consequences of their actions. Conversely Paulhus (2014) found that Machs have the *highest* level of self-control amongst Dark Triad individuals, a result which echoes those of Jones & Paulhus (2011) on impulsivity, and Lyons & Rice (2014) on procrastination amongst the Dark Triad: - both studies suggest that low trait self-control is an important influence on how Narcs and Psycs (but not Machs) behave.

Clearly further work is needed to untangle the inconsistencies reported in the relative levels of trait self-control amongst the Dark Triad (particularly in relation to Machs), and how trait and state self-control interact when self-control related mechanisms are induced.

Moral identity

Moral identity is an important aspect of self-concept and individuality (Xu et al, 2023). Aquino & Reed (2002, p.142) define moral identity as "*a self-conception organized around a set of moral traits*". It is a construct that acts as a self-regulatory mechanism which motivates moral actions (Hardy & Carlo, 2011). Consequently, moral identity can be thought of as part of a person's self-control inhibition toolkit. Indeed, people who claim that moral identity is very important to them (i) are characterised by relatively high moral self-regulation (Gino et al., 2011); and (ii) strive harder to act consistent with their internal moral compass (Aquino & Reed, 2002). Research has shown that people with a strong

sense of moral identity tend to get involved relatively less in unethical behaviour (Lefebvre & Krettenauer, 2019). Not unsurprisingly given their association with amoral behaviour as mentioned above, Dark Triad people are negatively associated with moral identity (Maffly-Kipp et al., 2023). Researchers have explained the positive influence of moral identity on ethical behaviour by suggesting that a high moral identity manifests in strong internalised moral standards which insulate the individual from needing to expend cognitive resources when confronting an ethical situation – rather, for such individuals the ethical issues are identified 'automatically', and thus self-control is not required (Gino et al., 2011). This argument would suggest that Dark Triad people, who are associated with low moral identity, would therefore need to rely on their (admittedly low) levels of self-control to resist a tempting unethical opportunity, a situation made worse in the event that boredom serves to help people economise on effortful cognitive processing (Chin et al., 2017).

Negative moral emotions – guilt and shame

Guilt and shame are important consequences of amoral behaviour which motivate people to act in line with societal or group norms to avoid such negative emotions (De Hooge, 2014). Consequently, given our primary research question and interest in moral awareness and ethical decision-making outcomes, it is important to be cognizant of differences between these emotions, and how each might relate to Dark Triad individuals.

Guilt and shame are closely related. Indeed, they are strongly correlated, are typically experienced at the same time, and represent different emotional responses to self-criticism (Eisenberg, 2000; Miceli & Castelfranchi, 2018). Both emotions result as part of the self-regulatory process associated with the violation of an individual's moral standards (Tillman et al., 2018), and do two things: - (i) they inform the environment about the success or otherwise of a person's goals, and (ii) they motivate an individual to change the current situation by initiating suitable goal setting (Miceli & Castelfranchi, 2018). Guilt is linked to personal responsibility (Kacmar et al., 2019), and implies the power and willingness to harm. Shame does not involve a sense of personal responsibility - rather it is a response to the perceived discrepancy between an individual's actual and sense of ideal self, implying perceived powerlessness to meet desired ideal-self standards and self-worth concerns (Miceli & Castelfranchi, 2018). In short, guilt arises when a person feels they have done a 'bad thing', whereas shame arises when an individual senses they have been, or are, a 'bad person'.

These differences lead to different motivational outcomes. Guilt results in restorative or self-punishment actions, whereas shame leads to retreat or actions related to self-identity enhancement (Miceli & Castelfranchi, 2018). Guilt is more transient an emotion than is shame, which may make it more relevant to the type of low-risk, low-reward opportunity for unethical behavior that we apply in the present study. Based on the above, we might expect low-DT people who cheat after being manipulated with boredom to be positively associated with guilt, but to show no association with shame on the basis that the context of the cheating opportunity – low risk/reward - may not pose a sufficiently strong sense of moral violation for shame to kick-in.

There is limited research on how Dark Triad individuals relate to negative emotions. Giammarco & Vernon (2015) did not look specifically at moral-related guilt, however they reported that only Narcs exhibited a negative association with overall guilt (whereas Machs and Psycs were negatively correlated with some forms of guilt, and positively associated with others). Two forms of guilt that highlight differences amongst the Dark Triad relate to survivor guilt and self-hate guilt. The Giammarco & Vernon study showed that Narcs were strongly negatively associated with survivor guilt (which can be explained by the Narc sense of superiority and consequent lack of guilt for such beliefs), and similarly only Narcs were found to be negatively associated with self-hate guilt (whereas Machs and Psycs both showed positive associations with self-hate guilt). The researchers rationalized these findings for Machs and Psycs as being due to feelings amongst these personality groups of not deserving other people's respect and indeed deserving the adverse happenings they encountered. These results confirm guilt to be a complex and multi-dimensional construct (Giammarco & Vernon, 2015).

4.2.2 Hypotheses

Dark Triad and boredom propensity (H1)

The literature overviewed above indicates that self-control capacity (or lack thereof) is an important aspect of intrinsic Dark Triad personality (Jonason & Tost, 2010; Jones et al., 2011; Lyons & Rice, 2014). Moreover, impulsivity is a trait common to Narcs and Psycs (Jones & Paulhus, 2011), as well as being closing associated with boredom (Moynihan et al., 2017). Consequently, we hypothesis that each of the DT sub-components is positively associated with boredom proneness:

H1a *Mach is positively associated with boredom propensity.*
H1b *Narc is positively associated with boredom propensity.*
H1c *Psyc is positively associated with boredom propensity.*

Boredom and moral awareness (H2)
From earlier we saw that one theory of the function of boredom is that it helps us to economise on cognitive processing which is a scarce resource and requires effort (Chin et al., 2017). We suggest that moral situations are often challenging and require cognitive effort to think through. Therefore, a person who is already bored and 'tuned out' will find it harder to re-engage cognitively when faced with a moral situation than would a non-bored person. Thus:

H2 *Boredom negatively influences moral awareness.*

Self-control and moral identity associated with moral awareness (H3)
Moral awareness involves recognition of ethical issues and reasoning through moral dilemmas which requires cognitive effort (Bazerman et al., 2011). A person with heightened self-control will be better equipped to sustain such effort. Moreover, an individual with a high moral identity will find it easier to identify the moral issues in a situation, as morality is an important trait in their identity. Consequently, we hypothesis that both constructs will be positively associated with moral awareness:

H3a *Self-control is positively associated with moral awareness.*
H3b *Moral identity is positively associated with moral awareness.*

Dark Triad and moral awareness (H4)
From above we saw that within the DT Machs and Psycs are grouped together as the 'malicious two' (Rauthmann & Kolar, 2012) on account of their lack of morality. Therefore we posit:

H4a *Mach is negatively associated with moral awareness.*
H4b *Psyc is negatively associated with moral awareness.*

Moreover, these negative relationships will be heightened by boredom which acts to impede cognitive processing, thus:

H4c & H4d *Boredom moderates (strengthens) the negative relationship between DT and moral awareness for Mach (**H4c**) and Psyc (**H4d**).*

Boredom and cheating (H5)
We argued above that identifying a moral issue (i.e., moral awareness) in a situation is likely to be negatively influenced by boredom. Moral awareness is the crucial first step in what Rest (1986) sees as a multi-stage ethical decision-making process. We suggest that if this first step is negatively impacted by boredom, then a bored person will not recognise the inherent ethical issues in a situation, and so will be in an impeded position to transform ethical intentions into ethical actions. In other words, boredom will necessarily affect the 'downstream' part of the ethical decision-making process and be negatively associated with ethical actions. As additional rationale, we suggest that cheating will provide the bored individual with relief from the state boredom vis-à-vis novelty or fun, which someone who is bored is motivated to seek (Moynihan et al., 2021). We suggest that this will impact both the decision to cheat, and the level of cheating as the more one cheats, presumably the more stimulus they derive. Therefore:

H5a *Boredom positively influences decision to cheat.*
H5b *Boredom positively influences the level of cheating.*

Dark Triad and cheating: - the decision to cheat (H6)
Each sub-component of the DT is associated with selfishness, a lack of morality and low self-control. The malicious two (Mach and Psycs) are particularly known for cheating and lying. In the experiment respondents believed that the risk of being caught cheating was zero. In this case we suggest that even the least 'dark' of the triad would succumb to the temptation to cheat, i.e.:

H6a *Mach is positively associated with decision to cheat.*
H6b *Narc is positively associated with decision to cheat.*
H6c *Psyc is positively associated with decision to cheat.*

Dark Triad and cheating: - level of cheating (H7)
We suggest that the low self-control of the Dark Triad would make it difficult for them to curtail their cheating to low levels, hence:

H7a *Mach is positively associated with level of cheating.*
H7b *Narc is positively associated with level of cheating.*
H7c *Psyc is positively associated with level of cheating.*

H8 essentially examines the main research question of the paper - i.e. whether boredom is an underlying mechanism underpinning unethical behaviour in Dark Triad individuals - by testing whether boredom strengthens the relationship between DT and cheating. We assume that, as we predicted for moral awareness, boredom will serve to further dull any moral inhibitions in DT people whilst motivating a search for novelty and fun via cheating to relieve the boredom, thus:

H8 *Boredom moderates the positive relationship between DT and cheating (i.e., it strengthens this relationship)*

Cheating and negative emotions (H9)
The two negative moral emotions guilt and shame are each associated with unethical behaviour. Both emotions result from a perceived violation of an individual's moral standards (Tillman et al., 2018). Guilt is attached to a sense of personal responsibility (Kacmar et al., 2019) whereas shame is a response to a perceived discrepancy between an individual's actual and sense of ideal self (Miceli & Castelfranchi, 2018). We suggest that in the experiment, which involves low risk and low stakes, people who cheat will have a sense of personal responsibility and guilt, but the circumstances of the cheating opportunity will not foster moral feelings sufficient to generate measurable shame. Thus:

H9a *Cheat decision (Y/N) promotes guilt.*
H9b *Cheat level promotes guilt.*

H9c *Cheat decision (Y/N) has no association with shame.*
H9d *Cheat level has no association with shame.*

Lastly, given the traits of Dark Triad people and the ease with which they act unethically, it would seem that they do not feel the same level of negative moral emotions that 'normal' people do when they have a moral transgression. Thus:

H10 *The positive relationship between cheating and guilt (shame) is moderated (weakened) by the level of DT traits.*

4.3 Study 1: An experimental study of the effect of boredom on moral awareness

4.3.1 Method

Participants and Procedure

Study 1 comprised an on-line study which looked at the effect of manipulated boredom on moral awareness. Advance approval for the study was obtained from the LSE Research Ethics Committee. For determining an appropriate sample size we were not able to draw on the results of previous research as we could not locate any prior study that has looked at boredom and moral awareness. In this study we are interested in effect sizes which may have practical application. Therefore, we wish to exceed the "small" effect size criteria that is frequently used in social science studies. Consequently, for purposes of determining what should be our sample size, we chose to specify a minimal effect size intermediate between the small-medium effect size categories (i.e. we utilised a Cohen's $f^2 = 0.1$ effect size: small/ medium effects are categorised with Cohen's $f^2 = 0.02/0.15$, per Cohen (1992)). Hence, we determined sample size by performing a power analysis based on an intermediate small/medium effect size Cohen's $f^2 = 0.1$, statistical power level of .90 and statistical significance of .05, a calculation which uses the freely available application G-Power (Faul et al., 2009). which is commonly used by researchers for sample size calculations. This suggested a sample size of 238. To limit any concerns over type 1 and type 2 errors and account for attrition, we chose to oversample by targeting 600 participants.

We designed the survey on the Qualtrics platform. Respondents were sourced and administered on-line by Prolific. An advanced version of the survey was initially pre-tested with the help of a small group of LSE PhD students following which a few design improvements were made and the final version launched. Participants were pre-screened to restrict the pool to people who: - (i) were currently working in full-time employment in a professional or managerial position; (ii) had work experience of a minimum of 4 years; (iii) were based in an Anglophone country (i.e., UK, US, Canada, or Australasia); and (iv) spoke English as a first language. Informed consent was obtained prior to the test. On average respondents took 18 minutes to complete the survey. The final sample comprised 599 participants made up of 301 females and 298 males, with an average age of 38.2 years (SD = 10.6; range 22 – 73).

Prior to the manipulation task, respondents answered questions that measured self-control, dark triad personality, boredom propensity and moral identity. Participants were then randomly allocated to either the treatment or control conditions.

Manipulation

Boredom was manipulated using the technique developed by Van Tilburg & Igou (2012, Study 4), and since used in several boredom studies either exactly (e.g., Van Tilburg et al., 2013) or in variant form (e.g., Gu et al., 2021). This involved participants having to copy and re-type academic references relating to concrete – a task proven to be highly boring - with the treatment group having to copy out 8 references, and the control group just two references. The survey was designed to prevent the ability to "cut and paste" from the question stem. We selected the appropriate number of references needed for the treatment group based on a discussion with one of the designers of the manipulation test (Van Tilburg) to best ensure that the intervention induced boredom, rather than some other unwanted emotion (e.g., frustration). An example of a reference that required re-typing is the following: *Saravanan, M.; Sivaraja, M. (10 May 2016). Study And Development of the Properties of Nana-Concrete:. Doi: 10.5281/zenodo.51258.*

We incentivised participants to do their best on the boredom task (and subsequent moral awareness tests) by showing them a screen that read:

"The next questions require concentration, accuracy and speed. There is a cash prize of £100 available to the highest scoring 20% of participants whose names will be entered into a draw for the cash prize. You will complete three different exercises, each of which is time constrained. First, you will copy (by typing) certain prose; Second, you will complete some word fragments to make complete words; Third, you will answer some short scenario questions. Good luck!"

Participants were given two minutes to complete the boredom task, which was ample for the control group, but required some effort from those in the treatment group. We conducted a manipulation check to assess boredom by asking participants two questions based on (i) their experience of the tasks i.e., "To what extent were the tasks you just completed boring?" (following van Van Tilburg et al., (2013); and (ii) a respondent's sense of boredom in the moment, i.e., "Are you experiencing boredom" (following Gu et al., 2021). Both items were scored on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely*). We calculated the average score of these two items as our boredom indicator, with higher scores representing a higher level of boredom. Cronbach $\alpha = .94$.

Post-manipulation outcome measures of moral awareness

Following the manipulation, respondents had two minutes to complete each of two moral awareness tests, followed by some standard demographic items and a study debrief to end the survey. The first moral awareness test adopts the procedure developed by Gino et al. (2011) which uses an *implicit* measure of moral awareness (i.e., so as to rule out social desirability concerns). This involved participants being presented with a series of word fragments for which added letters could make up words that are either related to ethics, or which are unrelated. Prior research has demonstrated that this type of word-fragment task is able to probe implicit cognitive activity (Gino et al., 2011; Tulving et al., 1982). Our hypothesis, as set out above, is that boredom will restrict recognition of moral issues which in this case manifests as degraded ethical saliency and reduced accessibility of ethics-related words.

By contrast, the second moral awareness test comprises an *explicit* test of moral behaviour consisting of vignettes designed to elicit moral judgment. Each vignette, which is taken from an item pool devised by Clifford et al. (2015), sets out a realistic and concrete scenario based on a violation of one of six moral 'foundations' (Haidt, 2013; Iyer et al., 2012), i.e., (i) concern for the suffering of others; (ii) fairness; (iii) loyalty; (iv) purity; (v) deference to authority or tradition; and (vi) dislike of domination and coercion. Thus, this second (vignette-based) measure of moral awareness provides a more direct, "earthier" assessment of moral awareness (or more specifically, moral judgment), and how it is affected by boredom, than does the implicit and more abstract word-based test. In combination the two tests provide measures of both moral saliency and how people make moral judgments (Graham et al., 2009).

Measures

Self-control. This was assessed via the Tangney et al. (2004) Brief Self Control Scale (BSCS) which is a 13-item measure of general self-control. This scale applies a 5-point Likert scale to questions on how well statements describe the respondent, with responses ranging from 1 (*not at all*) to 5 (*very much*). Sample questions include: "I am good at resisting temptation", and "I often act without thinking through all the alternatives". Cronbach α = .89.

Dark Triad. We used the Short Dark Triad (SD3) inventory (Jones & Paulhus, 2017). The SD3 scale has been used frequently in prior research and comprises a 27-item measure of Dark Triad personality, made up of three sub-scales (Mach, Narc and Psyc), each of which comprises nine items. Items request the respondent to indicate their level of agreement with statements relevant to each trait using a 5-item Likert scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*). As examples of statements: - Mach: "Most people can be manipulated"; Narc: "Many group activities tend to be dull without me"; and Psyc: "Payback needs to be quick and nasty". Cronbach alphas: - Mach α = .80; Narc α = .76; Psyc α = .77. (DT composite α = .87).

Boredom Propensity. We used the 8-item Shortened Boredom Proneness Scale (SBPS) developed by Struk et al. (2017) which is derived from the original Farmer and Sundberg (1986) 28-item scale. Respondents were asked to what extent they agree with short statements via a 5-point Likert scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*), with higher scores indicating higher levels of trait boredom proneness Sample items included "Many things I do are repetitive and monotonous", and "I don't feel motivated by most things that I do". Cronbach α = .88.

Moral identity. We used the 5-item scale (Aquino & Reed, 2002). Respondents were asked to think about a person (which might be themselves), whose characteristics include being "caring, compassionate, fair, friendly, generous, helpful, hardworking, honest and kind", and to imagine how such a person would think, feel, and act. Participants then had to answer questions on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample questions include "It would make me feel good to be a person who has these characteristics", and "I strongly desire to have these characteristics". Cronbach α = .73.

Moral awareness 1 (moral word -completion). Following Gino et al. (2011) participants were asked to review a series of word fragments containing missing letters, and for each fragment to construct the first meaningful word that came to mind by filling in the blank letters. The word fragments could be completed to make words which are ethics-related or which have no connection to ethics. Examples include: E_ _ _C_ _ (ETHICAL /EFFECTS); and FR_ _ _ (FRAUD / FRESH). In a private communication we were kindly provided with the full set of question fragments used by the authors of the Gino et al. (2011) study. We reproduced 16-items which included four word fragments unrelated to ethics to disguise the intent of the study, e.g., BO_ _ (BOAT).

Moral awareness 2 (moral vignettes). Respondents were asked to read a series of 1-sentence scenarios and for each to answer the question "How morally wrong is this behaviour?" using a 5-point Likert scale ranging from 1 (*not wrong at all*) to 5 (*extremely wrong*). In total, participants had to answer 14 questions taken from the Clifford et al. (2015) question pool, including two fillers, made up of two questions relating to each of the six moral foundations mentioned above (Haidt, 2013; Iyer et al., 2012). Given our interest in the relevance of our study to the organisational setting, we selected

moral question items most relevant to corporate scenarios. Sample questions include "You see a woman lying about the number of vacation days taken at work", and "You see an employee joking with competitors about how bad his company did last year". Cronbach $\alpha = .71$.

Control variables. We obtained measures for four demographic control variables which prior studies have shown can be relevant to issues of moral behaviour. These comprise: - *gender* and *age* (Berry et al., 2007); *formal education* (Bucciol et al., 2013), for which we use a dummy variable scale ranging from 1 (lowest, no degree) to 3 (highest, postgraduate); and *position at work* (Chow & Choi, 2003), for which we employ a dummy variable scale with 1 (below manager); 2 (management) and 3 (senior management / leadership).

Analytical Procedure

Data was directly accessed from the Prolific platform and downloaded into excel for cleaning, and subsequently into SPSS for analysis. The data cleaning process identified one outlier participant who had taken excessive time to complete the survey, and as no-one failed either of two attention-check items this left us with a final sample size N =599. As our analysis relies on multiple regressions and independent samples t-tests, before analysing data we tested the underlying assumptions of these analytic procedures in relation to the data. In respect of regression assumptions, we first applied the Durbin-Watson test of independence of errors which yielded scores in the range 2.1-2.3 from which we can safely accept that the assumption of independence of error terms was met. Second, by reviewing a scatterplot of standardised residuals we confirmed that the data met the assumptions of both linearity and equality of variance. Third, we confirmed that the data contained approximately normally distributed errors based on a review of a histogram of standardised residuals. Lastly, for each regression model we were able to confirm that collinearity was not a problem as VIF measures were computed, none of which yielded values above 2.4 which is comfortably below the threshold at which collinearity may produce distortion effects (Cryer & Miller, 1994). A key assumption that underlies the independent samples t-test (as well as multiple regression) is that data exhibits equality of variance, something we confirmed from a visual inspection of the residuals scatterplot as mentioned above. Consequently, we also chose to conduct Levene's test which is a more robust statistical test of this assumption, and found that this assumption was met in our data. Finally, all scales were tested for reliability which yielded Cronbach alpha scores above .7, and thus could be used with suitable confidence.

We follow common research methodology applied in the social sciences by applying the classic null-hypothesis significance tests in the bulk of our analyses. However, for the two "no effect" hypotheses in our study (H9c & H9d), we determine whether there is an absence of an effect by testing for equivalence (Wellek, 2010), using the method devised by Schuirmann (1987). This involves conducting two one-sided tests (TOST) for which upper and lower equivalence bounds are pre-set based on the smallest effect size of interest (SESOI). Each one-sided test assesses whether the respective null hypothesis is met (i.e. one tests whether the effect ≥ lower bound; and one tests whether the effect ≤ upper bound). If both are shown to be the case, then we can conclude that an observed effect falls within the equivalence bound interval - and so is close enough to zero to be practically equivalent (Laskens et al., 2018).

Although the respective computations underlying the TOST method differ depending on whether the equivalence tests relate to differences between means (H9c) or correlations (H9d), the method for applying the test is the same with the first step being determination of the SESOI, which is somewhat subjective (Laskens, 2017). Recall that previously in determining the appropriate sample sizes to use for each experiment (see the Method section above), we applied an effect size that was intermediate between small-medium categories (i.e. we utilised a Cohen $f^2 = 0.1$ effect size: per Cohen (1992) small/ medium effects are categorised with Cohen's $f^2 = 0.02/0.15$). We are interested in observing effect sizes that we consider to be interesting, by which we mean effect sizes which exceed the often-cited "small" label. The applicable measures for small effect sizes relevant to our analyses comprise Cohen's $d = \pm 0.2$ in respect of difference in means tests, and Pearson's $r = \pm 0.1$ in respect of correlational tests of equivalence (Cohen, 1992). Consequently, for the TOST analysis we set SESOI at the upper limit for the "small" category at these respective levels.

For a difference between means TOST analysis, the second step of the equivalence test involves using SPSS to conduct an independent samples t-test to obtain means and standard deviations for the two variables of interest. The third step involves calculation of the 90% confidence interval relating to the t-test results – we computed this outside of SPSS using a free and commonly used effect size calculator which is available online (Psychometrica, available on https://http://www.psychometrica.de/effect_size.html) which is based on the computational method of McGraw & Wong (1992). The final step of the equivalence test is to compare the 90% CI from observed data to the SESOI boundary to see whether it falls within this bound, and then conclude. For a correlational difference equivalence test, step 2 involves the computation of the Pearson bivariate correlation coefficient and its 90% confidence interval which we performed in SPSS. Thereafter steps 3 and 4 are the same as for the difference in means analysis.

4.3.2 Results and discussion

Manipulation check
We verified the effectiveness of the boredom manipulation task by conducting an independent samples t-test of the boredom measure between the treatment and control conditions. Individuals in the treatment group (M=2.712, SD =1.111) reported significantly higher boredom scores versus those in the control group (M=2.310, SD =1.035); $t(598) = -4.951$, $p<.001$, [LLCI = -0.591, ULCI = -0.215]. Therefore, we conclude that the manipulation was effective with a large effect size (Cohen's d = 1.0).

Descriptive statistics
The means, standard deviations, and Pearson bivariate correlations among all variables are shown in Table 4.1. It is evident that the means obtained for identical variables tested in our earlier studies (Paper 1 & Paper 2) are substantially similar to those recorded in this experiment, which gives us confidence in both the reliability of the measures used and the random sampling of participants – for example, the scores for Narc (M =2.53, SD =0.58) are closely aligned with those obtained in our Paper 1 (Study 1, M =2.54, SD =0.60; Study 2, M =2.44, SD =0.57); and with the findings presented in Paper 2 (M =2.50, SD =0.53).

Table 4.1 Pearson correlation matrix, scale means, and standard deviations

	M	SD	1	2	3	4	5	6	7	8	9
1. Moral Awareness 1 (words)	1.73	1.15	1								
2. Moral Awareness 2 (vignettes)	5.95	0.88	0.08*	1							
3. Self-control	3.21	0.62	0.07	0.15***	1						
4. Moral ID	4.50	0.51	0.12**	0.31***	0.21***	1					
5. Boredom propensity	2.48	0.83	0.19	-0.10*	-0.61***	-0.22***	1				
6. Machiavellianism	3.05	0.62	-0.02	-0.15***	-0.19***	-0.23***	0.23***	1			
7. Narcissism	2.53	0.58	0.13	-0.07	0.09*	-0.07	-0.06	0.31***	1		
8. Psychopathy	2.05	0.59	-0.07	-0.32***	-0.39***	-0.46***	0.37***	0.48***	0.33***	1	
9. DT composite	2.54	0.46	-0.03	-0.24***	-0.22***	-0.33***	0.24***	0.79***	0.71***	0.79***	1
10. Boredom condition	1.50	0.50	-0.14***	-0.04	0.08*	-0.04	-0.03	0.01	0.05	0.01	0.03

N=599. * p<0.05; ** p<0.01; *** p<0.001

The correlation results demonstrate some key associations that are relevant to our hypotheses. Boredom propensity is positively associated with Mach (r=.23, p<.001) and with Psyc (r=.37, p<.001), in line with H1. It is notable that boredom acts differently on the two measures of moral awareness: – as predicted (H2), moral awareness (as measured by the word-recall test) is negatively correlated with boredom (r= -.14, p<.001), but the vignette measure of moral awareness shows no association, and moreover there is only a weak positive correlation between the two measures (r= .08, p<.05), which suggests that the two measures are tapping into different aspects of how people recognise moral issues. Moral identity is positively associated with both measures of moral awareness as predicted in H3a (MA word recall r=.12; p<.01; MA vignettes r=.31; p<.001), but self-control only correlates with moral awareness (H3b) as measured by the vignette scale r=.15; p<.001. Lastly, in line with H4 both Mach (r= -.15, p<.001) and Psyc (r= -.32, p<.001) are negatively correlated with moral awareness using the MA vignette measure, but show no association with moral awareness using the MA word recall measure.

Regression analysis and hypothesis test results
Tables 4.2 and 4.3 show the regression results which enable us to assess hypotheses H1-H4. In Table 4.3 we set out the results for two models based on each measure used to capture moral awareness. The first column with DV headed 'MA1 words' uses the measure based on the number of ethics-related word fragments respondents were able to solve, and the second column with DV headed 'MA2 vignettes' is the aggregate score respondents recorded from the moral vignette questions.

For dependent variable boredom propensity, we see from Table 4.2 that the three DT sub-components explain 18.3% of the variance in boredom propensity ($F(3, 585) =45.60$, p<.001). Table 4.3 shows the full multiple regression models for the two dependent variable measures of moral awareness – i.e., MA1 words: R^2 =.057, $F(13, 586) =2.712$, p<.001); and MA 2 vignettes measure: R^2 =.158, $F(13, 586) =8.555$, p<.001).

Dark Triad and boredom propensity (H1)
Hypotheses H1a-c predicted that Mach, Narc and Psyc would each be separately positively associated with boredom propensity, whilst controlling for the other DT sub-components. From Table 4.2 we see that for Mach (β = .109,

p=.011) and Psyc (β = .392, p<.001), thus H1a and H1b respectively are supported. However for Narc (β = -.220, p<.001) so H1b is not supported, indeed the relationship has the opposite sign to what we had expected. This finding suggests that Narc is a very different personality trait in how it relates to boredom compared with the other two DT components.

Table 4.2 Regression results for the effects of DT traits on DV= boredom propensity

	DV = boredom propensity					
	B	**SE**	**β**	**t**	**sig**	**Hypothesis**
Const	1.694	0.180		9.428	<0.001	
Mach	0.145	0.057	0.109	2.538	0.011	**H1a**
Narc	-0.314	0.057	-0.220	-5.519	<0.001	**H1b**
Psyc	0.551	0.061	0.392	9.050	<0.001	**H1c**
R^2	0.183					
F (3, 585)	44.597	p<0.001				
N	599					

Boredom and moral awareness (H2)

We can demonstrate the impact of the boredom manipulation on moral awareness in two ways. Starting with the word-recall measure, applying an independent samples t-test we find support for H2 and a large effect size (Cohen's d =1.14) as respondents in the boredom condition generated fewer ethics-related words (M = 1.57, SD = 1.06) than did participants in the control condition, (M = 1.90, SD = 1.22), t(598) = 3.529, p < .001). In addition, from Table 4.3 the regression model (first column) shows that boredom negatively predicts moral awareness (β = -.135, p<.001). This test of morality uses the reduced accessibility of ethics-related concepts as a proxy for impaired moral awareness, and consequently these results suggest that boredom impedes the moral recognition process as predicted by hypothesis H2. However, when we use the more direct (i.e. less abstract) measure of moral awareness based on vignettes depicting realistic situations that are often encountered, moral awareness shows no association with boredom, both in an independent samples t-test (boredom condition: M = 5.91, SD = 0.85; control condition: M=5.99, SD =0.91; t(598) = 1.083, p =.279), and from the regression results shown in Table 4.2 (column 2) which shows no relationship between boredom and moral awareness (β = -.034, t=-0.877). In sum, we therefore conclude that H2 is partially supported, dependent of which measure of moral awareness is considered most relevant.

Self-control and moral identity associated with moral awareness (H3)

From Table 4.3 (column 1), we see that using the word-fragment measure of moral awareness as DV, self-control (β = .129, p<.05) and moral identity (β = .113, p<.05) each separately predict moral awareness at the 5% level of significance, in support of H3a and H3b respectively. Using the vignette-based measure of moral awareness (column 2) we see that there is no relationship between self-control and moral awareness, but there is a highly significant positive relationship between moral identity and moral awareness (β = .211, p<.001). These results confirm the importance of moral identity to the process of recognising moral issues and accessing ethics-related concepts.

Dark Triad and moral awareness (H4)

We had expected the 'malicious two' to be negatively associated with moral awareness, i.e., Machs (H4a) and Psycs (H4b). From Table 4.3 we see that Machs show no relationship, regardless of which measure of moral awareness is used, and Psycs show a significant negative relationship with moral awareness, albeit solely in respect of the vignette-based measure (β = -.209, p<.001), in support of H4b. These findings indicate that the "least dark" of the Dark Triad – i.e., Machs and Narcs – do not appear to recognise moral situations differently than do people who are lower in these traits, although Psycs seem to have impeded moral recognition abilities as predicted.

To test whether Mach (H4c) / Psyc (H4d) moderated (i.e., strengthened) the negative relationship between boredom and moral awareness (i.e., the word-fragment measure) we conducted a moderation analysis by running a regression with DV = moral awareness in SPSS using the PROCESS macro model 1 (Hayes, 2013). We ran the regression two times with each of Mach and Psyc separately as moderator variable interacting with the boredom condition, using the same independent and control variables as for the prior regression analyses. We found no support for either hypothesis H4c or H4d, i.e., neither Mach nor Psyc traits enhanced the negative relationship between boredom and moral awareness, a finding that suggests boredom is not more problematic an issue for people high in Mach or Psyc traits than it is for other individuals in terms of attenuating recognition of moral issues.

The contrast in findings depending on which measure of moral awareness is applied is surprising. In summary, as shown in Table 4.3, as predicted boredom negatively related to the more abstract measure of moral awareness (i.e., based on the word fragment exercise), but contrary to our prediction Dark Triad personality showed no relationship to this measure of moral awareness; whereas boredom did not predict the alternate (and more direct) measure of moral awareness (i.e., based on common moral situational vignettes), yet Psyc (alone of the Dark Triad) negatively predicted that measure of moral awareness. We speculate that these findings may be explained because of the underlying cognitive activity required by each measure. The word fragment measure of moral awareness has been validated in several studies as allowing us to tap into implicit cognitive activity (Gino et al., 2011; Tulving et al., 1982). This therefore involves identifying more hidden and less salient moral issues than is required by the vignette task, and therefore requires relatively higher-level cognitive effort. It is this require cognitive effort that is degraded by the boredom manipulation. Surprisingly, Dark Triad people do not seem to have lower aptitude for this type of cognitive ability than do other personalities, as shown by the non-relationship between moral awareness and DT. Conversely, the alternate (vignette-based) measure of moral awareness presents more direct moral awareness situations for which the underlying moral nature of the overall exercise is not hidden. In this measure, each vignette sets out a narrative which has moral saliency and represents realistic ways in which people make moral judgments (Graham et al., 2009). Therefore, we suggest that the vignette-based exercise requires lower-level cognitive processing, which is *not* impacted by boredom, but still proves to be sufficiently challenging an exercise for Psyc personalities.

Table 4.3 Regression results for the effects of boredom, DT traits and self-control related traits on two measures of moral awareness (MA1 based on moral-related word recall, and MA2 based on situational vignettes)

Dependent variable DV = moral awareness

	MA 1 words	**MA 2 vignettes**	**Hypothesis**
Gender	0.064 (1.490)	0.094* (2.308)	
Age	-0.043 (-0.998)	0.001 (0.009)	
Education2 -grad	0.005 (0.109)	-0.084 (-1.916)	
Education3 – post grad	-0.057 (-1.229)	-0.077 (-1.739)	
Work2 -managmt	0.037 (0.820)	0.047 (1.099)	
Work3 – Sen. managmt	0.038 (0.807)	0.109* (2.455)	
Self-control	0.129* (2.432)	0.052 (1.038)	**H3a**
Moral ID	0.113* (2.460)	0.211*** (4.882)	**H3b**
Boredom Propensity	0.108* (2.057)	0.061 (1.222)	
Mach	0.018 (0.390)	0.019 (0.434)	**H4a**
Narc	0.010 (0.216)	-0.003 (-0.067)	
Psyc	-0.005 (-0.092)	-0.209*** (-3.827)	**H4b**
Boredom manipulation	-0.135*** (-3.310)	-0.034 (-0.877)	**H2**
Constant B	-0.090 (-0.114)	4.537*** (7.956)	
Number of obs.	599	599	
R^2	0.057	0.158	
F (13, 586)	2.712 p<0.001	8.555 p<0.001	

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

4.4 Study 2: An experimental study of the effect of boredom on unethical behaviour

4.4.1 Method

Participants and Procedure

Study 2 comprised an on-line test with a boredom intervention and followed substantially the same methodology as for Study 1. The survey was designed in Qualtrics and administered by Prolific with the same participant requirements as in Study 1. Similarly, we utilised the same pre-manipulation test measures (self-control, Dark Triad, boredom propensity, and moral identity), and adopted the same boredom manipulation technique based on copying (i.e., by re-typing) academic references, with the number dependent on which randomly allocated group a respondent was allocated to (control -two references; treatment - eight references). The final sample comprised 585 participants made up of 295 females and 290 males, with an average age of 40.6 years (SD = 10.6; range 24 – 64). The difference in methodological procedure for Study 2 came post-manipulation. In this case we applied a cheating opportunity task to assess *actual* moral behaviour, rather than a task to assess moral *awareness* which was the subject of Study 1.

For the cheating opportunity task we adapted the method developed by Mazar et al., (2008) which requires participants to try to solve a series basic maths-based puzzles, incentivized by the chance to win a cash prize (available by lottery to the highest scoring 20% of participants). Performance was self-assessed. Consequently, a respondent had the opportunity to cheat. More specifically, participants were presented sequentially on the screen with three tranches of four matrices. Each matrix comprised 12 single-digit numbers (specified to two decimal places, e.g., 3.91), placed in four rows and three columns. Respondents were told that the objective was to find the two numbers (out of the 12) which summed exactly to 10.00. Respondents were advised "*You will then self-mark and indicate how you did - i.e. if you were able to solve the question, then check-mark the circle "Got it"*. As Mazar and colleagues point out, they selected the matrix-based task because (i) it is a search task rather than one that reflects mathematical ability or intelligence; and (ii) it can be unambiguously self-assessed. This matrix-based technique for providing a cheating opportunity has been used in several recent studies (e.g., Gino & Ariely, 2012; Mazar & Zhong, 2010). In a private communication the authors of the Mazar et al. (2008) study kindly provided us with the full set of matrices used in their experiment.

Respondents were further advised *"All self-marked scores will remain anonymous, known only to you the participant. Please concentrate and perform as well as you can for purposes of the experiment, whether or not you are aiming to score in the top 20% of participants eligible for the cash prize draw"*. We adapted the original Mazar et al. (2008) experimental method in three ways. First, we applied it to an on-line study (the original was lab-based using paper returns). Second, we introduced cascading difficulty by reducing the time available for each subsequent set of four matrices – for the first tranche 60 seconds was available, the time was then reduced to 30s for the next tranche, and finally just 15s was permitted for the final tranche. Third, unbeknownst to participants, we included within the total of 12 matrices five which had no solution. This meant that anyone who self-reported "got it" for any of the five non-solvable matrices, had to be cheating. Thus, the researcher was engaged in mild deception, and consequently the experiment had required (and obtained) advance authorisation to apply this deception technique. At the end of the experiment participants were informed of the deception and its necessity for assessing the behaviour of interest, and that any participant could readily withdraw their data if desired whilst still being paid (none took up this option).

We also included two additional measures in Study 2 (compared with Study 1) to assess negative emotions that might be associated with cheating, i.e., shame and guilt.

Measures and manipulation

Pre-manipulation measures

Self-control. The measure used to capture a participant's inherent self-control was the same as the one used in Study 1 (i.e., the Brief Self Control Scale (BSCS; Tangney et al., 2004). Cronbach α= .86.

Dark Triad. As in Study 1 we used the Short Dark Triad (SD3) inventory (Jones & Paulhus, 2017) which yielded Cronbach alphas: - Mach α = .80; Narc α=.77; Psyc α=.78; and DT composite α=.86.

Boredom Propensity. We used the Struk et al. (2017) Shortened Boredom Proneness Scale (SBPS) as for Study 1. Cronbach α= .87.

Moral identity. As in Study 1, we used the Aquino & Reed (2002) measure. Cronbach α= .80.

Boredom manipulation
As indicated above, for Study 2 we manipulated boredom using the same technique as for Study 1 (after the procedure introduced by Van Tilburg and Igou (2012, Study 4)). Participants subsequently completed the same two boredom manipulation check items as for Study 1.

Post-manipulation measures
Cheating opportunity task. As described above, we used an adaptation of the original Mazar et al. (2008) technique which required participants to self-mark a series of 12 maths-based matrix puzzles under increasingly tight time constraints, in the belief that only they (the participant) would know how honest they were being. In fact, five of the puzzle items were unsolvable which therefore enabled us to identify with certainty: - (i) which respondents cheated (i.e., by reporting they had solved one or more of the unsolvable items), and (ii) their level of cheating (i.e. from a score of zero to five).

Shame. We measured shame using the Experience of Shame Scale (ESS; Andrews et al., 2002) which incorporates a 3-item subscale specific to wrongdoing. Respondents were advised that the subsequent questions "*relate to your experience of the tasks you just completed and how you feel about how you got on, the decisions you made, and what you experienced*". Illustrative items are "How likely are you to feel ashamed of what you did?", and "How likely are you to worry about what people think of you because of what you did?". We used the Likert scale as published, i.e., a 5-point scale ranging from 1 (*very unlikely*) to 5 (*very likely*). Cronbach $\alpha = .79$.

Guilt. We used the Trauma Related Guilt Inventory (TRGI; Kubany et al., 1996) which incorporates a five-item subscale specific to wrongdoing. As with the questions about shame, respondents were told that the subsequent questions related to their experience about the tasks they had just completed and how they had performed, and to select the most appropriate response from a 5-point Likert scale ranging from 1 (*not at all true*) to 5 *extremely true*). Sample items include "I had some thoughts that I should not have had", and "I did something that went against my values". Cronbach $\alpha = .68$ which is below the threshold of 0.7 typically used in research. However, some scholars argue that a Cronbach as low as .6 can be acceptable (Janssens et al., 2008), and given the observed value was only marginally below the conservative threshold $\alpha = .70$, we opted to retain this measure.

Control variables. We utilised the same four demographic control variable measures as per Study 1 (i.e., gender, age, formal education, and position at work).

Analytical Procedure

We performed the same analytical procedures and tests as in Study 1. In addition, as we measured cheating as both a continuous variable (level of cheating) and as a dichotomous variable (cheat decision, yes/no), for the latter we needed to run a binary logistic regression and test the data for the related underlying assumptions.

In summary, the analytical procedures undertaken comprised (i) downloading the data from Prolific to excel, (ii) data cleaning to remove: - outliers (four respondents, due to excessive time spent on the survey); participants who made insufficient effort (five); and careless participants who failed one or more test check items (six); (iii) subjecting the data to tests of the implied assumptions underlying multiple regression, binary logistic regression, and independent samples t-tests. This resulted in a final sample size of N=585. All of the assumptions for the data underlying multiple regression were met (i.e., independence of errors; linearity; equality of variances; normality of distributed errors; and no collinearity). In respect of the latter, no VIF exceeded 2.3. The Durbin-Watson test of independence of errors yielded scores in the range 2.1-2.5. In addition, all of the assumptions required for binary logistic regression were shown to be met: - (i) a dichotomous dependent variable; (ii) independence of observations; (iii) no multicollinearity; and (iv) independent variables linearly related to the log odds. Lastly, for completeness regarding the underlying requirement of the independent samples t-test for equality of variance between the groups, we augmented the visual test of a scatterplot of standardized residuals by conducting a Levene test which further demonstrated that the data met this condition.

4.4.2 Results and discussion

Manipulation check

The effectiveness of the boredom manipulation task was verified by performing an independent samples t-test of the boredom measure between the treatment and control groups. Individuals in the treatment group (M=2.848, SD =1.207) reported significantly higher boredom scores versus those in the control group (M=2.390, SD =1.099); $t(548) = -4.805$, p<.001, [LLCI = -0.645, ULCI = -0.271]. This finding mirrors that obtained between the boredom and control groups in Study 1. Therefore, it is evident that in Study 2 the manipulation was effective with a large effect size (Cohen's d = 1.1).

Descriptive statistics

The means, standard deviations, and Pearson bivariate correlations among all variables are shown in Table 4.4. We note that the means obtained for identical variables obtained in Study 1 are substantially similar to those recorded in this experiment: - e.g., the moral identity measure in this Study 2 (M=4.49, SD=0.56) closely resembles the measure from Study 1 (M=4.50, SD=0.51), and we see similar findings in respect of our measures for moral identity, boredom propensity, Mach, Narc and Psyc. Moreover, Dark Triad personality measures are in line with those seen in prior studies (e.g., Egan et al., 2015). The percentage of people who cheated is perhaps somewhat surprisingly high at more than half (i.e., 54% of all respondents, whether bored or not), but of course people believed that any cheating would go unnoticed and on average those who cheated did so only a little i.e. just more than once (M=1.19, SD=1.55) out of a maximum of five opportunities to cheat.

Table 4.4 Pearson correlation matrix, scale means, and standard deviations

	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Cheat Y/N	0.54	0.50	1										
2. Cheat level	1.19	1.55	0.70***	1									
3. Guilt	1.44	0.50	0.13**	0.27***	1								
4. Shame	2.04	0.96	0.05	0.03	0.33***	1							
5. Self-control	3.31	0.61	0.03	0.01	-0.18***	-0.14***	1						
6. Moral identity	4.49	0.56	-0.01	-0.11**	-0.17***	0.05	0.17***	1					
7. Boredom Proneness	2.42	0.84	0.00	-0.02	0.18***	0.19***	-0.57***	-0.24***	1				
8. Mach	2.99	0.62	0.04	0.08	0.14***	0.09*	-0.21***	-0.24***	0.27***	1			
9. Narc	2.44	0.59	0.11**	0.15***	0.09*	-0.07	0.14***	-0.08	-0.16***	0.26***	1		
10. Psyc	2.04	0.61	0.06	0.12**	0.24***	0.04	-0.39***	-0.45***	0.38***	0.54***	0.31***	1	
11. DT composite	2.49	0.46	0.09*	0.15***	0.20***	0.03	-0.21**	-0.34***	0.22***	0.79***	0.68***	0.81***	1
12. Boredom condition	1.50	0.50	-0.04	0.00	-0.05	0.06	-0.01	-0.02	-0.02	-0.04	-0.02	-0.04	-0.04

N=585. * p<0.05; ** p<0.01; *** p<0.001

The correlation results are relevant to some of our hypotheses. In Study 1 we found that boredom correlated negatively with abstract moral awareness, but we see from Table 4.4 that in this Study 2 boredom has no association with *actual* unethical behaviour in the form of the decision to cheat or the level of cheating, findings which contradict our predictions in H5a and H5b respectively. Given their dark personalities, we had expected each DT sub-trait to be negatively associated with both the decision to cheat (H6) and the level of cheating (H7), whereas only Narc correlates with the decision to cheat (r=.11, p<0.05), and although both Narc (r=.15, p<.001) and Psyc (r=.12, p<.001) correlate highly significantly with cheat level, the correlational level is low. Lastly, we note that guilt is positively correlated with cheating – i.e., the decision to cheat (r=.13, p<0.01) and cheat level (r=.27, p<0.01), in line with H9a and H9b respectively, whereas shame is not associated with cheating which supports H9c. These findings suggest that boredom does not influence cheating, and guilt (but not shame) is associated with cheating, and more so for the level of cheating compared with the decision to cheat. Somewhat surprisingly, we note that relevant to H10 both of the 'malicious two' show significant positive associations with guilt: - Mach (r=.14, p<.001); Psyc (r=.24, p<.001).

Regression analysis and hypothesis test results

To assess the effect of boredom on (i) the decision to cheat (H5a) we performed a binary logistic regression (the results for which are shown in Table 4.5), and (ii) the level of cheating (H5b) we undertook a multiple regression (the results for which are shown in Table 4,.6).

The binary logistic regression indicates that the model significantly predicts cheat decision [χ^2 =28.072, df=13, p=.009]. Narc is the only predictor variable that is significant [Wald=4.637, p=.031]. The odds ratio (OR) for Narc is 1.438 (95% CI 1.033– 2.001). Three of the control variables are also significant predictors (gender, age, and management position). The predictor variables and control variables together explain 6.2% of the variance in the decision to cheat. The model correctly predicted 44.9 % of cases where there was no cheating and 69.7% of cases where there was cheating, giving an overall percentage correct prediction rate of 58.2%. The multiple regression results predicting cheat level shown in Table 4.6 indicate that the model was significant [$F(13, 572) = 2.826$, $p < .001$, $R^2 = .060$, with the only

Table 4.5 Binary logistic regression results for the effects of boredom, DT traits and self-control related traits on DV = decision to cheat

DV = cheat decision (Y/N)

	B	SE	Wald	p	OR	LLCI	ULCI	Hypothesis
constant	-1.256	1.487	0.714	0.398	0.285			
Gender	0.467**	0.182	6.553	0.010	1.595	1.116	2.279	
Age	-0.018*	0.009	4.409	0.036	0.982	0.965	0.999	
Education2 - grad	0.111	0.204	0.297	0.586	1.117	0.750	1.665	
Education3 - post grad	0.032	0.253	0.016	0.899	1.033	0.629	1.696	
Work2 - managmt	-0.468*	0.199	5.516	0.019	0.627	0.424	0.926	
Work3 – Sen. managmt	-0.293	0.274	1.142	0.285	0.746	0.436	1.277	
Self-control	0.209	0.180	1.135	0.245	1.233	0.866	1.755	
Moral ID	0.049	0.173	0.081	0.776	1.050	0.749	1.473	
Boredom propensity	-0.011	0.136	0.007	0.935	0.989	0.758	1.291	
Mach	0.004	0.166	0.001	0.981	1.004	0.724	1.391	**H6a**
Narc	0.363*	0.169	4.637	0.031	1.438	1.033	2.001	**H6b**
Psyc	0.277	0.207	1.793	0.181	1.319	0.879	1.978	**H6c**
Boredom condition	-0.154	0.170	0.823	0.364	0.857	0.614	1.196	**H5a**

		χ^2	df	sig
Omnibus test of coefficients	Step 1	28.072	13	0.009
	Block	28.072	13	0.009
	Model	28.072	13	0.009

Model summary	Cox & Snell R^2	Nagelkerke R^2
	0.047	0.062

Classification table		Predicted		% Correct
Cheat Y/N		0 (No)	1 (Yes)	
	0 (No)	122	150	44.9
	1 (Yes)	95	219	69.7
Overall %				58.2

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

Table 4.6 Multiple regression results for the effects of boredom, DT traits and self-control related traits on DV = cheat level

DV = cheat level

	B	SE	β	t	sig	Hypothesis
constant	1.681	1.099		1.530	0.126	
Gender	0.308*	0.134	0.100*	2.300	0.022	
Age	-0.013*	0.006	-0.086*	1.967	0.050	
Education2 - grad	0.001	0.150	0.001	-0.001	0.998	
Education3 - post grad	-0.075	0.187	-0.020	-0.040	0.689	
Work2 - managmt	-0.338*	0.146	-0.109*	-2.309	0.021	
Work3 – Sen. managmt	-0.030	0.202	-0.007	-0.149	0.882	
Self-control	0.043	0.133	0.017	0.326	0.745	
Moral ID	-0.239	0.127	-0.086	-1.876	0.061	
Boredom propensity	-0.137	0.101	-0.074	-1.359	0.175	
Mach	0.035	0.123	0.014	0.287	0.775	**H7a**
Narc	0.302*	0.124	0.116*	2.444	0.015	**H7b**
Psyc	0.224	0.152	0.088	1.474	0.141	**H7c**
Boredom condition	0.004	0.126	0.001	0.030	0.976	**H5b**

Number of obs.	585
R^2	0.060
F (13, 572)	2.826
	p<0.001

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

predictor variable that was significant being Narc (β = .116, p= .015), a result that aligns with that seen for the binary logistic model with DV = decision to cheat.

Boredom and cheating (H5)
From Table 4.5 and Table 4.6 respectively it is evident that boredom does not predict either the cheat decision (Wald =0.823, p=.364) or the level of cheating (β =.001, p=.976), i.e., H5a and H5b are not supported.

Dark Triad and cheating (H6), (H7) & (H8)
We had predicted that each of the DT sub-components would be positively associated with cheating. As indicated above, in fact our hypotheses found support only in respect of Narc which positively predicted the cheat decision (H6b, Wald=4.637, p=.031) and cheat level (H7b, β =.116, p=.015), both at the 5% level of significance. This result is something of a surprise given that Machs and Psycs are widely seen as being the least honest of the Dark Triad.

Given the findings for H6 and H7, our assessment of H8 (which tested whether boredom moderates the (expected) positive relationship between DT and cheating - i.e., strengthening this relationship - only required us to run a moderation regression for the Narc DT sub-component For the regression with DV = cheat level we used the PROCESS macro (model 1) in SPSS (Hayes, 2013) with boredom as moderator variable interacting with Narc and with the same predictor and control variables as for the previous multiple regression analyses. The interaction regression result is shown in Table 4.7. Although the regression model was significant [F(14, 571) = 2.710, p<.001, R^2 =.062], H8 was *not* supported as the interaction term was not significant (B =0.234, p=.275), indicating that boredom does not affect the positive relationship between Narc and cheat level.

Hypotheses H9 and H10 looked at the effect of cheating on negative emotions guilt and shame. For dependent variable guilt we ran two multiple regression models, each including the same control and predictor variables (Mach, Narc, Psyc, self-control, moral identity, and boredom propensity) as in the prior regressions, with model 1 also including the cheat decision variable, and model 2 including the cheat level variable. The results are shown in Table 4.8. Both models were significant. For model 1 [F(14, 571) = 5.306, p < .001, R^2 = .096], and model 2 [F(14, 571) = 6.645, p < .001, R^2 = .140]. We ran the same two regression models for dependent variable shame, for which the results are shown in Table 4.9. Both models were again significant, i.e. model 1 [F(14, 571) = 5.306, p < .001, R^2 = .074], and model 2 [F(14, 571) = 6.645, p < .001, R^2 = .073].

Cheating and guilt
We predicted that after cheating people would feel guilt. From Table 4.8 we see that both H9a (model 1) is supported as the decision to cheat positively predicts guilt (β =.117, p<0.01); and H9b (model 2) is also supported as we see a positive association between the level of cheating and guilt (β =.248, p<.001).

Cheating and shame
Hypotheses H9c and H9d comprise two "no effect" predictions concerning the association between cheating and resultant shame, viz a viz that cheating would not be seen as sufficient a breach of moral standards to affect subsequent shame.

To assess H9c (i.e. the cheat decision (Y/N) has no association with shame), we conducted an equivalence test based on the TOST method for differences in means as detailed above in the Methods section of this paper. We found that the difference in means between the two groups has an effect size Cohen's d =0.18 with CI =0.044 - 0.317. Comparing the observed CI with the required equivalence interval based on our SESOI of CI = -0.2 – 0.2, indicates that the data falls *outside* the required range, and so we must reject equivalence. From Table 4.9 we see that the covariate cheat (Y/N) shows a non-significant positive association with resultant shame (β =.053, p>.05) – however, from this equivalence test analysis we conclude that the effect size is not sufficiently small to infer this is practically equivalent to a zero effect, and we must reject H9c.

In respect of H9d (i.e. cheat level has no association with shame), we also conducted a TOST equivalence analysis following the same methodology as outlined above, in this case applied to the Pearson correlation data for the two variables. This indicated r=0.034 with a CI = -0.034 – 0.102. Thus, by comparing the observed CI to our SESOI confidence interval (CI= - 0.1 – 0.1), we see that the observed data just exceeds the required upper bound. Table 4.9 shows that the covariate cheat level has a non-significant positive association with resultant shame (β =.048, p>0.05), – however, as for H9c, the equivalence test result confirms that the effect size is not sufficiently small to infer this is practically equivalent to a zero effect, and we must likewise reject H9d.

Dark Triad, cheating, and guilt

Our final hypothesis H10 probed further the positive association between cheat level and guilt to see whether this relationship was moderated – i.e., weakened – by the level of DT traits. We conducted a moderation analysis by re-running the regression with DV = guilt using the PROCESS macro (model 1) in SPSS (Hayes, 2013). We ran the regression three times with each of Mach, Narc and Psyc separately as moderator variable interacting with cheat level (and with the same predictor and control variables as for the previous multiple regression analyses), to predict guilt. H10 was not supported. Moreover, we found a surprising result in that with Mach and Psyc each as moderator, there was a significant interaction with cheat level to predict guilt, but this was in the *opposite* direction to that predicted, i.e., the cheat level/Mach (Psyc) interaction served to *enhance* the positive relationship between cheat level and guilt. The results are show in Table 4.10a and Fig 4.2 (for Mach as moderator), and Table 4.10b and Fig 4.3 (for Psyc as moderator).

With Mach as moderator, Table 4.10a shows that cheat level was significantly positively related to guilt, and Mach significantly moderated that relationship. The interaction, as illustrated by the simple slopes curve in Fig 4.2, shows the curve pivoting anti-clockwise around the mid-level of cheating to become steeper at higher levels of Mach. The interaction was probed by testing the conditional effects of cheat level at three levels of Mach, one standard deviation

Table 4.7 Interaction model – the moderating effect of boredom on strengthening the positive relationship between Narc and DV= cheat level. (Not significant)

	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Narc	-0.037	0.335	-0.110	0.912	-0.694	0.620
Boredom	-0.566	0.537	-1.054	0.292	-1.622	0.489
Narc*Boredom condition	0.234	0.214	1.091	0.275	-0.187	0.654
Gender	0.047	0.134	2.245	0.025	0.038	0.565
Age	-0.127	0.006	-1.924	0.055	-0.025	0.001
Education2 - grad	-0.059	0.151	0.034	0.973	-0.290	0.301
Education3 - post grad	-0.232	0.187	-0.405	0.685	-0.444	0.292
Work2 - management	-0.348	0.147	-2.373	2.373	-0.655	-0.060
Work3 – Sen. management	-0.036	0.202	-0.179	0.179	-0.433	0.361
Self-control	0.047	0.133	0.350	0.726	-0.214	0.307
Boredom propensity	-0.127	0.101	-1.251	0.212	-0.325	0.072
Moral ID	-0.232	0.128	-1.816	0.070	-0.482	0.019
Mach	0.039	0.123	0.318	0.751	-0.203	0.281
Psyc	0.224	0.152	1.474	0.141	-0.075	0.524
Constant	2.425	1.293	1.876	0.612	-0.114	4.963
Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.062	2.309	2.71	14	571	<0.001
Test of unconditional interaction		**ΔR^2**	**F**	**df1**	**df2**	**p**
Narc*Boredom condition		0.002	1.191	1	571	0.276

below the mean, at the mean, and one standard deviation above the mean. Cheat level was significantly related to guilt when Mach was one standard deviation below the mean (p<.01), at the mean (p<.001), and one standard deviation above the mean (p <.001)). A Johnson-Neyman computation showed that the relationship between cheat level and guilt was significant for all levels of Mach above 2.22, a value well below the mean (M=2.99, SD=0.62).

Table 4.8 Regression - effect of cheating on guilt

	DV = guilt		
	Model 1	**Model 2**	**Hypothesis**
Gender	0.024 (0.569)	0.013 (0.306)	
Age	-0.015 (-0.343)	-0.04 (-0.101)	
Education2 -grad	-0.060 (-1.272)	-0.057 (-1.238)	
Education3 – post grad	-0.026 (-0.530)	-0.020 (-0.424)	
Work2 -managmt	0.025 (0.540)	0.039 (0.862)	
Work3 – Sen. managmt	0.052 (1.112)	0.048 (1.050)	
Self-control	-0.090 (-1.749)	-0.087 (-1.738)	
Moral ID	-0.079 (-1.749)	-0.056 (-1.281)	
Boredom Propensity	0.071 (1.329)	0.089 (1.701)	
Mach	-0.007 (-0.136)	-0.010 (-0.210)	
Narc	0.053 (1.131)	0.112 (1.951)	
Psyc	0.124* (2.115)	0.112 (1.951)	
Boredom manipulation	-0.037 (-0.925)	-0.042 (-1.067)	
Cheat Y/N	0.117** (2.868)		**H9a**
Cheat level		0.248*** (6.186)	**H9b**
Constant B	1.614 (4.630)	1.504 (4.417)	
Number of obs.	585	585	
R^2	0.096	0.140	
F (14, 571)	5.306 p<0.001	6.645 p<0.001	

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

Table 4.9 Regression- effect of cheating on shame

	DV = shame		
	Model 1	**Model 2**	**Hypothesis**
Gender	0.083 (1.919)	0.084 (1.948)	
Age	0.018 (0.409)	0.017 (0.392)	
Education2 -grad	0.081 (1.684)	0.082 (1.713)	
Education3 – post grad	0.057 (1.151)	0.058 (1.177)	
Work2 -managmt	0.006 (0.125)	0.005 (0.111)	
Work3 – Sen. managmt	0.003 (0.058)	0.000 (0.008)	
Self-control	-0.038 (-0.731)	-0.036 (-0.684)	
Moral ID	0.089 (1.957)	0.094* (2.056)	
Boredom Propensity	0.187*** (3.456)	0.190*** (3.511)	
Mach	0.090 (1.847)	0.089 (1.833)	
Narc	-0.041 (-0.870)	-0.041 (-0.871)	
Psyc	-0.013 (-0.223)	-0.013 (-0.222)	
Boredom manipulation	0.071 (1.759)	0.069 (1.710)	
Cheat Y/N	0.053 (1.296)		**H9c**
Cheat level		0.048 (1.163)	**H9d**
Constant B	0.294 (0.432)	0.265 (0.389)	
Number of obs.	585	585	
R^2	0.074	0.073	
F (14, 571)	3.259 p<0.001	3.233 p<0.001	

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

Table 4.10b shows that for Psyc as moderator, we see a similar interaction result as for Mach, with cheat level significantly positively related to guilt and Psyc significantly moderating that relationship. The interaction simple slopes curve shown in Fig 4.3 is markedly different compared with the corresponding curve with Mach as moderator, i.e., with Psyc the curve shows that as the level of cheating increases, the resultant level of guilt grows at an increasing rate as Pysc level increases from one standard deviation below the mean (effect =0.049, p=.012), through the mean (effect =0.075, p<.001), and to one standard deviation above the mean (effect =0.102, p<.001). The Johnson-Neyman analysis shows that the relationship between cheat level and guilt is significant for all levels of Psyc above 1.29, a value well below the Psyc value one standard deviation below the mean (1.44).

In summary, these last two findings show that for people who cheat, guilt increases :- people high in Mach traits show less guilt (than low-Mach people) at lower levels of cheating, but this situation pivots around the average level of cheating such that high Machs experience more guilt (than low-Mach people) at higher levels of cheating; conversely, people high in Psyc traits experience more guilt (than low-Psyc people) regardless of the level of cheating. These results linking more guilt to high Psycs vs low Psycs (whether they cheat or not), and to high Machs who cheat vs low Machs who cheat, appears at first to be counterintuitive. However, we note that this result aligns with the finding of Giammarco & Vernon (2015) who reported positive associations with self-hate guilt for both Machs and Psycs. We speculate that it is self-hate guilt that we are picking up in our results. Moreover, as we have shown, Psycs are positively associated with cheat level (r=.12, p<.01) and neither they nor Machs benefit from experiencing reduced guilt as a result of morally disengaging.

Table 4.10a Interaction model – the moderating effect of Mach on weakening the positive relationship between cheat level and guilt.

DV = guilt

	B	SE	t	p	LLCI	ULCI
Cheat level	-0.062	0.060	-1.029	0.304	-0.180	0.056
Mach	-0.073	0.046	-1.563	0.119	-0.164	0.019
Cheat level*Mach interaction	0.046*	0.019	2.417	0.016	0.009	0.084
Gender	0.021	0.042	0.515	0.607	-0.060	0.103
Age	0.000	0.002	-0.166	0.868	-0.004	0.004
Education2 - grad	-0.059	0.046	-1.270	0.205	-0.150	0.032
Education3 - post grad	-0.028	0.058	-0.484	0.629	-0.141	0.085
Work2 - managmt	0.039	0.045	0.860	0.390	-0.050	0.128
Work3 – Sen. managmt	0.056	0.062	0.892	0.373	-0.067	0.178
Self-control	-0.068	0.041	-1.668	0.096	-0.148	0.012
Moral ID	-0.047	0.039	-1.182	0.238	-0.124	0.031
Boredom propensity	0.053	0.031	1.710	0.088	-0.008	0.114
Narc	0.028	0.038	0.734	0.463	-0.047	0.103
Psyc	0.096	0.047	2.044	0.041	0.004	0.189
Boredom condition	-0.043	0.039	-1.102	0.271	-0.119	0.033
Constant	1.673	0.346	4.831	<0.001	0.993	2.353

Model summary	R^2	MSE	F	df1	df2	p
	0.149	0.219	6.644	15	570	<0.001

Test of unconditional interaction	ΔR^2	F	df1	df2	p
Cheat level*Mach	0.009	5.842	1	570	0.016

	Mach	effect	SE	t	p	LLCI	ULCI
Conditional effect of Cheat level on Guilt at values of Mach (moderator)	2.379	0.048	0.018	2.608	0.009	0.012	0.084
	2.997	0.077	0.013	5.918	<0.001	0.051	0.102
	3.615	0.105	0.017	6.348	<0.001	0.073	0.138

Fig 4.2 Simple slopes curve showing the moderating effect of Mach on the relationship between cheat level and guilt.

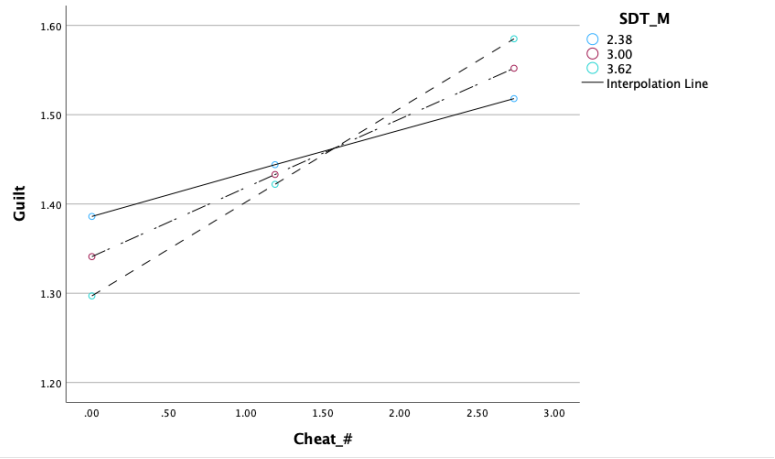


Table 4.10b Interaction model – the moderating effect of Psyc on weakening the positive relationship between Cheat level and DV= guilt.

DV = guilt

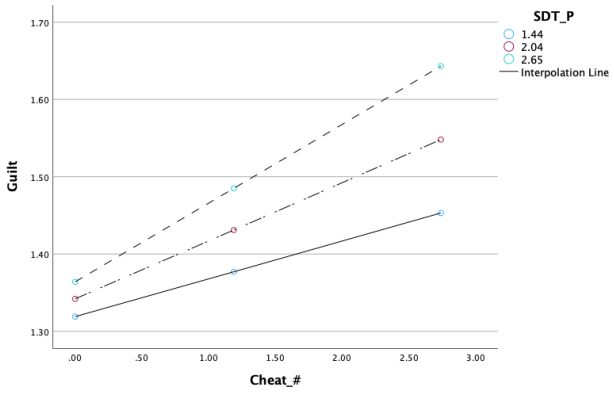
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Cheat level	-0.013	0.046	-0.0284	0.777	-0.103	0.077
Psyc	0.038	0.054	0.702	0.483	-0.068	0.143
Cheat level*Psyc interaction	0.043*	0.020	2.112	0.035	0.003	0.084
Gender	0.017	0.042	0.407	0.684	-0.065	0.099
Age	0.000	0.002	-0.137	0.891	-0.004	0.004
Education2 - grad	-0.058	0.046	-1.248	0.213	-0.149	0.033
Education3 - post grad	-0.031	0.058	-0.535	0.593	-0.145	0.083
Work2 - managmt	0.042	0.045	0.933	0.351	-0.047	0.131
Work3 – Sen. managmt	0.071	0.062	1.139	0.255	-0.051	0.193
Self-control	-0.064	0.041	-1.551	0.121	-0.144	0.017
Moral ID	-0.047	0.039	-1.183	0.237	-0.124	0.031
Boredom propensity	0.056	0.031	1.805	0.072	-0.005	0.117
Mach	-0.010	0.038	-0.274	0.785	-0.085	0.064
Narc	0.030	0.038	0.789	0.431	-0.045	0.106
Boredom condition	-0.039	0.039	-1.003	0.316	-0.115	0.037
Constant	1.569	0.341	4.603	<0.001	0.900	2.239

Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.147	0.220	6.537	15	570	<0.001

Test of unconditional interaction		**ΔR^2**	**F**	**df1**	**df2**	**p**
Cheat level*Psyc		0.007	4.460	1	570	0.035

	Psyc	**effect**	**SE**	**t**	**p**	**LLCI**	**ULCI**
Conditional effect of Cheat level on Guilt at values of Psyc (moderator)	1.436	0.049	0.020	2.517	0.012	0.011	0.087
	2.042	0.075	0.013	5.761	<0.001	0.050	0.101
	2.649	0.102	0.016	6.172	<0.001	0.069	0.134

Fig 4.3 Simple slopes curve showing the moderating effect of Psyc on the relationship between cheat level and DV=guilt



4.5 Supplemental Analysis

As mentioned earlier, there is limited prior research which has considered how state boredom and trait boredom interact. Moreover, we could find no published study which has considered how these variables interact with personality traits. Given our concern with Dark Triad personality and the results presented above, we extended our analysis by performing some exploratory post-hoc analyses to assess how the influence of boredom on each of the two outcome variables of interest (moral awareness and cheating) is moderated by boredom propensity and by DT traits: - i.e. we performed triple interaction (i.e. 3-way) multiple regression analyses.

For DV = moral awareness, our expectation was that the predicted negative influence of boredom on moral awareness (H2) would be moderated (i.e. enhanced) by the combination of higher proneness to boredom (which we anticipate would serve to increase the influence of boredom), and higher DT traits (given the association of DT traits with unethical behaviour). Similarly, with DV = cheating, we expected that the predicted positive relationship between boredom and cheating (H5) would be enhanced by the double moderation.

For each 3-way interaction regression we used the PROCESS macro (model 3) in SPSS (Hayes, 2013), with boredom condition as predictor variable interacting with moderators (i) boredom propensity, and (ii) Dark Triad (i.e. using each of the four measures DT composite; Mach; Narc; and Psyc), and with the same covariates and control variables as used in our multiple regression analyses presented in Section 4.4. For DV = moral awareness, for completeness we ran regressions using both measures of moral awareness used previously, i.e. (i) based on word fragments, and (ii) based on business vignettes. Similarly, for DV = cheating we ran the 3-way interaction regression models using both measures of cheating, i.e. (i) cheat decision (Y/N), and (ii) cheat level.

Thus, we ran 16 separate regression analyses in total to test for a triple interaction, comprising eight regressions for each of the two outcome measures (moral awareness and cheating), for each of which we applied our two measures (moral awareness: word fragments and vignettes; cheating: cheat Y/N and cheat level), and using the four separate measures for the DT moderator (DT composite, Mach, Narc and Psyc).

In summary, from the 16 triple moderation regression models tested, one demonstrated a significant 3-way interaction, and two showed triple interactions at the marginal level of significance. The most robust finding relates to the case of DV= cheat level, predictor variable = boredom, and with boredom propensity and Mach as moderators, which shows a statistically significant triple interaction. The results are presented below in Table 4.11. The regression model is significant ($F(17, 568) = 2.612$ $p<.001$), for which the predictor variable (boredom), moderator variables (boredom propensity and Mach), covariates (self-control and moral identity), and control variables together explain 7.2% of the variance in cheat level. For this 3-way interaction (boredom*boredom propensity*Mach) the R^2 change = .009 $F(1, 568) = 5.643$, $p=0.018$), which represents a very small change in variance.

(For completeness, we mention that in addition to the significant result obtained for the above 3-way interaction, we also obtained two triple interactions at the marginal level of statistical significance ($p< .10$), i.e. with boredom DV = moral awareness (measured using word fragments), combined with DT trait moderators (i) Narc ($p=.077$), and (ii) Psyc ($p= .082$)).

From Table 4.11 we see that each corresponding 2-way interaction is statistically significant and in line with our expectations. The boredom*boredom propensity interaction is significant at the 5% level (B= 1.615, $p= .031$) which suggests that the effect of state boredom on cheating is enhanced in people with higher boredom propensity. Similarly, the boredom*Mach interaction is also significant at the 5% level (B= 1.402, $p= .018$), indicating that the effect of boredom on cheating behaviour is enhanced for people higher in Mach traits. Finally, the interaction boredom propensity*Mach is significant at the 1% level (B= 0.949, $p= .010$) which indicates that for average levels of boredom propensity, higher levels of Mach traits serve to enhance the effect of boredom on cheating behaviour. Each of these 2-way interactions enhances the effect of boredom on cheating behaviour. However, we note that the 3-way interaction boredom*boredom propensity*Mach has an overall *negative* contribution to cheating behaviour (B= -0.570, $p= .018$).

To better understand this result for the 3-way interaction, it is informative to look at the final part of the output shown in Table 4.11 which presents the conditional effects of boredom on cheating at different values of the two moderators, for which each is set at levels that are low (1 SD below the mean), medium (mean), and high (1 SD above the mean). From the table of conditional effects of boredom on cheating we note that none of the nine combinations is significant (nb we note that the combination of state boredom with low boredom propensity/high Mach has a *positive* effect on cheat level, albeit at a marginal level of significance (B= 1.586, $p= .086$)).

Table 4.11 Results for triple interaction regression model 3 (Hayes, 2013) with DV =cheat level, PV = state boredom, and moderators (i) boredom propensity and (ii) Mach

Outcome variable **Moral awareness**

	B	SE	t	p	LLCI	ULCI
Constant	8.166	2.891	2.825	0.005	2.489	13.844
Boredom (state)	-3.885	1.766	-2.200	0.028	-7.354	-0.417
Boredom propensity	-2.850	1.140	-2.499	0.013	-5.090	-0.610
Mach	-2.268	0.898	-2.526	0.012	-4.032	-0.504
Boredom*Boredom propensity (int 1)	1.615	0.746	2.164	0.031	0.149	3.081
Boredom*Mach (int 2)	1.402	0.589	2.380	0.018	0.245	2.558
Boredom propensity*Mach (int 3)	0.949	0.365	2.599	0.010	0.232	1.666
Boredom*Boredom propensity*Mach (int 4, triple)	**-0.570**	**0.240**	**-2.375**	**0.018**	**-1.041**	**-0.099**
Gender	0.303	0.134	2.268	0.024	0.041	0.566
Age	-0.013	0.006	-1.963	0.050	-0.025	-0.001
Education2 - grad	-0.001	0.151	-0.001	0.998	-0.296	0.295
Education3 - post grad	-0.068	0.187	-0.362	0.718	-0.435	0.300
Work2 - managmt	-0.376	0.147	-2.562	0.011	-0.665	-0.088
Work3 – Sen. managmt	-0.079	0.202	-0.390	0.697	-0.476	0.319
Self-control	0.055	0.133	0.412	0.680	-0.206	0.315
Moral identity	-0.238	0.127	-1.873	0.062	-0.488	0.012
Narc	0.284	0.124	2.293	0.022	0.041	0.528
Psyc	0.216	0.152	1.419	0.156	-0.083	0.515

Model summary

R^2	MSE	F	df1	df2	p
0.072	2.296	**2.612**	17	568	<0.001

*Test of unconditional 3-way interaction Boredom*Boredom propensity*Mach*

	ΔR^2	F	df1	df2	p
DV = moral awareness	0.009	5.643	1	568	0.018

*Test of conditional interaction Boredom*Boredom propensity at values of DT*

	DT	effect	F	df1	df2	p
	2.379	0.259	1.340	1	568	0.247
DV = moral awareness	2.997	-0.094	0.352	1	568	0.553
	3.615	-0.446	4.524	1	568	0.034

Conditional effects of Boredom at values of Boredom propensity and Mach

	Boredom P	Mach	effect	SE	t	p	LLCI	ULCI
	1.586	2.279	-0.140	0.218	-0.644	0.520	-0.569	0.288
	1.586	2.997	0.167	0.184	0.909	0.354	-0.194	0.528
	1.586	3.615	0.475	0.276	1.718	0.086	-0.068	1.017
DV = moral awareness	2.424	2.279	0.076	0.189	0.404	0.687	-0.296	0.449
	2.424	2.997	0.089	0.130	0.681	0.496	-0.167	0.344
	2.424	3.615	0.101	0.182	0.552	0.581	-0.257	0.459
	3.262	2.279	0.293	0.307	0.954	0.340	-0.310	0.897
	3.262	2.997	0.010	0.187	0.054	0.957	-0.358	0.378
	3.262	3.615	-0.273	0.228	-1.198	0.231	-0.721	0.175

It is not clear whether the mixed results obtained concerning the directional effect of the 3-way interaction effect represents a spurious result, or whether there is an important (albeit small) effect underlying the significant negative influence of state boredom*boredom propensity*Mach. This finding presents an interesting area for future research to untangle this apparent inconsistency to test and better understand how Mach affects this relationship, and/or rule out the possibility that this is a spurious result, which could point to issues with the robustness of the boredom propensity measure (as a standalone construct, and in relation to its association with self-control). A related line of enquiry for a possible follow-up study could investigate how the combination of boredom, boredom propensity and Mach (and each DT component trait more generally) are affected when the subsequent task involves cheating but which may or may not involve self-benefit, as the prospect of self-benefit may provide a motivational kick that could serve to override the effects of boredom and/or the limits imposed by intrinsic boredom propensity.

4.6 General Discussion

As Elpidorou (2017) put it, boredom research is "alive and kicking". Indeed, over the last couple of decades or so the study of boredom has started to move into the mainstream of psychological science (Van Tilburg & Igou, 2017a). Boredom is a negative emotion (Van Tilburg & Igou, 2016). It is characterised by low arousal and an inability to focus (Moynihan et al., 2021), yet is clearly distinguishable from other adverse emotions including frustration, guilt, and shame (Van Tilburg & Igou, 2017a). Consequently, people experiencing boredom feel that their situation is uninteresting, inadequately stimulating or challenging, and effectively devoid of any purpose (Van Tilburg & Igou, 2016). This has led to unfortunate associations between boredom and aversive behaviours including impulsivity (Watt & Vadanovich, 1992), impatience, and sensation seeking (Kass & Vadanovich, 1990). We suggest that the recent rise in interest in boredom amongst researchers is partly attributable to increased interest generally in well-being and emotions in the workplace, as well as because there are more distractions and opportunities these days to relieve boredom, an obvious example being cyber-loafing, i.e., the improper use of corporate internet access for personal purposes (Ohana et al., 2024).

However, despite the evident progress that has been made in this period in our understanding of boredom – in both empirical and theoretical domains - there has been a glaring lack of attention to how boredom relates to morality (Elpidorou, 2017). Equally, although Dark Triad personalities are known for both their impulsivity and inherent lack of morality, there has been no interest in how these personalities are influenced by boredom. This paper seeks to address this gap. The present research comprises two RCT studies which look at the effect that boredom has on two aspects of the moral decision-making process which are important to organisations, i.e.: - (i) moral awareness, and (ii) unethical decision-making (in the form of cheating behaviour), and specifically in respect of the personality cluster known at the Dark Triad (Machs, Narcs and Psycs). Our headline findings are (i) high DT people are more prone to boredom than people low in DT traits; and (ii) boredom negatively influences moral awareness, but this does not translate into it impacting actual cheating behaviour, which applies to high DT and low DT people alike. In other words, boredom has a negative influence in terms of morality, but the effect is limited and does not manifest into heightened unethical (cheating) *actions*. Beyond these big picture findings are a number of nuanced results that help us assess boredom in relation to self-regulation, and to unpack the Dark Triad personality cluster in line with the call by Jones & Paulhus (2017) to look at trait distinctions amongst the Dark Triad.

Results from Study 1, which deals with moral awareness as the outcome, showed support for the bulk of our predictions. The 'malicious two' (Machs and Psycs) are positively associated with boredom propensity in line with our expectations, but the finding that Narcs are significantly *negatively* associated with boredom proneness is surprising given their low self-control (Flexon et al., 2016) and tendency for impulsiveness (O'Reilly & Hall, 2021). We cannot rule out that this finding might reflect Narc self-deception which is a trait are known for (Jones & Paulhus, 2017). The finding that boredom negatively influences moral awareness suggests that boredom impedes implicit cognitive activity necessary to identify non-salient moral issues (Gino et al., 2011; Tulving et al., 1982). We suggest that this can be explained by taking a functional view of boredom – i.e. moral thinking is challenging and requires cognitive effort, but boredom as a function enables a bored person to economise on cognitive processing (Chin et al., 2017), and once someone is in a state of boredom they will find it harder to re-engage cognitively when faced with a moral situation, than would a non-bored person. However, this cognitive ability does not seem to be different (i.e., lower) in Dark Triad people relative to other personalities, contrary to what we had predicted, albeit Psycs showed a negative association with moral awareness when this is measured using more salient situational scenarios. Self-discipline related traits help maintain moral awareness – both self-control and moral identity were shown to be negatively associated with moral awareness in line with our predictions. The finding that Dark Triad personality does not enhance the negative relationship between boredom and moral awareness further indicates that people high in Dark Triad traits have no less ability to identify and recognise moral issues than do 'normal' people, which suggests that their known association with unethical behaviour may be more linked to choice than impaired ethical awareness.

Study 2 measured cheating behaviour as the outcome, both in terms of the binomial yes/no decision to cheat, and the level of cheating. We found that bored or not, people readily cheat as shown by the result that 54% of participants deliberately cheated. However, boredom was not associated with cheating. This result, in combination with the Study 1 finding linking boredom negatively with moral awareness, suggests that boredom can impede moral cognition, but is not sufficiently strong a moral impediment to influence actual decision-making, which we suggest represents a higher hurdle as it involves violation of personal standards of moral behaviour. As regards Dark Triad and cheating, we see some surprising differences within the grouping. The finding that Narcs are positively associated with cheating aligns with our prediction, however the finding that neither of the 'malicious two' (Machs and Psycs) show any association with cheating is contrary to our expectation. We speculate that this result may reflect how Machs and Psycs see the experimental situation in terms of motivational influence – i.e., it is low risk, low reward, and low chance of winning - a situation that may not have been sufficiently stimulating to these personalities for them to 'bother' fabricating how they had performed on the maths test. Consequently, future work should look at different risk/reward

conditions. As predicted, cheating resulted in feelings of guilt but not shame, which confirms the functionality of guilt as a self-regulatory mechanism as regards moral behaviour. The finding that people who cheat heavily and happen to be high in Mach traits experience *more* guilt than do low Machs was a surprise – as was the finding that cheaters high in Psyc traits experience *more* guilt than low Psycs, regardless of the amount of cheating. These findings suggest that resultant guilt experienced by cheating Machs and Psycs could be targeted by management seeking to reduce unethical behaviour by these personality types.

The findings from the two experiments have implications for theory as well as for managerial practice. Below we discuss the theoretical and practical implications of our findings, together with some limitations and directions for future research.

4.6.1 Theoretical Contributions

Our research advances theory in relation to boredom, individual differences, moral psychology, and self-regulation.

First, we contribute to the boredom literature by demonstrating the limits of boredom as an influence at different stages of the moral decision-making process. According to Rest's (1986) model, ethical decision-making comprises a series of four sequential steps comprising (i) recognising a moral issue; (ii) making a moral judgment; (iii) prioritising moral concerns; and (iv) acting on the moral concerns. Our finding that boredom negatively influences moral awareness covers step (i) of Rest's model. However, our result that boredom does not affect cheating indicates that by step (iv), boredom is no longer sufficiently influential to effect a moral decision. We suggest that this reflects the different 'stakes' attached to the various steps. Moral awareness requires implicit cognitive activity (Gino et al., 2011) which is effortful (Chin et al., 2017). However, it does not require a decision to be made. We know that one of the functions of boredom is to help us to economise on cognitive processing. Therefore, when someone is bored they will engage in reduced cognitive processing (i.e., become 'tuned out') and in this state they will find it much harder to re-engage cognitively when challenged with the need to merely recognise – but not act on - a moral issue. We further suggest that moral (or amoral) *action* presents much higher risks and makes the impending moral violation far more salient (compared to recognising moral issues), which in combination present a much higher hurdle for boredom to overcome. Consequently, we argue that although cheating would meet the criteria for one of the suggested functions of boredom - i.e. boredom motivates us to look for a suitable challenge, meaning, novelty or fun (e.g., Moynihan et al., 2021) – in this case cheating would likely be fun and a challenge to outsmart the researcher, the level of novelty is insufficient to overcome the inhibitory controls associated with violating personal moral standards. Future work could further test how the tension between boredom and regulatory control plays out across all four stages of Rest's (1986) ethical decision-making process model, as oftentimes within an organisation different people may be involved at different stages of moral decision-making. Moreover, in future experiments the context of the cheating opportunity could be adapted to assess boundary conditions at which boredom may lead to cheating. Lastly, we note that in a very recent study (Feng et al., 2022), boredom was found to be positively associated with cheating, a result that conflicts with ours. That said, although the two studies utilised the same boredom manipulation technique, the Feng study uses different tests for cheating and incorporates different covariates and controls. A future study should look to investigate this inconsistency which may allow us to pinpoint the boredom/cheating boundary condition mentioned earlier.

Second, we contribute to the boredom, self-regulation and individual differences literatures by showing how boredom affects people high in Dark Triad traits and positing how this informs self-control and personality theory. In short, we found that people high in Dark Triad traits are no worse at moral awareness than are 'normal' personalities, but they do cheat more (specifically Narc personalities). Moreover, boredom serves to impede moral awareness but has no effect on cheating behaviour, and in respect of both behaviours the effect of boredom on high Dark Triad individuals is no different to that on average personalities. Dark Triad individuals are characterised by low self-control (Jonason & Tost, 2010). Self-regulatory resources are challenged by boredom that may have similar depletive effects to ego depletion (Job et al., 2010). Consequently, if the strength model of self-control is applicable then we should expect boredom to readily influence moral awareness *and* moral decision-making in Dark Triad personalities. As indicated above, this is not what we found. It could be argued that our findings support a strength model of self-control on the basis that boredom is sufficiently strong an affective state to overcome self-control and reduce moral awareness in such a low-risk situation, but is not sufficiently strong to have the same over-powering effect when the stakes are higher and self-control might be expected to be situation-adjusted given the heightened and more salient risks associated with moral action. An alternative explanation, which we prefer, is that self-control is better explained by a cognitive model rather than a strength model – i.e. moral thinking is somewhat automatic and is therefore immune to any stimulus – such as boredom – that might affect self-control. We further suggest that the cognitive model for self-control may be particularly persuasive in the case of high Dark Triad people in relation specifically to moral

behaviour as evidenced by our findings in Paper 2 of this thesis, which showed strong links between DT individuals and the cognitive mechanism moral disengagement. Future research should look to test this suggestion.

Third, our research also contributes to the existing literature on moral emotions and moral decision-making. We reported herein the somewhat surprising result that DT people (Machs and Psycs) show *heightened* negative emotions (specifically guilt) when they cheat, as compared with people low in these DT traits). In fact this finding aligns with our results from Paper 2 of this thesis which looked at the association between moral disengagement and the Dark Triad. The Paper 2 study revealed that although DT (Machs and Psycs) engage in post moral disengagement after acting unethically, they do not benefit from the subsequent moral disengagement /guilt trade-off that accrues to people low in DT traits, and as a result Machs and Psycs report relatively higher levels of resultant guilt. The findings from Paper 2 and the present research findings on moral emotions affecting Dark Triad personalities are novel and consistent, moreover the present results provide additional support to the model we suggested in Paper 2 for moral disengagement applicable to DT individuals: - i.e. this personality type *automatically* morally disengages after acting unethically, rather than doing so after a short period of consideration and rumination about their unethical actions (which we believe is what people do who are low in DT traits and which therefore enables low-DT people to trade-off some level of guilt by post-morally disengaging). Our findings on guilt following unethical behaviour are consistent with the very recent findings of Ogunfowora et al. (2023) who reported that people still experience guilt after morally disengaging, albeit the authors did not assess individual differences in relation to personality. As a final point, we note that in Paper 5 of this thesis we consider the phenomenon of 'cheater's high' as it affects Dark Triad people – i.e., the enhanced positive affect felt following some unethical behaviour (i.e., the specific act of cheating). We suggest this can similarly be explained because DT people feel a relatively heightened sense of freedom from responsibility that post-moral disengagement brings (as compared with low-DT people), and this feeling is relatively unburdened by rumination or doubts because for them moral disengagement kicks in automatically and instantaneously following the moral breach, whereas for low-DT people moral disengagement is not automatic and if it happens it follows after rumination which serves to reduce resulting cheater's high. We would like to see further experimentation involving boredom to test our explanation linking unethical behaviour, DT and resultant guilt - a suggestion which aligns with the call made by Van Tilburg & Igou (2017a) for further study linking emotion and morality. Ideally future studies will involve simultaneous measurement of moral emotions (guilt and shame) and mood (positive and negative affect) so we can better understand where there is tension amongst these emotions and how and when this is resolved, which we believe will greatly inform theory.

Fourth, we contribute to the moral decision-making, and individual differences (personality) literatures. We demonstrated that people high in Dark Triad traits are more prone to cheating yet show no difference in moral awareness as compared with people low in DT traits. According to Rest's (1986) model of moral decision-making, moral awareness is the first stage of a multi-stage and sequential process of moral decision-making that culminates in moral action. At face value our findings appear to be inconsistent with the Rest model in relation to Dark Triad people. However, we suggest that there may be important additional motivations and/or self-control deficiencies that kick-in and permit Dark Triad people to act unethically, rather than their unethicality happening because they have less ability to recognise moral issues. In this thesis we look at influences on moral decision-making including personality, self-control, and resultant moral emotions. We suggest that future models for moral decision making may benefit from looking at adaptations to incorporate (i) personality and individual differences relating to self-control; (ii) a temporal dimension, as some stages of the moral decision may be more immediate and automatic, with others more prone to indecision and reflection; (iii) consideration that the stages may not be sequential and could happen in parallel; and (iv) the types and sources of motivation that could influence each stage of the moral decision.

4.6.2 Implications for Practice

Our research has important implications for managerial practice.

First, our finding that boredom does not impair *explicit* moral awareness in people faced with standard business and moral situations will be welcomed by management. In any event management is relatively adept at designing processes and procedures to combat known organisational and financial risks. Conversely, our finding that boredom reduces *implicit* moral awareness – i.e., when people face novel, unusual or non-standard situational choices is clearly something that should concern organisations. In such cases boredom will increase the risk that a staff member will fail to recognise ethical risks, and it is these situations that are more difficult for management to de-risk through standard processes and procedures, as they require more values-based and conceptual thinking to prevent improper choices being made by staff. This will require management targeting boredom to eliminate it as far as possible.

Second, our results provide direction as to how managers should deal with Dark Triad staff in respect of their moral behaviour. We saw that DT people are *not* associated with more adverse moral awareness than are 'normal' people

when using the implicit test, and only Psycs amongst the DT show a negative association with moral awareness using more explicit real-world measure. In broad terms, moral awareness in not a problem for DT staff it would seem, something that might be seen in a positive light – if DT staff are on average not recognising moral issues differently to 'normal' personalities, they cannot seek to exploit them for personal benefit. However, the data suggests that DT people are associated with unethical *actions*, which our results bear out (albeit in our study, it is uniquely Narcs amongst the DT who cheated). Moreover, we see that moral awareness is closely correlated with moral identity (r=.12, p<.01, for the implicit measure; r=.31, p<.001 for the situational vignette measure), and moral identity is closely associated with DT traits in respect of Mach and Psyc: (Mach r =-.23, p<.001; Psyc r = -.46, p<.001). These correlational findings should be troubling to management and point to moral awareness risks with DT staff generally (as well as in respect of Psycs specifically). As indicated in the section on limitations, as these particular findings represent correlational relationships rather than relationships derived from manipulation and causation, we suggest that they should be replicated and confirmed through an RCT study before being acted upon by managers. In addition, management should be wary of Narcs as regards unethical actions in circumstances of low risk/reward such as those conditioned in our experiment. In summary therefore, management should target people high in DT traits with training on ethical situational awareness, and seek to promote moral identity enhancement in such people.

Third, our results speak to how managers should deal with DT people generally. We demonstrated that boredom does not influence high DT people more so than low DT individuals as regards their moral awareness or cheating behaviour. will come as a relief to management, as there is a belief in some quarters that because DT people are impulsive and have limited self-control, they need to be regularly cognitively stimulated, and when this does not happen there is a risk they might turn to dark side behaviour, in part to create such a stimulus. Based on our results, it would appear that any such doubts are unfounded. However, these findings are notwithstanding our results which show that both Machs and Psycs are positively associated with boredom proneness, which may manifest itself in other (non-ethically related) aspects of workplace behaviour. Therefore, management should be cognisant of how stimulated all staff (including high DT individuals) are, perhaps through engagement surveys and in formal performance reviews. In addition, researchers should look at other outcomes that may be influenced by boredom affecting high DT people, e.g., OCB.

Fourth, our findings illustrate an additional route for management to deal with DT people regarding moral decision-making. Management should target heightened feelings of guilt in DT people (Machs and Psycs) who have undertaken unethical acts at work. Overall, guilt is negatively correlated with Narcs, but is positively correlated with Machs and Psycs. Moreover, our findings show that people high in DT traits do recognise resultant guilt and show heightened levels (relative to low DT people) of this moral emotion after they commit an unethical act. We suggest that this finding is consistent with that of Giammarco & Vernon (2015) who reported positive associations with self-hate guilt for both Machs and Psycs. This could open up DT individuals to being coaxed to confess any serious moral breach, and thereby alleviate this negative emotion. This would need to be done carefully so as to not suggest a "big brother" work environment or one where there is no trust (or worse, suspicion). In addition, management could target anticipatory guilt to help prevent unethical behaviour from happening in the first place. For example, in training sessions on risk management, managers could emphasize the high risks of being caught in any major scam or fraud, and to emphasize the results of prior successes in discovering unethical behaviour and detail the repercussions ensuing for the staff involved. Finally, management could encourage a discussion of personality types and typical behaviours and risks, which would help staff to better know themselves and the self-risks they may be prone to.

4.6.3 Limitations and Directions for Future Research

Our findings need to be qualified by several limitations which present opportunities for future research.

First, the data in both Studies 1 & 2 is self-reported. Consequently, the data is vulnerable to common method bias which could inflate the relationships amongst key study variables (Podsakoff et al., 2003). To reduce this risk, we chose to conduct the research over two experiments rather than in a single larger experiment which would have involved less cost. Also in this thesis, which comprises 10 experiments administered by Prolific, we were able to preclude respondents from participating in more than one study. Lastly, across the 10 experiments there are a number of variables that have been tested repeatedly for which we have highly consistent results.

Second, despite our use of a commonly used manipulation method to induce boredom which relies on reference transcription which is an effective technique (Moynihan et al., 2017), and the use of RCT methodology, due to the inherent complexity of boredom as a mechanism (Ohna et al., 2024) it is not possible to confirm causality with absolute with certainty, and indeed rule out reverse causality in respect of the relationships we tested. Consequently, we hope that future work will look to bolster the findings reported herein and establish causality by replicating the experiments and introducing longitudinal studies.

Third, future research could benefit from using different methodological approaches to the on-line survey method used in the current research. For example, a laboratory study could similarly utilise random assignment, whilst permitting the researcher to use more sophisticated cheating opportunities which might better mimic such opportunities encountered in the workplace, as well allowing for the inclusion of other important contextual influences such as teamwork or the leader – member exchange dyadic relationship. An even more realistic setting would of course involve a field study within an organisation, albeit this would introduce its own limitations in terms of consent and authenticity of participant response.

Fourth, we applied a commonly used boredom manipulation technique involving the mundane task of copying out detailed academic references (Van Tilburg & Igou, 2012). It has been pointed out by Feng et al. (2022) that the boredom condition might represent a sufficiently high cognitive load as to induce ego depletion, and could drive the result (rather than boredom per se). We also suggest that frustration – another negative sensation – might be relevant. Indeed frustration could occur as part of the manipulation, as well in the cheating opportunity task which was deliberately made to be difficult with limited time, and it is possible that frustration within the task influenced people to cheat. Consequently, a future study could incorporate measures of ego depletion as Feng et al. (2022) suggest, as well as frustration so any causal or contributory effect from these mechanisms can be identified and/or eliminated.

Fifth, this chapter comprises two RCT studies which we undertook with the intention of gaining causal evidence. However, some of our regression findings rely on correlational results which did not involve manipulation of the predictor variable – e.g. the observed association between moral identity and moral awareness; and the association of Mach and Psyc each with boredom proneness – in which case it should be acknowledged that until such time these results are replicated and confirmed in RCTs, the relevance for management practice must necessarily be seen to be less than for those results that are based on causal evidence.

There are several areas where we believe related research can fruitfully build on our work.

First, a question that arises from our study concerns the extent to which state boredom occurs and persists in DT individuals when an inherently boring task (or that which immediately follows it) addresses a specific trait characteristic. In our two experiments the boredom task had no 'upside' as regards DT (or other personality) traits, and thus our boredom manipulation succeeded in inducing state boredom for all personality types with large effect sizes (Cohen's d = 1.0 (Study 1); Cohen's d= 1.1 (Study 2)). This may not always be the case in a work environment in which an 'apparently' boring task might give rise to a situation which resonates with a DT trait – for example if it provides a Mach with an opportunity to manipulate a person or situation, or gives a Narc the chance to boost their ego and gain recognition. In this case, how effective is boredom as a stimulus? More generally – and as we tested in our experimental design – what happens with DT personalities if a truly boring task (which is perhaps of short-duration), is then followed by one which is not considered boring to a DT individual *because* it aligns to one or more of their darker traits – i.e. as in the situation described above for a Mach or Narc? Our results showed that Machs and Psychs are moderately associated with boredom propensity i.e. trait boredom (e.g. from Study 2, Table 4.4 we see that for Mach $r = .27$, $p < .001$; and Psyc $r = .38$, $p < .001$), which suggests that DT people are likely get bored more so than are 'normal' people'. We suggest that it would be fruitful for future research to test how trait boredom relates to state boredom in DT people when the task at hand is one that resonates with a DT trait and thereby draws on their powers of self-control. We suggest that the boundary conditions should be tested to determine when state boredom will be associated with high DT scores as this will help steer management to avoid the pitfalls of boredom in DT staff, – we speculate that high boredom in DT people is likely in relation to tasks that provide minimal opportunity for self-benefit either financially or reputationally, whereas boredom is much less likely when the opposite is the case as self-beneficial outcomes play strongly to DT basic needs. Building on such a study, researchers should look to determine whether for DT people boredom serves to *neutralise* inherent traits which may result in *less* cheating, self-promotion etc, or whether it acts to *override* self-control and thereby *enhance* such behaviour? We found that DT individuals were not influenced by boredom to increase their cheating behaviour (Study 2) which is a trait they are prone to. However, this result may reflect limitations in the 'realism' of the experimental design. Future work should look to create more realistic experimental settings to test how boredom affects such dark tendencies as self-promotion (Narcs), manipulation (Machs) and cheating (Psycs). This may provide an opportunity to contribute to boredom theory by drawing on Trait Activation Theory (TAT; Tett et al., 2013). TAT considers personality traits as latent potentials to behave in identifiable ways in response to trait-relevant situational cues (Tett et al., 2021), which we suggest could take the form for example of a clear opportunity to cheat or obtain self-benefit.

Second, future work could test how the tension between boredom and regulatory control plays out across all four stages of Rest's (1986) ethical decision-making process model, as oftentimes within organisations different people may be involved at different stages of moral decision-making. Moreover, in future experiments the context of the cheating

opportunity could be adapted to assess boundary conditions at which boredom may lead to cheating, for example including higher risk/reward profiles.

Third, future research could investigate further how boredom links with unethical behaviour, Dark Triad personality and resultant guilt, a suggestion which aligns with the call made by Van Tilburg & Igou (2017a) for further study linking emotion and morality (in which the researchers commented guilt and shame might have a more pronounced impact on ethical decision making than does boredom). Ideally future studies will involve simultaneous measurement of moral emotions (guilt and shame) and mood (positive and negative affect) so we can better understand where there is tension amongst these emotions and how and when this is resolved.

Fourth, we also believe that future research could usefully be directed to further investigate and enhance self-control theory, and specifically the current debate in the domain that has relevance to boredom – vis-à-vis how best to model self-control between a motivational/attitudinal shift explanation vs a cognition model. To do this, boredom as a stimulus should be further targeted, as should similar constructs related to self-discipline (e.g. frustration, patience, and self-efficacy), with studies similarly focussed on people with low self-control (including Dark Triad individuals).

Lastly, as boredom is likely to be somewhat inevitable for most of us at some point at work, we join scholars such as Van Tilburg & Igou (2017a) in calling for future research to look at the upsides of boredom in the workplace – e.g. enhanced OCB as a response to a lack of meaning or monotony at work.

4.7 Conclusion

We investigated the negative emotion boredom as a mechanism relevant to moral thinking and behaviour affecting the Dark Triad. Prior studies have linked boredom to a host of social, emotional and psychological problems, including enhanced impulsiveness, increased hostility and reduced well-being. However, boredom as an influence on moral awareness and moral decision making has been substantially overlooked, as has how boredom relates to Dark Triad individuals. We conducted two on-line RCT studies. In the first study where the outcome was moral awareness (N=600), boredom was a negative influence. Dark Triad people did not show moral awareness different to low-DT individuals, and neither did they respond to the boredom manipulation differently to low-DT people in terms of their impeded moral awareness caused by the boredom manipulation.

In the second study for which the outcome was cheating (N=586), boredom was not found to influence cheating behaviour. Cheating positively predicted increased guilt, and this a relationship was moderated (strengthened) for Mach and Psyc personalities. This finding is consistent with that from Paper 2 that showed that for Mach and Psyc personalities guilt is *not* reduced as part of the post-moral disengagement process, as it is for people lower in these traits. This implies that management should target heightened feelings of guilt in any Machs and Psycs who are suspected of having acted unethically at work, as these Dark Triad personalities feel and retain guilt which could open them up to being coaxed to admit unethical behaviour as a route to diminish this negative emotion. In respect self-control theory, our results on the ineffectiveness of boredom to influence DT people in their moral decision-making disfavours a motivational shift-model explanation of self-control, in favour of a cognitive model for such personalities.

Part 3

Positive outcomes

Chapter 5

Flattery as a situational influence on positive behaviours pursued by Dark Triad individuals: - (i) co-operation, (ii) creativity, and (iii) ethicality (Paper 4)

5.1 Introduction

Flattery – the art of currying favour from a target by providing exaggerated favourable feedback – is one of the oldest methods of persuasion, and is ubiquitous in organisations (Long, 2021) for good reason – it works (Chan & Sengupta (2010). People who are flattered feel good, are motivated to 'believe' the overblown feedback even when they are aware of ulterior motives driving the flatterer, and are inclined to reward the flatterer in some way – thus there is a win-win for flatterer and target (Vonk, 2002). Flattery is of interest to us primarily because of our correlational findings presented in Paper 1 (Study 1) of this thesis, which showed that amongst the Dark Triad cluster, Machs and Narcs (but not Psycs) showed strong positive associations with ingratiation (which comprises flattery and opinion conformity) – i.e. these personality types use flattery as an impression management tactic. This is important to know because Dark Triad people dominate managerial and leadership positions in organisations (Furtner et al., 2017), so their behaviour has great influence on organisational performance, and organisational culture and norms.

In the present study we look at how flattery influences positive workplace outcomes, specifically co-operation, creativity and ethical behaviour, and in particular in respect of people who are high in Dark Triad traits. All three outcomes are critical to the success of any organisation. There are only a handful of prior studies that have focused on flattery as an influence, none of which have considered how it relates to any of our outcomes, or looked at how flattery affects Dark Triad people. Consequently, there is a considerable research gap in our area of interest. Given that Dark Triad individuals seem prone to engage in flattery, our goal is to understand whether flattery might enhance positive workplace behaviour and outcomes in relation to Dark Triad individuals. Consequently, this study addresses the specific research question: *"Does flattery influence Dark Triad behaviour in respect of positive outcomes, i.e. - creativity, co-operation, and ethicality?"*

This current research involves us conducting three on-line RCTs and applying the same flattery manipulation in each experiment in which we measure co-operative behaviour as the outcome variable in Study 1, creative thinking as the outcome variable in Study 2, and unethical behaviour (i.e., specifically cheating) as the outcome in Study 3. Each participant group comprises experienced working professionals of all personality types, but our focus is on DT personality traits which we measure pre-manipulation. For ease of reference, henceforth in this paper, we use the terms "Mach" or "Machs" to refer interchangeably to the trait of Machiavellianism or to a person or persons with Machiavellian traits, and similarly we use the terms "Narc(s)" and "Psyc(s)" in the same vein.

The rest of this paper is set out as follows; Section 5.2 discusses the main theoretical perspectives underpinning this study and develops the hypotheses to be tested; Sections 5.3, 5.4 and 5.5 describe the method applied and results from the three studies; Section 5.6 presents a discussion of our findings, implications for theory and practice, and limitations; and Section 5.7 concludes.

5.2 Theory and hypothesis development

To address the research question we develop a series of hypotheses for each of the outcomes in turn, based on a short review of what is known theoretically and from prior empirical research. First, we outline what is known about flattery in terms of theory, its association with positive affect, its effect on people engaged in flattery, and the possible outcomes of flattery that might be seen in the workplace. We then review what research tells us about Dark Triad personality and its association with (i) flattery, and (ii) with each of our target outcomes, co-operation, creativity, and ethical decision-making. We then present what is known about three traits related to self-control which are highly relevant to flattery and the outcomes (i.e., self-control, self-esteem, and moral identity). With this context we construct a total 17 hypotheses which underpin the three experiments.

5.2.1 Theoretical rationale

Flattery – what is it, how does it influence us, and why?

Flattery as a construct

There is a vast literature on *social influence* tactics that has emerged across a number of disciplines including social psychology, political science, marketing and organisational behaviour. As Park et al. (2011) point out, the field draws its roots from the pioneering work of Jones (1964) who tackled it through the lens of '*ingratiation*' which he considered to be an underlying mechanism by which people form relationships and develop social influence. It is helpful upfront to establish nomenclature and some key definitions as there is some construct ambiguity within the literature. Ingratiation is a form of 'impression management' (IM) – a collective term that describes image-related behaviours

that are often seen as self-centred and selfish, whereby an actor seeks to "*create, maintain, protect or otherwise alter an image held by a target audience*" (Bolino et al., 2008; Bozeman & Kacmar, 1997). Specifically, ingratiation has been defined as "*a pattern of interpersonal influence behaviour that serves to enhance one's interpersonal attractiveness or curry favour with another person*" (Jones, 1964; Park et al., 2011). In the workplace, as elsewhere, ingratiation can be directed upwards toward superiors, downwards towards subordinates, or laterally towards co-workers (Liden & Mitchell, 1988). Scholars have further disaggregated ingratiation into behaviours involving "*flattery, opinion conformity and favour doing in order to be seen as likeable*" (Jones & Pittman, 1982). Opinion conformity is also flattery – just an indirect form of it – because when someone agrees with another person's opinion, they validate that person's judgment (Park et al., 2011).

In our view the most precise and succinct definition of flattery is that provided by Fogg & Nass (1997, p.551) as "*communicating positive things about another person without regard to that person's true qualities or abilities".* In the present study we adopt this definition of flattery which is clearly distinguished from its associated constructs discussed above, i.e., opinion conformity, ingratiation, and impression management. That said, most prior work on workplace outcomes associated with flattery has considered ingratiation as the measured influence (rather than flattery as a unique influence). Park et al. (2011) considers ingratiation to comprise 'flattery and opinion conformity'. Consequently, in keeping with other scholars and given the close similarity of ingratiation and flattery as constructs, we suggest we can reasonably use the two terms interchangeably in assessing the results of previous studies.

The theory of flattery

Consistent empirical findings from previous studies have helped develop a reasonably well developed 'theory of flattery'. Flattery theory explains the success of this IM tactic in stimulating social influence based on two well-researched mechanisms: - (i) engendering positive affect in the target; and (ii) instilling feelings of reciprocity in the target towards the flatterer (Park et al., 2011). As a result, there are benefits for both sides of the social interaction. Most prior work has examined flattery with a focus on the flatterer – i.e. who uses flattery, who do they direct it towards; in what contexts; and for what purposes (Fogg & Nass, 1997). More recently, there have been a handful of studies which have looked at the effect of flattery on the target. It is informative to consider flattery theory by looking at what is known about the effect of flattery from the perspective of each of the flatterer and target, which we look at in turn.

For the flatterer, the clear benefit accruing is reciprocity from the target, which will manifest in some form of subsequent benefit to the flatterer. The norm of reciprocity is a powerful influence, as the target of flattery will feel compelled to return the 'favour' by supporting the interests of the flatterer in some manner (Vonk, 2002; Cialdini & Goldstein, 2004). Turning to the target, Fogg & Nass (1997) outline four primary effects of flattery on the target who tends to: - (i) believe the flatterer is speaking the truth; (ii) experience positive affect; (iii) like the flatterer; and (iv) judge the performance of the flatterer more favourably than they otherwise would. Theoretical explanations for these effects are reasonably intuitive. First, people have a primal desire to think favourably of themselves, and consequently are motivated to think that a flatterer is being sincere (Jones, 1964; Taylor & Brown, 1988; Fogg & Nass, 1997). Second, flattery makes the receiver feel good – this effect is so strong that it holds even when the target judges the content of the flattery to be inaccurate or overdone (Byrne et al., 1974). Third, the effect that people like people who flatter them (and make them feel good) is also strong – this holds even if the flattery is over the top (Jones, 1964). Lastly, the target's feelings of positive affect, and liking for the flatterer, extend into influencing the judgment of the target who subsequently has an enhanced view of the flatterer's competence, performance, and even intelligence (Fogg & Nash, 1997), with substantial tangible benefits accruing to the flatterer when the target is a senior resource, e.g., a CEO (Park et al., 2011).

Research has shown that the responses to flattery outlined above are incredibly robust, and substantially persist even in circumstances when the target senses an ulterior motive in the flatterer or views the flatterer as being insincere (Park et al., 2011; Chan, & Sengupta, 2010). In other words, in general people like being flattered, and like those who flatter them (Vonk, 2002). Perhaps not surprisingly, this leads to more favourable impressions being formed of a flatterer by someone who is the target of the flattery, compared with the view of someone who is an uninterested observer (Gordon, 1996). This is the "vain distortion" effect as coined by Jones (1964). It is more rewarding to give credence to praise directed at the self than to another person, and as a consequence the target of flattery may be less able or willing to perceive any ulterior motives in the flatterer, as compared with an uninterested observer – i.e., the so-called 'target-observer effect' (Vonk, 2002). This effect can be explained by the different roles self-esteem and ego play depending on context. Self-esteem serves to influence the target of favourable flattery to accept it uncritically, whereas the same flattery seen by an uninterested observer is likely to be appraised more sceptically as the observer's ego is not challenged (Vonk, 2002). Overall, Vonk (2002) suggests that the target-observer effect is primarily a *cognitive* effect, acknowledging the target's motivations (i) to be liked; and (ii) to like both the flatterer and the positive affect the target experiences by being flattered. Pursuant to this explanation, a person's reaction to flattery is rational – the target simply compares the flatterer's comments to their own view of themselves – and if these are aligned with the target's self-concept (which is likely to be the case if the flattery is favourable) – then the target makes an 'entity attribution' where

the target is the entity (Kelley, 1973; Vonk, 2002). This will result in the target inferring that the favourable flattery feedback accurately and fairly reflects the characteristics of the entity (themself), such that other possible explanations for the feedback can be dismissed (e.g., the flatterer's ulterior motives, (Vonk, 2002)). Moreover, the different responses to flattery are driven by different motivations (Swann et al., 1987): - cognitive responses result from a need for *self-consistency* (as a result, the target's judgment of the flatterer does not change if an ulterior motive is apparent); whereas affective responses are driven by the need for *self-enhancement* (which does change if ulterior motives are detected, resulting in a reduced evaluation of the flatterer by the target).

Outcomes of flattery on participants

Most prior work on organisational outcomes associated with flattery has considered outcomes associated with the flatterer as opposed to the target (Park et al., 2011; Fogg & Nass, 1997). The three studies comprising the present research help address this imbalance. The bulk of studies to date have focused on negative outcomes, which is probably as result of researchers considering flattery to be a negative manifestation of the imbalance of power and status amongst employees within the organisation (Yan et al., 2020). We briefly review what previous research tells us looking first at positive and then negative workplace outcomes.

As regards positive outcomes, previous research has considered outcomes affecting individuals, rather than the organisation. For example, evidence suggests that flattery is a good way to advance into and within the corporate elite, especially when directed at the CEO (Stern & Westphal, 2010). Moreover, field studies have shown that flattery is associated with positive performance evaluations as well as higher compensation, (Gordon, 1996; Higgins et al., 2003; Park et al., 2011). As a result, sophisticated and well-disguised flattery is often used by top managers for self-benefit in the form of career progression (Stern & Westphal, 2010). We were not able to find any studies in the literature that report positive outcomes from flattery accruing to the organisation.

As Bolino et al. (2013) demonstrate, flattery and ingratiation are sometimes associated with 'dark side' behaviours. Employees who feel they need to engage in flattery and ingratiation directed at the CEO (Keeves et al., 2017) or at supervisors (Ferro, 2010), develop feelings of resentment arising from the associated threat to their self-esteem. Moreover the negative affect felt by flatterers can trigger dysfunctional behaviour such as undermining those in leadership and generally damaging the social capital of the target of the flattery. Further, flatterers may well suffer reputational damage because they are seen by colleagues as 'slimy' (Vonk, 2002), untruthful, unreliable and manipulative (Yan et al., 2020), with corresponding negative career implications. The targets of flattery can also face negative outcomes, for example being surrounded by sycophants and continually receiving undue praise can result in those in management and leadership gaining unrealistic perceptions of self-performance, which can lead to over-confidence, sub-optimal strategic decision-making and ultimately to organizational underperformance (Park et al., 2011).

Possible workplace outcomes arising from flattery

We suggest that flattery may impact workplace outcomes primarily because of the influence the associated positive affect has on the flattery target. As we outlined above, flattery theory suggests that positive affect felt by the target is a crucial component of the flattery mechanism (Park et al., 2011). There is a large body of research that has looked at how positive mood affects people, and more recently how affective and cognitive processes co-operate (Akbari Chermahini & Hommel, 2012), not least in the workplace (Ashton-James et al., (2009). Not surprisingly, positive affect and negative affect provide contrasting feedback that influence cognition and behaviour in very different ways. Positive affect signals well-being and goal progression (Kahneman, 1999) and facilitates processing global perceptive information (Gasper & Clore, 2002). Negative affect is a marker of problems that requires a search for solutions (Schwarz, 1990), narrowing the focus of attention (Rowe et al., 2007) and facilitates analytical processing, causal reasoning and systemic processing (Pham, 2007; Akbari Chermahini & Hommel, 2012). Consequently, positive affect enables people to be receptive to new ideas and experiences, in contrast to negative affect which results in caution and a preference for the familiar over the novel (Ashton-James et al., 2009). We briefly outline what research informs us about how positive affect might influence the outcomes of interest - co-operation, creativity, and ethicality – which, given the association of flattery with positive affect as outlined above, we consider relevant for assessing how flattery might influence these outcomes.

As regards the influence of flattery-induced positive affect on co-operation, there are competing theories. Fredrickson's (1998) broaden-and-build theory argues that positive emotions have functional utility beyond merely feeling good, such as building social connections and relationships. Pursuant to this model, positive affect broadens an individual's range of thoughts and actions and promotes opportunities for an individual to discover and develop personal resources, which includes building future social relationships (Kjell & Thompson, 2013). This line of thinking in which a positive mood leads to more open and helpful behaviour (including enhanced co-operation) has been demonstrated experimentally in one-shot economic decisions (Drouvelis & Grosskopf, 2016). Alternatively, Proto et

al. (2017) argue that the 'cognitive' perspective suggests that individuals exposed to positive affect exhibit enhanced assertiveness and avoid more demanding systemic mental effort – i.e. the type of cognitive effort which is required in a co-operative Prisoner's Dilemma situation (which can mimic the risks and rewards inherent in complex co-operative organisational settings). In this case it would follow that positive affect would *negatively* impact co-operation, a prediction that has empirical support.

Turning to creativity, this outcome seems to have a particularly close relationship with mood (Akbari Chermahini & Hommel, 2012). Several authors have demonstrated that positive mood enhances creativity, although findings are inconsistent and the nature of the interaction is not well understood (Isen, 1999; Akbari Chermahini & Hommel, 2012). Mood may for example alter specific brain states conducive for creative thinking (Ashby & Isen, 1999). This would align with the idea that flattery-induced positive affect activates thinking processes that help generate broader and novel perspectives that are necessary for the creative process (Bar, 2009), i.e., positive affect increases cognitive flexibility resulting in enhanced creativity (Isen, 1999; Madjar et al., 2002).

Lastly, looking at how flattery-induced positive affect may influence ethical decision-making, we could only find one study that has considered the positive affect/ethicality relationship (Medai & Noussair, 2021), which the authors claim is the first experimental study of this association. This study, which is based on a laboratory die-roll task, found that positive affect led to enhanced ethicality. There has also been limited theoretical work explaining how positive affect (and other emotions) might impact ethicality. Anger is known to increase deception, whilst guilt reduces it (Motro et al., 2018). Brain imagery studies suggest that deception requires more cognitive effort than does honesty (Greene & Paxton, 2009; Medai & Noussair, 2021), and so we posit that someone in a positive mood may not wish to disrupt their mental state by taking on more cognitive load that dishonesty would require. In this case, positive mood would *increase* ethicality. However, it is possible to argue the alternative – that positive affect serves to *reduce* ethicality. We mentioned earlier that positive affect signals well-being and goal progression (Kahneman, 1999), and posit that these positive self-directed feelings might serve to overcome intrinsic self-control inhibition associated with acting unethically, thereby *permitting* self-serving behaviour to occur, i.e., dishonesty. In this case, positive affect would negatively influence ethicality. To support this contention, we highlight the results from prior studies in which positive affect was shown to enhance: - (i) creativity (Isen, 1999; Madjar et al., 2002); and (ii) moral disengagement Vincent et al., (2013). In both cases, a possible explanation is that positive affect may have served to increase cognitive flexibility, which we suggest could work against the inhibitory effect of increased cognitive effort required by unethical behaviour (Greene & Paxton, 2009)

Dark Triad, flattery, and positive outcomes

Dark Triad individuals are not nice people

In the present research our interest in Mach, Narc and Psyc personalities as a cluster is driven by their relative success in the corporate world (Furtner et al., 2017; Diller et al., 2021). In short, organisations have to deal with Dark Triad people, particularly in their management and leadership ranks. Motivating DT people to display more of the behaviours that result in positive outcomes for the organisation is obviously of high interest to leadership and business owners. To understand how this may be possible to achieve, it is necessary to be cognisant of DT personality traits, what theory tells us about why these traits have arisen, how these personalities may be influenced by flattery, and what is known about how DT people are associated with the positive outcomes of interest, i.e. citizenship, creativity and ethical behaviour. We briefly outline what research tells us in this regard.

Machs distrust others, engage in amoral manipulation, seek status, and try to maintain interpersonal control (Dahling et al., 2009; LeBreton et al., 2018). These individuals are strategic rather than impulsive (Jones & Paulhus, 2014), with their sole concern being their reputation and success (Hare & Neumann, 2008). More positively, Machs are good at applying strategic and management tactics; are adaptable in an office environment where they can contribute and when necessary they can be co-operative and apply pro-social strategies (D'Souza et al., 2019). Narcs are the least dark of the Dark Triad cluster (Jones & Paulhus, 2017). Their defining characteristic is ego – they boast, seek attention and have a strong sense of entitlement, but have low self-esteem (Harrison et al., 2018) and as a result harbour an underlying insecurity (Jones & Paulhus, 2017). Consequently, Narcs seek ego re-enforcement which can be self-destructive (Morf & Rhodewalt, 2001; Vazire & Funder, 2006). On the other hand, Narcs often have vision, charisma and high intelligence, and are able to attract followers. Psycs have the most toxic personality within the Dark Triad (LeBreton et al., 2018). Pyscs are known for their callousness but also exhibit a host of other maladaptive tendencies including lying, irresponsibility and criminality (Williams et al., 2007). Psycs lack self-control and resemble Narcs by favouring short-term behaviour (Jones & Paulhus, 2017) - as a result they struggle to make meaningful personal relationships (Hare, 1991). Positive attributes of Psycs include decisiveness and a capacity for risk taking.

Taken together, we see that there is some overlap across the Dark Triad sub-components. On the negative side, people high in DT traits are associated with callousness (Jones & Paulhus, 2010); a lack of empathy (Wai & Tiliopoulos, 2012), and a predisposition to deceive (Baughman et al., 2014. More positively, Dark Triad individuals show strong leadership skills, are persuasive, and have good crisis management skills (D'Souza et al., 2019).

In terms of explaining the maladaptive behaviours of Dark Triad individuals, two perspectives dominate, reflecting the 'nature or nurture debate', vis-à-vis (i) evolutionary theories (life history theory, and psychogenic motivation theory); and (ii) social exchange theory.

Life history theory is based on the trade-offs involved in reproduction between parenting and mating (Furtner et al., 2017; Del Giudice et al., 2015). Someone who prioritises parenting is said to follow a slow life history strategy; a person who prioritises mating is said to adopt a fast life history strategy. Research suggests that Dark Triad individuals display a fast life history strategy, characterised by short-term interactions (including in respect of partners), selfishness and other anti-social behaviours including impulsivity and opportunistic interpersonal relationships (Furtner et al., 2017). A fast life history strategy provides advantages in the short term, but not over the longer term as a result of social and often formal punishments (Jonason & Tost, 2010). Another explanation for the causal origin of Dark Triad personalities grounded in evolutionary theory is psychogenic motivation theory which derives from motivational psychology. Psychogenic motivation theory suggests that there are three innate and universal motivations: - (i) the need for achievement; (ii) the need for power; and (iii) the need for affiliation (Deci & Ryan, 2000; Jonason & Ferrell, 2016). A need for achievement reflects a constant desire for self-improvement; a need for power entails a desire to influence and control other people; and a need for affiliation reflects an aim to build, maintain or restore positive relationships (Furtner et al., 2017).

Social exchange theory (SET, Blau 1964) suggests that employees work for both direct rewards (such as pay), as well as indirect benefits (such as status and admiration, (Settoon et al., 1996)), and explains how 'exchanges' create organisational relationships which build trust, fairness, and mutual support (Cropanzano & Mitchell, 2005). SET has been shown to provide a strong theoretical basis for explaining observed outcomes in the workplace in relation to 'average' individuals (Kacmar et al., 2003). We are concerned in the present research with how people high in DT traits can work with others to establish healthy patterns of co-operation, express creativity, and act ethically. People high in DT traits "are not like most people" (O'Boyle et al., 2012). Rather, they have traits that are likely to undermine the binding influence of interpersonal relationships, based on how they see the world in terms of value rewards and costs, reciprocity, and emotional commitment to others. We can draw on SET to predict how Dark Triad people may behave in the workplace in regard to two of these outcomes, i.e., co-operation and ethical behaviour. Machs are natural manipulators who have a dubious moral outlook – traits that are likely to manifest in poor working relationships that are unconducive to co-operation and ethical behaviour (Kish-Gephart et al., 2010). Narcs feel superior, a trait which we would expect to undermine exchange interactions which, pursuant to SET, are based on the resilience of relationships underpinned by reciprocity and obligation. Narcs may see themselves as being 'above' the need to co-operate, and that the usual standards 'do not apply to them' (Bogart et al., 2004), resulting in negative associations with both co-operative and ethical behaviour. Psycs are the most morally bankrupt of the DT, and together with Machs make up the 'malicious two' (Rauthmann & Kolar, 2012). Moreover, Psycs mirror Mach traits in their strong natural insensitivity to others, and disinterest in meeting social obligations or complying with the norms of reciprocity, so for Narcs we should expect similar negative associations with co-operation and ethical behaviour as for Machs.

Dark Triad and flattery

So what does research tell us about how the Dark Triad relate to flattery and positive affect? In short, very little. We could find no prior studies on the influence of flattery on DT personality, nor could we locate any studies showing how positive affect influences Dark Triad individuals. The only relevant previous research we were able to find is correlational in nature involving either (i) DT's association with flattery (i.e. as flatterer); and (ii) DT's association with positive (and negative) affect, i.e., their moods in the absence of any manipulation.

As indicated earlier, most prior work on flattery has measured ingratiation rather than flattery as a single construct. Prior results are reasonably consistent and show that from the Dark Triad cluster, Narcs (Spain et al., 2014) and Machs (Becker & O'Hair, 2007) are positively associated with ingratiation. In Paper 1 (Study 1) of this thesis, we conducted a correlational study to assess how impression management is associated with the Dark Triad, including inter alia, ingratiation and the related practice self-promotion. Specifically in respect of ingratiation, we found trait distinctions amongst the DT which are consistent with previous results: - Narcs are strongly positively associated with this form of impression management (a result which reflects their deep tendency for self-absorption (Emmons, 1987)); Machs show a positive association; but Psycs show no relationship. These findings suggest that in the current experiments which isolate flattery as the unitary form of impression management, we should expect Machs and Narcs to be positively associated with flattery. In the Paper 1 study, we also found that in-group members are positively associated with ingratiation tactics, presumably because ingratiation helps to maintain their in-group status, and moreover is

permitted by dyadic leader-member relationships, which throws light on these relationships as incubators of such selfish behaviours which can cause toxicity in the organisation.

Dark Triad and positive outcomes

The Dark Triad personality traits catalogued above evidently are not best suited for promoting two of our target outcomes (citizenship and ethicality), yet research shows that the relationships between the Dark Triad and these organisational outcomes is somewhat contradictory (Le Breton et al., 2018). In respect of the third outcome (creativity), the few studies available also show inconsistent findings. We briefly review findings linking the DT to co-operation, creativity and ethical behaviour in turn.

Co-operation

For an organization co-operation amongst staff is crucial if it is to optimise team performance and achieve efficiency and financial targets. However, co-operation generates benefits at the group level and costs at an individual level, so for an individual it involves a choice to give up the possibility of maximizing individual interests to benefit group interests (Qi et al., 2022). Given the Dark Triad traits outlined above which prioritize personal goals over social balance (O'Boyle et al., 2012), we would expect to find strong negative relationships between each Dark Triad sub-component and co-operative behaviour. Many researchers use OCB as a proxy for co-operation in the workplace (Thau et al., 2004). The few studies that have been undertaken show broadly consistent results (Smith et al., 2018). Smith et al. (2016) considered the Dark Triad as a cluster and reported a negative relationship with OCB for each of Mach, Narc and Psyc. There seems to be consensus regarding Psycs and OCB – i.e., there is a robust negative relationship (Boddy et al., 2010). Negative associations with OCB have also been reported for Machs (Becker & O'Hair, 2007), and Psycs (Boddy et al., 2010).

In Paper 1 of this thesis we undertook a correlational study (Study 2) which looked at positive outcomes including OCB. We found that only Pyscs were negatively associated with OCB, Machs showed no relationship, and Narcs were *positively* associated with OCB. We interpreted these findings as suggesting that Machs might be 'persuadable' to partake in OCB given the right environmental conditions. We also urged caution regarding the Narc result which might reflect self-deception, which Narcs are prone to (Jones & Paulhus, 2017).

Also apparent in prior research is a tendency for Dark Triad people to engage in OCB where there is some self-benefit. For example, Bourdage et al. (2012) found that employees low in Honesty-Humility (H-H) were particularly likely to engage in OCB for self-serving motives (as outlined earlier, low H-H is a characteristic trait of Dark Triad individuals). In respect of Machs, Smith et al. (2018) found these personalities show a *positive* relationship with OCB when the OCB is both challenging and where there is perceived self-benefit or recognition, a finding which points to the means-focused priority of Machs. Also for Machs, Becker & O'Hair (2007) reported that the negative relationship with OCB weakened when the OCB target was an individual (rather than the organisation), which the authors interpret as being motivated by the possibility of recognition and subsequent reciprocity.

Creativity

Creativity in the workplace is a key driver of innovation, competitive advantage, and success (Zhou & Hoever, 2014; Fillis & Rentschler 2010). Creativity is typically defined as an outcome, i.e., products, services, business models, work methods or management processes that are "*novel and useful*" (Shalley et al., 2004). Creativity can be quantified with relative ease and consensus, both in field studies (Zhou & George, 2001; Amabile, 1996), and in the laboratory (Zhou & Shalley, 2011).

Creativity is thought to comprise two primary psychological components: - convergent thinking and divergent thinking. These work in partnership to produce creative output (Olson et al., 2020), but involve different types of cognitive processes and rely on different neurocognitive states (Akbari Chermahini & Hommel, 2012). More specifically, convergent thinking requires focus and a constrained mental search process which will screen out irrelevant information, whereas divergent thinking requires the distribution of processing resources (Akbari Chermahini & Hommel, 2012) and an open-ended thought process. Recent studies have shown that positive affect is positively associated with divergent thinking (Davis, 2009), and in a reverse-causality study convergent thinking has been shown to be negatively associated with subsequent positive mood (Akbari Chermahini & Hommel, 2012).

Although empirical data is sparse, successful entrepreneurs are widely presented as having high DT traits to be successful (Cooke, 2020). But what do research findings have to say on this? Over the last 20 years there have been numerous studies addressing the link between DT and creativity, which Lebuda et al. (2021) posits has probably been driven by the fact that DT traits include self-confidence, nonconformity, and emotional coldness - which are traits considered instrumental for a creative personality. The presumed positive relationship between aversive personality

traits and creativity has led some researchers to suggest that the two co-exist as a result of selection pressure, and play a significant evolutionary role in mating (Furnham et al., 2013), whilst others believe they may be related neuropsychologically (Galang et al., 2016; Lebuda et al., 2021). In this case, we should expect that DT will be positively associated with creativity. In practice, empirical findings are mostly mixed regarding this association.

The relationship between Mach and creativity is the least studied. As Machs are highly manipulative, this trait might be thought of as one that could facilitate their tendency to weave facts with lies to construct self-beneficial fabricated narratives, i.e., something that might strengthen creative abilities (Gino & Ariely, 2012; Lebuda et al., 2021). However, empirical results indicate that Machs are not positively associated with creativity. Rather, we located one study which found no association (D'Souza et al., 2019); and two studies which showed Mach and creativity were negatively associated (Wisse et al., 2015; Dahmen-Wassenberg et al., 2016), which we suggest may point to their sense of carefulness and instrumentality which stifles inherent creativity. Finally, we note that in Paper 1 of this thesis, we performed a correlational study on positive outcomes in the workplace (Study 2), which included self-assessed creativity – our findings showed no association which aligns with the D'Souza et al. (2019) finding.

The association between Narc and creativity has received the most attention from Dark Triad and creativity scholars. This may be because Narcs are loud, boastful and seek to be associated with socially desirable characteristics (e.g. creativity) to gain attention and appreciation (Furnham et al., 2013), such that people may 'believe the hype' that they are indeed creative. Empirical results based on demonstrated (objective) creativity measures show no association for Narcs (Lebuda et al., 2021). However, Narcs *believe* they are highly creative (Goncalo et al., 2010), and in many published studies it is this belief that is captured via self-assessed creativity measures which consequently show a positive association between Narc personality and creativity. Note that our finding in Paper 1 (Study 2) is supportive of this explanation - our regression results showed a highly significant positive relationship between Narc and self-assessed creativity. Another interesting finding points to the effect that Narcs have on those around them regarding creativity – i.e., Narcs *appear* to be more creative when pitching, as their innate enthusiasm (erroneously) influences this judgment of them, a result which LeBreton et al. (2018) suggest represents a further demonstration of the manipulative powers of Narcs.

Turning to Psycs who are the most practical, pragmatic and 'hands on' personality type within the Dark Triad, it would be reasonable to expect them to be less endowed with creative thinking skills which require fluid, imaginative, and divergent cognitive processing abilities. In the main, empirical results are reasonably consistent – Psycs are negatively associated with demonstrated creativity (Dahmen-Wassenberg et al., 2016; Wisse et al., 2015), or else show no association (Lebuda et al., 2021), albeit some earlier results that show a positive association (e.g. Eysenck, 1993) may be because self-report measures were used. Our correlational results from Paper 1 (Study 2) of this thesis show no association between self-reported creativity and Pysc, consistent with Lebuda et al. (2021).

Ethical decision-making

Dark Triad traits strongly suggest that these personalities would be negatively associated with ethical decision-making and positively associated with various negative outcomes: - there is overlap across Mach, Narc and Psyc sub-components in relation to callousness (Jones & Paulhus, 2010); lack of empathy (Wai & Tiliopoulos, 2012), and a predisposition to deceive (Baughman et al., 2014). Although relatively few studies have been undertaken to date the bulk (with some contradictions) demonstrate negative association between Dark Triad traits and ethical behaviour (Harrison et al., 2018; Templer, 2018; O'Boyle et al., 2012). Consequently, in keeping with most researchers, we refer henceforth to DT's association with *un*ethical behaviour (rather than with ethical behaviour).

Additional results show interesting nuances within the Dark Triad and how they relate to specific contexts and aspects of unethical decision-making. Cohen (2016) indicates that Dark Triad people are attracted to (and have heightened feelings of comfort in) ambiguous environments where the probability of being caught for improper activity is lower. Harrison et al. (2018) obtained results which suggest Dark Triad personality traits affect different parts of the unethical decision-making process: - Machs act unethically but downplay perceptions of the opportunities open to them to deceive; Narcs act unethicality for their personal benefit, but also seek to downplay perceptions of their abilities to do so successfully; and Psycs act unethically and spend effort rationalising their behaviour. Finally, a recent study suggests that unethical decision-making by the Dark Triad people may be linked to their inability to maintain concentration and tendency to take short cuts, particularly Machs and Psycs (Jonason & O'Connor (2017). The findings from our correlational study presented in Paper 1 of this thesis (Study 1) are consistent with prior results as regards unethical behaviour (and reveal novel granularity as regards selfish behaviours). We found that Machs and Psycs both engage in unethical behaviour, confirming the conceptual closeness of the Mach/Psyc dyad in respect of moral behaviour (Rauthmann & Kolar (2012). Conversely, we found that Narcs were not associated with unethical behaviour, a finding that corroborates prior studies which suggest that Narcs are the least morally suspect of the triad (Jones & Paulhus, 2017). However, we caution that Narcs are known for self-deception (Jones & Paulhus, 2017) which could bias the correlational result, something the RCT experiment in the present research should help resolve.

Other relevant traits related to self-control: – self-control, self-esteem and moral identity

For any assessment of the possible influence of flattery on a Dark Triad individual, or any other personality type, it is important to be cognisant of other self-control related traits that could affect this relationship. We argue that self-control is relevant in the study of flattery because flattery and ingratiation require effort and the appearance of sincerity, which may drain control resources (Vohs & Baumeister, 2004) - evidenced by studies that show a positive association with deviance in the workplace (Klotz et al., 2018). We selected self-control, self-esteem and moral identity as relevant constructs for inclusion in our experiments. Self-control is a construct that captures how a person deals with temptations and desires that may feel good in the short term but which are detrimental overall – flattery makes people feel positive as the flatterer seeks to curry favour which may not be optimal for the target of flattery, in which case self-control could serve as an important inhibitor. High self-esteem serves to influence the flattery target to accept favourable praise uncritically compared with an observer (Vonk, 2002). In addition, someone who engages in flattery faces a threat to their self-esteem which can have negative affective consequences for them (Keeves et al., 2017; Ferro, 2010). We posit that moral identity is relevant to flattery because flattery is similar in some sense to bribery, but with words rather than money or goods and appealing to the target's vanity rather than material self-interest (Eylon & Heyd, 2008), and thus this may not be so effective on someone with high moral identity.

Self-control

Self-control can be defined as "*the capacity to alter or override dominant response tendencies, and to regulate behaviour, thoughts and emotions*" (De Ridder et al., 2012, p.77). Some scholars argue that self-control is a function of *cognitive capacity*, a resource that is solely under the control of the individual. The alternate view is that self-control relates to *shifts in motivation / attitudes,* which are affected by context and the prevailing situation. In recent years a number of researchers have characterised the motivational shift model of self-control as a finite resource akin to a muscle (i.e. the so-called 'strength' model of self-control (Baumeister et al., 1994)). Evolutionary life history theory suggests that Dark Triad individuals are likely to have limited self-control (Jonason & Tost, 2010). Empirical results have been somewhat inconsistent, however self-control has indeed been shown to be an important aspect of Dark Triad personality (Jonason & Tost, 2010; Jones et al., 2011; Lyons & Rice, 2014). Jonason et al. (2014) report that Dark Triad individuals (particularly Machs and Psycs) are associated with limited levels of self-control, high rates of attention deficit, and a tendency not to consider future consequences of their actions. Conversely Paulhus (2014) found that Machs have the *highest* level of self-control amongst Dark Triad individuals, a result which echoes those of Jones & Paulhus (2011) on impulsivity, and Lyons & Rice (2014) on procrastination amongst the Dark Triad: - both studies suggest that low trait self-control is an important influence on how Narcs and Psycs (but not Machs) behave.

Self-esteem

Self-esteem is an evaluation or judgement of the self (Wells & Marwell, 1976; Suar et al., 2016). It has been shown to be positively associated with several positive organisational outcomes, including citizenship (McAllister & Bigley, 2002; Suar 2016). We are not aware of any reported association between self-esteem and creativity. In respect of ethicality, evidence suggests that individuals with high self-esteem look to avoid unethical behaviour and anything that will harm their reputation (Avey et al., 2011), and look to act ethically to preserve their sense of self-worth (Suar et al., 2016). In respect of Dark Triad personalities, research shows that Narcs have high self-esteem (yet engage in unethicality), and Machs are negatively associated with self-esteem (Stenason, 2014). For Psycs, results are mixed concerning their association with self-esteem - Miller et al., (2010) reported a strong negative association whereas Stenason (2014) found no association.

Moral identity

Moral identity can be defined as "*a self-conception organized around a set of moral traits*" (Aquino & Reed, 2002, p.142). It plays a crucial role in self-concept and individuality (Xu et al., 2023). Moreover, moral identity acts as a self-regulatory mechanism which motivates moral actions (Hardy & Carlo, 2011) and so can be thought of as part of a person's self-control apparatus. Moral identity plays no role in respect of co-operation or creativity, but as might be expected research has shown that people with a strong sense of moral identity tend to get involved relatively less in unethical behaviour (Lefebvre & Krettenauer, 2019). Indeed, people who claim that moral identity is very important to them (i) are characterised by relatively high moral self-regulation (Gino et al., 2011); and (ii) strive harder to act consistent with their innate morality (Aquino & Reed, 2002). There is also no surprise to see empirical findings which show Dark Triad people to be negatively associated with moral identity (Maffly-Kipp et al., 2023).

5.2.2 Hypotheses

Hypotheses H1-H6 relate to Stusy 1 for which the primary outcome variable is co-operation. H7-H12 involve creativity as the outcome investigated in Study 2, and H13 -H17 deal with unethical decision-making as the outcome (i.e. specifically cheating behaviour), which is tested in Study 3.

Flattery and positive effect in the target (H1)
People are vain and have a primal desire to think favourably of themselves (Jones, 1964). Consequently, flattery makes them feel good (Byrne et al., 1974). People compare the flatterer's comments to their own view of themselves, which if favourable, the two will invariably align so self-concept is maintained. Thus, people are motivated to think that the flatterer is being sincere (Fogg & Nass, 1997). Numerous prior studies have shown this link between flattery and positive affect in respect of the target of flattery, hence:

H1 *Flattery increases positive affect.*

Flattery usage and personality (H2)
Flattery takes effort and time. It also imposes a cost on reputation (Vonk, 2002), as well as emotional well-being because of the damage to self-esteem (Keeves et al., 2017; Ferro, 2010). Not everyone has the capacity or desire to engage in this behaviour. In Paper 1 of this thesis our correlational study (Study 1) showed that Machs and Narcs are positively associated with ingratiation (which comprises flattery and opinion conformity which are closely related). Given the self-interest of Machs and Narcs, and their tendency to pursue ingratiation tactics, we believe both will be associated with using flattery as a tactic, i.e.;

H2 *Machs (H2a) and Narcs (H2b) are positively associated with flattery usage tendency (FUT)*

The effect of flattery on co-operation (H3+H4)
Pursuant to Fredrickson's (1998) broaden-and-build theory, positive affect helps build social connections and relationships as it broadens an individual's range of thoughts and actions and promotes opportunities to discover and develop personal resources (Kjell & Thompson, 2013). Consequently, we expect that positive affect caused by flattery will lead to more open and helpful behaviour, something which has been demonstrated experimentally in one-shot economic decision games (Drouvelis & Grosskopf, 2016). Thus:

H3 *Flattery positively influences co-operation*

On the other hand, people who are avid users of flattery as a tactic are presumably somewhat cynical about human nature and are cognisant of how readily people revert to self-interest. Moreover, because flattery involves costs to the flatterer, presumably a flatterer engages in the practice as it is overall net beneficial, so it is hard to imagine the same person readily engaging in co-operation which involves benefits at group level and costs at the individual level. In broad terms, for an individual co-operation involves a choice to give up the possibility of maximizing individual interests to benefit group interests (Qi et al., 2022). We suggest that the type of personality which engages in flattery (which is a self-interest based pursuit), will avoid co-operation. Hence:

H4 *Flattery usage tendency is negatively associated with co-operation.*

The effect of self-esteem of co-operation (H5)
People with high self-esteem are protective of their reputations (Avey et al., 2011). However, they are also highly self-interested. Co-operative behaviour invariably means trade-offs, and in the workplace can involve 'taking one for the team', vis-à-vis actions which primarily benefit the team or group over the individual (Qi et al., 2022), and moreover may not even come with any recognition or thanks. We suggest that high self-esteem individuals will therefore shy away from co-operative behaviour:-

H5 *Self-esteem is negatively associated with co-operation*

How the Dark Triad relate to co-operation prior to and after being flattered (H6)
Dark Triad people are inherently self-centred, callous and have little regard or empathy for others (Jones, & Paulhus, 2014). Consequently, we would expect DT people not to 'do' co-operation.

H6a *DT is negatively associated with co-operation*

Moreover, we expect that the toxicity of Dark Triad people will impede the positive influence of flattery on co-operation:

H6b *The relationship between flattery and co-operation is moderated by DT traits: - for those with high DT traits the positive relationship between flattery and co-operation is weaker than for those with low DT traits.*

Moving on to creativity as the outcome variable:

Flattery and its influence on positive and negative affect (H7)
Theory suggests that positive and negative affect may relate differently to the two types of creative thinking (convergent and divergent thinking). We therefore measure both positive affect (which involves replicating H1) and negative affect which we suggest will be influenced by flattery inversely compared with positive affect – the feel-good emotion generated by flattery will both increase positive affect and reduce negative affect:

H7a *Flattery increases positive affect.*
H7b *Flattery reduces negative affect.*

Dark Triad and (self-assessed) creativity (H8)
As we have seen, Dark Triad people are not short on self-confidence or self-interest. When presented with a self-assessed measure of creativity, someone with high self-esteem may be inclined to rate themselves highly. Creativity is strongly associated with attractiveness and can make someone more attractive than social status, physical appearance, or intelligence (Novaes & Natividade, 2023). Consequently, we suggest people will generally want to think of themselves as having the attractive quality of creativity. Narcs have high self-esteem and Machs are negatively associated with self-esteem (Stenason, 2014). Narcs are also prone to self-deception (Jones & Paulhus, 2017). Psycs are pragmatic and the least 'showy' of the Dark Triad (Dahmen-Wassenberg et al., 2016). So, we suggest that Narcs alone amongst the Dark Triad will be positively associated with self-assessed creativity:

H8 *Narcs are positively associated with self-assessed creativity.*

Flattery influences creativity (H9)
As we saw above, flattery induces positive mood. Positive mood promotes cognitive flexibility and fluid thinking (Vincent et al., 2013). Convergent creative thinking requires focusing in depth on single issues which calls for a strongly constrained cognitive search process which will be dampened by increased positive affect and reduced negative affect (Akbari Chermahini & Hommel, 2012). Divergent thinking tasks require participants to generate as many target-related responses as possible with only limited constraints, i.e., to engage in more holistic and open-ended thinking which is likely to be positively influenced by positive affect because this activates thinking processes that help generate broader and novel perspectives that are necessary for the creative process (Bar, 2009). Indeed, research has shown that there is a strong positive connection between divergent thinking and positive mood (Baas et al., 2008; Davis, 2009). Therefore, we predict that flattery will influence the two forms of creative thinking differently, i.e., in opposite directions: -

H9a *Flattery reduces convergent creativity*
H9b *Flattery increases divergent creativity*

Self-assessed creativity does not predict demonstrated creativity (H10)
Creativity is a complex phenomenon (Montuori, 2017). People typically overestimate their abilities compared to an 'average' person. We have doubts about the veracity of self-assessed measures of creativity, i.e.

H10 *Creativity (self-assessed) is not related to either convergent creativity (H10a) or divergent creativity (H10b).*

Dark Triad personality and self-control as predictors of demonstrated creativity

Self-control is needed to focus, but impedes more open-ended thinking
Creative performance requires significant cognitive resources (Runco, 2004). Convergent thinking requires focus and the ability to sift out irrelevant information to enable someone to zoom in on the optimal solution to a problem (Olson et al., 2021). In the workplace individuals with high self-control are able to direct their attention to task completion by generating their own incentives and organizing priorities for successful task implementation (Kanfer & Kanfer, 1991). We suggest that convergent thinking requires a certain level of self-control so as to avoid distraction and facilitate deep concentration. Individuals with high self-control are more likely than those with low self-control to maintain task motivation and concentrate on task completion in respect of convergent creative thinking tasks (Chang et al., 2012; Latham & Locke, 1991). By contrast, divergent thinking requires a capacity for fluid thinking which some researchers believe is negatively associated with inhibitory self-control (e.g. Mednick, 1962), hence:

H11a *Self-control is positively associated with convergent creativity*
H11b *Self-control is negatively associated with divergent creativity*

Dark Triad people will relate to divergent thinking but not to constructive thinking
The Dark Triad have low self-control and high impulsivity. Machs have the highest self-control (Jones & Paulhus, 2011). Low trait self-control is an important influence on how Narcs and Psycs (but not Machs) behave (Lyons & Rice, 2014; Jones & Paulhus, 2011). Therefore, given the requirements for convergent thinking involving focus and concentration, we expect the poor self-control of Narcs and Psycs will inhibit their ability in this regard:

H12a *Narc is negatively associated with convergent creativity*
H12b *Psyc is negatively associated with convergent creativity*

Conversely, the same lack of self-control may serve the Dark Triad well in terms of having less constraints on their ability to engage in fluid thinking which is necessary for divergent thinking. Moreover, entrepreneurship and innovation are closely associated with creativity (Fillis & Rentschler 2010), and successful entrepreneurs are widely presented as having high DT traits to be successful (Cooke, 2020). Hence,

H12c *Dark Triad traits are positively associated with divergent creativity.*

Next, we move on to unethicality as the outcome variable (Study 3).

Receiving flattery influences someone to cheat (H13)
We have seen how flattery induces positive affect in the flattery target. We also reported on empirical results which showed that positive affect enhanced both (i) creativity (Isen, 1999; Madjar et al., 2002); and (ii) moral disengagement (Vincent et al., 2013), which is thought to result from the increased cognitive flexibility associated with positive affect. We suggest that cheating represents a way for people to take up a challenge and engage in novel thinking that is stimulating as it means they will 'beat the system' and benefit personally, further enhancing the sense of well-being associated with positive affect (Kahneman, 1999). We therefore posit that flattery will be positively associated with cheating:

H13a *Flattery positively influences decision to cheat*
H13b *Flattery positively influences level of cheating*

People who flatter are associated with cheating (H14)
Flattery is a dirty business. People who engage in it are sometimes called 'sycophants' (Fogg & Nass, 1997), 'slimy' (Vonk, 2002) or worse. Moreover, Eylon & Heyd (2008), consider flattery as a form of bribery and an 'ordinary vice'. We argue that people who are prone to use flattery as a tactic are likely to have lower morals than someone who does not overly use flattery, are are therefore likely to be associated with cheating:

H14 *Flattery usage tendency is positively associated with cheating: - i.e. the decision to cheat (H14a) and cheat level (H14b).*

Self-control related traits and cheating

We speculate that people high in self-esteem have such high self-regard that they may morally justify cheating when the stakes and risks are low, which is the situation in our experiment. In this case, the high self-esteem individual effectively convinces themselves that the moral violation is 'no big deal' and in any event 'I deserve it' – both rationalisations are classic examples of moral disengagement (Bandura, 1986) in the form of minimising consequences and moral justification respectively. Hence:

H15 *Self-esteem is positively associated with cheating - i.e. the decision to cheat (H15a) and cheat level (H15b)*

However, people with high levels of moral identity will be protected by this internal inhibitory trait and will avidly avoid the moral violation that cheating represents:

H16 *Moral identity is negatively associated with cheating - i.e. the decision to cheat (H16a) and cheat level (H16b)*

Flattery, DT, and cheating

Dark Triad people are associated with unethical behaviour. They have no compunction about cheating for self-benefit. Hence:

H17 *DT traits are positively associated with cheating - i.e. the decision to cheat (H17a) and cheat level (H17b)*

We expect the situation is even more extreme for Narcs subjected to flattery, because their high self-esteem will render them particularly vulnerable to induced positive affect and the fluid thinking that is associated with novel ideas and challenges that cheating represents. Therefore, our final hypothesis is:

H17c *The positive relationship between DT (Narc) and cheating level is moderated (enhanced) by flattery.*

5.3 Study 1: An experimental study of how flattery influences co-operation

5.3.1 Method

Participants and Procedure

Our first experiment comprised an on-line RCT study which looked at the influence of manipulated flattery on co-operation. In Study 1 we apply a mild deception. Consequently the experiment required advance authorisation to apply the planned deception technique, which we obtained from the LSE Research Ethics Committee prior to the study's launch. At the end of the experiment participants were provided with a detailed debrief which informed them of the deception and its necessity for assessing the behaviour of interest. Participants were also informed that they could readily withdraw their data at that stage if they so desired, in which case they would still be paid. No participant opted to withdraw their data. We determined sample size by performing a power analysis using the G-Power tool (Faul et al., 2009), which suggested a sample size of N=277 (using statistical power level of .90; statistical significance .05; 13 predictors, and assuming minimum effect sizes that are intermediate small/medium based on Cohen's $f^2 = 0.1$ (Cohen, 1992)). We chose to oversample by more than double this estimate by targeting 600 participants to account for attrition and limit concerns over type 1 and type 2 errors.

We designed the survey on the Qualtrics platform. Respondents were sourced on-line by Prolific. The survey was pre-tested on a small group of LSE students and improvements were made based on their feedback. Participants were screened to restrict respondents to people who: - (i) were currently working in full-time employment in a professional or managerial position; (ii) had work experience of a minimum of 4 years; (iii) were based in an Anglophone country (i.e., UK, US, Canada, or Australasia); and (iv) spoke English as a first language. Informed consent was obtained from all respondents. On average respondents took 33.0 minutes to complete the survey. The final sample comprised 572 participants made up of 287 females and 284 males, with an average age of 39.4 years (SD = 10.5; range 23 – 64).

In the briefing sheet at the start of the survey respondents were told that the purpose of the study was to investigate how impressions are formed based on information provided by participants - this cover story follows Vonk (2002) and was necessary to disguise the true purpose and protect the effect of the flattery manipulation. The survey commenced with questions that measured Dark Triad personality, self-esteem, political savvy, and flattery usage tendency, followed by a 5-minute exercise which required them to write freely describing their personal values (Boyd et al., 2015). Participants were then randomly allocated to either the treatment or control conditions. All respondents were led to believe that they would be paired with another participant, between which the personal values statements would be shared, and one would be randomly selected as 'provider' and the other as 'receiver'. The provider would assess the personal values statement submitted by the receiver, form an impression of the receiver's personality, and provide feedback. The receiver would then 'rate' the feedback on several facets including accuracy and fairness, with the highest scoring providers being eligible to win a monetary sum via lottery. Thus it was clear that the person providing feedback had something to gain from the receiver. In fact, there was no pairing – rather all participants were 'selected' as the receiver of feedback, with those in the treatment group receiving the same highly flattering feedback, and those in the control condition receiving the same neutral feedback. After the manipulation exercise, respondents completed a short manipulation check and positive mood test, followed by the main output measure of co-operation comprising a one-shot dictator game devised by Forsythe et al. (1994). The survey ended with some standard demographic items. The flattery manipulation procedure and co-operation dictator game set-up are described in detail in the next section.

Measures and manipulation

Pre-manipulation measures

Dark Triad. We used the Short Dark Triad (SD3) inventory (Jones & Paulhus, 2017). The SD3 scale comprises a 27-item measure of Dark Triad personality, made up of three sub-scales (Mach, Narc and Psyc), each comprising nine items. Respondents were requested to indicate the extent to which they agreed with statements relevant to each trait using a 5-item Likert scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*). Sample items include: - Mach: "Most people can be manipulated"; Narc: "Many group activities tend to be dull without me"; and Psyc: "Payback needs to be quick and nasty". Cronbach alphas: - Mach α=.80; Narc α=.76; Psyc α=.75. (DT composite α=.85).

Self-esteem. We used the 10-item Rosenberg Self-Esteem scale (RSE, Rosenberg, 1965). Respondents were asked to indicate how much each statement reflected how they typically are using a 5-item Likert scale ranging from 1 (*strongly*

agree) to 5 (*strongly disagree*). Sample items include "I feel I do not have much to be proud of", and "I feel that I am a person of worth, at least on an equal plane with others". Cronbach α= .92

Political savvy. We used the 6-item scale developed by Chao et al., (1994) which captures insight into the broad workings of politics in an organisation (Granger et al, 2019). Respondents were asked to indicate how much they agreed with statements about how they are in the workplace using a 5-item Likert scale ranging from 1 (*disagree strongly)* to 5 (*agree strongly*). Sample items include "I have learned how things "really work" on the inside where I work", and "I know who the most influential people are where I work". Cronbach α= .73

Flattery usage tendency. We used the 6-item Flattery and Opinion Conformity scale developed by Park et al., (2011) which they used to assess flattery directed towards CEOs. Respondents were asked to indicate how much they agreed with statements about their interactions over the last 12 months with their immediate boss from work, using a 5-item Likert scale ranging from 1 (*not a single time*) to 5 (*multiple times*). Sample items include "How often have you complimented your boss in a way that slightly exaggerates your boss's insight on a strategic issue? ", and "On how many occasions did you point out opinions you have in common your boss, even when you did not completely share your boss's point of view? ". Cronbach α= .88

Personal values. We used the technique developed by Boyd et al., (2015). As participants believed that the survey sought to assess their personality, the method of Boyd and colleagues was preferred as they claim the use of free response has a predictive edge over self-report items. Respondents were given 5 minutes for this task and incentivised to take it seriously with a potential monetary reward for those who were judged to be 'most responsive', with the following instructions being provided to them.

"*In this next section you are requested to provide a few sentences that capture your key values in your own words, so as to better reveal how you see the world, your personality, and what makes you tick"*

Remember, as indicated in the briefing sheet at the start of this survey, we are investigating how impressions are formed based on information provided by participants, and so we would appreciate if you can be as open and honest as possible as you type your narrative, and in so doing, please be reminded that all participants remain anonymous and all data will remain confidential to the researchers.

This task requires participants to fully engage with the exercise - as a result, the top 20% of participants who are judged to be most responsive will have their names entered into a draw to win a £35 cash prize.

To assist your thought process, here are some common values you might consider. However, this list is far from complete. Don't feel obligated to restrict your choices to those listed here:

• Achievement • Adventure • Altruism • Compassion • Courage • Creativity • Curiosity • Dependability • Determination • Faith • Freedom • Friendship • Happiness • Health • Honesty • Honour • Humour • Independence • Innovation • Intelligence • Justice • Kindness • Love • Loyalty • Passion • Peace • Respect • Responsibility • Security • Simplicity • Wealth • Wisdom.

Really stand back and explore your deepest thoughts and feelings about your basic values. You might think about the types of guiding principles that you use to make difficult decisions, interact with other people, and determine the things that are important in your life and the lives of those around you. Try to describe each of these values and their relationship to who you are.

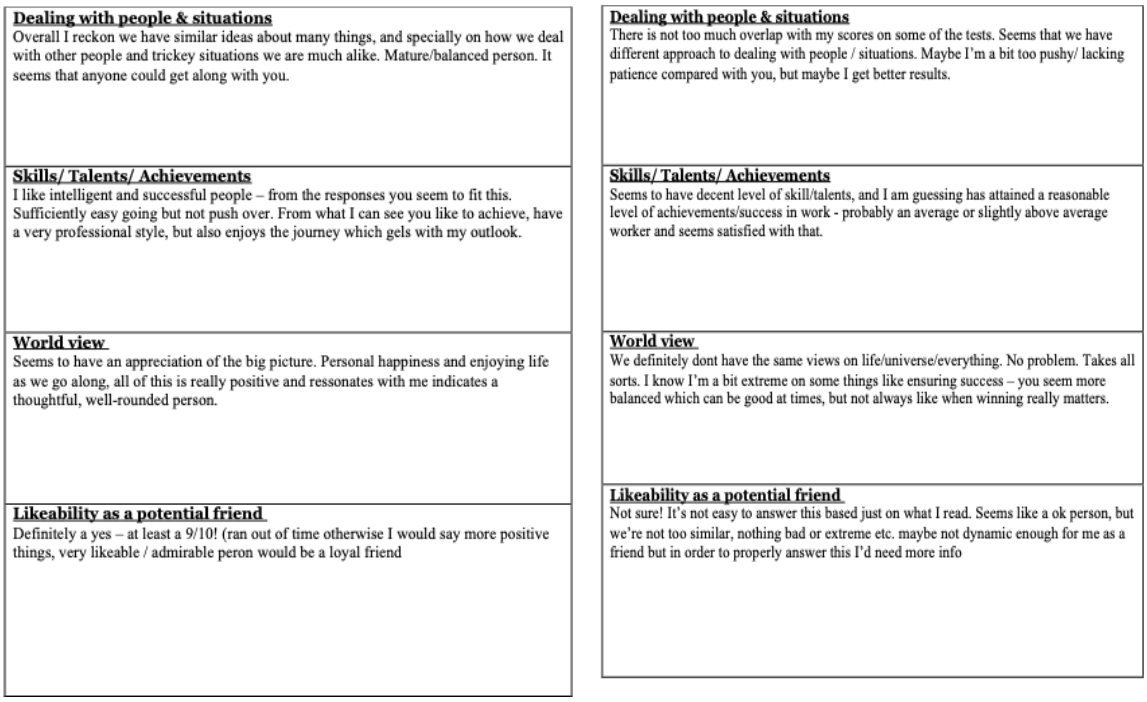
Once you begin writing, try to write continuously until time runs out. Don't worry too much about written style, paragraph order etc - it is the content of your narrative that is important".

Manipulation

Flattery was manipulated using a method we devised for the three studies in this paper. Following the personal values free writing exercise, participants were advised that the next task would take eight minutes and would involve them being randomly paired with another participant and each would receive their partner's personal values statement to review. Further, participants were told that on a random basis each participant would then be allocated either the role of provider or receiver. In reality all participants were 'allocated' to the role of receiver. Participants were further told that the provider would take six minutes to assess the receiver's personal statement, and provide feedback in four categories (e.g. "skills/ talents / achievements"; and "likeability as a potential friend"), during which time the receiver was requested to just wait by their computer. In reality there was no pairing and the six minutes was 'dead time', but important to mask the manipulation. After the six minutes, each receiver (i.e. all participants) saw a screenshot of their 'feedback' – in fact everyone in the treatment (flattery) condition received the same highly favourable narrative (i.e., flattery), and everyone in the control (neutral) condition received the same balanced commentary as shown in Fig 5.1

below (complete with deliberate typos and grammatical errors). Receivers then had two minutes to assess their 'feedback', and grade it along four dimensions: accuracy, fairness, sincerity, and overall insightfulness.

Fig 5.1 Manipulation feedback for the Treatment (flattery) and Control (neutral) conditions respectively



Dealing with people & situations
Overall I reckon we have similar ideas about many things, and specially on how we deal with other people and trickey situations we are much alike. Mature/balanced person. It seems that anyone could get along with you.

Skills/ Talents/ Achievements
I like intelligent and successful people – from the responses you seem to fit this. Sufficiently easy going but not push over. From what I can see you like to achieve, have a very professional style, but also enjoys the journey which gels with my outlook.

World view
Seems to have an appreciation of the big picture. Personal happiness and enjoying life as we go along, all of this is really positive and ressonates with me indicates a thoughtful, well-rounded person.

Likeability as a potential friend
Definitely a yes – at least a 9/10! (ran out of time otherwise I would say more positive things, very likeable / admirable peron would be a loyal friend

Dealing with people & situations
There is not too much overlap with my scores on some of the tests. Seems that we have different approach to dealing with people / situations. Maybe I'm a bit too pushy/ lacking patience compared with you, but maybe I get better results.

Skills/ Talents/ Achievements
Seems to have decent level of skill/talents, and I am guessing has attained a reasonable level of achievements/success in work - probably an average or slightly above average worker and seems satisfied with that.

World view
We definitely dont have the same views on life/universe/everything. No problem. Takes all sorts. I know I'm a bit extreme on some things like ensuring success – you seem more balanced which can be good at times, but not always like when winning really matters.

Likeability as a potential friend
Not sure! It's not easy to answer this based just on what I read. Seems like a ok person, but we're not too similar, nothing bad or extreme etc. maybe not dynamic enough for me as a friend but in order to properly answer this I'd need more info

Post-manipulation measures

Positive mood. We used the 3-item measure devised by Vincent et al., (2013). Respondents were asked to indicate "How you feel right now" using a 5-item Likert scale with the response ranges dependent on the question asked, i.e.: - "Right now I feel": 1 (*happy)* to 5 (*sad*); "Right now I would say my state of mind is": 1 (*pleasant)* to 5 (*unpleasant*); "Right now I would say my mood can be described as": 1 (*good)* to 5 (*bad*). Cronbach α= .92

Co-operation. Economic games have become a central tool for studying co-operation in recent decades, partly because of their relative simplicity (Haselhuhn et al., 2022). For this study we adapted a version of the Ultimatum Game (UG) first developed by Forsythe et al. (1994) which involved an allocator (Person A) and a receiver (Person B). Person A had lottery tickets (a thing of value) and had to decide how many (if any) to share with their randomly paired receiver. Thus this form of the UG can be framed as a measure of co-operation or generosity (Wu et al., 2019).

Each respondent completed the survey in their own time and on a standalone basis. In order to make the UG exercise effective, we subjected respondents to a second mild deception whereby they were told that they were participating in a real-time exercise in tandem with a pool of others, one of which they would be randomly paired with. Moreover, to help instil some sense of relationship and temporal shared interest that would inform and in-part motivate the subsequent co-operation decision, we told respondents that following the pairing, 10 lottery tickets would first be allocated to *each pair*, and only after a further short delay would paired partner dyads be informed of the allocation of specific roles between them – i.e., allocator or receiver, again on a random basis. The setting was conveyed to respondents as they read the following screen:

This next task which takes 1 minute relates to decision making, and gives all participants another opportunity to win money - this time a £50 cash prize in a lottery game where your chances depend on the number of lottery tickets you have, which will be determined via the following exercise. The rules of the lottery game are very simple: -

- *All participants will first be randomly paired with another participant.*
- *10 lottery tickets have been provisionally allocated to each pair of participants.*
- *Within each pair, one person will be randomly allocated to Group X (allocator) and the other to Group Y (receiver).*
- *The person in Group X (allocator) will be required to make one decision - i.e. regarding the allocation of the 10 lottery tickets between themself and their paired partner. The choice of how many lottery tickets to allocate ranges from zero to ten. The*

person in Group Y (receiver) will then be informed of the choice made by their partner. Both participants will then answer a few questions regarding the exercise.

There are no right or wrong answers – participants in Group X (allocator) should choose the option that, for whatever reason, they prefer most. Remember that the lottery tickets have value: the more of them a participant has, the better in terms of the participant's chances in the lottery, and likewise for a participant's partner. At no time will paired partners have any direct communication with each other, and will remain anonymous to each other at all times.

To maintain the deception respondents then saw the following screen:

You will now be randomly matched with your paired partner who has reached the same stage of the survey, and you will each be informed of your inter-pair group allocation for the lottery ticket allocation exercise, i.e.: -

- *Group X (allocator)*
- *Group Y (receiver)*

The page will automatically advance once the matching has been completed. This part of the process may take up to 2 minutes depending on how many respondents are currently completing the survey, so we appreciate your patience.

The screen advanced for everyone after just over a minute, following which the final screen was presented:

Partner pairing complete. Within your pair you have been assigned to: Group X (allocator)

You are now required to: Make your decision on how many of the 10 lottery tickets to allocate to your paired partner, and how many to retain for yourself. However many lottery tickets you do not allocate to your paired partner, will be yours. As indicated earlier – there are no right or wrong answers – you should choose the option that, for whatever reason, you prefer most. When you are ready, please move to the next page and make your decision.

The decision screen comprised a horizontal list numbered 0-10 with the rubric "*From the 10 lottery tickets allocated to us, I will allocate the following to my paired partner …".* Again, we chose the wording quite deliberately so as emphasise the partnership and "us" affiliation, thereby simulating (admittedly in a limited way) a relationship that informs and complicates the co-operation decision which we believe adds additional applicability and relevance to the measure. We measured co-operation by the number of lottery tickets allocated by each respondent, i.e., a number which could range from 0-10.

Control variables. Four demographic control variables were measured which prior studies have shown can be relevant to co-operative behaviour: - *gender* and *age* (Berry et al., 2007); *formal education* (Bucciol et al., 2013), for which we use a dummy variable scale ranging from 1 (lowest, no degree) to 3 (highest, postgraduate); and *position at work* (Chow & Choi, 2003), for which we employ a dummy variable scale with 1 (below manager); 2 (management) and 3 (senior management / leadership).

Analytical Procedure

We downloaded data from the Prolific platform into excel for cleaning and subsequently into SPSS for analysis. Seven respondents were removed from the survey because they failed at least one attention-check item, four were removed because they took too long to complete the survey, and 17 were removed because they did not make sufficient effort to complete the personal values exercise. Consequently, we were left with a final sample size of N =572.

To assess our hypotheses we performed multiple regression analyses and independent samples t-tests. Consequently before analysing data we tested the underlying data assumptions of these analytic procedures. The Durbin-Watson test of independence of errors yielded scores in the range 2.1-2.4 which enables us to safely accept that the assumption of independence of error terms was met. The data also met the assumption of linearity based on a review of a scatterplot of standardised residuals. We confirmed that data contained approximately normally distributed errors based on histogram results showing standardised residuals. Finally, for each regression model we confirmed that our results were free from collinearity issues as computed VIF measures yielded values below 2.5, a figure that is significantly below the threshold at which collinearity may produce distortion effects (Cryer & Miller, 1994). A Levene test showed that the assumption of equality of variance was not met in our data, consequently degrees of freedom

were adjusted accordingly in the relevant analyses. All scales were tested for reliability which yielded Cronbach alpha scores above the commonly applied limit for acceptable reliability, i.e. α=.7.

In this paper we follow common research methodology applied in the social sciences by applying the classic null-hypothesis significance tests in the bulk of our analyses. However, for the two "no effect" hypotheses in our study (H10a & H10b), we determine whether there is an absence of an effect by testing for equivalence (Wellek, 2010), using the method devised by Schuirmann (1987). This involves conducting two one-sided tests (TOST) of the Pearson bivariate correlation coefficient, for which required upper and lower equivalence bounds are pre-set based on the smallest effect size of interest (SESOI). Each one-sided test assesses whether the respective null hypothesis is met (i.e. one tests whether the effect ≥ lower bound; and one tests whether the effect ≤ upper bound). If both are shown to be the case, then we can conclude that an observed effect falls within the equivalence bound interval - and so is close enough to zero to be practically equivalent (Laskens et al., 2018).

The first step in the TOST method is the determination of the SESOI, which is subjective (Laskens, 2017). Recall that previously in determining the appropriate sample sizes to use for each experiment (see the Method section above), we applied an effect size that was intermediate between small-medium categories (i.e. we utilised a Cohen $f^2 = 0.1$ effect size: per Cohen (1992) small/ medium effects are categorised with Cohen's $f^2 = 0.02/0.15$). We are interested in observing effect sizes that we consider to be interesting, by which we mean effect sizes which exceed the often-cited "small" label. For correlational tests of equivalence, the applicable measure for small effect sizes relevant to our analyses relates to a Pearson's $r = \pm 0.1$ (Cohen, 1992). Consequently, for the TOST analysis we set SESOI at the limit for the "small" category at these respective levels. Step 2 involves the computation of the Pearson bivariate correlation coefficient and its 90% confidence interval which we performed in SPSS. The final step of the equivalence test procedure is to compare the 90% CI from observed data to the SESOI boundary interval so as to determine whether the observed result falls within this bound, and to conclude accordingly.

5.3.2 Results and discussion

Manipulation check

We verified the effectiveness of the flattery manipulation by conducting an independent samples t-test of the feedback scores of how the (fictional) flatterer's performance was rated between the treatment and control conditions for each of four measures: accuracy, fairness, sincerity, and overall insightfulness. In all four tests individuals in the treatment group reported significantly higher flatterer appraisal scores versus those in the control group with very large Cohen's d effect sizes ranging from 0.85 – 21. We therefore conclude that the flattery manipulation was effective.

Descriptive statistics

The means, standard deviations, and Pearson bivariate correlations among all variables are shown in Table 5.1. We note that the means obtained for the same variables tested in our earlier studies (Papers 1-3) are substantially similar to those recorded in this experiment, and Dark Triad personality measures are in line with those seen in prior studies (e.g., Egan et al., 2015). For example, the scores in the present study for Mach (M =3.04, SD =0.65) are closely aligned with those for Mach obtained in our Paper 1 (Study 2, M =3.08, SD =0.60), and the mean value for Narc in this experiment (M =2.53, SD =0.61) closely matches the value obtained from the experiment in Paper 2 (M =2.50, SD =0.63).

Table 5.1 Pearson correlation matrix, scale means, and standard deviations

	M	SD	1	2	3	4	5	6	7	8
1. Co-operation	4.17	1.89	1							
2. Self-esteem	1.97	0.59	-0.07	1						
3. Political savvy	3.77	0.60	-0.07	0.25***	1					
4. Flattery usage tendency	2.01	0.92	-0.14***	-0.07	0.14***	1				
5. Mach	3.04	0.65	-0.13**	-0.08	0.15***	0.30***	1			
6. Narc	2.53	0.61	-0.14***	0.33***	0.26***	0.21***	0.30***	1		
7. Psyc	2.04	0.60	-0.07	0.07	0.05	0.17***	0.49***	0.36***	1	
8. DT composite	2.54	0.48	-0.15***	0.08	0.20***	0.30***	0.79***	0.72***	0.80***	1
9. Flattery manipulation	1.50	0.50	0.14***	0.02	0.01	-0.06	-0.08	-0.02	0.02	-0.04

N=572. * p<0.05; ** p<0.01; *** p<0.001

We see from Table 5.1 that flattery is positively correlated with co-operation (r =.14, p<.001) which aligns with H3. Each sub-component of the Dark Triad is positively associated with flattery usage tendency in support of H2 (Mach r = .30, p<.001; Narc r = .21, p<.001; Psyc r = .17, p<.001). H4 predicted that flattery usage tendency would negatively relate to co-operation which the correlation results support (r = -.14, p<.001), although there is no similar correlation between self-esteem and co-operation as predicted in H5. Lastly, we can see that of the Dark Triad, both Mach (r = -.13, p<.01) and Narc (r = -.14, p<.001) are negatively correlated with co-operation as predicted in H6a (albeit Psyc shows no association).

Regression analysis and hypothesis test results

Table 5.2 presents the multiple regression results for DV= flattery usage tendency with the three DT sub-components as covariates (F(9, 563) = 9.678, p<.001). The Dark Triad traits and control variables together explain 13.4% of the variance in flattery usage tendency. Table 5.3 presents the multiple regression results for our primary outcome variable, i.e., DV= co-operation (F(13, 559) = 2.986, p<.001), with predictor and control variables together explaining 6.5% of the variance in co-operation.

Flattery and positive effect in the target (H1)

We verified that flattery positively influences positive affect by conducting an independent samples t-test of the positive mood measure between the treatment and control conditions. Individuals in the treatment group (M=4.448, SD =0.735) reported significantly higher positive mood scores versus those in the control group (M=3.792, SD =0.903); t(553.22) = -9.545, p<.001, [LLCI = -0.791, ULCI = -0.521]. Therefore, we conclude that H1 is supported, i.e. flattery is positively associated with positive affect, with a large effect size (Cohen's d = 0.82).

Flattery usage and personality (H2)

Table 5.2 shows that each of Mach (β = .239, p<.001), and Narc (β = .118, p=.008) is positively related to FUT, in support of hypotheses H2a and H2b respectively. Also of note is the lack of relationship between Psyc and FUT. This suggests a nuance within the Dark Triad in their reliance on flattery as a tactic.

Table 5.2 Multiple regression relating Dark Triad to DV = flattery usage tendency

	B	SE	β	t	sig	Hypothesis
constant	0.773	0.287		2.690	0.007	
Gender	0.019	0.077	0.010	0.243	0.808	
Age	-0.011	0.004	-0.121	-2.922	0.004	
Education2 - grad	0.093	0.086	0.050	1.087	0.278	
Education3 - post grad	0.126	0.099	0.059	1.275	0.203	
Work2 - managmt	0.186	0.085	0.100	2.193	0.029	
Work3 – Sen. managmt	0.069	0.104	0.032	0.669	0.503	
Mach	0.341	0.066	0.239***	5.159	<0.001	**H2a**
Narc	0.176	0.067	0.118**	2.649	0.008	**H2b**
Psyc	-0.003	0.075	-0.002	-0.036	0.972	
Number of obs.	572					
R^2	0.134					
F (9, 563)	7.237					
	p<0.001					

* p<0.05; ** p<0.01; *** p<0.001

The effect of flattery on co-operation (H3 & H4)

From Table 5.3 it is evident that the flattery condition is positively associated with co-operation (β = .137, p=.001) in support of H3. We also see a marginally significant negative association between flattery usage tendency and co-operation (i.e., at the 6% level (β = -.082, p=.064). We suggest that we can accept this marginal result as supportive of H4 on the basis that (i) if DT composite is used as covariate in the regression (instead of the three sub-components) then the FUT coefficient is significant at the 5% level; and (ii) there is a significant negative correlation between FUT and co-operation (r=.14, p< .01)as shown in Table 5.1. These results suggest that people who *receive* flattery are more co-operative, and those who overly *give* flattery are less co-operative.

Table 5.3 Multiple regression for DV = co-operation

	B	SE	β	t	sig	Hypothesis
constant	5.312	0.791		6.714	<0.001	
Gender	-0.045	0.165	-0.012	-0.271	0.785	
Age	0.007	0.008	0.040	0.902	0.368	
Education2 - grad	0.128	0.185	0.034	0.695	0.488	
Education3 - post grad	-0.114	0.214	-0.026	-0.531	0.596	
Work2 - managmt	-0.100	0.184	-0.026	-0.543	0.587	
Work3 – Sen. managmt	0.309	0.225	0.069	1.374	0.170	
Self-esteem	-0.204	0.153	-0.063	-1.338	0.181	**H5**
Political savvy	-0.082	0.140	-0.026	-0.586	0.558	
Flattery usage tendency (FUT)	-0.169	0.091	-0.082	-1.855	0.064	**H4**
Mach	-0.164	0.147	-0.056	-1.115	0.265	**H6a**
Narc	-0.237	0.155	-0.077	-1.527	0.127	**H6a**
Psyc	-0.044	0.163	-0.014	-0.267	0.790	**H6a**
Flattery condition	0.519**	0.158	0.137**	3.286	0.001	**H3**
Number of obs.	572					
R^2	0.065					
F (13, 559)	2.986					
	p<0.001					

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

The effect of self-esteem of co-operation (H5)

From Table 5.3 we see that H5 is not supported, i.e., self-esteem is not negatively associated with co-operation.

How the Dark Triad relate to co-operation prior to and after being flattered (H6)

The regression results show mixed findings. From Table 5.3 we see that none of the individual Dark Triad components has a significant relationship with co-operation. This is a surprise given the correlation results that show both Mach (r= -.13, p<.01) and Narc (r=-.14, p<.001) have negative bivariate associations with co-operation. It could be that as both DT traits are strongly correlated with FUT (Mach, r= .30, p<.001; Narc, r= .21, p<.001) that when controlling for FUT there is no further predictive power in Mach and Narc as regards co-operation. As an exploratory study we also ran the same regression with DV = co-operation using DT composite as the single measure of personality rather than the Mach, Narc and Psyc sub-component covariates, which yielded a result for DT which supports H6 (β = -.109, p=.018; F(11,561) =3.486, p<0.001, R^2 =.064). Consequently, we conclude that H6a is partially supported, i.e., Dark Triad is negatively related to co-operation controlling for the selected covariates.

To test H6b, i.e., whether the positive relationship between flattery and co-operation is weakened by DT traits, we conducted moderation analyses by re-running the regression with DV = co-operation in SPSS using the PROCESS macro model 1 (Hayes, 2013). We ran three separate regressions with each of Mach, Narc and Psyc separately as moderating variable, interacting with flattery condition to predict co-operation. We found no support for our hypothesis. Therefore we conclude that the positive relationship between flattery and co-operation is not weakened by having a Dark Triad personality.

These results will be welcomed by managers as they indicate that Dark Triad individuals are not averse to co-operation compared to a 'normal' person; moreover having a Dark Triad personality does not serve to negate the positive effect flattery can have on somebody who has been flattered in terms of their enhanced co-operation.

5.4 Study 2: An experimental study of how flattery influences creativity

5.4.1 Method

Participants and Procedure

Study 2 comprised an on-line test with a flattery intervention and followed substantially the same methodology as for Study 1, except in this case we measured the outcome variables for creativity. We tested different hypotheses in this study relevant to creativity H7-H12, except for H7a for which we again looked to confirm that flattery increased positive affect. The survey was designed in Qualtrics and administered by Prolific with the same participant requirements as in Study 1. We also used the same four pre-manipulation test measures as for Study 1 (Dark Triad, self-esteem, political savvy, and flattery usage tendency) and added two which are of specific interest for this investigation (self-control and creativity (self-assessed). Respondents were then tasked with the same exercise to come up with several sentences that capture personal values, followed by the identical flattery manipulation as we used in Study 1. Immediately following the manipulation, we again tested positive mood, and for the present study we added a test of negative mood which is relevant to our present study's hypotheses. The outcome variable in this experiment – (demonstrated) creativity - has two main psychological components: - convergent thinking, and divergent thinking (Olson et al., 2021). Consequently, we measured both forms of creativity in separate tasks which are based on validated tests devised by Mednick et al. (1964) and Olson et al. (2021) respectively. The survey ended with same standard demographic items as used in Study 1.

The two tests of demonstrated creativity are described in detail in the next section. The final sample comprised 564 participants made up of 283 females and 281 males, with an average age of 38.9 years (SD = 11.1; range 24 – 66). On average respondents took 39.4 minutes to complete the survey. We applied the same financial incentives as in Study 1 so as to encourage people to take the survey seriously and perform to the best of their abilities. At the completion of the survey respondents were informed of the deception (and that they had not in fact been paired with anyone but had rather received standard feedback), and as a result they could request for their data to be withdrawn but still be paid for their efforts. No respondent chose to take up this option.

Measures and manipulation

Pre-manipulation measures

Self-control. We used the Tangney et al. (2004) Brief Self Control Scale (BSCS) which is a 13-item measure of general self-control. This scale applies a 5-point Likert scale to questions on how well statements describe the respondent, with responses ranging from 1 (*not at all*) to 5 (*very much*). Sample questions include: "I am good at resisting temptation", and "I often act without thinking through all the alternatives". Cronbach α = .88.

Dark Triad. As in Study 1, we used the Short Dark Triad (SD3) inventory (Jones & Paulhus, 2017). This yielded Cronbach alphas: - Mach α = .81; Narc α=.77; Psyc α=.77; and DT composite α=.86.

Self-esteem. We used the 10-item Rosenberg Self-Esteem Scale (RSE, Rosenberg, 1965) as for Study 1. Cronbach α= .92

Political savvy. As in Study 1, used the 6-item scale developed by Chao et al., (1994). Cronbach α= .74

Flattery usage tendency. We used the same scale as in Study 1 – i.e. the 6-item Flattery and Opinion Conformity scale (Park et al., 2011). Cronbach α= .88

Creativity (self-assessed). We used the Short Scale of Creative Self (SSCS; Karwowski et al., 2018) to measure creative self-beliefs. This comprises 5-point Likert scale applied to 11 questions which request the respondent to assess statements that assess how creative they are, with responses ranging from 1 (*not at all*) to 5 (*very much*). Sample questions include: "I think I am a creative person", and "I am sure I can deal with problems requiring creative thinking". Cronbach α= .92.

Personal values. Respondents were requested to complete the same exercise as used in Study 1 (following Boyd et al., 2015), which gave them five minutes to compose sentences capturing their personal values and what makes them tick. Participants were similarly incentivised with the prospect of a small financial reward for those judged to have been most responsive.

Flattery manipulation
As indicated above, for Study 2 we manipulated flattery using the same technique as for Study 1 with the respondent pool randomly assigned to treatment (flattery feedback) and control (neutral feedback) groups. Immediately following the manipulation participants completed the same flattery manipulation check items as for Study 1.

Post-manipulation measures

Positive affect. We used the 4-item measure of positive mood (Wu et al., 2019). This asks respondents how they feel right at that present moment in relation to specific words (*elated, excited, happy*, and *relieved*) using a 5-point Likert scale ranging from 1 "*very slightly or not at all*", to 5 "*extremely*". Cronbach α= .78

Negative affect. We measured negative mood via the 4-item Wu et al. (2019) 4-item scale. As for positive affect, this asks respondents how they are feeling in the present moment, with reference to negative mood related words (*angry, disappointed, frustrated,* and *irritated)* using a 5-point Likert scale ranging from 1 "*very slightly or not at all*", to 5 "*extremely*". Cronbach α= .71

Creativity 1 – convergent thinking. We used the Remote Associations Test (RAT) devised by Mednick et al. (1964) which is based on Mednick's (1962) associative theory of creativity. Pursuant to this theory, creative thinking involves the formation of associative elements into new patterns which meet a required specification or are in some way useful (Akbari Chermahini & Hommel, 2012). Participants had two and a half minutes to solve 10 items. Each item comprised three words that can be associated, such that only one solution is possible which is not immediately obvious (hence these are "remote" associations). An example is: manners, round, tennis, for which the singular correct solution is table.

Creativity 2 – divergent thinking. We used the Divergent Association Task (DAT) created by Olson et al. (2021). This requests respondents to list 10 words that are as different from each other as possible in all uses and meanings. This test correlates well with other traditional tests of creativity such as the Alternative Uses Task (Guilford, 1950) as well as with convergent thinking tests (Olson et al., 2023). The test uses automated scoring which makes it particularly amenable to on-line survey studies such as the one applied herein. A creativity score is computed by an algorithm that calculates the average semantic distance between the words. Highly creative people think up words with greater distances between them, such as prickle and violin, rather than shoes and office (Olson et al., 2023). Typically, scores are in the range 50-100.

Control variables. We measured the same four demographic control variables used in Study 1.

Analytical Procedure

We performed the same analytical procedures and tests as in Study 1. A relatively high number of participants (31) failed to sufficiently complete the DAT creativity exercise (which required a minimum of 7 of the requested 10 responses), a further six gave insufficient effort to the personal values task, and two failed attention check items, resulting in 34 participant scores being excluded and a final sample size of N=566. All assumptions for data underlying multiple regression and independent samples t-tests were met except the assumption of equality of variances, consequently in the relevant analyses we adjusted degrees of freedom accordingly. All scales were tested for reliability which yielded Cronbach alpha scores above the commonly applied limit for acceptable reliability (i.e. α=.7).

5.4.2 Results and discussion

Manipulation check

As performed in Study 1, we verified the effectiveness of the flattery manipulation through an independent samples t-test of the feedback scores of how the (fictional) flatterer's performance was rated between the treatment and control conditions along four measures: accuracy, fairness, sincerity, and overall insightfulness. As previously, in all four tests individuals in the treatment group reported significantly higher appraisal scores for the flatterer versus those in the control group. Very large Cohen's d effect sizes were obtained ranging from 0.8 – 22.1. We therefore conclude that the flattery manipulation was effective.

Descriptive statistics

The means, standard deviations, and Pearson bivariate correlations among all variables are shown in Table 5.4. We note that means obtained for identical variables tested in previous studies in this thesis are substantially similar to those recorded in this experiment – e.g. in the present study the mean for self-control (M =3.31, SD =0.67) closely resembles the finding from Paper 2 (M =3.36, SD =0.68), and although the value obtained here for FUT (M =2.27, SD =0.94) is higher than that reported in Study 1 of the present paper (M =2.01, SD =0.67), in both cases the Cronbach was above 0.7). Moreover, Dark Triad personality measures are in line with those seen in prior studies (e.g., Egan et al., 2015).

Table 5.4 Pearson correlation matrix, scale means, and standard deviations

	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Creativity - convergent	3.44	2.59	1										
2. Creativity - divergent	77.38	7.13	0.12**	1									
3. Creativity – self assessed	3.56	0.80	-0.04	-0.08	1								
4. Self-control	3.31	0.67	-0.04	-0.17***	0.27***	1							
5. Self-esteem	1.95	0.60	-0.05	-0.08	0.29***	0.42***	1						
6. Political savvy	3.78	0.61	0.06	-0.07	0.20***	0.27***	0.28***	1					
7. Flattery usage tendency	2.27	0.94	0.03	0.02	0.00	-0.05	0.05	0.16***	1				
8. Mach	2.96	0.64	0.00	0.05	0.00	-0.17***	-0.03	0.13***	0.35***	1			
9. Narc	2.54	0.60	-0.12**	-0.04	0.44***	0.22***	0.38***	0.26***	0.29***	0.32***	1		
10. Psyc	2.03	0.62	-0.06	0.04	0.05	-0.38***	-0.16***	-0.03	0.15***	0.49***	0.30***	1	
11. DT composite	2.51	0.47	-0.08	0.02	0.21***	-0.15***	0.08	0.16***	0.34***	0.80***	0.70***	0.78***	1
12. Flattery manipulation	1.50	0.50	0.04	-0.03	0.01	0.08	0.08	0.04	-0.02	-0.04	0.01	-0.06	-0.04

N=564. * p<0.05; ** p<0.01; *** p<0.001

From Table 5.4 we see that Narc is strongly positively associated with self-assessed creativity (r=.44, p<.001), which supports H8. However, there is no correlation between flattery and either outcome measure – convergent creativity shows no negative correlation (as predicted in H9a), and neither does divergent creativity show a positive correlation with flattery (H9b). There is no bivariate relationship between self-assessed creativity and either form of demonstrated creativity (convergent/ divergent) in line with the predictions of H10a & H10b respectively. Self-control does not show a positive (or any significant) correlation with convergent thinking which does not support H11a, but it is negatively correlated with divergent thinking (r= -.17, p<.001) in support of H11b. There are also mixed correlational results in respect of how Dark Triad components correlate with convergent and divergent thinking. Narc correlates negatively with convergent thinking (r= -.12, p<.01), in support of H12a, but Psyc does not (and shows no significant association) which does not support H12b. Finally, we had predicted that each Dark Triad component would correlate positively with divergent thinking (H12c) – however it is evident that there is no correlational relationship with divergent thinking for any of the triad.

Regression analysis and hypothesis test results

Table 5.5 is used to assess H8 and shows the multiple regression results for DV= creativity (self-assessed) with the three DT sub-components as covariates (F(9, 555) = 18.626, p<.001). Dark Triad traits and control variables together explain 23.2% of the variance in creativity. Table 5.6 is used to assess hypotheses H9-H12, and presents the multiple regression results for our outcome variables, i.e., DV= convergent creativity (F(17, 547) = 2.010, p=.009); and DV= divergent creativity (F(17, 547) = 3.579, p<.001); with predictor and control variables together explaining 5.9% and 10.0% of the variances in convergent thinking and divergent thinking respectively.

Flattery and its influence on positive and negative affect (H7)

We tested the effect of flattery on positive and negative mood by conducting independent samples t-tests of measures for positive mood (H7a) and negative mood (H7b) between the treatment (flattery) and control (neutral) conditions. In respect of positive mood, individuals in the treatment group (M=3.405, SD =0.929) reported significantly higher positive mood scores versus those in the control group (M=2.918, SD =0.970); $t(563.53) = -6099$, $p<.001$, [LLCI = -0.644, ULCI = -0.330] with a high Cohen's d effect size = 0.95. For negative mood, individuals in the treatment group reported significantly lower negative mood scores (M=1.149, SD =0.326) than those in the control group (M=1.256, SD =0.403); $t(543.5) = 3.485$, $p<.001$, [LLCI = 0.0469, ULCI = 0.1679] with a low/medium Cohen's d effect size = 0.37. Therefore, we conclude that both H7a and H7b are supported, i.e. flattery is positively associated with positive affect, and negatively associated with negative affect respectively.

Dark Triad and (self-assessed) creativity (H8)

From Table 5.5. we see that Narc is strongly positively associated with self-assessed creativity at the 1% level of significance ($\beta = .477$, $p<.001$) in support of H8. We also note that Mach is negatively associated with creativity ($\beta = -.144$, $p=.001$) which suggests that whilst Narcs (as predicted) appear to be highly self-appraising and probably self-deceiving in respect of creativity, Machs are more realistic about their creative abilities.

Table 5.5 Multiple regression relating Dark Triad to DV =self-assessed creativity

	B	**SE**	**β**	**t**	**sig**	**Hypothesis**
constant	2.300	0.225		10.246	<0.001	
Gender	0.059	0.060	0.039	0.979	0.328	
Age	0.006	0.003	0.077	1.955	0.051	
Education2 - grad	-0.021	0.072	-0.013	-0.290	0.772	
Education3 - post grad	-0.002	0.082	-0.001	-0.028	0.977	
Work2 - managmt	-0.039	0.070	-0.024	-0.556	0.579	
Work3 – Sen. managmt	0.142	0.096	0.068	1.489	0.137	
Mach	-0.177	0.054	-0.144**	-3.282	0.001	
Narc	0.629	0.055	0.477***	11.361	<0.001	**H8**
Psyc	-0.026	0.058	-0.020	-0.442	0.659	
Number of obs.	564					
R^2	0.232					
F (9, 555)	18.626					
	p<0.001					

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

Flattery influences creativity (H9)

From Table 5.6 it is evident that flattery has no association with either measure of demonstrated creative thinking: - i.e. there is no support for H9a that flattery is negatively associated with convergent thinking, or for H9b that flattery is positively associated with divergent thinking. These results indicate that flattery has no direct influence on creativity. We speculate that this may reflect that people invariably know when they are being flattered, it makes them happy in some sense in the very short term, but it is constrained by the fact that they know the praise is inauthentic and self-driven, which we suggest may serve to inhibit the cognitive fluidity (that typically ensues from a positive mood) from happening. As a result, flattery neither reduces convergent thinking nor enhances divergent thinking, i.e., it is a benign influence as regards creativity.

Self-assessed creativity does not predict demonstrated creativity (H10)

Given the attractiveness of creativity, we argued that people probably would tend to overstate their creative abilities in self-report measures, versus objective measures of their demonstrated creatives abilities, and thus there would be no relationship between self-reported creativity and either form of demonstrated creativity, i.e. with convergent creativity (H10a) or with divergent creativity (H10b).

To assess these two "no effect" predictions, for each we conducted an equivalence test based on the TOST method applied to Person bivariate correlation results (Lakens et al., 2018) as detailed above in the Methods section of this paper. In respect of H10a, a TOST analysis shows a Pearson r=-.037 with CI = -.106 – .033 in respect of the association between self-assessed creativity and convergent creativity. For H10b, a similar TOST computation provides a Pearson r =-.075 with CI = -.143 - .006 relating to the relationship between self-assessed and divergent creativity. For both hypotheses we see that by comparing the observed CIs with our SESOI confidence interval (CI= - 0.1 – 0.1), the observed data *exceeds* the lower bound required for equivalence. From Table 5.4 we see that self-assessed creativity has non-significant negative associations with both convergent creativity (r=-.04), and with divergent creativity (r= -.08) – results which mirror those obtained from the equivalence tests as would be expected

and which gives us confidence in this method. In summary, although the two respective associations are small, the equivalence test results confirm that in respect of convergent creativity (H10a) and divergent creativity (H10b), for each effect sizes are not sufficiently small to infer they are each practically equivalent to a zero effect, and we must therefore reject both hypotheses that there is no association – on the contrary, in each case the data suggests there is a small non-significant negative association.

Self-control is needed to focus, but impedes more open-ended thinking (H11)

Our hypotheses on the link between self-control and creative thinking are partially supported. From Table 5.6 we see that contrary to our prediction in H11a, self-control is not positively associated with convergent creativity (it shows no relationship), however self-control is negatively associated with divergent creativity (β = -.124, p<.05) in support of H11b. This result indicates that the ability to engage in the type of fluid thinking needed for divergent thinking is aided by having less self-restraint and inhibition associated with the self-control construct, but this trait does not serve to aid the type of focus needed for convergent thinking.

Table 5.6 Multiple regression for DV = demonstrated creativity (convergent and divergent thinking)

	Convergent creativity	**Divergent creativity**	**Hypothesis**
Gender	0.076	0.070	
	(1.677)	(1.576)	
Age	0.066	-0.186***	
	(1.441)	(-4.173)	
Education2 -grad	0.041	0.049	
	(0.798)	(0.971)	
Education3 – post grad	0.115*	0.162**	
	(2.180)	(3.125)	
Work2 -managmt	0.013	-0.003	
	(0.257)	(-0.067)	
Work3 – Sen. managmt	-0.027	-0.001	
	(-0.506)	(-0.012)	
Salary	-0.091	-0.026	
	(-1.874)	(-0.541)	
Class	0.076	0.061	
	(1.746)	(1.442)	
Self-control	-0.035	-0.124*	**H11a; H11b**
	(-0.662)	(-2.392)	
Self-esteem	-0.046	0.014	
	(-0.901)	(0.278)	
Political savvy	0.109*	-0.012	
	(2.355)	(-0.263)	
Flattery usage tendency (FUT)	0.053	-0.011	
	(1.143)	(-0.245)	
Creativity – self-assessed	0.041	0.005	**H10a; H10b**
	(0.834)	(0.106)	
Mach	0.052	0.029	**H12c**
	(1.008)	(0.574)	
Narc	-0.135*	-0.010	**H12a; H12c**
	(-2.357)	(-0.215)	
Psyc	-0.033	-0.004	**H12b; H12c**
	(-0.580)	(0.022)	
Flattery condition	0.032	-0.019	**H9a; H9b**
	(0.757)	(-0.466)	
Constant B	1.410	83.979***	
	(1.099)	(24.353)	
Number of obs.	564	564	
R^2	0.059	0.100	
F (17, 547)	2.010	3.579	
	p=0.009	p<0.001	

* p<0.05; ** p<0.01; *** p<0.001

Dark Triad people will relate to divergent thinking but not to constructive thinking

Turning to the Dark Triad, in H12 we had predicted that the poor self-discipline and ability to focus associated specifically with Narcs and Psycs would render them negatively associated with convergent thinking. In fact only Narcs showed a negative association with convergent thinking (β = -.135, p<.05) in support of H12a, whereas our prediction for Psycs (H12b) was not supported as there is no relationship between this personality trait and convergent creativity. We had also predicted in H12c that based on their poor self-control and tendency to 'break the rules', Dark Triad individuals may be well suited to engage in fluid thinking necessary for divergent thinking. However, we see from Table 5.6 that none of the Dark Triad sub-component personality traits shows a significant relationship with divergent thinking. This result makes us ponder on the 'perceived wisdom' that successful entrepreneurs seem to be widely presented as having high DT traits to be successful (Cooke, 2020).

5.5 Study 3: An experimental study of how flattery influences ethical behaviour

5.5.1 Method

Participants and Procedure

Our third study involved an on-line test of unethical behaviour – i.e. specifically cheating – following a flattery intervention. We applied substantially the same methodology as for Study 1 and Study 2. The main differences to the experimental design for Study 3 relate to the outcome measures for cheating. All hypotheses are specific to this study. The survey was similarly designed in Qualtrics and administered by Prolific, with the same participant requirements as in Study 1. We used three pre-manipulation test measures as used in Study 1 (Dark Triad, self-esteem and flattery usage tendency), and added moral identity which is of specific interest for this investigation. Respondents were given the same pre-manipulation exercise to think of sentences that capture personal values, and were then manipulated using the flattery induction method used in Study 1 and Study 2. Following the manipulation, positive mood was measured. The target outcome measure (ethicality) involved us measuring the extent of cheating in a commonly used and validated cheating opportunity task devised by Mazar et al. (2008) which we adapted for use online. The ethics test, which is explained in detail below, required participants to solve a series of basic maths-based puzzles which they self-marked and so were afforded the opportunity to cheat. The survey concluded with some standard demographic items.

The final sample comprised N=583 participants made up of 290 females and 293 males, with an average age of 38.3 years (SD = 10.4; range 23 – 74). The average time taken to complete the survey was 36.7 minutes. We applied the same financial incentive to encourage respondents to give their best efforts in the survey as described in Study 1, and provided them with the same option to withdraw their data and still be paid if they so chose after being made aware of the deception at the end of the survey. As in Study 1 and Study 2, no respondent chose to withdraw their data.

Measures and manipulation

Pre-manipulation measures

Dark Triad. We used the Short Dark Triad (SD3) inventory (Jones & Paulhus, 2017) as for Study 1 and Study 2. Cronbach alphas: - Mach α = .83; Narc α=.78; Psyc α=.76; and DT composite α=.87.

Moral identity. We used the 5-item scale (Aquino & Reed, 2002). Respondents were asked to think about a person (which might be themself), whose characteristics include being "caring, compassionate, fair, friendly, generous, helpful, hardworking, honest and kind", and to imagine how such a person would think, feel, and act. Participants had to answer questions on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) about how they related to such a person. Sample questions include "it would make me feel good to be a person who has these characteristics", and "I strongly desire to have these characteristics". Cronbach α = .80.

Self-esteem. As used in Study 1, we measured self-esteem with the 10-item Rosenberg Self-Esteem Scale (RSE, Rosenberg, 1965). Cronbach α= .92

Flattery usage tendency. We used the same scale as in Study 1 and Study 2 – i.e., the 6-item Flattery and Opinion Conformity (FOC) scale (Park et al., 2011). Cronbach α= .89

Personal values. Respondents were tasked with completing the same exercise as used in Study 1 and Study 2. This comprises a free-form writing exercise based on a method devised by Boyd et al. (2015) which gave respondents five minutes to compose sentences capturing their personal values. As in the previous two studies, participants were incentivised to take the exercise seriously with the prospect of a small financial reward for those judged to have been most responsive.

Flattery manipulation

For Study 3 we manipulated flattery using the same technique as for Study 1. Participants were randomly assigned to treatment (flattery feedback) and control (neutral feedback) groups, and immediately following the manipulation participants completed the same flattery manipulation check items.

Post-manipulation measures

Positive affect. We used the 3-item measure devised by Vincent et al., (2013) as used in Study 1. Cronbach α= .94.

Cheating opportunity task. We used an adaptation of the original Mazar et al. (2008) method for assessing ethical behaviour through the opportunity to cheat. We previously applied the same method in Paper 3 of this thesis (Study 2, which looked at boredom as an influence of Dark Triad people), and it is also used in Paper 5 (Study 2, which looks at positive affect as an influence on DT personalities). A number of recent studies have applied the same matrix-based technique for measuring ethicality through cheating behaviour (e.g. Gino et al., 2011). This type of test is considered to be well-suited for assessing ethicality because (i) it is a search task rather than one that reflects mathematical ability or intelligence; and (ii) it can be unambiguously self-assessed (Mazar et al., 2008). In sum, participants were asked to self-mark a series of 12 maths-based matrix puzzles under increasingly tight time constraints, in the belief that only they (the participant) would know the extent of their honesty. Unbeknownst to respondents, five of the puzzle items were not solvable which enabled us to identify with certainty which respondents cheated (i.e., by dishonestly reporting they had solved one of more of the unsolvable items). Thus, we could determine who had cheated and their level of cheating from a score of zero to five.

Participants were presented sequentially on screen with three tranches of four matrices. Each matrix comprised 12 single-digit numbers (specified to two decimal places, e.g., 2.85), placed in four rows and three columns. Respondents were told that the objective was to find the only two numbers (out of the 12) which summed exactly to 10.00. Respondents were advised:

"*You will then self-mark and indicate how you did - i.e. if you were able to solve the question, then check-mark the circle "Got it".*

All self-marked scores will remain anonymous, known only to you the participant. Please concentrate and perform as well as you can for purposes of the experiment, whether or not you are aiming to score in the top 20% of participants eligible for the cash prize draw".

The authors who devised the experiment in the Mazar et al. (2008) study graciously provided us with access to the matrices they had used in their study. We adapted the original Mazar et al. (2008) experimental method in three ways. First, we applied it to an on-line study (the original was lab-based using paper returns). Second, we introduced cascading difficulty by reducing the time available for each subsequent set of four matrices – for the first tranche 60 seconds was available, the time was then reduced to 30s for the next tranche, and finally just 15s was permitted for the final tranche. Third, we applied a mild deception on respondents by including within the total of 12 matrices five which had no solution. This meant that anyone who self-reported "got it" for any of the five non-solvable matrices, was cheating.

Control variables. We measured the same four demographic control variables as for Study 1 and Study 2.

Analytical Procedure

We performed the same analytical procedures and tests as in Study 1. In addition, as we measured cheating as both a continuous variable (level of cheating) and as a dichotomous variable (cheat decision, yes/no), for the latter we needed to run binary logistic regression analyses and test the data for the corresponding underlying assumptions. All assumptions for data underlying multiple regression, binary logistic regression, and independent samples t-tests were met except the assumption of equality of variances, and consequently in the relevant analyses we adjusted degrees of freedom accordingly. All scales were tested for reliability which yielded Cronbach alpha scores above the commonly applied limit for acceptable reliability (i.e. α=.7). The final sample size of N=583 was arrived at after eliminating three scores from participants who failed attention check items, and a further 14 who were deemed to have provided insufficient effort to the personal values exercise.

5.5.2 Results and discussion

Manipulation check

As in Study 1 and Study 2, we verified the effectiveness of the flattery manipulation by undertaking four independent samples t-tests of the feedback scores provided by the treatment (flattery feedback) group, and control (neutral feedback) group, on measures of (i) accuracy; (ii) fairness; (iii) sincerity; and (iv) overall insightfulness. As previously, in all four tests individuals in the treatment group reported significantly higher appraisal scores for the flatterer versus

those in the control group. The t-tests produced very large Cohen's d effect sizes ranging from 0.9 – 23.2. Therefore, we conclude that the flattery manipulation was effective.

Descriptive statistics

Table 5.7 shows the means, standard deviations, and Pearson bivariate correlations among all variables. We note that 63% of participants cheated, although on average only at a relatively low level (M=1.47, SD = 1.74) from a maximum opportunity of 5. These cheating scores are similar to those seen from using the same task in Paper 5 where the influence was positive affect (60% cheated, M=1.45, SD=1.77) and Paper 3 where boredom was manipulated (54% cheated, M=1.19, SD=1.55). It is evident that the means obtained for identical variables tested in previous studies in this thesis show values that are very similar to those recorded in the present experiment – e.g. in the present study the mean for moral identity (M =4.45, SD =0.56) closely resembles the finding from Paper 3, Study 1 (M =4.50, SD =0.51), and flattery usage tendency measured here (M =2.09, SD =0.94) is close to the value obtained in Study 1 (M =2.01, SD =0.92). We also note that Dark Triad personality measures are in line with those seen in prior studies (e.g., Egan et al., 2015).

Table 5.7 Means Pearson correlation matrix, scale means, and standard deviations

	M	SD	1	2	3	4	5	6	7	8	9
1. Cheat Y/N	0.63	0.48	1								
2. Cheat level	1.47	1.74	1.00***	1							
3. Self-esteem	1.98	0.62	0.02	0.06	1						
4. Moral identity	4.55	0.56	-0.03	-0.13**	0.19***	1					
5. Flattery usage tendency	2.09	0.94	0.11**	0.15***	-0.08	-0.08	1				
6. Mach	3.06	0.69	0.06	0.17***	-0.17***	-0.27***	0.33***	1			
7. Narc	2.66	0.64	0.10*	0.23***	0.34***	-0.12***	0.25***	0.35***	1		
8. Psyc	2.08	0.60	0.09*	0.17***	-0.21***	-0.44***	0.21***	0.56***	0.32***	1	
9. DT composite	2.60	0.50	0.10*	0.22***	-0.02	-0.35***	0.34***	0.83***	0.72***	0.79***	1
10. Flattery manipulation	1.50	0.50	0.00	-0.04	-0.01	-0.03	0.02	0.06	0.023	0.09	0.09

N=583 * p<0.05; ** p<0.01; *** p<0.001

From Table 5.7 we see that flattery shows no correlation with cheating, i.e. in respect of both the decision to cheat and the level of cheating, results which fail to support H13a and H13b respectively, for which we had predicted negative associations. We predicted in H2 that those people who relied on flattery as a tactic would be positively associated with cheating – from the results in Table 5.7 we see that flattery usage tendency is positively associated with both the decision to cheat (r= .11, p<.01) and the cheat level (r= .15, p<.001), in support of H14a and H14b respectively. Self-esteem is not correlated with cheating, which negates H15 which predicted positive correlations for both the decision to cheat (H15a) and cheat level (H15b). Moral identity is not correlated with decision to cheat (which is not supportive of H16a which predicted a negative association), but is negatively correlated with cheat level (r=-.13, p<.01), in support of H16b, which suggests that moral identity does not prevent a case of 'mild' cheating, but does act as a brake on the level of cheating. Looking at the Dark Triad, we see that H17a and H17b are substantially supported: - i.e. Dark Triad people are positively associated with choosing to cheat (Narc r= .10, p<.05; Psyc. r= .09, p<.05) and more strongly with the level of cheating (Mach r= .17, p<.001; Narc r= .23, p<.001; Psyc r= .17, p<.001), which suggests that Dark Triad people are slightly more likely to cheat than are 'normal' people, but when they do cheat they do so at a relatively higher level.

Regression analysis and hypothesis test results

For completeness, we mention that as in Study 1 and Study 2, the present study confirms that flattery increases positive affect – i.e., an independent samples t-test of positive mood confirmed that individuals in the treatment group reported significantly higher positive mood scores (M=4.490, SD =0.764) versus those in the control group (M=3.772, SD =0.932); t(562.54) = -10.288, p<.001, [LLCI = -0.856, ULCI = -0.581] with a high Cohen's d effect size = 0.85.

Table 5.8 and Table 5.9 show the regression results for DV = cheat decision, and DV = cheat level respectively, which enable us to assess hypotheses H13 – H17. The binary logistic regression results (Table 5.8), indicate that the model fails to significantly predict cheat decision [χ^2 =14.966, df=13, p=0.309]. Flattery usage tendency (FUT) is the only predictor variable that is significant [Wald=4.049, p=.044 (<0.05)]. The odds ratio (OR) for FUT is 1.007 (95% CI: 0.715 – 1.419). The multiple regression results predicting cheat level shown in Table 5.9 indicate that the model was

significant [$F(13, 570) = 4.016$, $p < .001$, $R^2 = .084$, with two predictor variables showing significant associations, i.e., Narc ($\beta = .174$, $p < 0.001$), and FUT ($\beta = .091$, $p = .037$), which for the latter variable is a result that aligns with that seen for the binary logistic model with DV = decision to cheat.

Receiving flattery influences someone to cheat (H13)

From Table 5.8 we see that flattery is not positively related to decision to cheat (H13a) – indeed there is no association, and from Table 5.9 we see the same result. i.e. flattery is not positively related to cheat level (H13b), with a similar null relationship. These results indicate that when someone is flattered, their ethical behaviour does not change.

Table 5.8 Binary logistic regression results showing how flattery condition, Dark Triad personality and self-control related trait covariates relate to DV = decision to cheat (Y/N)

	B	**SE**	**Wald**	**p**	**OR**	**LLCI**	**ULCI**	**Hypothesis**
constant	-0.655	1.127	0.338	0.561	0.519			
Gender	0.041	0.186	0.050	0.824	1.042	0.724	1.501	
Age	-0.009	0.009	1.050	0.305	0.991	0.975	1.008	
Education2 - grad	0.188	0.200	0.888	0.346	1.207	0.816	1.786	
Education3 - post grad	0.221	0.247	0.805	0.370	1.248	0.769	2.023	
Work2 - managmt	-0.035	0.203	0.030	0.864	0.966	0.648	1.439	
Work3 – Sen. managmt	0.009	0.276	0.001	0.973	1.009	0.587	1.735	
Self-esteem	0.107	0.167	0.413	0.521	1.113	0.802	1.545	**H15a**
Moral ID	0.007	0.175	0.002	0.966	1.007	0.715	1.419	**H16a**
Flattery usage tendency (FUT)	0.204	0.102	4.049	0.044	1.227	1.005	1.497	**H14a**
Mach	-0.076	0.162	0.222	0.637	0.926	0.674	1.273	**H17a**
Narc	0.153	0.170	0.806	0.369	1.165	0.835	1.626	**H17a**
Psyc	0.291	0.201	2.093	0.148	1.338	0.902	1.985	**H17a**
Flattery condition	-0.047	0.175	0.072	0.788	0.954	0.677	1.344	**H13a**

		χ^2	**df**	**sig**
Omnibus test of coefficients	Step 1	14.966	13	0.309
	Block	14.966	13	0.309
	Model	14.966	13	0.309

Model summary	Cox & Snell R^2	Nagelkerke R^2
	0.025	0.034

Classification table		Predicted		% Correct
Cheat Y/N		0 (No)	1 (Yes)	
	0 (No)	16	203	7.3
	1 (Yes)	17	348	95.3
Overall %				62.3

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

People who flatter are associated with cheating (H14)

A person who uses flattery as a tactic will have a have a high flattery usage tendency (FUT). From Table 5.8 it is evident that FUT is positively associated with a decision to cheat (B=0.204, $p = .044$) which supports H14a, and from Table 5.9 we see that FUT is also positively associated with level of cheating ($\beta = .091$, $p = .037$). These results suggest that people who use flattery (which some see as a devious pursuit), also have a low moral compass.

Table 5.9 Multiple regression results showing how flattery condition, Dark Triad personality and self-control related traits relate to DV = cheat level

	B	SE	β	t	sig	Hypothesis
constant	0.956	0.902		1.060	0.290	
Gender	-0.146	0.150	-0.042	-0.972	0.331	
Age	-0.004	0.007	-0.023	-0.551	0.582	
Education2 - grad	0.112	0.162	0.032	0.688	0.492	
Education3 - post grad	0.107	0.199	0.025	0.540	0.589	
Work2 - managmt	-0.050	0.165	-0.014	-0.302	0.763	
Work3 – Sen. managmt	-0.233	0.223	-0.049	-1.048	0.295	
Self-esteem	0.109	0.135	0.039	0.803	0.422	**H15b**
Moral ID	-0.205	0.140	-0.066	-1.464	0.144	**H16b**
Flattery usage tendency (FUT)	0.167	0.080	0.091	2.089	0.037	**H14b**
Mach	-0.105	0.130	-0.042	-0.808	0.420	**H17b**
Narc	0.470***	0.137	0.174***	3.418	<0.001	**H17b**
Psyc	0.260	0.161	0.090	1.621	0.106	**H17b**
Flattery condition	-0.179	0.141	-0.051	-1.268	0.205	**H13b**
Number of obs.	583					
R^2	0.084					
F (13, 570)	4.016					
	p<0.001					

* p<0.05; ** p<0.01; *** p<0.001

Self-control related traits and cheating (H15 & H16)

We had predicted that self-esteem may serve to increase a person's sense of entitlement such that it may serve to facilitate and rationalise cheating for self-beneficial purposes. However, from Table 5.8 and Table 5.9 we see that self-esteem has no relation with either measure of cheating, i.e., there is no support for H15. We had also expected moral identity to provide a bulwark against unethical behaviour such there would be a negative relationship – however again we see that this was not the case with moral identity showing no relationship with either measure of cheating, and therefore there is no support for H16.

It is informative to compare these results with those we obtained from other studies contained in this thesis, i.e., (i) in Paper 5 (Study 2, which looks at the influence of positive affect), self-esteem was found to positively predict cheat level, but not cheat decision; and (ii) moral identity was found to negatively predict cheat level (but not decision to cheat) in the same study in Paper 5, with the same result obtained in Paper 3 (Study 2 which looked at the influence of boredom). This suggests that in the present study, flattery may have limited influence on self-esteem and moral identity, which we speculate could relate to the flattered person being aware of the flattery and its insincerity, which may serve to dent self-esteem (such that resultant cheating is reduced), and moral identity (whereby the flattered person feels offended which may relax the inhibitory role of moral identity to negate cheating).

Flattery, DT, and cheating (H17)

Moving on to the Dark Triad, we see that H17 is partially supported – i.e. although Dark Triad people are no more likely to cheat than 'normal' people (which does not support H17a in which we had predicted DT to be positively associated with decision to cheat), we see that Narcs (alone amongst the Dark Triad) are positively associated with level of cheating (β = .174, p<.001), which in part supports H17b. We note that the latter result mirrors those we obtained using the same cheating task opportunity in Paper 3 (Study 2) and Paper 5 (Study 2) – i.e., only Narc from the Dark Triad cluster is positively associated with level of cheating, notwithstanding evidence from other studies that Mach and Psyc – the 'malicious two' - are considered to be the darkest. We comment further on this finding in the general discussion section.

Lastly, to test H17c, i.e., whether the positive relationship between DT (Narc) and cheating level is moderated (enhanced) by flattery, we conducted a moderation analysis by re-running the regression with DV = cheat level in SPSS using the PROCESS macro model 1 (Hayes, 2013) with flattery condition as moderating variable, interacting with Narc to predict cheat level. We found no support for our hypothesis and conclude that the positive relationship between Narc and cheat level is *not* enhanced by being flattered. This result is positive for managers because Narcs, who we have seen above are predisposed to cheat, tend to seek recognition and presumably those in senior positions are frequently flattered – however the flattery does not serve to motivate them to cheat more than they otherwise would.

5.6 General Discussion

Flattery is one of the most common social influence tactics. In the literature flattery is often studied under the term 'ingratiation' which typically combines flattery with opinion conformity, both of which serve to impress a target with exaggerated favourable feedback on the target, for self-beneficial purposes. Flattery is ubiquitous in organisations (Long, 2021). This is because it works (Chan, & Sengupta, 2010). However, research has shown that links between flattery/ ingratiation and organisational outcomes have been inconsistent (Bolino et al., 2016).

This paper comprises three RCT studies which look at the effect that flattery has on three outcomes of high importance to organisations, i.e.: - (i) co-operation; (ii) creativity; and (iii) ethicality, and specifically affecting the personality cluster known at the Dark Triad (Machs, Narcs and Psycs). Dark Triad individuals are overrepresented in managerial and leadership positions and are therefore likely to be both the target of flattery on a day-to-day basis, and to use flattery in their interactions directed at peers and superiors (and indeed they may have risen to their current level in part because of their ability to flatter). Prior research has shown that Dark Triad individuals resort to ingratiation as a tactic in the workplace, for example in Paper 1 of this thesis (Study 1, Table 2.5), we obtained correlational results that demonstrated strong positive associations with ingratiation for Machs ($\beta = .200$, $p<.01$) and Narcs ($\beta = .144$, $p<.01$). In the present research all three studies confirmed that flattery makes people feel good, i.e. positive affect increased as a result of the flattery manipulation, something which is a key element underlying the theory of flattery and the influence it has. For the most part our predictions were supported, although there were some interesting results which did not support our hypotheses.

Results from Study 1 on co-operation indicate that flattery serves to increase co-operation. This is an important result given the ubiquity of flattery as a workplace tactic, and should be taken on board by management. Another positive finding relates to the Dark Triad, i.e., although Dark Triad individuals are negatively associated with co-operation, this relationship is *not worsened* by flattery, something we had considered as a possible outcome in the event that DT individuals interpreted flattery as a sign of approval and an endorsement of their aversion to co-operative behaviour. Rather, flattery serves to improve co-operation amongst all personality types. However, another key finding is less positive as regards Dark Triad individuals, i.e., Machs and Narcs are prolific *users* of flattery as a tactic (as measured by flattery usage tendency FUT), a result which aligns with our findings in Paper 1 linking them with ingratiation and self-promotion. This tendency may have practical consequences in the workplace because DT people are prominent and we also found that FUT is *negatively* associated with co-operation – in other words, those who flatter are less likely to co-operate, and while co-operation and flattery both require effort, only flattery is likely to convey immediate benefit on the person providing the effort.

The findings from Study 2 on creativity demonstrated a limitation of flattery – i.e., flattery has no effect on creative thinking. Prior research shows that creativity requires extensive cognitive resources, and our results show that although flattery induces increased positive affect (which has been shown in prior research to be negatively associated with convergent thinking (Akbari Chermahini & Hommel, 2012); and positively related to divergent thinking (Baas et al., 2008), respectively), flattery is not sufficient a situational influence to activate the type of change in cognitive processing necessary to affect creative thinking. In respect of the Dark Triad, notwithstanding the association of such personalities with innovation and start-ups, we found no evidence of a positive association with either type of creative thinking - indeed Narcs are *negatively* associated with convergent creativity.

Results from Study 3 also highlight the limits of what flattery can do. Our main finding is that flattery has no effect on ethical behaviour – i.e., flattery does not influence a person's decision to cheat, or their level of cheating. Moreover, this also applies to people high in DT traits, who (consistent with the studies in Paper 3), were found to cheat to a greater extent than were people low in DT traits, but whose level of cheating was *not* affected by flattery. We presume that management will see this result as a welcome finding given the apparent pervasiveness of flattery and the numbers of high-DT people in organisations. Less positively, we found that cheating was higher for people with a high proneness to flatter others – which includes people high in DT traits as indicated above. So, although flattery itself may not cause the target to reduce their co-operation or to increase how much they cheat, the flatterers themselves are associated with both forms of unwelcome behaviour.

Our findings have implications for theory as well as for managerial practice. Below we discuss the theoretical and practical implications of our findings, together with some limitations and directions for future research.

5.6.1 Theoretical Contributions

Our research makes several theoretical contributions to extant literature in relation to flattery, personality, organisational behaviour, creativity research and moral psychology.

First, we contribute to theory in respect of the flattery and affective science literature by demonstrating the limits flattery has as a means of influencing human behaviour. Our results confirm prior results of the primary importance that positive affect plays in how flattery works on the target of flattery. However, we showed that whilst the flattery-induced positive affect was sufficiently strong an influence to promote co-operative behaviour pursuant to Fredrickson's (1998) broaden-and-build theory (and in line with our findings in Paper 5, Study 1 which looks at the effect of positive mood on co-operation), it was not so strong as to influence creativity or increased cheating as theory would suggest. We speculate that this is because the flattery-induced positive affect is a 'constrained' form of positive affect, i.e. flattery makes people feel good but flattered people invariably know when they are being flattered – especially in a situation such as that in our experiment in which we made it clear that the flatterer was motivated to report favourably on the target – and this knowledge acts as a brake on feelings of "pure" positive affect, thereby interfering with the process of freeing up cognitive flexibility to enable fluid and novel thinking which is required for (i) divergent creative thinking (Bar, 2009), and (ii) moral disengagement (Vincent et al., 2013) and increased cheating. Vonk (2002, p.524) posits that the target-observer effect associated with flattery can be explained as it is '*mainly cognitive'*, whereby the target is aware of the flatterer's ulterior motive but still accepts the overdue praise as being accurate as it is consistent with the target's self-concept. We suggest a different explanation, i.e. that flattery works through a mix of affect and cognition, with the exaggerated praise from the flatterer inducing positive affect, but knowledge of motive invoking a rational cognitive response which sees the flattery for what it is – i.e. disingenuous – and as a result the positive affect is diluted and fails to act as 'pure' positive affect does in relation to creativity and ethicality. We recommend that this idea is tested in future research which should look at the boundary conditions for flattery effectiveness as regards the target, for example by making the ulterior motive of the flatterer more/less obvious, and testing the strength and influence of the resultant positive affect on different outcomes.

Second, this paper also contributes to flattery theory and research on social influence in organisations by demonstrating not only the limits of flattery, but also extending previous work (which has mostly looked at positive outcomes attaching to the flattery target), by suggesting a mechanism by which flattery may have *negative* consequences for the organization and for the flatterer. In circumstances when the flatterer's ulterior motive is evident, and the flattery sufficiently overdone, this combination may 'turn off' the target sufficiently to not only prevent the behaviour desired by the flatterer or predicted by extant theory (as seen in our findings as regards creativity and cheating), but we suggest may result in reactionary behaviour that opposes attempted flattery, with negative outcomes both for the organisation and the flatterer. There are some limited prior findings that back up our suggestion. For example, workers who engage in ingratiation are seen as unethical, dishonest and 'slimy' and have been punished by superiors with lower rewards, evaluations and weaker LMX relationships (Long, 2021; Vonk, 2002; Carlson et al., 2011). We suggest that people are invariably good at identifying others who are - using Long's (2021) phrasing - '*suck-ups, boot-lickers, sycophants, or brown-nosers'* - do not respond well to them or what they are doing. We recommend that further work on the 'dark side' of flattery would inform theory by establishing experimentally the conditions at which flattery results in unintended negative consequences. Such consequences would include adverse implications for the personal goals of the flatterer, as well as for the organisation (for example in relation to reduced co-operation and integrity by the target), with implications for research in authenticity and performance management.

Third, we contribute to creativity theory by demonstrating the complexity of creativity as a phenomenon (Montuori, 2017), manifested in our findings for several constructs for which we found no relationship with creativity: - i.e. flattery (and flattery-induced positive mood), self-control, and Dark Triad personality. Our findings suggest that divergent creativity cannot be 'switched on' by positive mood induced by flattery. This could be because the flattery-induced positive affect is a constrained form of positive emotion (informed as it is by knowledge of disingenuity as argued above), or alternatively it may be that positive affect is simply insufficient an influence to engender fluid thinking needed for creativity, something that challenges theory in how positive affect influences creativity by enhancing cognitive flexibility (Isen, 1999), or by broadening an individual's momentary thought-action repertoire and gain in cognitive variation (Jovanovic et al., 2016), pursuant to Fredrickson's (1998) broaden-and-build theory, at least in the conditions we tested. Indeed, despite the plethora of prior studies on creativity and emotion, there is little consensus about what types of mood are the most conducive to the process of creative ideation (Du et al., 2021). For example, negative mood (which we did not test) is commonly seen as an antagonist of creativity, but some studies have shown no association and yet others have shown a positive association with creativity (Smith et al., 2022). Our study, which found no effect of positive mood on either convergent or divergent thinking, adds to this ambiguity and suggests that future studies need to carefully look at the influence on *both* forms of creative thinking by *both* positive and negative affect in a range of contexts and levels of activation that we propose flattery cannot engender (e.g. excitement, Chi et al., (2021)). Lastly, our finding that neither self-control nor Dark Triad personality affect either form of creative

thinking has implications for creativity theory. Our findings do not support theories that suggest creative performance benefits from effortful, controlled, resource-dependent information processing and executive functioning (e.g. the controlled-attention theory of creativity (Beaty et al., 2014; Bertrams & Englert, 2019) – i.e. which would manifest in a positive association between creativity and self-control); nor do our findings argue for theories which suggest that high attentional control would hinder creativity (Bertrams & Englert, 2019), which would be evident in our results as a negative association between creativity and self-control. Dark Triad personalities are widely considered conducive to entrepreneurial activity (Cooke, 2020), yet our results do not support this view which we suggest may result from these personalities not having sufficient 'paradoxical qualities' (Montuori 2011), moreover, other than Narcs (Rogoza & Cieciuch, 2020), Dark Triad individuals do not have both key traits needed for creativity, i.e., (i) openness to experience; and (ii) extraversion (Novaes & Natividade (2023). It therefore begs the question for theorists and practitioners alike to consider: - why are Dark Triad people associated with entrepreneurship when they are not creative thinkers?

Fourth, we contribute to personality and self-control theory by demonstrating the extent to which flattery affects Dark Triad people. Flattery is shown to influence people high in DT traits to be more co-operative, but not more unethical. This is an optimistic finding and suggests that flattery-induced positive affect has a limited but helpful sway on the Dark Triad: - it influences them to go against their natural trait for selfishness (and be more co-operative), yet does not serve to further enhance their tendency for poor moral behaviour. We obtained a corresponding result in Paper 5 (Study 2) in respect of cheating behaviour by DT people subject to positive affect– i.e. positive affect (not induced by flattery) is not related to higher cheating behaviour in high Dark Triad personalities. We suggest that moral behaviour in Dark Triad individuals is somewhat more 'hard wired' and subject to cognitive processes (i.e. moral disengagement – see Paper 5) rather than to affect, whereas co-operation does not involve moral cognition per se, and therefore is susceptible to persuasion through positive affect for high Dark Triad individuals. These findings have implications for management as well as personality theorists for which further research should be directed to assess where the self-interest / positive affect boundary falls in respect of co-operative behaviour for high DT personalities.

5.6.2 Implications for Practice

Our research has several implications for managerial practice.

First, our finding that flattery directed at a target results in increased co-operative behaviour by the target, should be harnessed by management. This does not mean that flattery should be overly encouraged per se, because as we have shown it can have a downside. Rather, savvy managers and supervisors should look to strengthen LMX relationships by fostering relationships based on trust and authenticity and emphasising the benefits to a person's career by being co-operative and more selfless – however, some people find it harder than others to be selfless (such as people high in Dark Triad traits), and so for these individuals the added input of limited and tempered flattery directed at them may serve to help both the employee in their career, as well as the organisation by helping create a more co-operative and thriving environment.

Second, our finding that Dark Triad people are not creative should be a wake-up call to owners and managers in start-ups and industries where entrepreneurship and innovation are critical to success. Our findings align with those of Lebuda et al. (2021). In short, it seems that if it is in fact true that successful entrepreneurs need to have high DT traits to be successful (Cooke, 2020), this is not arising from any linkage between DT and their creative abilities. We suggest it could be due to other DT traits such as self-confidence, non-conformity (Lebuda et al., 2021), tenacity, and selfishness required to succeed in these types of corporate environments. In this case, given the known risks associated with DT personalities (e.g. reduced co-operation and dishonesty), owners and managers might want to seek such traits from other (non-DT) personality types who as well as not having these negative traits may have other needed abilities such as team-building skills. Paradoxically, an exception may relate to Narcs for whom our results show have the *least* promising creative abilities within the Dark Triad as they alone relate negatively to convergent thinking. Our results showed that Narcs *claim* to be highly creative (i.e. as measured by self-report scores), which we suggest is not based in reality but rather arises from their high self-regard and capacity for self-deception (Jones & Paulhus, 2017). However, this can have other positive consequences, vis-à-vis Narcs have charisma and high intelligence, and are able to attract followers (D'Souza et al., 2019), and so we suggest that Narc self-perceived creativity may enable their organisation to hire true creative talent that is drawn in by them. This is not fanciful - LeBreton et al. (2018) found that Narcs *appear* to be more creative when pitching, as their innate enthusiasm (erroneously) influences others to make this judgement, and represents a further demonstration of the manipulative powers of Narcs. Thus on a case by case basis, an organisation will need to carefully weight up the pros and cons of hiring a Narc to a prominent position where creativity is required from the leader and the team.

Third, managers need to be vigilant and watch out for staff who are copious users of flattery as a tactic because our results suggest that flatterers are more prone to cheat and therefore present a heightened risk to the organisation. As indicated in the section on limitations, as this particular finding represents a correlational relationship rather than one resulting from manipulation and causation, we suggest that the finding should be replicated and confirmed through an RCT study before being acted upon by managers. Nonetheless, people do not like sycophants and a culture where flattery and ingratiation are endemic can become toxic and result in sub-optimal outcomes including biased strategic decision-making (Park et al., 2011), the loss of good staff, and CWB. Organisations should therefore set out expectations to all new recruits (as well as in annual reviews for existing staff), about what is expected of interpersonal behaviour, including in the 'dark arts' that previously managers have typically steered clear of. In so-doing, managers should make clear that flattery, ingratiation and other impression management techniques are not hidden from view as many may believe – but rather these tactics are evident and invariably identified by superiors, and will turn up in formal appraisals because firms are looking to deter such behaviour. It is reasonably routine these days for firms to use some kind of psychometric test – we suggest that incorporating a measure of flattery usage tendency may be a smart addition.

Fourth, notwithstanding corporate policies and procedures that seek to deter impression management in organisations, inevitably some people will choose to resort to flattery in the workplace as a means of enhancing their position and developing their careers. As we have seen flattery and ingratiation are ubiquitous (Long, 2018), and for good reason as these tactics are linked to career success (Higgins et al., 2003). We suggest that managers should consider the effect that flattery and ingratiation have on flatterers from a well-being perspective, as research has shown that these tactics are depleting (Lanaj et al., 2016) as they require effort to prepare and execute – i.e., cognitive energy and mental resources (Graen & Uhl-Bien, 1995) which can lead to emotional exhaustion and negative outcomes such as CWB (Yan et al., 2020). Moreover, other research suggests that flatterers ultimately develop feelings of resentment to their flattery targets because flattery involves a series of social psychological mechanisms. These include (i) threat to the flatterer's self-esteem associated with disingenuousness; (ii) submissiveness attached to being dependent on someone of higher status; and (iii) violation of the meritocratic ideal - all of which can be negative to well-being (Keeves et al., 2017). Consequently, managers should make staff aware of the risks to them of using 'dark side' tactics and encourage them to fully participate in and help develop an open and transparent working environment where information is shared and people feel confident to act in ways that are consistent with their true selves (Yan et al., 2021), and thus feel less 'need' to use tactics such as flattery.

5.6.3 Limitations and Directions for Future Research

This research comprising three RCTs was subject to limitations that need to be recognised and commentated on. First, the set-up of the flattery manipulation which required deception was such that the survey took a relatively long time to complete (e.g. the average completion time for Study 2 was 39.4 minutes). This duration could impact the quality of findings as respondents could get tired, lose focus or the manipulation could wear off. We recommend that in any replication the manipulation technique is streamlined, ideally using face-to-face interactions rather than on-line dealings with an unseen flattery counterpart as used in our three studies, as this would augment the practical utility of our findings. Second, the data obtained relies to a large extent on self-reports. This opens the data up to risks of social desirability bias. As a counterpoint to this, all data was collected anonymously and respondents were advised that for most of the tests there were no optimal answers: - taken together these conditions go some way to ensure that respondents complete tests honestly and reveal their true thoughts (Wulani & Lindawati, 2019; Thau et al., 2009; Podsakoff, 2003). That said, in future studies multi-method assessments could be used together with self-reports and complemented with behavioural observation data (Pilch, 2020). Third, we acknowledge that the output measures used in our studies are necessarily somewhat artificial, particularly the measures of creativity. Consequently, we recommend that in future studies attention should be directed at ensuring on-line or laboratory-based measures of the creative process better match up with the components of complex on-the-job creative endeavours, ideally by accessing creative output in a workplace setting (Eisenberg & James, 2005). Fourth, and relatedly, our results are cross-sectional – in order to fully understand how flattery relates to the selected outcomes (co-operation, creativity, and ethicality), longitudinal experiments should be undertaken which will involve assessing the duration of flattery as an influence and any delayed effects. This would help confirm causality which is implied but cannot be confirmed in our present experiments. Fifth, we applied RCTs in our studies with the intention of gaining causal evidence, however some of our regression findings rely on correlational results which did not involve manipulation of the predictor variable – e.g. the observed association between flattery usage tendency and cheating – in which case it should be acknowledged that the relevance of such a result for management practice is less than for those results that provide causal evidence. Sixth, future research could benefit from using different methodological approaches – for example a laboratory setting would allow for face-to-face interaction which underlies flattery as a mechanism, but would suffer from any interaction between participants being limited in duration and not based on any prior interactional history, shortcomings which may challenge the external validity of findings. Rigorous study of flattery will therefore invariably require the use of

multiple methods including field experiments and the use of dyad data at various stages of workplace relationships (Cooper, 2005).

We believe that there are several areas where future research can fruitfully build on our work. First, research could benefit from investigating the boundary conditions underlying flattery effectiveness as regards the target. In our results we saw that flattery-induced positive affect felt by the target, in combination with the target being aware that the flatterer had an ulterior motive, was sufficient to induce enhanced co-operation from the target, but it was not sufficient to change the target's cheating behaviour. This shows that flattery is effective but is limited. It would be insightful to probe the extent to which flattery can be effective and the conditions required – for example, does increasing the level of exaggeration of favourable feedback result in increased co-operation? Similarly, can flattery be made to work so that it *positively* affects ethical behaviour by the target (as it does for co-operation), for example by creating more ambiguity around the ulterior motive? Research in this area would inform theory and provide useful insights for management.

Second, and relatedly, we suggest that future research should venture further into assessing and understanding negative unintended consequences attached to flattery for the flatterer and the organisation. Prior research has mostly focused on positive outcomes for the flatterer, with little interest to date on negative outcomes (Klotz et al., 2018). We have indicated that negative outcomes could result from depletion and self-esteem attenuation in the flatterer by engaging in the "*surreptitious form of deception*" (Eylon & Heyd, 2008) that flattery represents. Just how much of a 'boot-licker' does someone have to be before they suffer such drawbacks? Additionally, research would benefit from looking at the boundary conditions at which flattery stops being merely ineffective as a tactic (e.g. as we saw in relation to cheating behaviour), and look to see if flattery hits an inflexion point at which it is so extreme that the target considers it passing a 'tipping point of disingenuousness'. We suggest this might give rise to strong negative feelings such as resentment and rejection that could influence the target to act in the *opposite* way to that being solicited by the flatterer so as to 'show him/her' – e.g., with *less* co-operation, or *more* cheating - which could involve researchers looking at increasingly outlandish and unrealistic praise, or sequentially higher overtness in the visibility of ulterior motive on behalf of the flatterer. Again, the answers to such questions would advance flattery theory, and research in authenticity and performance management, and help organisations in the field.

A third potentially fruitful direction for future research involves identifying the personality types and traits that are particularly prone to flattery. We have shown that flattery usage tendency is a trait that demonstrates who uses flattery as a tactic – for which Dark Triad people are strongly associated – but not much is known about which personalities are particularly at risk from being flattered, and the correlates and mediators of this relationship. Research in this area would therefore enhance theory in flattery, individual differences, self-control, and aid practitioners in assessing vulnerabilities amongst management from skilled sycophants.

A fourth area we have identified where research would be valuable relates to looking at the environments where flattery thrives best. Flattery is likely to promote self-enhancement in the absence of unambiguous, objective information about one's performance (Park et al., 2011). This would imply that ambiguous situations would particularly lend themselves to flattery tactics – e.g. start-ups - yet we suggest these organisations typically have fewer staff and working practices and consequently 'boot-licking' would be highly visible which would serve to inhibit such behaviour. Ideally field studies could address this question. Alternatively, it could be that bureaucratic organisational environments would be more prone to flattery – e.g. in large public sector settings - because they might offer less opportunity to excel through standard performance metrics, so some staff may think 'parallel' efforts are required via flattery, ingratiation, and organisational politics. A related question for future research is where do we find more Dark Triad individuals – in the private or public sector, and is this linked to where flattery and ingratiation thrive? Cohen (2016) suggests that the public sector may be more attractive to DT people – and specifically Psycs - because here organisational goals are more ambiguous, organisational politics are higher, and individual performance is not tied to an objective measure such as revenue. We suggest that this question affecting both flattery and Dark Triad personalities is highly relevant to future research and practitioners.

Lastly, future research should look to pin down more specifically which personality types and associated traits are most conducive to being creative, and what situational factors facilitate the process. We have shown that Dark Triad people 'need not apply' - despite their association with entrepreneurialism and having a tolerance for ambiguity. Being creative is no small ask – the creative process requires both divergence and convergence, idea-generation and idea-selection, and being open and being critical, and is characterized by the capacity to hold two opposite or contradictory ideas simultaneously (Montuori, 2017). This research question is pertinent and highly complex, as the plethora of contradictory research on creativity to date attests, and indeed may be one of the thorniest questions facing social science research right now. This notwithstanding, we feel that the potential gains from a deeper understanding of creativity warrant directing even further effort in this direction.

5.7 Conclusion

Flattery is a commonly used tactic of social persuasion. It is ubiquitous in organisations. Moreover, it works and invariably benefits both parties to a 'flattery transaction' – the flatterer and the target. From our prior correlational study presented in Paper 1, we were aware that Machs and Psycs use flattery in the workplace. In the present study involving three on-line RCTs, we tested three important workplace outcomes (co-operation, creativity and ethicality) using a novel method of inducing flattery, and assessed the subsequent behaviour of the flattery target. We found that flattery increased positive affect in all three experiments. Flattery also resulted in increased co-operative behaviour as predicted, even amongst Dark Triad individuals. Conversely, flattery was found to have no influence on creativity, for which we measured two forms – convergent and divergent thinking. Based on theory which suggests that creativity responds to positive affect, we had expected divergent thinking to be positively associated with flattery (due to the associated positive affect which facilitates cognitive flexibility), but this was not found to be the case. Creatively was also found to have no association with Dark Triad personality. From Study 3 we found that flattery did not influence cheating behaviour.

These findings suggest that flattery has important, but limited influence as regards workplace outcomes. The results also suggest that flattery works through a mix of affective and cognitive influences, and that flattery-induced positive affect is less potent than is 'pure' positive affect - because the flatterer is aware of the ulterior motive, and thus less able to be cognitively flexible and engage in the type of fluid thinking necessary to stimulate creativity and open up novel ways of thinking and stimulation including cheating. We set out several contributions to theory and practice in the paper, and list a number of areas where future research could fruitfully take forward the present studies.

Chapter 6

The influence of positive affect on (i) co-operation and (ii) ethicality undertaken by Dark Triad personalities (Paper 5)

6.1 Introduction

Organisations exist to create desired outputs and solutions as efficiently as possible. Two important staff behaviours that are important contributors to this goal are co-operation, and ethical conduct. A proxy commonly used by researchers for co-operation is organisational citizenship behaviour (OCB; Thau et al., 2004) which Organ (1998) defined as "*individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system and that in the aggregate promotes the effective functioning of the organization*". The use of the disqualifier 'discretionary' in this definition clarifies that OCB is not a prescribed part of any job description and neither can it be readily measured, an example being 'co-operates with colleagues' (Organ, 2015). That said, there can be no doubt that co-operation in the workplace adds value to an organisation as it enhances productivity and strengthens an organisation's ability to attract and retain the best employees (Podsakoff et al., 2000). The value of ethical or moral behaviour in the workplace is seen by its absence – theft and wrongdoing impose "massive" financial costs on organisations (Jacobsen et el., 2018), in addition to reputational harm, and can lead to corporate collapse, as seen in the recent well-known cases of Wirecard and FTX to name just two.

Clearly, achieving enhanced co-operation and ethicality in the workplace is something that all organisations wish to pursue, but how is this best achieved? Over the last couple of decades or so there has been vast academic resources applied to fields including organisational behaviour, leadership and management devoted to getting better performance from organisations, teams and individuals. In broad terms, studies can be grouped into motivational influences associated with three literature domains: - leadership, contextual/environmental factors in the workplace, and affect/emotion of the workforce. This paper is concerned with affect, which is the core of a person's psychological life because it influences a host of cognitive, social and biological processes (Peñalver et al., 2019). More recently scholars and practitioners have started to focus on positive affect in what has been dubbed the "affective revolution" (Barsade & Gibson 2007), involving investigation of the so-called "happy-productive worker thesis" in which a 'happy' worker is assumed to perform better than an 'unhappy' one (Peñalver et al., 2019; Wright & Cropanzano, 2007). An early study by Isen and Barron (1991) found that a positive mood encourages citizenship, co-operation and general helping behaviour, however more recent studies have revealed a more complex picture for which there are conflicting findings (Proto et al., 2017). There has been a surprising lack of research on the link between ethicality and positive affect, and there are inconsistent findings in the work undertaken. For example, a recent study found a *positive* association between positive affect and ethicality (Medai & Noussair, 2021). Conversely, Vincent et al. (2013) showed that positive affect promotes the ability to morally disengage because it increases cognitive flexibility, something that typically precedes unethical behaviour which would imply a *negative* association between positive affect and ethicality. Moreover, Ruedy et al. (2013) showed that under certain conditions reversing the order of activity shows an interesting result – i.e. cheating leads to positive affect and the so-called 'cheater's high'.

The third ingredient of our interest is personality, or more specifically the Dark Triad (DT) which comprises the three maladaptive traits Machiavellianism, narcissism, and psychopathy (Paulhus & Williams, 2002). We focus on the DT because of their prevalence in boardrooms and in management – Dark Triad individuals are thought to hold a majority of senior leadership positions in organisations (Furtner et al., 2017) and DT traits correlate with leadership position (Diller et al., 2021). For ease of reference, in the rest of this paper we use the terms "Mach" (or "Machs") to refer interchangeably to the trait of Machiavellianism or to a person or persons with Machiavellian traits, and similarly we use the terms "Narc(s)" and "Psyc(s)". There has been a great deal of research on the Dark Triad in the last 20 years or so, with most studies looking at the outcome correlates of DT as a group, or at one of the Mach, Narc or Psyc sub-components. Although there are some inconsistencies, prior studies have broadly shown that Dark Triad people are associated negatively with the work behaviours of interest to us here, i.e.: - information sharing and treating colleagues respectfully (Aghababaei et al., 2022); OCB (LeBreton et al., 2018); and ethical and pro-organisational behaviour (Harrison et al., 2018; Templer, 2018; O'Boyle et al, 2012). Other work has considered how the DT correlates with positive mood and subjective wellbeing (SWB) which has revealed differences within the triad, for example Machs and Psycs are negatively associated with SWB, whereas Narcs show a positive correlation. Conversely, notwithstanding the volume of correlational studies involving the Dark Triad, to date there have been few RCT studies that have focused on possible causal mechanisms underlying their behaviour, including positive affect as a stimulus.

Taken together, we consider the combination of positive affect as a motivational driver of Dark Triad individuals, and its influence on co-operation and ethicality as outcomes, represents an important research gap that is both highly relevant to practitioners and capable of informing several theoretical domains. Consequently, this paper looks to probe the identified research gap to address the primary research question: *How does positive affect influence positive workplace outcomes (co-operation and ethicality) amongst Dark Triad personalities?*

In the present research we conduct two on-line RCTs and apply a positive affect manipulation to assess co-operation as the outcome variable in Study 1, and subsequently we measure ethicality (or rather unethical behaviour in the form

of cheating) as the outcome variable in Study 2. The participant group comprises experienced working professionals of all personality types, but our focus is on DT personality traits which we measure pre-manipulation.

The rest of this paper is organised as follows; Section 6.2 discusses the main theoretical perspectives underpinning this study and develops the hypotheses to be tested; Sections 6.3 and 6.4 describe the method, results and discussion for the RCT studies assessing co-operation and ethical behaviour outcomes respectively; Section 6.5 comprises an overall discussion of our findings, implications for theory and practice, and limitations; and Section 6.6 concludes.

6.2 Theory and hypothesis development

We address the research question by developing hypotheses based on a short review of what is known theoretically and from prior empirical research. First, we outline what is known about positive affect as a motivation, and specifically in respect of citizenship and ethicality. We then introduce the target personality type the Dark Triad and outline what is known about its association with positive affect and the two positive outcomes. We then summarise present knowledge on three constructs related to self-control which theory suggests may influence co-operation (self-esteem and political savvy) and ethical behaviour (moral disengagement). With this context we then construct nine hypotheses which form the basis of our two experiments.

6.2.1 Theoretical rationale

Positive affect and positive workplace outcomes

Over the last half century management research has underscored the significance of focusing on employee affect (reflecting mood and emotion) in the workplace (Proto et al., 2017). A vast research literature has built up that shows how important and adaptive affective states are in all manner of social situations, not least the workplace (Ashton-James et al., (2009). As would be expected, positive affect and negative affect provide contrasting feedback that influence cognition and behaviour in very different ways. Positive affect signals well-being and goal progression (Kahneman, 1999), whereas negative affect is a marker of problems that requires a search for solutions (Schwarz, 1990). Consequently, positive affect enables people to be receptive to new ideas and experiences, in contrast to negative affect which results in caution and a preference for the familiar over the novel (Ashton-James et al., 2009). This perspective of the influence of positive affect aligns with Fredrickson's (1998) broaden-and-build theory which argues that positive emotions have functional utility beyond merely feeling good. This includes building social connections and relationships. Pursuant to this model, positive affect broadens an individual's range of thoughts and actions and promotes opportunities for an individual to discover and develop personal resources, which includes building future social relationships (Kjell & Thompson, 2013). Conversely negative emotions narrow an individual's range of responses in terms of thoughts and actions which leads to focusing resources on self-protective, 'fight' and 'flight' behaviours. This line of thinking on the theory of positive affect based on classical psychology has been termed the 'social preferences' perspective by Proto et al. (2017), in which a positive mood leads to more open and helpful behaviour (including co-operation) and has been demonstrated experimentally in one-shot economic decision games (Drouvelis & Grosskopf, 2016).

There are however competing theories which predict that positive affect would have the opposite effect on co-operation. For example, Proto et al. (2017) argue that the 'cognitive' perspective suggests that individuals exposed to positive affect exhibit enhanced assertiveness and avoid more demanding systemic mental effort – i.e. the type of cognitive effort which is required in a co-operative Prisoner's Dilemma situation (which can mimic the risks and rewards inherent in complex co-operative organisational settings). In this case it would follow that positive affect would negatively impact co-operation, a prediction that has empirical support.

In any event, the effect of positive affect on co-operation would need to be evaluated in aggregate with the influence of motivated self-interest and inhibitory self-control. As Wingate et al. (2019) point out, people engage in OCB for different reasons, vis-à-vis 'good soldiers' are first and foremost organisational citizens, whereas 'good actors', prioritize self-interest above the interests of the organisation and fellow employees. In a similar vein Eissa et al. (2019) argued that competitive employees will react to work situations based on self-interest and on a cost–benefit analysis, leading them to be less cooperative with other employees. Consequently, positive affect may influence co-operation positively or negatively, depending on how co-operation is assessed, and the extent to which it is inhibited by self-control.

As regards the causal impact of positive affect on ethical behaviour, Medai & Noussair (2021) claim to have undertaken the first experimental study of this linkage, something which accords with our review of prior research on emotion.

The Medai & Noussair (2021) study, which is based on a laboratory die-roll task, found that positive affect led to enhanced ethicality. Based on a detailed review of the literature it seems that there has also been limited theoretical work explaining how positive affect (and other emotions) may impact ethicality. Anger is known to increase deception, whilst guilt reduces it (Motro et al., 2018). Brain imagery studies have indicated that when someone is being unethical a network of brain regions show greater activation, which implies that deception requires more cognitive effort than does honesty (Greene & Paxton, 2009; Medai & Noussair, 2021). Notwithstanding these findings, we must confront the unappealing corporate reality that unethical behaviour is common in organisations (Jacobsen et al., 2018), many of which are places where employee affect cannot reasonably be said to be unhealthy. So, as for the positive affect/co-operation debate outlined above, we suggest there must be competing theory that might argue for positive affect negatively impacting ethicality. We mentioned earlier that positive affect signals well-being and goal progression (Kahneman, 1999), and posit that these positive self-directed feelings might serve to overcome intrinsic self-control inhibition associated with acting unethically, thereby permitting self-serving behaviour to occur, i.e., dishonesty. In this case, positive affect would negatively influence ethicality. To support this contention, we highlight the results from prior studies in which positive affect was shown to enhance: - (i) creativity (Isen, 1999; Madjar et al., 2002); and (ii) moral disengagement Vincent et al., (2013). In both cases a possible explanation is that positive affect may have served to increase cognitive flexibility, which we suggest could work against the inhibitory effect of increased cognitive effort required by unethical behaviour (Greene & Paxton, 2009)

Enter the Dark Triad

The Dark Triad (DT) constellation of three distinct but related exploitative and maladaptive personality types (Machs, Narcs, and Psycs) should be of interest to employees and investors alike because of their relative success in the corporate world (Furtner et al., 2017; Diller et al., 2021). If we are to understand what makes DT people tick, and more importantly how we might motivate them to be better colleagues and leaders, it is necessary to be aware of their traits, the theories that underlie them, how they are influenced by positive affect, and what research says about their association with citizenship and ethicality. We briefly outline what research tells us in this regard.

In short, DT individuals as the term suggest are not 'nice' people. They have no desire to be. There is even a pecking order within the triad with Machs and Psycs - the so-called 'malicious two' - being the darkest (Rauthmann & Kolar, 2012). Machs are defined by their manipulative skills (Szabo et al., 2018). Machs are also strategic (Jones & Paulhus, 2014), take a dim view of morality (LeBreton et al., 2018), and are inherently selfish and absorbed with their own success (Hare & Neumann, 2008). Psycs are even worse, being the most toxic of the triad (LeBreton et al., 2018). The defining characteristic of a Psyc is callousness. Indeed Psycs exhibit a host of maladaptive tendencies including lying, irresponsibility and criminality (Williams et al., 2007). Narcs are the least dark of the Dark Triad, but that is not saying much: - they are defined by ego and entitlement. Moreover, Narcs are known for their boastful and attention-seeking behaviour, but have an inner fragility and low self-esteem (Harrison et al., 2018).

It is reasonable to ask why Dark Triad people have these traits and show these maladaptive behaviours. In summary, researchers posit two dominant perspectives from either side of the 'nature or nurture debate', vis-à-vis evolutionary theories (life history theory, and psychogenic motivation theory) and social exchange theory. Life history theory is based on the trade-offs involved in reproduction between parenting and mating (Furtner et al., 2017; Del Giudice et al., 2015). An individual who prioritises parenting is said to follow a slow life history strategy; a person who prioritises mating is said to adopt a fast life history strategy. Scholars argue that Dark Triad individuals display a fast life history strategy, characterised by a focus on short-term interactions (including in respect of partners), selfishness and other anti-social behaviours such as high impulsivity and opportunistic interpersonal relations (Furtner et al., 2017). A fast life history strategy leads to advantages in the short term, but not over the longer term as a result of social and often formal punishments (Jonason & Tost, 2010). Some researchers posit a different causal origin of Dark Triad personalities, which, although grounded in evolutionary theory, is based on concepts from motivational psychology. Psychogenic motivation theory suggests that there are three innate and universal motivations: - (i) the need for achievement; (ii) the need for power; and (iii) the need for affiliation (Deci & Ryan, 2000; Jonason & Ferrell, 2016). A need for achievement reflects a constant desire for self-improvement; a need for power entails a desire to influence and control other people; and a need for affiliation reflects an aim to build, maintain or restore positive relationships (Furtner et al., 2017). Clearly DT individuals "are not like most people" (O'Boyle et al., 2012). Rather, high-DT people have traits that are likely to undermine the binding influence of interpersonal relationships and 'exchanges' that build trust, fairness, and mutual support in organisations as well as in society more generally (Cropanzano & Mitchell, 2005), and which underpin social exchange theory (SET, Blau 1964).

We can therefore draw on SET to predict and explain how Dark Triad people will behave in the workplace. We should expect that Mach natural distrust should manifest as poor working relationships, and with their dubious moral outlook higher unethical behaviour for these personalities (Kish-Gephart et al., 2010). Narcs have delusions of grandeur and feel superior, sentiments that are likely to undermine exchange interactions which, pursuant to SET, are based on the

resilience of relationships underpinned by reciprocity and obligation and so could lead to unethical behaviour on the basis that the usual standards "do not apply to them" (Bogart et al., 2004). Finally, Psycs can be expected to show behaviours that mirror those of Machs in various ways, based on (i) a strong natural insensitivity to others, and (ii) a disinterest in meeting social obligations or complying with the norms of reciprocity.

So what does research tell us about how the Dark Triad relate to positive affect? In short, although we accessed several correlational studies linking positive (and negative) affect with DT traits, we were unable to locate any prior study of Dark Triad personalities which has applied a manipulation based on positive affect as we are doing in the present study. As regards correlational results, Garcia et al. (2015) found that positive emotion was associated with Narcs, and negative emotion was correlated with both Machs and Psycs. These findings are mostly consistent (excepting the Narc results) with those of Pilch (2020) who conducted a DRM study which showed that (i) Machs experience heightened negative affect (which is explained by them seeing the world as "dog-eat-dog" surrounded by enemies, for which negative emotions are a defensive protective mechanism); (ii) Narcs are the least affected by momentary positive or negative affect; and (iii) Psycs mostly experience negative affect.

It would seem obvious that the Dark Triad personality traits catalogued above are not ones best suited for promoting citizenship and ethicality, yet research shows that the relationships between the Dark Triad and these organisational outcomes are extremely complex and varied (Le Breton et al., 2018). We briefly review findings linking the DT to co-operation and ethical behaviour in turn.

We were able to locate a handful of studies which relate the Dark Triad to OCB (which is a commonly used proxy for co-operation). These show inconsistent results (Smith et al., 2018), which is somewhat surprising given the primary Dark Triad traits outlined above which prioritize personal goals over social balance (O'Boyle et al., 2012), i.e., we would intuitively expect to consistently find strong negative relationships between each Dark Triad sub-component and OCB (LeBreton et al., 2018). Boddy et al. (2010) looked only at Psycs and found a robust negative relationship with OCB. Bourdage et al. (2012) found that employees low in Honesty-Humility (H-H) were particularly likely to engage in OCB for self-serving motives – as outlined earlier low H-H is a characteristic trait of Dark Triad individuals. Smith et al. (2016) considered the Dark Triad cluster, and similarly reported a negative relationship with OCB for each of Mach, Narc and Psyc, and in addition reported that Machs show a positive relationship with OCB when the OCB is both challenging and where there is perceived self-benefit or recognition, a finding which points to the means-focused priority of Machs (Smith et al., 2018). This finding is also consistent with that of Becker & O'Hair (2007) for Machs, which found that the negative relationship with OCB is weakened when the target is an individual, which the authors interpret as being motivated by the possibility of recognition and subsequent reciprocity, something which is less likely if the target of the OCB is the organisation more generally. Webster & Smith (2019) provide encouraging findings as to how we might combat the detrimental effects of the Dark Triad in relation to OCB: - they found that in the right organisational climate Machs and Narcs actually engaged in rates of OCB equivalent to people low in Dark Triad traits, in this case when there was a high involvement management climate. The present study takes up the call from LeBreton et al. (2018) to better understand the negative relationship between OCB and the Dark Triad, and investigate causal mechanisms that might help us determine how citizenship could be positively influenced for Dark Triad people (Webster & Smith, 2019), in our case with positive affect as the possible mechanism. Relatively few empirical studies have been undertaken on ethical behaviour by Dark Triad individuals, most of which have framed the targeted behaviour as negative, i.e., as selfishness, unethical, or counterproductive (Spain et al., 2014). In a recent study of selfishness, Deutchman & Sullivan (2018) looked at self-maximizing and uncooperative behaviour in a series of economic games in the laboratory. This study demonstrated that Dark Triad status predicts defection and selfishness, particularly in respect of Machs whose self-interest comes out strongest amongst the Dark Triad cluster.

Most studies of unethical behaviour – albeit with some contradictions - suggest that there is a positive association between Dark Triad individuals and unethical behaviour which leads to negative outcomes in the workplace (Harrison et al., 2018; Templer, 2018; O'Boyle et al., 2012). Indeed, a telling finding reported by Cohen (2016) indicates that Dark Triad people have heightened feelings of comfort in ambiguous environments where the probability of being caught for improper activity is lower. Other recent research suggests that the Dark Triad personality traits affect different parts of the unethical decision-making process (Harrison et al., 2018): - Machs are motivated to act unethically but also seek to alter perceptions of the opportunities open to them to deceive; Narcs are motived to act unethicality for their personal benefit, but also to limit perceptions of their abilities to do so successfully; and Psycs spend effort rationalising their unethical behaviour. Finally, work by Jonason & O'Connor (2017) suggests that unethical behaviour by Dark Triad people is related to their tendency to take short cuts, particularly Machs and Psycs.

Researchers have considered various potential moderators and mediators that link the Dark Triad with positive outcomes OCB and ethicality. Moderators that have been shown to be significant include political skill and organisational culture (Cohen, 2016). Mediators include perceptions of organizational politics, perceived accountability (Cohen, 2016); social undermining (specifically in relation to Machs); and moral disengagement (Machs and Psycs) (Castille et al., 2017). Given the findings reported above in how Dark Triad individuals behave generally and

specifically in relation to the stimulus of positive affect, in our two studies we incorporate three traits that may influence the primary relationships we are interested in, vis-à-vis self-esteem, political savvy, and moral disengagement as we outline in the next section.

Other traits that can affect outcomes – self-esteem, political savvy, and moral disengagement

Self-esteem

Self-esteem can be defined as an evaluation or judgement of the self (Wells & Marwell, 1976; Suar et al., 2016). Other terms for this construct include self- respect, self-worth, and self-confidence (Tharenou, 1979). High self-esteem is generally perceived as a desirable characteristic, but excessive or inflated self-esteem can be maladaptive (Stenason, 2014). Self-esteem has been shown to be positively associated with several positive organisational outcomes, including citizenship (McAllister & Bigley, 2002; Suar 2016). There is some debate amongst scholars as to how self-esteem relates co-operation in the workplace, and how it promotes either self-enhancing or self-improving motivations which can favour the individual or collective respectively (Heine et al., 2001). Sedikides et al. (2004) argue that high self-esteem is a positive attribute as it has a strong association with psychological health, notably amongst Narcs, despite its association with the self-serving bias in these individuals. For people with low self-esteem, co-operation can help them to improve this trait (Sun et al., 2021). As regards the influence of self-esteem on ethicality, evidence suggests that individuals with high self-esteem look to avoid unethical behaviour and anything that will harm their reputation (Avey et al., 2011), and so aim to act ethically to preserve their sense of self-worth (Suar et al., 2016). Turning to the Dark Triad, research shows that Narcs have an abundance of self-esteem and Machs are negatively associated with self-esteem (Stenason, 2014). Although Psycs are the most toxic of the Dark Triad, results are mixed concerning the association of Psycs with self-esteem - Miller et al. (2010) reported a strong negative association whereas Stenason (2014) found no significant association.

Political savvy

Political aptitude is a valuable skill in the organisational setting and is used by individuals with high need for achievement and power (Ferris et al., 2007). Political skill in the workplace involves interpersonal influence, networking ability and the ability to convey apparent sincerity (Templer, 2018). More specifically, 'political savvy' is a political construct defined as 'adeptness at the nuances of politics in organizations' (Ferris et al., 2005; Granger et al., 2019). Political savvy has a validated measure that captures the extent to which an employee knows how things "really work" in the workplace, and who wields influence (Chao et al.,1994). Employees often engage in politicking to improve their position at the expense of others in the same workgroup (Takeuchi et al., 2022), and those skilled in the dark art of politics have been shown to be able to disguise their self- serving behaviour (Cohen, 2016). We suggest that individuals with high levels of political savvy can use their skill to pursue personal and organizational goals (Ferris et al., 2005), and will be motivated to do so if they have a high need for achievement (Templer, 2018) – we believe this applies to Dark Triad individuals. Moreover, organisational politics have been linked to dark side behaviour (Hall et al., 2006). Consequently, we posit that political savvy will negatively relate to co-operation, and more so for Dark Triad individuals.

Moral disengagement

Moral disengagement (MD) is a cognitive process that underlies moral behaviour (Bandura, 1999) and explains why some people find it easier to engage in unethical behaviour than others. Moore (2008) defined moral disengagement as "*an individual's propensity to evoke cognitions which restructure one's actions to appear less harmful, minimize one's understanding of responsibility for one's actions, or attenuate the perception of the distress one causes others*". In sum, according to MD theory, people breach their personal ethics by deactivating moral self-regulatory processes through the use of one (or more) of eight interrelated cognitive mechanisms, e.g., moral justification (Lee et al., 2019). By so-doing, it is possible to avoid the psychological discomfort known as cognitive dissonance that is associated with inconsistent behaviour (Festinger, 1957). Bandura's (1999) theory of moral disengagement has been considered primarily as a process that occurs *prior* to unethical activity (Newman et al., 2017). More recently, moral disengagement has been applied to explain state-like behaviour *following* unethical activity – i.e., '*post-moral disengagement'* (Tillman et al., 2018) - whereby the moral disengagement process acts to ease or eliminate moral burden and negative emotions associated with an actualised moral violation. Consequently, some scholars consider that moral disengagement has both state-like and trait-like qualities (Newman et al., 2017). In this present study we are primarily interested in how people high in Dark Triad traits behave. Dark Triad people are well known for their lax morals and association with unethical behaviour (Harrison et al., 2018; Templer, 2018; O'Boyle et al, 2012), and more recent studies have also shown that these personalities are positively associated with propensity to morally disengage (Egan et al., 2015; Wu et al., 2020).

Positive affect *as an outcome of* unethicality

Ethical decision-making has traditionally been considered through a cognitive process lens (Rest, 1986). More recently, moral psychology has looked at the role of emotion (e.g., Haidt, 2001). The prevailing view is that an unethical act triggers negative emotions such as guilt and shame, and that the prospect of these uncomfortable anticipatory 'moral' emotions acts to inhibit or curb such behaviour (Baumeister & Heatherton, 1996; Bandura, 1999). However, it has been shown that unethical behaviour can also trigger positive affect - the so-called 'cheater's high' (Ruedy et al., 2013). Cheater's high can be explained by the "want" state taking charge of ethical decisions that typically confer immediate reward (and therefore positive affect), rather than the "should" self which seeks long term goals (Tenbrunsel et al., 2010). Three possible psychological benefits have been suggested as driving the cheater's high positive affect phenomenon: - (i) typically unethical activity will result in some advantageous gain, e.g. money or respect; (ii) cheating can instil a sense of control, autonomy or influence which feels good; and (iii) unethical activity often represents a challenge – be it to the status quo, authority, etc – and in general people like a challenge which involves effortful cognitive activity to prevail and which can engender pride (Ruedy et al., 2013).

6.2.2 Hypotheses

Positive affect and co-operation
Fredrickson's (1998) broaden-and-build theory argues that positive emotions have functional utility beyond merely feeling good, which includes building social connections and relationships. Pursuant to this 'social preferences' view of how positive affect will impact co-operation (Proto et al., 2017), a positive mood leads to more open and helpful behaviour including co-operation. Hence,

H1 *Positive affect promotes co-operation.*

Dark Triad and co-operation
This cluster of personalities is defined by self-serving behaviour and a lack of empathy for others (Harrison et al., 2018). DT individuals are also highly strategic (Jones & Paulhus, 2014). Although results show that people with high esteem are afraid to do anything that will invite criticism (Suar et al., 2016), we posit that this will not apply to Narcs for whom high self-esteem is an important element of their persona, hence:

H2 *DT is negatively associated with co-operation.*

Dark Triad, positive affect and co-operation
We expect that the inherent self-interest of Dark Triad individuals will negate the transient positive influence of positive effect on co-operation. Thus:

H3 *The positive relationship between positive affect and co-operation is moderated (weakened) by DT traits.*

Self-esteem, political savvy, DT - association with co-operation
Narcs are full of themselves and exhibit high self-esteem. Psycs are particularly toxic individuals who display, inter alia, callous affect and criminal tendencies (LeBreton et al., 2018) and not surprisingly are negatively associated with self-esteem (Miller et al., 2010). Consequently, we expect that Narcs and Psycs will show contrasting associations with self-esteem as follows:

H4a *Self-esteem is positively associated with Narc.*
H4b *Self-esteem is negatively associated with Psyc.*

People with high self-esteem consider themselves 'above' others, harbour a heightened sense of entitlement, and exhibit the self-serving bias (Sedikides et al., 2004). Thus, we expect that when given the opportunity to co-operate, which may involve some level of compromise and selflessness, people with high self-esteem will avoid the chance where possible. On the other hand, as we mentioned above, co-operation can help people with low self-esteem to develop themselves, and so people low in this trait may actively seek out opportunities to co-operate at work (Heine et al., 2001; Sun et al., 2021). In either case we should expect an inverse relationship between self-esteem and co-operation.

Hence,

H4c *Self-esteem is negatively associated with co-operation.*

Politically skilled people can readily disguise their self- serving behaviour (Cohen, 2016). Those who have political gifts will use them to carefully limit and direct their co-operative and citizenship behaviours with precision, based on cost/benefit principles (Treadway et al., 2013). Consequently we predict:

H4d *Political savvy is negatively associated with co-operation.*

Dark Triad individuals are known for their tendency to take short cuts (Jonason & O'Connor, 2017) which will serve to impede co-operative and citizenship behaviour which require some level of effort. Moreover, given Narc's excessive high self-regard, plus lack of empathy which is common to all in the Dark Triad, Narc personality would be expected to strengthen further the predicted negative relationship between self-esteem and co-operation, i.e.:-

H4e *The negative relationship between self-esteem and co-operation is moderated (strengthened) by Narc.*

Positive affect predicts cheating

We saw from earlier that positive affect signals a sense of well-being and goal progression (Kahneman, 1999). Theory suggests that positive affect may increase cognitive flexibility (Greene & Paxton, 2009), as evidenced in prior research which has shown that induced positive affect enhanced both (i) creativity (Isen, 1999; Madjar et al., 2002); and (ii) moral disengagement (Vincent et al., 2013). Consequently, we suggest that positive affect will increase cognitive flexibility to open up novel ideas linked to cheating – i.e., 'beating the system' for personal benefit, i.e.:

H5a *Positive affect positively influences a person's decision to cheat.*
H5b *Positive affect positively influences a person's level of cheating.*

Dark Triad predicts cheating

People high in Dark Triad traits are well-known to cheat, deceive and act dishonestly (Harrison et al., 2018; Templer, 2018; O'Boyle et al, 2012). Dark Triad people have heightened feelings of comfort in ambiguous environments which permit unethicality and where the probability of being caught is low (Cohen, 2016). Given this, and the circumstances of the low-risk experimental situation confronting respondents, we predict that DT individuals will be associated with both the decision to cheat, and with the level of cheating undertaken:

H6a *DT traits are positively associated with decision to cheat.*
H6b *DT traits are positively associated with level of cheating.*

Moreover, we posit that posit affect will only serve to enhance unethicality by Dark Triad people, as the positive mood will help them to be more cognitively flexible (Greene & Paxton, 2009) as well as more emboldened, thus:

H6c *The positive relationship between DT and cheating is moderated (enhanced) by positive affect.*

Cheating leads to Cheater's high

We saw above that experimental evidence has shown that after cheating, people experience 'cheater's high' and feel elevated levels of positive affect (Ruedy et al., 2013). We believe that one or more of the theorised psychological benefits associated with cheating will kick in to create enhanced positive affect in the cheater (i.e., because of the possibility of monetary gain; an increased sense of control; or the challenge of beating the 'system' aka the researcher). Thus,

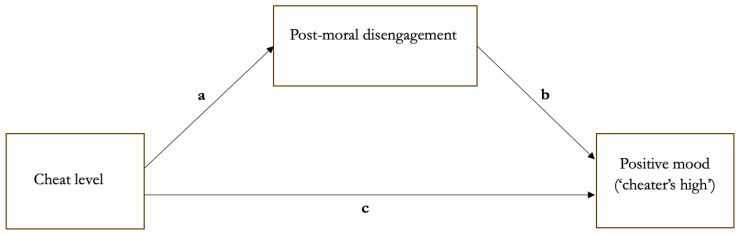
H7 *People who cheat experience "cheater's high" – i.e. an increase in positive affect*

Cheater's high is mediated through post-moral disengagement

Numerous studies have shown that moral disengagement can explain how the moral self-regulatory system works *prior* to unethical behaviour (e.g. Egan et al., 2015). We believe that moral disengagement is a compelling cognitive theory that can be applied *following* unethical behaviour by helping a person deal with the moral breach and violation of personal standards. More specifically, we posit the novel theoretical argument that the enhanced positive affect that results from cheating ('cheater's high'), is partially mediated through post-moral disengagement. Vincent et al. (2013) showed that positive affect may facilitate *pre*-moral disengagement because positive affect enables people to have more cognitive flexibility, and this allows them to consider a broader range of activities as being ethical by reframing them

and rationalising dishonest acts. We build on the work of Vincent et al. (2013) regarding cheater's high, and on the work of Tillman et al. (2018) in respect of post-moral disengagement, to suggest that the reverse process flow occurs – i.e. cheating stimulates people to be in a positive mood – 'cheater's high' (Ruedy et al, 2013) – which is mediated through the cognitive process of post-moral disengagement. The model is depicted schematically in Fig 6.1.

Fig 6.1 Proposed mediation model (model 4, Hayes, 2013) underlying the effect of cheating on subsequent positive mood ('cheater's high'), which is mediated through post moral disengagement



In this proposed model, each path predicts a positive relationship. The direct path (path c) depicts cheater's high as detailed above in H7. We suggest that cheating is positively associated with post-moral disengagement (path a, H8a) because this cognitive process acts as a self-regulatory process to counter the resultant negative emotions attached to moral violation. The process flow happens over a very short time interval, but the temporal sequence is important. Post-moral disengagement (path b, H8b) will be positively associated with resultant positive affect because post-moral disengagement happens following an unethical act (cheating) and enables a cheater to rationalise their unethical act and thereby attenuate the associated negative affect that occurs instantaneously following the cheating act. This will manifest as a temporal feeling of positive emotion relative to the cheater's emotion felt in the moments following the cheating i.e., prior to the post-moral disengagement rationalisation. In composite, we suggest that cheater's high results from cheating as a total effect (H8c), explained by partial mediation through post-moral disengagement - i.e. indirectly via path a*b - and directly via path c', which occur in tandem. Thus:

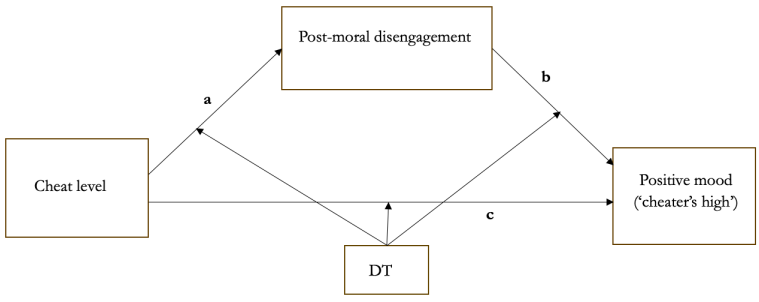
H8a *Cheating promotes post-moral disengagement*
H8b *Post-moral disengagement promotes subsequent positive affect (controlling for cheat level)*
H8c *Post-moral disengagement acts as a partial mediator between cheating and positive affect [i.e. a mediation model is applicable]*

Dark Triad moderates the mediation model underlying cheater's high

Next we add Dark Triad personality to the proposed mediation model. The Dark Triad is positively associated with pre-moral disengagement. We suggest that this association will also apply to post-moral disengagement (path a). Moreover we expect that DT people who morally disengage will feel heightened positivity by so-doing as this helps motivate them to morally disengage so readily compared with other personalities (path b). Lastly, we posit that DT people will experience heightened cheater's high compared to low DT people by virtue of the positive feelings they will experience by 'beating the system' and their high self-regard (path c). Therefore, we hypothesise that cheating and cheater's high can be explained by a moderated mediation model as depicted in Fig 6.2 below, i.e.,

H9 *Dark Triad moderates (strengthens) all three positive relationship paths in the mediation model. i.e., the relationship between cheating and positive affect is mediated through post-moral disengagement and moderated by DT traits.*

Fig 6.2 Proposed mediation model (model 59, Hayes, 2013) underlying the effect of cheat level on subsequent positive mood ('cheater's high'), which is partially mediated through post moral disengagement and each path moderated by DT personality.



6.3 Study 1: An experimental study of how positive affect influences co-operation

6.3.1 Method

Participants and Procedure

Study 1 comprised an on-line RCT study which looked at the influence of manipulated positive affect on co-operation. The LSE Research Ethics Committee approved the study prior to the study's launch. In this study we apply a mild deception, and consequently the experiment required (and obtained) advance authorisation to apply the deception technique. At the end of the experiment participants were informed about the deception and its necessity for assessing the behaviour of interest, and that any participant could readily withdraw their data if desired whilst still being paid, an option that no-one chose to take up. In line with common research practice, we determined sample size through a power analysis using the G-Power tool (Faul et al., 2009). For the calculation we applied a statistical power level of .90 and statistical significance of .05. In this study we are interested in effect sizes that may be of practical use and which will therefore exceed the "small" effect size criteria that is frequently used in social science studies. Consequently, for purposes of determining the appropriate sample size, we sought minimum effect sizes intermediate between the small-medium effect size categories (i.e. we utilised a Cohen's $f^2 = 0.1$ effect size: small/ medium effects are categorised with Cohen's $f^2 = 0.02/0.15$, per Cohen (1992)). The sample size calculation suggested a sample size of 108. We chose to oversample by targeting 600 participants to account for attrition and limit concerns over type 1 and type 2 errors.

The survey was designed on the Qualtrics platform with respondents sourced on-line by Prolific. Prior to launch of the final version of the survey we pre-tested an advanced version with the help of a small group of LSE students. This led to a few design improvements. Participants were screened to restrict respondents to people who: - (i) were currently working in full-time employment in a professional or managerial position; (ii) had work experience of a minimum of 4 years; (iii) were based in an Anglophone country (i.e., UK, US, Canada, or Australasia); and (iv) spoke English as a first language. Prior informed consent was obtained from all respondents. On average respondents took 17 minutes to complete the survey. The final sample comprised 593 participants made up of 296 females and 297 males, with an average age of 38.9 years (SD = 10.4; range 21 – 73).

Prior to the manipulation task, respondents answered questions that measured Dark Triad personality, self-esteem, and political savvy. Participants were then randomly allocated to either the treatment or control conditions. The treatment group was subsequently manipulated via a well-known and validated positive affect manipulation task first developed by Ashton-James et al. (2009), whilst the control group was exposed to a neutral affect task. After the manipulation exercise respondents completed a short manipulation check, followed by the main output measure of co-operation comprising a one-shot dictator game devised by Forsythe et al. 1994). The survey ended with some standard demographic items. The manipulation procedure and co-operation dictator game set-up are described in further detail in the next section.

Measures and manipulation

Pre-manipulation measures

Dark Triad. We used the Short Dark Triad (SD3) inventory (Jones & Paulhus, 2017). The SD3 scale comprises a 27-item measure of Dark Triad personality, made up of three sub-scales (Mach, Narc and Psyc), each comprising nine items. Respondents were requested to indicate the extent to which they agreed with statements relevant to each trait using a 5-item Likert scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*). Sample items include: - Mach: "Most people can be manipulated"; Narc: "Many group activities tend to be dull without me"; and Psyc: "Payback needs to be quick and nasty". Cronbach alphas: - Mach α=.79; Narc α=.78; Psyc α=.80. (DT composite α=.88).

Self-esteem. We used the 10-item Rosenberg Self-Esteem scale (RSE, Rosenberg, 1965). The RSE was originally designed to measure self-esteem in high school students, however, since its development the scale has been used in numerous studies to assess adults with high reliability and validity scores. Respondents were asked to indicate how much each statements reflected how they typically are using a 5-item Likert scale ranging from 1 (*strongly agree)* to 5 (*strongly disagree*). Sample items include "I feel I do not have much to be proud of", and "I feel that I am a person of worth, at least on an equal plane with others". Cronbach α= .93

Political savvy. We used the 6-item scale developed by Chao et al. (1994) which capture insight into the broad workings of politics in an organisation (Granger et al., 2019). Respondents were asked to indicate how much they agreed with statements about how they are in the workplace using a 5-item Likert scale ranging from 1 (*disagree strongly)* to 5 (*agree*

strongly). Sample items include "I have learned how things "really work" on the inside where I work", and "I know who the most influential people are where I work". Cronbach α= .77

Manipulation

Positive affect was manipulated using an adapted version of the validated technique developed by Ashton-James et al. (2009) which has been applied in several more recent studies (e.g., Vincent et al., 2013). Participants were asked to recall a memory and to spend five minutes writing a few sentences about the memory. To incentivise respondents to take the exercise seriously, they were advised "*This task requires participants to fully engage with the exercise - as a result the top 20% of participants who are judged to be most responsive will have their names entered into a draw to win a £50 cash prize".*

People in the treatment condition were presented with a screen which read:

Please recall a life experience that made you feel positive, uplifted, and happy. Try and think of all the details of what was happening at the time, to the point that you could imagine this happening to you right now. Think about how old you were, who were the people or events involved, and what your feelings were. It is very important that you take this reflection exercise seriously. Think of a life event that made you feel as if you were on top of the world and had everything going for you. Before starting to write, please take a minute to sit back, close your eyes, put your head down or get into a position that will best allow you to get in touch with your feelings. Focus on thinking about this happy event, and once you are ready please advance the page and write as many sentences as you can about this life event, what the situation was, when it happened, who was involved, and how it made you feel.

Respondents in the control condition saw a screen which read:

Please recall your actions of today, from the time you woke up until just prior to when you started this survey. This will mean activities small or big, routine or important. Try and think of specific details of the activities you did, the people you interacted with, the approximate duration of each activity etc. For example, your day could include taking a shower, preparing breakfast, doing the school run, driving to work, preparing a technical report at work etc - i.e. whatever activities you actually did so far today. Take a few moments to recall your day today and the individual activities you did, and once you are ready please advance the page and write as many sentences as you can about them.

Post-manipulation measures

Positive mood manipulation check. We used the 3-item measure devised for this specific manipulation by Vincent et al. (2013). Respondents were asked to indicate "How you feel right now" using a 5-item Likert scale with the response ranges dependent on the question asked, i.e.: - "Right now I feel": 1 (*happy)* to 5 (*sad*); "Right now I would say my state of mind is": 1 (*pleasant)* to 5 (*unpleasant*); "Right now I would say my mood can be described as": 1 (*good)* to 5 (*bad*). Cronbach α= .93.

Co-operation. The outcome behaviour of interest in this study is co-operation. Economic games provide a route to study cooperation which have become a central tool for so-doing over the last several decades, partly because of their relative simplicity (Haselhuhn et al., 2022). For this study we adapted a version of the Ultimatum Game (UG) first developed by Forsythe et al. (1994). This involved an allocator (Person A) and a receiver (Person B). Person A had lottery tickets (a thing of value) and had to decide how many (if any) to share with the randomly paired receiver. Thus this form of the UG can be framed as a measure of co-operation or generosity (Wu et al., 2019).

Each respondent completed the survey in their own time and on a standalone basis. In order to make the UG exercise effective, we subjected respondents to a mild deception whereby they were told that they were participating in a real-time exercise in tandem with a pool of others, one of which they would be randomly paired with. Moreover, to help instil some sense of relationship and temporal shared interest that would inform and in-part motivate the subsequent co-operation decision, we told respondents that following the pairing, 10 lottery tickets would first be allocated to *each pair*, and only after a further short delay would paired partner dyads be informed of the allocation of specific roles (allocator or receiver), again on a random basis. The setting was conveyed to respondents as they read the following screen:

This next task which takes 1 minute relates to decision making, and gives all participants another opportunity to win money - this time a £50 cash prize in a lottery game where your chances depend on the number of lottery tickets you have, which will be determined via the following exercise. The rules of the lottery game are very simple: -

- *All participants will first be randomly paired with another participant.*
- *10 lottery tickets have been provisionally allocated to each pair of participants.*
- *Within each pair, one person will be randomly allocated to Group X (allocator) and the other to Group Y (receiver).*

- *The person in Group X (allocator) will be required to make one decision_- i.e. regarding the allocation of the 10 lottery tickets between themself and their paired partner. The choice of how many lottery tickets to allocate ranges from zero to ten. The person in Group Y (receiver) will then be informed of the choice made by their partner. Both participants will then answer a few questions regarding the exercise.*

There are no right or wrong answers – participants in Group X (allocator) should choose the option that, for whatever reason, they prefer most. Remember that the lottery tickets have value: the more of them a participant has, the better in terms of the participant's chances in the lottery, and likewise for a participant's partner. At no time will paired partners have any direct communication with each other, and will remain anonymous to each other at all times.

To maintain the deception respondents then saw the following screen:

You will now be randomly matched with your paired partner who has reached the same stage of the survey, and you will each be informed of your inter-pair group allocation for the lottery ticket allocation exercise, i.e.: -

- *Group X (allocator)*
- *Group Y (receiver)*

The page will automatically advance once the matching has been completed. This part of the process may take up to 2 minutes depending on how many respondents are currently completing the survey, so we appreciate your patience.

The screen advanced for everyone after just over a minute, following which the final screen was presented:

Partner pairing complete. Within your pair you have been assigned to: Group X (allocator)

You are now required to: Make your decision on how many of the 10 lottery tickets to allocate to your paired partner, and how many to retain for yourself. However many lottery tickets you do not allocate to your paired partner, will be yours. As indicated earlier – there are no right or wrong answers – you should choose the option that, for whatever reason, you prefer most. When you are ready, please move to the next page and make your decision.

The decision screen comprised a horizontal list numbered 0-10 with the rubric "*From the 10 lottery tickets allocated to us, I will allocate the following to my paired partner …".* Again, we chose the wording quite deliberately so as emphasise the partnership and "us" affiliation, thereby simulating (admittedly in a limited way) a relationship that informs and complicates the co-operation decision which we believe adds additional applicability and relevance to the measure. We measured co-operation by the number of lottery tickets allocated by each respondent, i.e., a number which could range from 0-10.

Control variables. We measured four demographic control variables which prior studies have shown can be relevant to issues of moral behaviour: - *gender* and *age* (Berry et al., 2007); *formal education* (Bucciol et al., 2013), for which we use a dummy variable scale ranging from 1 (lowest, no degree) to 3 (highest, postgraduate); and *position at work* (Chow & Choi, 2003), for which we employ a dummy variable scale with 1 (below manager); 2 (management) and 3 (senior management / leadership).

Analytical Procedure

Data from the Prolific platform was downloaded into excel for cleaning, and subsequently into SPSS for analysis. Data cleaning identified three outlier participants who had taken excessive time to complete the survey. Four respondents were removed from the survey because they failed at least one of three attention-check items. Consequently, we were left with a final sample size N =593. Our analysis relies on multiple regression analyses and independent samples t-tests, therefore before analysing data we tested the underlying data assumptions of these analytic procedures. As regards multiple regression assumptions, we first applied the Durbin-Watson test of independence of errors which yielded scores in the range 2.1-2.2 which enables us to safely accept that the assumption of independence of error terms was met. Second, we confirmed that data met the assumption of linearity based on a review of a scatterplot of standardised residuals. Third, based on a review of a histogram of standardised residuals, we confirmed the assumption that data contained approximately normally distributed errors. Fourth, for each regression model we confirmed that collinearity was not a problem as VIF measures were computed, none of which yielded values above 2.5, a figure that is significantly below the threshold at which collinearity may produce distortion effects (Cryer & Miller, 1994).

Turning to the underlying assumptions for independent samples t-test analyses (which we apply in checking the positive affect manipulations), data must exhibit equality of variance. Consequently, we also conducted a Levene test which is a more robust statistical test which revealed that this assumption was not met in our data, consequently degrees of freedom were adjusted accordingly in the relevant analyses.

Lastly, all scales were tested for reliability which yielded Cronbach alpha scores above the commonly applied limit for acceptable reliability, i.e. α=.7.

6.3.2 Results and discussion

Manipulation check
We verified the effectiveness of the positive affect manipulation exercise by conducting an independent samples t-test of the positive mood measure between the treatment and control conditions. As indicated above, the Levene test of equality of variances was not met (F=3.882, p=.049). Individuals in the treatment group (M=4.471, SD =0.748) reported significantly higher positive mood scores versus those in the control group (M=3.982, SD =0.906); t(570.03) = -7.171, p<.001, [LLCI = -0.623, ULCI = -0.355]. Therefore, we conclude that the manipulation was effective with a large effect size (Cohen's d = 0.83).

Descriptive statistics
The means, standard deviations, and Pearson bivariate correlations among all variables are shown in Table 6.1. It is evident that the means obtained for identical variables tested in our earlier studies (Papers 1-4) are substantially similar to those recorded in this experiment. For example, the scores in the present study for Psyc (M =2.09, SD =0.66) are closely aligned with those for Psyc obtained in our Paper 3 (Study 1, M =2.05, SD =0.59; and Study 2, M =2.04, SD =0.61). In addition, Dark Triad personality measures are in line with those seen in prior studies (e.g., Egan et al., 2015).

Table 6.1 Pearson correlation matrix, scale means, and standard deviations

	M	SD	1	2	3	4	5	6	7	8
1. Co-operation	3.88	2.12	1							
2. Self-esteem	1.95	0.62	-0.11**	1						
3. Political savvy	3.77	0.64	0.00	0.29***	1					
4. Mach	3.11	0.63	-0.14***	-0.07	0.08	1				
5. Narc	2.56	0.64	-0.06	0.35***	0.28***	0.38***	1			
6. Psyc	2.09	0.66	-0.06	-0.18***	-0.02	0.58***	0.39***	1		
7. DT composite	2.59	0.51	-0.11**	0.04	0.14***	0.82***	0.74***	0.83***	1	
8. PA manipulation	1.50	0.50	0.11**	-0.04	0.02	-0.02	0.01	-0.04	-0.02	1

N=593. * p<0.05; ** p<0.01; *** p<0.001

The correlation results are relevant to our hypotheses. We see from Table 6.1 that positive affect is positively correlated with co-operation (r=.11, p<.01) which aligns with H1. We predicted in H2 that the Dark Triad would be negatively associated with co-operation, whereas we note that only Mach has a significant negative correlation (r= -.14, p<.001), with Narc and Psyc each showing no correlation. Self-esteem (i) correlates strongly and significantly with Narc (r=.35, p<.001), which is in line with H4a; (ii) is correlated significantly negatively with Psyc (r= -.18, p<.001), which is supportive of H4b; and (iii) correlates significantly negatively with co-operation (r=-.11, p<.01), in support of H4c. Lastly, political savvy shows no association with co-operation, which is not supportive of H4d which predicted a negative association.

Regression analysis and hypothesis test results
Table 6.2 shows the regression results for DV = co-operation which enables us to assess hypotheses H1, H2 and H4c. In the regression the 12 predictor and control variables together explain 5.9% of the variance in co-operation (F(12, 581) =3.052, p<.001).

Positive affect and co-operation (H1)
We had predicted that the positive affect manipulation would positively influence co-operation. From Table 6.2 we can see that this hypothesis is supported at the 5% significance level (β =.101, *p*=.013), i.e., positive affect predicts enhanced co-operation.

Dark Triad and co-operation (H2)
For Dark Triad individuals, Table 6.2 indicates that Mach (H2a) shows a significant negative association with co-operation (β = -.165, *p*=.002) as we had predicted. However, H2b (Narc) and H2c (Psyc) were not supported as neither DT sub-component showed any association with co-operation. This finding for Mach would seem to point to Mach's highly strategic and clinical self-serving tendencies which perhaps sets it apart from its 'malicious two' counterpart Psyc in relation to avoiding co-operative opportunities. The null finding for Narc in relation to co-operation might be explained by the inherent high esteem Narcs possess, as high-esteem individuals seek to avoid actions that will invite criticism (Suar et al., 2016), which we suggest may help facilitate Narcs to 'do the minimum' in terms of co-operation, i.e., so that Narcs have neither a positive or negative association with co-operation.

Table 6.2 Multiple regression for DV = co-operation

	B	**SE**	**β**	**t**	**p**	**Hypothesis**
constant	4.923	0.891		5.525	<0.001	
Gender	0.044	0.185	0.010	0.241	0.810	
Age	0.007	0.009	0.034	0.794	0.428	
Education2 - grad	0.090	0.210	0.020	0.426	0.671	
Education3 - post grad	-0.097	0.250	-0.019	-0.388	0.698	
Work2 - managmt	0.519	0.207	0.118	2.507	0.012	
Work3 – Sen. managmt	0.332	0.270	0.058	1.233	0.218	
Self-esteem	-0.494**	0.169	-0.141**	-2.929	0.004	**H4c**
Political savvy	0.079	0.151	0.023	0.519	0.604	**H4d**
Mach	-0.570**	0.179	-0.165**	-3.179	0.002	**H2a**
Narc	0.061	0.178	0.018	0.343	0.732	**H2b**
Psyc	-0.009	0.183	-0.003	-0.052	0.959	**H2c**
PA condition	0.439*	0.177	0.101*	2.484	0.013	**H1**
Number of obs.	593					
R^2	0.059					
F (12, 581)	3.052					
	p<0.001					

* *p*<0.05; ** *p*<0.01; *** *p*<0.001

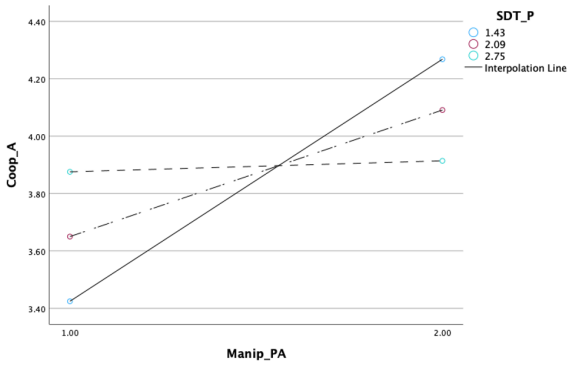
Dark Triad, positive affect and co-operation (H3)
To test H3, i.e., whether the positive relationship between positive affect and co-operation is moderated (weakened) by DT traits, we conducted moderation analyses by re-running the regression with DV = co-operation in SPSS using the PROCESS macro model 1 (Hayes, 2013). We ran the regression three times with each of Mach, Narc and Psyc separately as moderating variable, interacting with positive affect to predict co-operation. We found partial support for our hypotheses – i.e., in respect of Psyc (H3c) and Mach (H3a, albeit at a marginal level of significance) - but for Narc (H3b) our hypothesis was not supported. Table 6.3a and Table 6.3b show the moderation regression results for Psyc and Mach respectively.

For Psyc the interaction was significant (B= -0.611, *p*=.023), indicating that the positive relationship between positive affect and co-operation was moderated – i.e., reduced - by Psyc personality. Fig 6.3a depicts the corresponding interaction simple slopes curve (with the predictor variable positive affect at value 1 = neutral affect state; and 2 = positive affect state). The interaction was probed by testing the conditional effects of positive affect at three levels of Psyc, one standard deviation below the mean, at the mean, and one standard deviation above the mean. As shown in Table 6.3a and Fig. 6.3a, the conditional effect of positive affect on co-operation was significant at low and mid-levels of Psyc, but was not significant for high Psycs who showed no difference in co-operation whether in a neutral or positive affective state.

Table 6.3a Interaction model regression results showing the moderating effect of Psyc on weakening the positive relationship between positive affect and DV = co-operation.

	B	SE	t	p	LLCI	ULCI	Hypothesis
PA condition	1.717	0.589	2.914	0.004	0.559	2.874	
Psyc	0.953	0.461	2.067	0.0391	0.048	1.859	
PA condition*Psyc interaction	-0.611	0.269	-2.273	0.023	-1.139	-0.083	**H3**
Gender	0.063	0.184	0.342	0.732	-0.299	0.425	
Age	0.008	0.009	0.896	0.370	-0.009	0.026	
Education2 - grad	0.114	0.210	0.542	0.588	-0.299	0.526	
Education3 - post grad	-0.097	0.249	-0.388	0.698	-0.585	0.392	
Work2 - managmt	0.500	0.206	2.426	0.016	0.095	0.905	
Work3 – Sen. managmt	0.299	0.269	1.109	0.268	-0.229	0.827	
Self-esteem	-0.474	0.168	-2.812	0.005	-0.804	-0.143	
Political savvy	0.073	0.151	0.479	0.632	-0.224	0.369	
Mach	-0.580	0.179	-3.250	0.001	-0.931	-0.229	
Narc	0.033	0.178	0.187	0.852	-0.316	0.382	
Constant	2.947	1.243	2.371	0.018	0.506	5.387	
Model summary	R^2	MSE	F	df1	df2	p	
	0.068	4.526	3.235	13	580	<0.001	
Test of unconditional interaction		ΔR^2	F	df1	df2	p	
PA condition*Psyc		0.008	5.165	1	580	0.023	
	Psyc	effect	SE	t	p	LLCI	ULCI
Conditional effect of PA condition on Co-operation at values of Psyc (moderator)	1.429	0.843	0.250	3.369	0.008	0.352	1.335
	2.088	0.441	0.176	2.503	0.013	0.095	0.787
	2.747	0.038	0.249	0.154	0.878	-0.441	0.528

Fig 6.3a Simple slopes curve showing the moderating effect of Psyc on the relationship between positive affect condition and DV = co-operation.



In respect of Mach, from Table 6.3b we see that the interaction was only significant at the 10% level (B= -0.462, *p*=.099). This borderline result confirms that the positive relationship between positive affect and co-operation was moderated – i.e., reduced - by Mach personality. Fig 6.3b shows the corresponding interaction simple slopes curve (with the predictor variable positive affect at value 1 = neutral affect state; and 2 = positive affect state). As for the Psyc interaction, the Mach moderation was probed by testing the conditional effects of positive affect at three levels of Mach, the mean and one SD above and below the mean. As shown in Table 6.3b and Fig. 6.3b, the conditional effect of positive affect on co-operation was significant at low and mid-levels of Mach but was not significant at high Mach levels.

These findings show that people who have low-medium levels of Psyc and/or Mach traits, respond to positive affect by being more co-operative. Anyone who has high levels of either personality traits does not respond to positive affect in respect of their levels of co-operation.

Table 6.3b Interaction model regression results showing the moderating effect of Mach on weakening the positive relationship between positive affect and DV = co-operation.

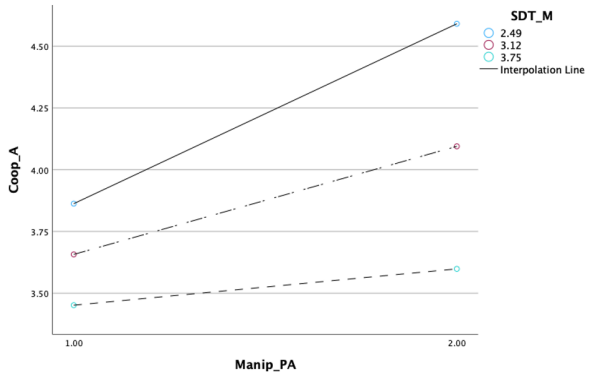
	B	SE	t	p	LLCI	ULCI	Hypothesis
PA condition	1.876	0.888	2.111	0.035	0.131	3.621	
Mach	0.135	0.463	0.292	0.770	-0.775	1.045	
PA condition*Mach interaction	-0.462	0.279	-1.650	0.099	-1.011	0.088	**H3**
Gender	0.062	0.185	0.3338	0.736	-0.301	0.425	
Age	0.008	0.009	0.885	0.377	-0.009	0.026	
Education2 - grad	0.083	0.210	0.396	0.693	-0.329	0.496	
Education3 - post grad	-0.108	0.249	-0.432	0.666	-0.598	0.382	
Work2 - managmt	0.507	0.207	2.452	0.015	0.101	0.912	
Work3 – Sen. managmt	0.317	0.269	1.175	0.240	-0.212	0.845	
Self-esteem	-0.492	0.169	-2.918	0.004	-0.823	-0.161	
Political savvy	0.082	0.151	0.541	0.589	-0.215	0.379	
Narc	0.048	0.178	0.269	0.788	-0.301	0.397	
Psyc	-0.005	0.183	-0.029	0.977	-0.364	0.353	
Constant	2.707	1.611	1.680	0.094	-0.458	5.871	

Model summary	R^2	MSE	F	df1	df2	p
	0.064	4.548	3.035	13	580	<0.001

Test of unconditional interaction		ΔR^2	F	df1	df2	p
PA condition*Mach		0.004	2.722	1	580	0.099

	Mach	effect	SE	t	p	LLCI	ULCI
Conditional effect of PA condition on Co-operation at values of Mach (moderator)	2.485	0.728	0.249	2.928	0.004	0.239	1.217
	3.115	0.438	0.177	2.479	0.013	0.091	0.784
	3.745	0.147	0.250	0.588	0.557	-0.344	0.638

Fig 6.3b Simple slopes curve showing the moderating effect of Mach on the relationship between positive affect condition and DV= co-operation.



Self-esteem, political savvy, DT - each is associated with co-operation (H4)

Table 6.4 shows the regression results for how the Dark Triad relate to self-esteem which enables us to assess hypotheses H4a and H4b. In the regression the Dark Triad and control variables together explain 27.8% of the variance in self-esteem ($F(9, 574) = 24.936$, $p<.001$). It is evident that as predicted Narc is strongly positively associated with self-esteem ($\beta = .479$, $p<.001$) and Psyc is strongly negatively associated with self-esteem ($\beta = -.357$, $p<.001$), in support of H4a and H4b respectively. Hypothesis H4c and H4d predicted that self-esteem and political savvy would each be negatively associated with co-operation. From Table 6.2 we see that H4c is supported ($\beta = -.141$, $p= .004$),

however from the same regression results it is evident that H4d is not supported, as political savvy is not associated with co-operation.

Table 6.4 Multiple regression results relating Dark Triad to DV = self-esteem.

	B	SE	β	t	sig	Hypothesis
constant	1.263*	0.170		7.410	<0.001	
Gender	-0.112**	0.046	-0.091**	-2.440	0.015	
Age	0.008***	0.002	0.137***	3.719	<0.001	
Education2 - grad	-0.058	0.052	-0.046	-1.107	0.269	
Education3 - post grad	0.048	0.062	0.033	0.783	0.434	
Work2 - managmt	0.018	0.051	0.014	0.352	0.725	
Work3 – Sen. managmt	0.128	0.066	0.079	1.956	0.051	
Mach	-0.027	0.045	-0.028	-0.613	0.540	
Narc	0.468****	0.039	0.479	11.932***	<0.001	**H4a**
Psyc	-0.337***	0.043	-0.357	-7.847***	<0.001	**H4b**
Number of obs.	593					
R^2	0.278					
F (9, 574)	24.936					
	p<0.001					

* p<0.05; ** p<0.01; *** p<0.001

To test H4e, i.e., whether the negative relationship between self-esteem and co-operation is moderated (strengthened) by Narc personality, we conducted a moderation analysis as previously. This involved re-running the regression with DV = co-operation but with Narc as moderating variable interacting with positive affect to predict co-operation. The regression results are shown in Table 6.5. Fig 6.4 shows the corresponding simple slopes curves.

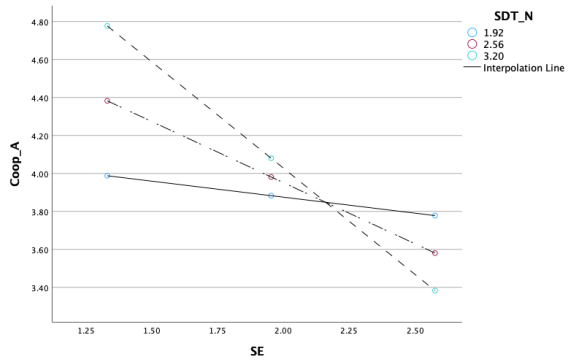
Table 6.5 Interaction model regression results showing the moderating effect of Narc strengthening the negative relationship between self-esteem and DV= co-operation.

	B	SE	t	p	LLCI	ULCI	Hypothesis
Self-esteem	1.267	0.498	2.544	0.011	0.289	2.246	
Narc	1.613	0.449	3.589	<0.001	-1.138	-0.356	
Self-esteem*Narc interaction	-0.747	0.199	-3.752	<0.001	-1.138	-0.356	**H4e**
Gender	0.012	0.183	0.264	0.949	-0.348	0.371	
Age	0.007	0.009	0.787	0.432	-0.011	0.025	
Education2 - grad	0.053	0.209	0.253	0.800	-0.357	0.462	
Education3 - post grad	-0.136	0.247	-0.548	0.584	-0.621	0.350	
Work2 - managmt	0.536	0.205	2.618	0.009	0.134	0.937	
Work3 – Sen. managmt	0.379	0.267	1.419	0.157	-0.146	0.903	
Political savvy	0.088	0.150	0.588	0.557	-0.206	0.382	
PA condition	0.452	0.175	2.582	0.010	0.108	0.795	
Constant	1.410	1.286	1.097	0.273	-1.115	3.935	
Model summary	R^2	MSE	F	df1	df2	p	
	0.082	4.458	3.964	13	580	<0.001	
Test of unconditional interaction		ΔR^2	F	df1	df2	p	
Self-esteem*Narc		0.022	14.078	1	580	<0.001	
	Narc	effect	SE	t	p	LLCI	ULCI
Conditional effect of Self-esteem on Co-operation at values of Narc (moderator)	1.923	-0.169	0.188	-0.896	0.371	-0.538	0.201
	2.560	-0.644	0.172	-3.755	<0.001	-0.982	-0.307
	3.197	-1.120	0.236	-4.747	<0.001	-1.584	-0.657

H4e is supported. From Table 6.5 we see that the interaction was significant (B=-0.747, p<.001), indicating that the negative relationship between self-esteem and co-operation was moderated – i.e., enhanced - by Narc personality. The interaction was probed by testing the conditional effects of self-esteem at three levels of Narc (at the mean, and +/-

1SD from the mean). As shown in Table 6.5 and Fig. 6.4, the conditional effect of self-esteem on co-operation was significant at mid and high levels of Narc personality, but was not significant for low Narc. The simple slopes curve in Fig 6.4 pivots in a clockwise direction moving from mid to high Narc levels, which illustrates the influence of Narc personality in avoiding co-operative behaviour over and above the negative influence of self-esteem.

Fig 6.4 Simple slopes curve showing the moderating (attenuating) effect of Narc on the negative relationship between self-esteem and DV = co-operation.



6.4 Study 2: An experimental study of how positive affect influences ethicality

6.4.1 Method

Participants and Procedure

Study 2 comprised an-line test with a positive affect intervention to assess how this impacted ethical decision making. The study design and implementation, and data analysis procedures followed substantially the same methodology as for Study 1. For Study 2 it was again necessary to use deception, in this case to make respondents believe they could act unethically anonymously, whereas in reality their moral behaviour was known to the researcher. Consequently, we applied the same pre-authorisation and post-reveal criteria for the experiment. No respondent elected to have their data removed from the study upon being informed of the deception.

The survey was designed in Qualtrics and administered by Prolific with the same participant requirements as in Study 1. We used two pre-manipulation measures as in Study 1 (Dark Triad and self-esteem), and added moral identity whilst dropping political savvy, as prior studies have shown moral identity to be highly relevant to moral decision making which is not the case for political savvy. We applied the same manipulation technique to induce positive affect as for Study 1 which is described in detail above, based on the memory recall method devised by Ashton-James et al. (2009).

The final sample comprised 596 participants made up of 299 females and 297 males, with an average age of 38.2 years (SD = 9.9; range 22 – 64). The main difference in methodological procedure for Study 2 came after the manipulation and positive mood manipulation check, i.e., with the introduction of an ethicality test (in place of the co-operation exercise), followed by two post-unethical behaviour measures (moral disengagement and resultant positive affect). The ethicality test, which is described in detail below, is based on a commonly used and validated cheating opportunity task whereby participants are required to solve a series of basic maths-based puzzles (Mazar et al., 2008) which we adapted for use on-line. As a result of the additional measures used in Study 2 compared with Study 1, the average time taken to complete the Study 2 survey was considerably longer at 22 minutes.

Measures and manipulation

Pre-manipulation measures

Dark Triad. As in Study 1 we used the Short Dark Triad (SD3) inventory (Jones & Paulhus, 2017) which yielded Cronbach alphas: - Mach α = .81; Narc α=.76; Psyc α=.73; and DT composite α=.85.

Moral identity. We used the 5-item scale (α = .74) developed by Aquino & Reed, (2002). This asked respondents to think about a person, which might be themselves, whose characteristics include being "caring, compassionate, fair, friendly, generous, helpful, hardworking, honest and kind", and to imagine how that person would think, feel, and act. Participants were then asked to answer questions on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample questions include "It would make me feel good to be a person who has these characteristics", and "I strongly desire to have these characteristics".

Self-esteem. We used the 10-item Rosenberg Self-Esteem Scale (RSE, Rosenberg, 1965) as used earlier in Study 1. Cronbach α= .92

Manipulation

We applied the same procedure to manipulate positive affect as we used in Study 1, which is described it detail earlier in this paper. This comprised our adapted version of the Ashton-James et al., (2009) technique that requires memory recall of an uplifting (treatment) or mundane (control) occurrence. As previously, participants were incentivised to take the exercise seriously with the most responsive having the chance to win a cash prize.

Post-manipulation measures

Positive mood manipulation check. We again used the 3-item measure devised by Vincent et al., (2013). Cronbach α= .93

Cheating opportunity task. We used an adaptation of the original Mazar et al. (2008) method for assessing ethical behaviour through the opportunity to cheat. This matrix-based technique for assessing ethicality via cheating has been used in several recent studies (e.g. Gino et al., 2011), and is the same method we applied in Paper 3 and Paper 4 of this thesis where we assessed the effect of boredom on ethicality, and flattery on ethicality respectively. A matrix-based task such as this is particularly good for assessing ethicality because (i) it is a search task rather than one that reflects mathematical ability or intelligence; and (ii) it can be unambiguously self-assessed (Mazar et al., 2008). In summary, participants were required to self-mark a series of 12 maths-based matrix puzzles under increasingly tight time constraints, in the belief that only the participant would know how honest they were being. In fact, five of the puzzle items were unsolvable which therefore enabled us to identify with certainty (i) which respondents cheated (i.e., by reporting they had solved one of more of the unsolvable items), and (ii) their level of cheating (i.e. from a score of zero to five).

More specifically, participants were presented sequentially on the screen with three tranches of four matrices. Each matrix comprised 12 single-digit numbers (specified to two decimal places, e.g., 3.91), placed in four rows and three columns. Respondents were told that the objective was to find the two numbers (out of the 12) which summed exactly to 10.00. Respondents were advised:

"*You will then self-mark and indicate how you did - i.e. if you were able to solve the question, then check-mark the circle "Got it".*

All self-marked scores will remain anonymous, known only to you the participant. Please concentrate and perform as well as you can for purposes of the experiment, whether or not you are aiming to score in the top 20% of participants eligible for the cash prize draw".

In a private communication the authors of the Mazar et al. (2008) study kindly provided us with the full set of matrices they used in their experiment. We adapted the original Mazar et al. (2008) experimental method in three ways. First, we applied it to an on-line study (the original was lab-based using paper returns). Second, we introduced cascading difficulty by reducing the time available for each subsequent set of four matrices – for the first tranche 60 seconds was available, the time was then reduced to 30s for the next tranche, and finally just 15s was permitted for the final tranche. Third, unbeknownst to participants, we included within the total of 12 matrices five which had no solution. This meant that anyone who self-reported "got it" for any of the five non-solvable matrices, had to be cheating.

Post-moral disengagement. We used the Moore et al. (2012) Propensity to Morally Disengage Scale (PMDS) which is an 8-item measure The scale comprises one question for each of Bandura's (1999) eight forms of moral disengagement. The scale is used by researchers as both a state and trait measure. It uses a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample questions include "Taking personal credit for ideas that are not your own is no big deal" and "Taking something without the owner's permission is ok as long as you're just borrowing it". Cronbach $\alpha = .78$.

Positive affect (post cheating). We used the 4-item measure of positive mood (Wu et al., 2019). This asks respondents how they feel right at that present moment in relation to specific words (*elated, excited, happy*, and *relieved*) using a 5-point Likert scale ranging from 1 "*very slightly or not at all*" to 5 "*extremely*". Cronbach alpha = .78

Control variables. We measured four standard demographic control variables which prior studies have shown can be relevant to moral behaviour: - *gender* and *age* (Berry et al., 2007); *formal education* (Bucciol et al., 2013), for which we use a dummy variable scale ranging from 1 (lowest, no degree) to 3 (highest, postgraduate); and *position at work* (Chow & Choi, 2003), for which we employ a dummy variable scale with 1 (below manager); 2 (management) and 3 (senior management / leadership).

Analytical Procedure

We performed the same analytical procedures and tests as in Study 1. In addition, as we measured cheating as both a continuous variable (level of cheating) and as a dichotomous variable (cheat decision, yes/no), for the latter we needed to run binary logistic regression analyses and test the data for the corresponding underlying assumptions.

In summary, the analytical procedures undertaken comprised (i) downloading the data from Prolific to excel, (ii) data cleaning to remove participants who made insufficient effort (three); and careless participants who failed one or more test check items (one); (iii) subjecting the data to tests of the implied assumptions underlying multiple regression, binary logistic regression, and independent samples t-tests. This resulted in a final sample size of N=596. The following

assumptions for the data underlying multiple regression were met: - independence of errors; linearity; normality of distributed errors; and no collinearity. In respect of the latter, no VIF exceeded 2.4. The Durbin-Watson test of independence of errors yielded scores in the range 2.1-2.3. In addition, all of the assumptions required for binary logistic regression were shown to be met: - (i) a dichotomous dependent variable; (ii) independence of observations; (iii) no multicollinearity; and (iv) independent variables linearly related to the log odds. The assumption of equality of variances in the data was not met – this is required for both the independent samples t-test and multiple regression, and consequently in the relevant analyses we adjusted degrees of freedom accordingly. Lastly, all scales were tested for reliability which yielded Cronbach alpha scores above the commonly applied limit for acceptable reliability (i.e. 0.7).

6.4.2 Results and discussion

Manipulation check

As for Study 1, in this Study 2 we verified the effectiveness of the positive affect manipulation task by conducting an independent samples t-test of the positive mood measure between the treatment and control conditions. Individuals in the treatment group (M=4.492, SD =0.735) reported significantly higher positive mood scores versus those in the control group (M=3.935, SD =0.973); $t(558.07) = -7.906$, $p<.001$, [LLCI = -0.695, ULCI = -0.419]. Therefore, we conclude that the manipulation was effective with a large effect size (Cohen's d = 0.86).

Descriptive statistics

The means, standard deviations, and Pearson bivariate correlations among all variables are shown in Table 6.6. We note that means obtained for identical variables tested in our earlier experiments are substantially similar to those recorded in this experiment. For example: - self-esteem (M = 1.97; SD =0.60 in the present study; M = 1.98; SD = 0.62 in Study 3 of Paper 3). We also note that Dark Triad personality measures are in line with those seen in prior studies (e.g., Egan et al., 2015).

Table 6.6 Pearson correlation matrix, scale means, and standard deviations

	M	SD	1	2	3	4	5	6	7	8	9	10
1. PA – post cheating	2.29	0.89	1									
2. Post-moral disengagement	1.71	0.58	0.12**	1								
3. Cheat Y/N	0.60	0.49	0.12**	0.06	1							
4. Cheat level	1.53	1.77	0.20***	0.12**	0.71***	1						
5. Moral identity	4.57	0.49	0.27***	-0.31***	-0.05	-0.06	1					
6. Self-esteem	1.97	0.60	0.07	-0.12**	0.02	0.06	0.09*	1				
7. Mach	3.06	0.65	0.37***	0.45***	0.11*	0.14***	-0.23***	-0.08	1			
8. Narc	2.60	0.61	-0.01	0.22***	0.18***	0.19***	-0.09*	0.32***	0.32***	1		
9. Psyc	2.08	0.57	-0.12**	0.46***	0.10*	0.11**	-0.37***	-0.16***	0.52***	0.34***	1	
10. DT composite	2.58	0.47	0.19***	0.48***	0.15***	0.19***	-0.26***	0.04	0.81***	0.72***	0.79***	1
11. PA manipulation	1.50	0.50	0.07	-0.03	0.05	0.05	0.03	-0.05	-0.02	-0.05	-0.01	-0.04

N=596. * p<0.05; ** p<0.01; *** p<0.001

Table 6.6 shows some interesting results relating to our hypotheses. We note that the positive affect manipulation is *not* correlated with cheating which contradicts H5 – i.e. in respect of both the decision to cheat (H5a), and the level of cheating (H5b), suggesting that cheating is not related to positive mood. Conversely, the Dark Triad is positively associated with cheating in support of both H6a (decision to cheat: Mach $r = .11$, $p<.01$; Narc $r= .18$, $p<.001$; Psyc $r= .10$, $p<.01$; and H6b (cheat level: Mach $r= .14$, $p<.001$; Narc $r= .19$, $p<.001$; Psyc $r= .11$, $p<.01$). We also see support for H7 which predicted cheater's high, i.e. that cheating positively relates to subsequent positive mood, which we see for both H7a (decision to cheat/resultant positive mood, $r= .12$, $p<.01$) and H7b (cheat level/resultant positive mood, $r= .20$, $p<.001$). Lastly, we find support in the correlation results for H8 which predicted that cheating would positively relate to post moral disengagement, i.e. the results show this correlation relationship for both H8a (decision to cheat/post-moral disengagement, $r= .12$, $p<.01$) and H8b (cheat level/post-moral disengagement, $r= .12$, $p<.01$). The correlation findings suggest that people who cheat subsequently experience cheater's high and morally disengage in line with our predictions. We next turn to the regression results.

Regression analysis and hypothesis test results

Positive affect influences cheating (H5)

Table 6.7a and Table 6.7b show the regression results for DV = cheat decision, and DV = cheat level respectively, which enable us to assess hypotheses H5 and H6.

The binary logistic regression indicates that the model significantly predicts cheat decision [χ^2 =28.270, df=12, p=.005]. Narc is the only predictor variable that is significant [Wald=4.520, p=.034]. The odds ratio (OR) for Narc is 1.442 (95% CI: 1.029 – 2.022). One of the control variables is also a significant predictor (management position - senior). The predictor variables and control variables together explain 6.2% of the variance in the decision to cheat. The model correctly predicted 23.2% of cases where there was no cheating and 85.1% of cases where there was cheating, giving an overall percentage correct prediction rate of 60.1%. The multiple regression results predicting cheat level shown in Table 6.7b indicate that the model was significant [F(12, 584) = 2.975, p < .001, R^2 = .058], with the only predictor variable that was significant being Narc (β =.137, p=.005), a result that aligns with that seen for the binary logistic model with DV = decision to cheat.

Table 6.7a Binary logistic regression results showing how positive affect condition, Dark Triad personality and self-control related trait covariates relate to DV = decision to cheat (Y/N)

	B	SE	Wald	p	OR	LLCI	ULCI	Hypothesis
constant	-0.123	1.277	0.929	0.335	0.292			
Gender	0.144	0.175	0.682	0.409	1.155	0.820	1.628	
Age	-0.011	0.009	1.335	0.248	0.989	0.971	1.008	
Education2 - grad	0.183	0.200	0.834	0.361	1.201	0.811	1.779	
Education3 - post grad	-0.178	0.240	0.548	0.459	0.837	0.523	1.340	
Work2 - managmt	0.208	0.190	1.199	0.273	1.231	0.849	1.786	
Work3 – Sen. managmt	0.585*	0.268	4.757	0.029	1.795	1.061	3.037	
Self-esteem	-0.072	0.169	0.180	0.672	0.931	0.668	1.297	
Moral ID	-0.136	0.193	0.493	0.482	0.873	0.598	1.275	
Mach	0.169	0.159	1.133	0.287	1.184	0.867	1.617	**H6a**
Narc	0.366*	0.172	4.520	0.034	1.442	1.029	2.022	**H6a**
Psyc	0.114	0.198	0.329	0.556	1.120	0.760	1.652	**H6a**
PA condition	0.190	0.102	3.511	0.061	1.210	0.991	1.476	**H5a**

		χ^2	df	sig
Omnibus test of coefficients	Step 1	28.270	12	0.005
	Block	28.270	12	0.005
	Model	28.270	12	0.005

Model summary	Cox & Snell R^2	Nagelkerke R^2
	0.046	0.062

Classification table		Predicted		% Correct
Cheat Y/N		0 (No)	1 (Yes)	
	0 (No)	56	185	23.2
	1 (Yes)	53	303	85.1
Overall %				60.1

* p<0.05; ** p<0.01; *** p<0.001

We had predicted that the positive affect manipulation would be positively associated with cheating. From Table 6.7a we can see that hypothesis H5a is supported in respect of the decision to cheat - but only at a 6% marginal level of significance (B=0.190, p=.061). Given this marginal result, as an exploratory analysis we also ran the same binary logistic regression using the single DT composite measure as covariate instead of the three sub-component measures Mach, Narc and Psyc. The result (not shown) provided clear support for H5a at the 5% level of significance – i.e. with the inclusion of DT composite as covariate the positive affect manipulation is positively associated with decision to cheat at the 5% level of significance (B =0.199, p=.048). For this exploratory version of the binary logistic regression the model also significantly predicts cheat decision [χ^2 =27.323, df=10, p=.002]. DT composite is the only predictor variable that is significant [Wald=3.897, p=.002 (<0.01)]. The odds ratio (OR) for DT composite is 1.221 (95% CI 1.273 – 2.824). Covariates together explain 6.0% of the variance in the decision to cheat. The model correctly predicted 22.0% of cases where there was no cheating and 85.7% of cases where there was cheating, giving an overall percentage

correct prediction rate of 60.0%. From Table 6.7b, we see that H5b is not supported – i.e. positive affect does *not* positively influence the level of cheating.

Dark Triad is positively associated with cheating (H6)

From Tables 6.7a and 6.7b it is evident that H6 is only partially supported. i.e. Narc (alone of the Dark Triad) is positively associated with the decision to cheat H6a (B=0.366, p=.034; Table 6.7a) and with the level of cheating H6b (β =.137, p=.005; Table 6.7b). This finding is perhaps surprising given what is known about the heightened levels of unethicality associated with the 'malicious two' Mach and Psyc relative to Narc, and may be related to the specific experimental conditions which involve minimal risk and reward, something we develop further in the discussion section. We note that the finding is consistent with our findings in both Paper 3 (Study 2) and Paper 4 (Study 3) which also showed that Narc (alone in the Dark Triad), positively relates to cheating. For completeness, we note that in respect of our two regression models which use DT composite as predictor variable (rather than each sub-component personality measure Mach, Narc and Psyc), in both cases DT composite predicted cheating, i.e. B=0.640, p=.002 (with cheat decision as covariate), and β =.179, p<.001 (with cheat level as covariate).

Lastly, to test H6c, i.e., whether the positive relationship between DT (Narc) and cheating is moderated (enhanced) by positive affect, we conducted a moderation analysis by re-running the regression with DV = cheat level in SPSS using the PROCESS macro model 1 (Hayes, 2013), with positive affect condition as moderating variable, interacting with Narc to predict cheat level. We found no support for our hypothesis. Consequently, we conclude that the positive relationship between Narc and cheat level is *not* enhanced by being in a positive mood, a finding that will be welcomed by anyone who works alongside such personalities.

Table 6.7b Multiple regression results showing how positive affect condition, Dark Triad personality and self-control related trait covariates relate to DV = cheat level

	B	SE	β	t	p	Hypothesis
constant	0.344	1.048		0.328	0.743	
Gender	0.202	0.144	0.059	1.398	0.163	
Age	-0.014	0.008	-0.078	-1.794	0.073	
Education2 - grad	0.006	0.167	0.002	0.033	0.974	
Education3 - post grad	-0.251	0.201	-0.059	-1.245	0.214	
Work2 - managmt	0.137	0.159	0.039	0.864	0.338	
Work3 – Sen. managmt	0.408	0.217	0.086	1.883	0.060	
Self-esteem	0.114	0.140	0.039	0.819	0.413	
Moral ID	-0.149	0.158	-0.041	-0.941	0.347	
Mach	0.217	0.131	0.080	1.658	0.098	**H6b**
Narc	0.392**	0.140	0.137**	2.801	0.005	**H6b**
Psyc	0.051	0.163	0.017	0.311	0.756	**H6b**
PA condition	0.047	0.084	0.024	0.558	0.577	**H5b**
Number of obs.	596					
R^2	0.058					
F (12, 584)	2.975					
	p<0.001					

* p<0.05; ** p<0.01; *** p<0.001

Cheating leads to Cheater's high (H7)

To assess cheater's high and H7, we ran two multiple regression models, each with DV = cheater's high (i.e., post cheating positive mood) incorporating predictor variable for the respective measure of cheating behaviour, i.e.: - (i) cheat decision (Table 6.8a); and (ii) cheat level (Table 6.8b). In both cases we control for initial positive mood (i.e. measures immediately after the positive affect manipulation), as well as for self-esteem and moral identity, and include the same control variables as used previously. For both models the multiple regression results are highly significant.

It is evident that H7 is supported in respect of both models. From Table 6.8a we see that cheat decision positively predicts subsequent positive mood (H7a; β= .076, p=.041), and from Table 6.8b cheat level positively predicts resultant positive mood (H7b; β= .168, p<.001). These results confirm the phenomenon of 'cheater's high' – i.e. people who cheat experience heightened feelings of positive mood shortly thereafter. These feelings may reflect that people feel good when they 'beat the system' by both gaining some personal benefit and (seemingly) getting away with it.

Table 6.8a Multiple regression results for DV = cheater's high (post cheating positive mood), incorporating covariate cheat decision Y/N

	B	SE	β	t	sig	Hypothesis
constant	0.500	0.361		1.386	0.166	
Gender	-0.086	0.065	-0.050	-1.331	0.184	
Age	-0.002	0.004	-0.021	-0.525	0.600	
Education2 - grad	-0.034	0.076	-0.019	-0.452	0.651	
Education3 - post grad	-0.040	0.092	-0.018	-0.431	0.667	
Work2 - managmt	0.213	0.073	0.119	2.932	0.004	
Work3 – Sen. managmt	0.228	0.099	0.095	2.291	0.022	
Self-esteem	0.206	0.060	0.141	3.446	<0.001	
Moral ID	-0.035	0.068	-0.019	-0.518	0.605	
Positive mood - initial	0.348	0.039	0.355	8.991	<0.001	
Cheat Y/N	0.138	0.067	0.076	2.049	0.041	**H7a**
Number of obs.	596					
R^2	0.213					
F (10, 586)	15.862					
	p<0.001					

* p<0.05; ** p<0.01; *** p<0.001

Table 6.8b Multiple regression results for DV = cheater's high (post cheating positive mood), incorporating covariate cheat level

	B	SE	β	t	sig	Hypothesis
constant	0.377	0.356		1.059	0.290	
Gender	-0.093	0.064	-0.054	-1.462	0.144	
Age	-0.001	0.003	-0.009	-0.220	0.826	
Education2 - grad	-0.033	0.075	-0.018	-0.436	0.663	
Education3 - post grad	-0.027	0.091	-0.013	-0.301	0.763	
Work2 - managmt	0.203	0.072	0.114	2.838	0.005	
Work3 – Sen. managmt	0.206	0.098	0.086	2.098	0.036	
Self-esteem	0.188	0.059	0.128	3.181	0.002	
Moral ID	-0.020	0.067	-0.011	-0.295	0.758	
Positive mood - initial	0.350	0.038	0.357	9.193	<0.001	
Cheat level	0.085	0.018	0.168	4.583	<0.001	**H7b**
Number of obs.	596					
R^2	0.235					
F (10, 586)	17.982					
	p<0.001					

* p<0.05; ** p<0.01; *** p<0.001

Cheating is followed by cheater's high in a mechanism which is mediated through post-moral disengagement (H8)
To demonstrate H8 we ran a mediation analysis in SPSS using the PROCESS macro model 4 (Hayes, 2013), with DV = resultant positive affect, M = post-moral disengagement, and X =cheat level. The model also included two covariates related to self-restraint (self-control and moral identity) plus initial positive mood and the standard demographical control measures used in our previous regressions. The results are shown in Table 6.9. It is evident that the model is significant for each path, and overall mediation is apparent as cheat level predicts positive mood in part through post-moral disengagement (effect =0.008; LLCI 0.001 – ULCI 0.018].

The results in Table 6.9 are summarised in the model diagram shown in Fig 6.5. These show that H8a is supported, i.e. cheating promotes post-moral disengagement at the 5% level (B=0.033, p=.011). This hypothesis relates to path a of the schematic diagram. Similarly, we see that H8b is also supported, at the 0.1% level of significance, i.e. moral disengagement (after controlling for cheat level), positively influences subsequent positive affect (B=0.247, p<.001), signified by path b in the schematic diagram. Lastly, H8c is supported - i.e., moral disengagement acts as a mediator between cheating and positive affect. The mediation effect signifying path a*b is positive, significant, and partial (at 9% (0.008/0.085) of the total effect on cheater's high, i.e., the direct effect of cheat level on cheater's high is much larger than that mediated through post-moral disengagement. These results therefore confirm that people who cheat get a 'double whammy' hit in terms of positive mood after cheating – 91% of the effect comes directly from feeling good because of cheating, and 9% arises from the high associated with the cognitive process moral disengagement after cheating.

Table 6.9 Mediation regression results (Hayes model 4), with cheat level predicting DV= cheater's high (positive mood), mediated through post-moral disengagement.

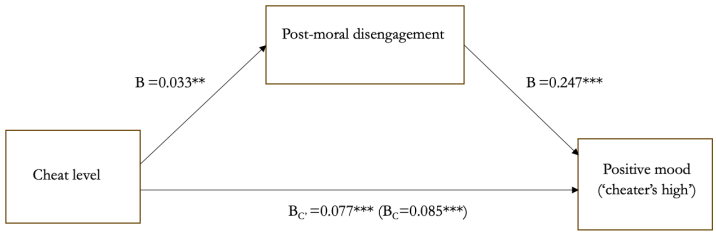
Outcome variable	**Post- moral disengagement**						
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**	**Hypothesis**
Constant	3.791	0.246	15.421	<0.001	3.308	4.274	
Cheat level	0.033	0.013	2.551	0.011	0.007	0.058	**H8a**
Gender	-0.084	0.044	-1.912	0.056	-0.171	0.002	
Age	-0.007	0.002	-2.942	0.003	-0.012	-0.002	
Education2 - grad	0.011	0.052	0.212	0.832	-0.091	0.113	
Education3 - post grad	-0.105	0.063	-1.675	0.094	-0.228	0.018	
Work2 - managmt	0.064	0.049	1.298	0.195	-0.033	0.161	
Work3 – Sen. managmt	0.075	0.068	1.111	0.267	-0.058	0.208	
Self-esteem	-0.064	0.041	-1.560	0.119	-0.144	0.017	
Moral identity	-0.353	0.047	-7.569	<0.001	-0.444	-0.261	
Positive mood - initial	-0.025	0.026	-0.931	0.352	-0.076	0.027	
Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**	
	0.149	0.293	10.272	10	586	<0.001	

Outcome variable	**Positive affect**						
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**	
Constant	-0.561	0.416	-1.349	0.178	-1.378	0.256	
Cheat level	0.077	0.018	4.182	<0.001	0.041	0.113	
Post-moral disengagement	0.247	0.059	4.197	<0.001	0.132	0.363	**H8b**
Gender	-0.072	0.063	-1.148	0.252	-0.196	0.051	
Age	0.001	0.003	0.284	0.776	-0.006	0.008	
Education2 - grad	-0.035	0.074	-0.478	0.632	-0.181	0.110	
Education3 - post grad	-0.001	0.090	-0.015	0.988	-0.177	0.175	
Work2 - managmt	0.187	0.071	2.650	0.008	0.048	0.326	
Work3 – Sen. managmt	0.187	0.097	1.933	0.054	-0.003	0.377	
Self-esteem	0.207	0.059	3.489	0.001	0.089	0.319	
Moral identity	0.067	0.070	0.967	0.334	-0.069	0.204	
Positive mood - initial	0.356	0.038	9.477	<0.001	0.283	0.430	
Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**	
	0.257	0.598	18.412	11	585	<0.001	

Direct effect of cheat level on positive affect						
	effect	**SE**	**t**	**p**	**LLCI**	**ULCI**
	0.077	0.018	4.182	<0.001	0.041	0.113

Indirect effect of cheat level on positive affect					
	effect	**Boot SE**	**Boot LLCI**	**Boot ULCI**	
Post-moral disengagement	0.008	4.182	0.001	0.018	**H8c**

Fig 6.5 Mediation model (Hayes, 2013, model 4) showing the influence of cheat level on DV = resultant positive mood (i.e. 'cheater's high'), mediated by post-moral disengagement



Dark Triad moderates the mediation model (post-moral disengagement mediates cheater's high) (H9)

We argued that by adding Dark Triad personality to the mediation model, this personality construct would act so as to moderate (enhance) each of the three paths and so reveal a moderated mediation model, i.e., H9 predicted that the relationship between cheating and positive affect is mediated through post-moral disengagement and moderated by DT traits. To assess this prediction, we ran the PROCESS macro model 59 (Hayes, 2013) in SPSS with DV = resultant positive affect, M = post-moral disengagement, W = DT composite, and X =cheat level. As for the mediation model regression above, we controlled for initial positive mood and the same self-restraint covariates (self-control and moral identity) and included standard demographical control measures. The results are shown in Table 6.10.

Table 6.10 Moderated mediation regression results (Hayes model 59), with cheat level predicting DV = cheater's high (positive mood), mediated through post-moral disengagement and each path moderated by DT composite.

Outcome variable	**Post- moral disengagement**						**Hypothesis**
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**	
Constant	1.420	0.231	6.134	<0.001	0.965	1.874	
Cheat level	0.008	0.012	0.690	0.491	-0.015	0.031	
DT	0.513	0.048	10.716	<0.001	0.419	0.607	
Cheat level*DT interaction	0.046	0.024	1.927	0.054	-0.001	0.092	**H9a**
Gender	0.005	0.041	0.121	0.904	-0.076	0.086	
Age	-0.004	0.002	-1.980	0.048	-0.009	0.001	
Education2 - grad	-0.021	0.047	-0.453	0.651	-0.114	0.071	
Education3 - post grad	-0.127	0.057	-2.231	0.026	-0.239	-0.015	
Work2 - managmt	0.011	0.045	0.235	0.824	-0.078	0.099	
Work3 – Sen. managmt	0.023	0.062	0.375	0.708	-0.098	0.144	
Self-esteem	-0.092	0.037	-2.465	0.014	-0.165	-0.019	
Moral identity	-0.216	0.044	-4.910	<0.001	-0.303	-0.130	
Positive mood - initial	-0.015	0.024	-0.631	0.528	-0.062	0.032	
Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**	
	0.300	0.242	20.859	12	584	<0.001	

Outcome variable	**Positive affect**						
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**	
Constant	-0.178	0.372	-0.479	0.632	-0.908	0.552	
Cheat level	0.064	0.019	3.473	0.001	0.028	0.101	
Post-moral disengagement	0.102	0.070	1.445	0.149	-0.036	0.240	
DT	0.265	0.084	3.176	0.002	0.101	0.430	
Cheat level*DT interaction	0.021	0.038	0.548	0.584	-0.053	0.094	**H9c**
Post-MD*DT interaction	0.254	0.108	2.342	0.020	0.041	0.467	**H9b**
Gender	-0.039	0.064	-0.604	0.546	-0.164	0.087	
Age	0.001	0.003	0.233	0.816	-0.006	0.008	
Education2 - grad	-0.059	0.074	-0.796	0.427	-0.203	0.086	
Education3 - post grad	-0.038	0.070	-0.431	0.667	-0.214	0.137	
Work2 - managmt	0.171	0.096	2.430	0.015	0.033	0.309	
Work3 – Sen. managmt	0.168	0.096	1.751	0.081	-0.020	0.357	
Self-esteem	0.179	0.058	3.070	0.002	0.065	0.294	
Moral identity	0.108	0.070	1.545	0.123	-0.029	0.246	
Positive mood - initial	0.357	0.037	9.570	<0.001	0.284	0.430	
Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**	
	0.275	0.586	15.773	14	582	<0.001	

Test of unconditional interaction	**ΔR^2**	**F**	**df1**	**df2**	**p**
Cheat level*DT interaction	0.000	0.300	1	582	0.584
Post-MD*DT interaction	0.007	5.485	1	582	0.020

	DT	**effect**	**SE**	**t**	**p**	**LLCI**	**ULCI**
Conditional effects of M (Post-moral disengagement) on Y (Positive affect) at values of DT (moderator W)	2.106	-0.018	0.101	-0.180	0.857	-0.219	0.182
	2.579	0.102	0.070	1.445	0.149	-0.036	0.240
	3.051	0.222	0.068	3.239	0.001	0.087	0.356

	DT	**effect**	**SE**	**t**	**p**	**LLCI**	**ULCI**
Conditional *direct* effects of X (Cheat level) on Y (Positive affect)	2.106	0.055	0.27	2.180	0.044	0.001	0.108
	2.579	0.064	0.019	3.473	0.001	0.028	0.101
	3.051	0.074	0.024	3.060	0.002	0.027	0.122

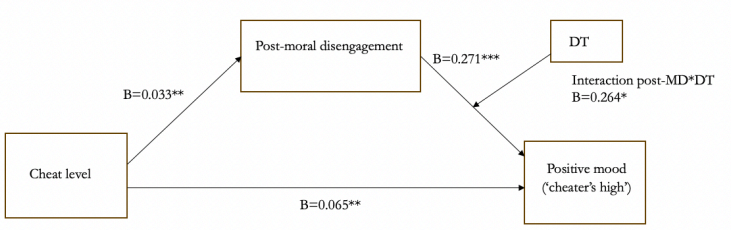
Conditional *indirect* effects of X (Cheat level) on Y (Positive affect) [i.e., Cheat level → post-moral disengagement → Positive affect)	**DT**	**effect**	**Boot SE**	**Boot LLCI**	**Boot ULCI**
	2.106	0.000	0.002	-0.004	0.005
	2.579	0.001	0.002	-0.002	0.005
	3.051	0.007	0.005	-0.001	0.020

It is evident that of the three predicted moderation relationships, only path b shows a significant interaction effect, i.e., controlling for cheat level, post-moral disengagement is moderated (enhanced) by DT (B= 0.254, *p*=.020), in support of H9b. Conversely there is no support for H9a (i.e., there is no significant interaction between cheat level and DT (path a), nor is there support for H9c (i.e. there is no significant interaction between cheat level and DT (path c).

These results suggest that a *partially* moderated mediation model may explain how cheating relates to cheater's high positive mood, mediated through post-moral disengagement and with path b moderated (enhanced) by Dark Triad personality. To assess this possibility, we performed a post-hoc exploratory moderated mediation regression analysis using PROCESS macro model 14 (Hayes, 2013) in SPSS with DV = resultant positive affect, M = post-moral disengagement, W = DT composite, and X =cheat level. We included the same self-restraint covariates (self-control and moral identity), initial positive mood, and standard demographical control measures as in the prior regression. The results are shown in Table 6.11 and in summarised form in the schematic diagram presented at Fig 6.6.

From Table 6.11 we see that our post-hoc hypothesis is supported – i.e. a mediation model explains cheater's high for people with high Dark Triad traits, whereby a person who cheats feels good about cheating and partially mediates their emotions through post-moral disengagement (which also helps them to feel good about their actions), for which the positive association between moral disengagement and positive affect is moderated (enhanced) by high DT traits.

Fig 6.6 Moderated mediation model (Hayes, 2013, model 14) showing the influence of cheat level on DV = resultant positive mood (i.e. 'cheater's high'), mediated by post moral disengagement and moderated by DT personality on path b



We see from Table 6.11 that with the addition as DT composite as a moderator the overall moderated mediation model is significant (index of moderated mediation =0.009 [LLCI 0.000; ULCI 0.022]). We note that the indirect effect is dependent on the level of DT – it is not significant at a mean level of DT or at 1 SD below the DT mean, however the indirect effect is significant at high levels of DT (i.e. 1 SD above the mean) with effect = 0.007 [LLCI 0.001; ULCI 0.017]). Moreover, we see that in the model path b (moral disengagement → positive mood) is only significant for people high in DT traits, as shown in Table 6.11 by the table of conditional effects of M (post-moral disengagement) on Y (positive affect) (DT = 3.051, *p*<.001, effect = 0.226).

In summary, our moderated mediation model is significant and confirms that cheating leads to increased positive affect (cheater's high), which is partially explained by post-moral disengagement (and maybe by other mediating variables that we did not test), with the post-moral disengagement/positive mood relationship (path b) moderated (enhanced) by high DT. In other words, post-moral disengagement is one of the reasons someone feels happy when they cheat. We initially tested whether post-moral disengagement acts as a mediator (Hayes model 4) and found that this is the case with partial mediation (albeit the direct effect was much larger than the indirect effect, i.e. the mediation effect was positive, significant, but relatively small at 9% of the total effect on positive affect). A full moderated mediation model with each of three paths moderated by DT was found to not be significant (Hayes model 59), but this suggested that DT moderates solely path b (Hayes model 14). We subsequently tested this moderated mediation model in an exploratory analysis and found it to be significant. These findings reveal that for 'normal' people there is no indirect cheater's high via moral disengagement mediation (i.e., they don't feel happier by morally disengaging – only by the act of cheating - unlike high DT people who get a 'double whammy' cheater's high – i.e., primarily (91%) from cheating, with an additional boost (9%) from morally disengaging.

Table 6.11 Exploratory moderated mediation regression results (Hayes model 14), with cheat level predicting DV = cheater's high (positive mood), mediated through post-moral disengagement and path b moderated by DT composite.

Outcome variable	**Post- moral disengagement**					
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Constant	2.079	0.246	8.456	<0.001	1.596	2.561
Cheat level	0.033	0.013	2.551	0.011	0.007	0.058
Gender	-0.084	0.044	-1.912	0.056	-0.171	0.002
Age	-0.007	0.002	-2.942	0.003	-0.012	-0.002
Education2 - grad	0.011	0.052	0.212	0.832	-0.091	0.113
Education3 - post grad	-0.105	0.063	-1.675	0.094	-0.228	0.018
Work2 - managmt	0.064	0.049	1.298	0.195	-0.033	0.161
Work3 – Sen. managmt	0.075	0.068	1.111	0.267	-0.058	0.208
Self-esteem	-0.064	0.041	-1.560	0.019	-0.144	0.017
Moral identity	-0.353	0.047	-7.569	<0.001	-0.444	-0.261
Positive mood - initial	-0.025	0.026	-0.931	0.352	-0.076	0.027

Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.149	0.293	10.272	10	586	<0.001

Outcome variable	**Positive affect**					
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Constant	-0.292	0.372	-0.785	0.433	-1.021	0.438
Cheat level	0.065	0.018	3.558	<0.001	0.029	0.102
Post-moral disengagement	0.102	0.070	1.447	0.149	-0.036	0.240
DT	0.271	0.083	3.267	0.001	0.108	0.434
Post-MD*DT interaction	0.264	0.107	2.478	0.013	0.055	0.474
Gender	-0.036	0.064	-0.560	0.576	-0.161	0.089
Age	0.001	0.003	0.298	0.766	-0.006	0.008
Education2 - grad	-0.057	0.074	-0.773	0.440	-0.201	0.088
Education3 - post grad	-0.036	0.089	-0.407	0.684	-0.211	0.139
Work2 - managmt	0.171	0.070	2.429	0.015	0.033	0.309
Work3 – Sen. managmt	0.168	0.096	1.753	0.080	-0.020	0.357
Self-esteem	0.180	0.058	3.083	0.002	0.065	0.294
Moral identity	0.109	0.058	3.083	0.02	0.065	0.294
Positive mood - initial	0.357	0.037	9.572	<0.001	0.283	0.430

Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.275	0.585	16.984	13	583	<0.001

	DT	**effect**	**SE**	**t**	**p**	**LLCI**	**ULCI**
Conditional effects of M (Post-moral disengagement) on Y (Positive affect) at values of DT (moderator W)	2.106	-0.023	0.102	-0.229	0.819	-0.223	0.177
	2.579	0.102	0.070	1.447	0.149	-0.036	0.240
	3.051	0.226	0.068	3.344	0.001	0.093	0.360

	effect	**SE**	**t**	**p**	**LLCI**	**ULCI**
Direct effect of X (Cheat level) on Y (Positive affect)	0.065	0.018	3.558	<0.001	0.029	0.102

Conditional indirect effects of X (Cheat level) on Y (Positive affect) [i.e., Cheat level → post-moral disengagement → Positive affect]	**DT**	**effect**	**Boot SE**	**Boot LLCI**	**Boot ULCI**
	2.106	-0.001	0.004	-0.009	0.007
	2.579	0.003	0.003	-0.001	0.010
	3.051	0.007	0.004	0.001	0.017

Index of moderated mediation	**Index**	**Boot SE**	**Boot LLCI**	**Boot ULCI**
DT	0.009	0.006	0.000	0.022

6.5 General Discussion

In recent years there has been increasing managerial and theoretical interest in well-being in the workplace. This paper comprises two RCT studies which look at the effect that the emotion positive affect has on two important outcomes of high importance to organisations, i.e.: - (i) co-operation, and (ii) ethicality, and specifically on the personality cluster known at the Dark Triad (Machs, Narcs and Psycs).

Results from Study 1 on co-operation indicate that a positive mood acts as a positive influence on people to get them to be more co-operative. This applies to all personality types, but to a relatively reduced extent in respect of people with high DT traits. Nonetheless, this is a positive finding that can help managers who must motivate all personality types. On the other hand, self-esteem is a personality trait which acts as a negative influence on co-operation. Self-esteem is an important ingredient of Dark Triad personality: - Narcs are positively associated with self-esteem, whereas Psycs are negatively associated with this trait. The combination of Narc personality and self-esteem is particularly pernicious for co-operative behaviour, which management should take heed of.

Indeed, in general people high in Dark Triad traits do not 'do' co-operation, a finding that will alarm but not surprise practicing managers: - Machs show a negative association with co-operation (as does the DT composite measure) after controlling for positive affect and various factors associated with self-control, and both Narc and Psyc show no association with co-operation. This is despite the findings of our self-report study (Paper 1, Study 2) in which Narcs claimed to be *positively* associated with OCB (which signifies co-operative workplace behaviour), and Psycs showed a negative association with OCB. In combination these findings suggest that Narcs are somewhat self-delusional about their co-operative behaviour and are less co-operative that they claim, and Psycs may not be as aversive to co-operation as they claim. We comment further on the implications of these findings for workplace co-operation and personality theory below.

Results from Study 2 on ethical behaviour confirm how readily people cheat - i.e. around 60% of participants cheated at least a bit in our study. Positive affect influences people to cheat – at least in the circumstances probed in our study involving a low risk and modest personal gain situation. More positively, positive affect does not motivate people to cheat *more* than they otherwise would in a neutral affective state. Perhaps not unexpectedly, people high in DT traits cheat more than do people with low DT traits, which should be of concern to organisations given the prevalence of such personalities in leadership positions. More optimistically, Dark Triad individuals who are in a good mood are *not* more inclined to act unethically than when they are in a neutral mood, which will be welcome news as leaders want all staff (including those with high DT traits) to experience a positive mood where possible, for various reasons linked to well-being, productivity and corporate culture, and also because this helps them to be more co-operative as we demonstrated in Study 1 of the present research.

These findings suggest that positive affect is an emotion that serves to permit us to overcome the limited intrinsic self-control that we all have which enables us to avoid anticipatory guilt associated with small-risk or low-consequence unethical activities, but is not sufficiently strong an influence to overcome higher levels of anticipatory guilt associated with more extensive unethicality (i.e. that associated with higher levels of cheating for which the morality breach is more salient and risky). Our finding that positive affect does not increase cheating in DT people beyond their 'natural' inclination leads us to adopt a cognitive explanation of self-control for such individuals in relation to unethical actions (vs a motivational/attitudinal shift explanation)– i.e. DT people seem to just 'do it' without needing to be influenced by an external stimulus – in this case positive affect.

We also showed that people morally disengage *after* cheating. This 'state' form of moral disengagement ('post-moral disengagement') is entered into because cheaters are aware of what they have done, and it helps them to deal with the negative moral emotion guilt which results. The reader will recall that in Paper 2 of this thesis we demonstrated the guilt/post-moral disengagement trade-off for people who had undertaken unethical activity. In the present research we confirmed the previously reported phenomenon termed 'cheater's high' in which people who act unethically by cheating experience an increase in positive affect (Ruedy et al., 2013). This arises because people like to gain (or potentially gain) financially from little or no effort, to which from our findings we are able to add the additional driver that by post-morally disengaging cheaters also end up with diminished feelings of guilt relative to their guilt level immediately following an unethical act. People with high DT traits both cheat more and morally disengage more than do people who are low in these personality traits. People high in DT traits also feel cheater's high. We demonstrated that cheater's high can be explained via a moderated mediation model in which moral disengagement partially mediates the effect of cheating on resulting positive affect, and DT moderates (enhances) the positive relationship between moral disengagement and positive affect, albeit the model only applies for high DT people. For 'normal' personalities, we showed that a standard mediation model applies whereby cheating leads to cheater's high partially mediated through post-moral disengagement.

Our findings have implications for theory in relation to personality, morality, and moral disengagement, as well as for managerial practice. Below we discuss the theoretical and practical implications of our findings, together with some limitations and directions for future research.

6.5.1 Theoretical contributions

First, we contribute to the moral psychology, personality and moral decision-making literature by showing how a moderated mediation model explains cheater's high: - vis-à-vis post-moral disengagement mediates the relationship between cheating and enhanced positive affect, with DT moderating the relationship path between post-moral disengagement and positive affect. The mediation model is only applicable for cases of high DT. We suggest that for high DT people, the positive relationship between post-moral disengagement and cheating is moderated (i.e., enhanced, compared to people low in DT traits) because for them disengagement is automatic and they are less likely to ruminate or dwell on their unethical actions, something that is burdensome and can diminish affect. This is the first mediation model that has been posited to explain the cheater's high phenomenon. The model regression results confirm that people who cheat get a 'double whammy' hit in terms of positive mood after cheating – with 91% of the cheater's high effect coming directly from feeling good because of the personal gains attached to cheating, and 9% coming from the high associated with the cognitive process of moral disengagement after cheating which helps to lower resultant guilt.

Although this work has enriched our understanding of the component mechanisms underlying cheater's high, we currently have limited knowledge underpinning the model path relationships which future work should take up. For example: - (i) what specifically drives the direct effect of cheating leading to enhanced positive affect (e.g. is it solely the anticipated gain from cheating, or the satisfaction of beating the system, or a combination); (ii) how is the post-moral disengagement/enhanced positive affect indirect effect path influenced by personality types other than the Dark Triad, and other individual differences traits that could impact moral decision-making; and (iii) what are the boundary conditions that maintain the model – for example is there a limited range of risk/reward profiles necessary within the cheating opportunity, and does the effect fall away in less benign conditions (e.g. if there is a salient victim of the cheating act).

Second, we contribute to the self-regulation, personality and moral psychology literatures by identifying what the influence of positive effect on different types of outcomes tells us about how we should conceptualise self-control. Self-control researchers debate whether or not self-control is a function of cognitive capacity (i.e. solely under the control of the individual); or conversely whether it is related to shifts in motivation / attitudes which are affected by context and the prevailing situation. As regards a motivational shift explanation of self-control, a commonly applied model is the so-called 'strength model', in which self-control is a finite resource and capable of being depleted for motivational reasons (Baumeister & Heatherton, 1996). Our results suggest that for 'normal' people (i.e. those with modest DT traits), positive affect can be sufficiently strong an influence to override self-control related inhibitions which act to restrict both positive behaviours (co-operation) as well as negative behaviours (decision to cheat), which we posit argues for a strength model interpretation of self-control for such personalities. Conversely, positive affect is insufficient an influence to affect DT moral behaviour, and only positively affects co-operation at low/med DT levels, findings that suggest self-control is better considered in terms of cognitive models in relation to high DT people, a suggestion which aligns with our conclusions in Paper 2 about self-control in DT people based on a study of moral disengagement. Thus, DT people may be more hard-wired to pursue negative activities than they are to avoid positive behaviours, which is something that management can take advantage of – i.e. in terms of using positive affect to elicit desired behaviours at work such as OCB.

Third, we contribute to the moral decision-making, moral emotions, and well-being literatures by showing how moral behaviour relates to two opposing resultant emotions, i.e. positive affect and guilt. Our results are relevant for all personality types and specifically Dark Triad people. Our findings require us to consider the impact of these emotions on people over time. We saw that low-DT people who cheat experience cheater's high plus guilt, albeit the guilt is partly assuaged compared to the point in time instantaneously after cheating was actualised, due to the effect of post-moral disengagement (please refer to Paper 2). Dark Triad people who cheat also feel increased positive effect from cheater's high, plus guilt which is at a relatively higher level than for low-DT people because DT people get no gain from the post-moral disengagement/guilt trade-off. Indeed, our mediation model is only applicable for cases of high DT, whereby a person high in DT traits receives a "double" cheater's high – primarily from the act of cheating, and secondly by morally disengaging. Moreover, Dark Triad people experience relatively more guilt than do 'normal' people - because (i) they engage in more unethical behaviour, and (ii) gain less from guilt reduction associated with post-moral disengagement. These heightened levels of opposing emotions experienced by Dark Triad people (more positive affect and more guilt) could render them susceptible to issues of stress and well-being decline, something that should be followed up in future research, ideally in longitudinal studies.

6.5.2 Implications for Practice

Our research has important implications for managerial practice.

First, our finding that positive affect promotes co-operation should be seen as an important signal to managers of what seems obvious, but for which we now have research findings to back-up, i.e. :- happy staff are more co-operative. Consequently, if the workforce has heightened positive mood a virtuous circle can develop in the organisation resulting in more OCB that may well pay off financially. Thus, leaders should look to better understand what makes staff happy in the workplace, and do more of that, subject of course to cost, corporate culture, and time. Our finding that positive affect influences Dark Triad personalities differently than it does 'normal' personalities in respect of co-operation provides pointers to managers in how best to get more co-operation from these personality types. Positive affect does not affect Narc co-operation, but is does influence people with low-medium Mach and Psyc traits to be more co-operative, compared to when they are in a neutral affective state. So positive affect as a tool for motivating co-operation will not reach staff with high Mach and high Psyc traits, and for these personality types management will need to use other motivational techniques, for example stronger LMX dyadic working, counselling staff that OCB activity is salient, recognised and rewarded financially, and introducing formal staff appraisal metrics that capture OCB activities.

Second, our findings also provide guidance on how management might deal with Narcs in respect of OCB. Correlational results show that Narcs are positively and strongly associated with self-esteem ($r=0.32$, $p<0.001$), results which align with prior studies. Although Narc co-operative behaviour does not respond to positive affect, our finding that people high in Narc traits are associated with enhanced co-operation when they have low or mid-levels of self-esteem, means that managers should target self-esteem in Narcs and seek to reduce this personality tendency. Other studies have shown that people who are low in self-esteem co-operate more, and this serves to enhance their self-esteem to their personal benefit (Sun et al., 2021). This would involve managers providing candid feedback to help staff with high Narc traits become more self-awareness of their personality traits and the attendant risks that could constrain career progression, as well as training to reduce self-esteem to appropriate levels. It may also involve applying personality tests to identify self-esteem as part of the organisational recruitment process. Moreover, given our finding that Narc personality is positively associated with unethical behaviour, DT traits should be included in any personality screening tests. As indicated in the section on limitations, these particular findings rely on correlational relationships rather than ones obtained from manipulation and causation, and consequently we suggest that they should be replicated and confirmed through an RCT study before being acted upon by managers.

Third, our research directs organisations to better understand the risks of cheater's high in the workplace and to take steps to curtail it. We showed that Narcs are especially vulnerable to the emotional 'reward' of heightened positive affect after cheating. Management should aim to limit, if not eradicate, this emotional high by seeking to target the inhibitory moral emotion guilt which is closely associated with cheating and unethical behaviour more generally. Management could achieve this through training and fostering clear corporate values around ethicality, and more specifically by making all staff aware of the prevalence and strength of internal controls and procedures as preventative measures, and emphasising the ramifications for anyone caught engaging in unethical behaviour (i.e., dismissal, legal action, referral to the police), as well as the likely network effect of the industry becoming aware and thus the risk to future career prospects. In so-doing, the hope would be that with the increased saliency of the attendant risks, the tension between anticipatory guilt and the prospect of cheater's high would move in favour of the former and thereby reduce the incidence of unethical activity.

Fourth, our results show that cheater's high occurs within the narrow confines of our experimental set-up which involves low risk/reward and no obvious or salient 'victim' of any cheating behaviour. Whether the effect translates to other scenarios and conditions is something we call on future research to explore. However, these days many people work in large organisations with increasingly more on-line and WFH stipulations, which we suggest could make staff feel more isolated and distant from their organisation – conditions which we speculate might assist anyone seeking to engage in unethical behaviour to conclude that doing so would entail a 'victimless' act, and thus serve to facilitate unethical behaviour and cheater's high. Consequently, managers should ensure that training is provided to staff to help them appreciate that corporate wrongdoing always involves a victim and to illustrate this with data and real-world examples of the ramifications of corporate fraud that touch on impacted individuals and units (e.g. reduced bonuses, reduced dividends, reduced budgets and hiring freezes etc following financial loss attached to unethical behaviour at work). Thus, by highlighting the victim, management may be able to reduce the 'high' associated with cheating and thereby reduce the incidence of cheating.

6.5.3 Limitations and Directions for Future Research

As for any experimental research, there are limitations in the current investigation that warrant acknowledgment. First, the data used in the two on-line studies is cross-sectional. Consequently, we cannot attest to causality or rule out reverse causality. Future work could use longitudinal studies to strengthen the case for our causal predictions involving positive affect. We hope that future work will look to bolster the findings reported herein and strengthen the claims of causality by replicating the experiments and introducing longitudinal studies. Second, the two surveys rely to a large extent on self-reports which brings the potential risk of social desirability bias. However, we argue in mitigation that as our self-report data was collected anonymously, and people were advised that there were no right or wrong answers in most of the survey tests, the data can reasonably be relied upon to reveal the behaviour experienced by respondents (Wulani & Lindawati, 2019; Thau et al., 2009; Podsakoff, 2003). Third, this chapter comprises two RCT studies which we undertook with the intention of gaining causal evidence. However, some of our regression findings rely on correlational results which did not involve manipulation of the predictor variable – e.g. the observed association between moral identity and moral awareness; and the association of Mach and Psyc each with boredom proneness – in which case it should be acknowledged that until such time these results are replicated and confirmed in RCTs, the relevance for management practice must necessarily be seen to be less than for those results that are based on causal evidence. Fourth, future research could benefit from using different methodological approaches. For example, a laboratory setting would permit the researcher to use more sophisticated exercises to demonstrate co-operative and ethical behaviour that better mimic such opportunities encountered in the workplace, as well allowing for the inclusion of other important contextual influences. A lab-based co-operation exercise could for example involve some level of repeated interaction rather than the one-shot decision used in the present research, and the cheating exercise could be developed to incorporate loss to a team member, and different risk/reward profiles attached to the cheating opportunity. Moreover, field studies would be particularly informative given the importance of context in co-operative and moral decision-making. We accept that getting access to private organisations is invariably a challenge for researchers, but we suggest that it may be a realistic option for the study of co-operation (if not ethicality), given the inherent sensitivities attached to ethical issues.

There are a number of areas where we believe research can fruitfully build on our work.

First, although cheater's high is a phenomenon that we and others have replicated, all studies undertaken to date have involved narrow forms of unethical behaviour – i.e. predominantly cheating in controlled conditions, and consequently we currently have limited understanding of how narrow the conditions need to be for cheater's high to occur. Future work could test our moderated mediation model to confirm its replicability and probe the boundary conditions of each path in the model. Moreover, other important factors could be introduced into an experiment such as the inclusion of a saliant victim, and higher risk/reward cheating opportunities. This would allow us to better assess where and under what circumstances cheater's high may be a risk for management which they need to mitigate.

Second, future research could also probe further how contrasting emotions (guilt and positive affect) interact in terms of well-being when someone engages in cheating and experiences cheater's high. This would be particularly informative in the case of Dark Triad personalities because as we showed in the present research, these personality types experience relatively higher levels of both positive affect and guilt when then engage in unethical behaviour, compared with 'normal' people. We suggest that negative affect should also be measured in future studies. Understanding how these opposing emotions (positive affect, negative affect and guilt) interact would inform current theory and have implications for the well-being and mental health of affected staff.

A third area of future research that could be highly informative to both theory and practice is to probe the endurance of emotions associated with cheater's high. In our examination of moral disengagement in Paper 2, we showed that following an unethical act, post-moral disengagement and resultant guilt interact in a way that suggests an almost instantaneous process, but we were not able to say anything about how long resultant guilt endures which we suggest should be the subject of planned future study. Similarly in the case of cheater's high, it would be interesting to probe how long the heightened positive affect lasts and how the tension with resultant guilt plays out over time, as well as what role negative affect has in this dynamic. If cheater's high proves to be short-lived then it would present a less burdensome problem for management

Fourth, we suggest that future research could be directed at the link between personality and cheater's high. More specifically it would be informative to better understand the effect that Dark Triad personality plays given that: - our mediation model is only applicable for high DT individuals; DT moderates (enhances) the positive relationship between moral disengagement and cheating; and in the absence of personality measures we confirmed that a standard mediation model explains cheater's high. Underlying this future research would be the aim of pinpointing what specifically drives the motivation for the direct effect of cheater's high. Ruedy et al., (2013) claim that it is not due to

the prospect of undeserved financial rewards, but rather with feelings of self-satisfaction, something we feel needs to be substantiated in future research and which may be different for different personality types.

Last, we suggest that future research could aim to uncover spill-over effects related to cheater's high. In Study 1 of the present research, we found that positive affect served to increase co-operation. This begs the question as to whether cheater's high would do the same – i.e., would cheaters subsequently become more co-operative? If this is the case, it would be interesting to consider how such a situation may relate to moral licensing. Similarly, in Study 2 we found that positive affect influenced people's decision to cheat (but not the level of cheating), which causes us to wonder if cheating would then lead to more cheating in some kind of corporate fraud chain reaction, and if not what would constrain such a scenario?

6.6 Conclusion

We undertook two studies that look at the situational influence of positive affect (mood) on positive outcomes, i.e., co-operation (N=594), and ethicality (N=597). We found that positive affect influences people to be more co-operative, which also applies to people with low-medium traits in Mach and Psyc. Self-esteem is a personal trait which acts as a negative influence on co-operation, a relationship which is moderated (strengthened) for people with med/high Narc traits. Consequently, in order to get more enhanced co-operation and OCB from staff, managers should take care to ensure that people with medium levels of Mach and Psyc traits are generally happy at work, and seek to delicately reduce self-esteem in those with high Narc personalities.

In the second study we found that, consistent with the studies in Paper 3 and Paper 4, people readily cheat - i.e. around 60% of participants cheated. A key finding is that positive affect influences people to cheat, but does not motivate them to cheat at a level more than they otherwise would in a neutral affective state. Consistent with our earlier findings, people high in DT traits cheat more than people with low DT traits, but DT people who are in a good mood are *not* more inclined to act unethically. These findings could indicate that emotion (specifically positive affect) can overcome the limited intrinsic self-control that we all have to help us avoid the low levels of potential guilt associated with small-risk or low-consequence unethical activities (such as a cheat yes/no decision in circumstances of our experiment), but it is not a sufficiently strong influence to deal with higher levels of anticipatory guilt attached to more salient or extensive unethicality (e.g., higher cheating levels in our experiment).

Our results also confirm that post an unethical act, people feel more positive (the so-called 'cheater's high'). Moreover, we show that this effect is partially mediated through post-moral disengagement which is a novel result, suggesting that moral disengagement is an important mechanism which is initiated *following* a moral breach, and which helps people to rationalise their unethical actions and feel better as a result. We also show that DT moderates the relationship path between post-moral disengagement and positive affect, such that the phenomenon can be explained by a mediation model that is only applicable for cases of high DT.

Consequently, a person high in DT traits receives a "double" cheater's high – primarily from the act of cheating, and secondly by morally disengaging. So we see that DT people who cheat post-morally disengage and experience opposing emotions – i.e. enhanced positive affect (cheater's high), but at the same time enhanced guilt (as we showed in Paper 2), a combination that may have long term well-being implications. In respect of self-control theory, our results suggest that for 'normal' people (i.e. those with modest DT traits), positive affect can be sufficiently strong an influence to override self-control related inhibitions restricting both positive behaviours (co-operation), as well as negative behaviours (decision to cheat), which would argue for a strength model interpretation of self-control for such personalities. Conversely, positive affect is insufficient an influence to affect DT moral behaviour, and only positively affects co-operation at low-med DT levels (Machs and Psycs), findings which suggest self-control is better considered in terms cognitive models in relation to high DT people, which aligns with our conclusions from Paper 2. Thus DT people may be more hard-wired to pursue negative activities than they are to avoid positive behaviours, which is something that management can take advantage of – i.e. in terms of using positive affect to elicit desired behaviours at work.

Part 4

Final reflections

Chapter 7

Concluding remarks

7.1 Introduction

This research project has been an illuminating personal journey. The contributions to theory and practice, and directions for future research arising from the 10 experiments are summarised at the end of each of the five respective papers, so we do not repeat them here. Rather, in this concluding chapter we briefly reflect on the PhD project in composite. First, we consider the results from all five papers and outline a few broad observations that cut across the studies. These concern (i) the nature and relevance of our results in terms of effect sizes; (ii) the consequentiality of our results for practitioners; (iii) limitations within the RCT experiments and the observed influence the various stimuli had on people high in Dark Triad traits; (iv) what the findings suggest for how people high in DT traits behave in the workplace; (v) how organizations might manage their DT staff better, and (vi) set out some key questions posed for future research to take forward. Second, we present some post-hoc exploratory analyses that may help direct future studies build on our work to better understand how two of the selected mechanisms (post-moral disengagement and flattery) may act in part through mediation and as moderated by DT personality traits – something we showed in Paper 5 to explain cheater's high for people high in DT traits. Third, we set out selective theoretical contributions arising from our work, spotlighting one primary contribution per paper that we feel in each case represents a particularly informative highlight from the thesis which future studies might look to take forward.

7.2 Looking across the five studies

7.2.1 Effect sizes and consequentiality of findings

Effect sizes are *the* most important outcome of any empirical study (Lakens, 2013), because they provide researchers with confirmation as to whether an experimental manipulation has a non-zero effect, and if so, how large the effect is. While a p-value can indicate whether an effect exists, this statistic does not reveal the size of the effect, hence both the *substantive significance* (effect size) and the *statistical significance* (p-value) should both be reported (Sullivan & Feinn, 2012), something we have adhered to in our reporting of results.

At the outset of this project our stated aim was to design studies that would enable us to observe and report correlational associations (Paper 1) and causal effects from RCTs (Papers 2, 3, 4 & 5) which would be of interest to management practitioners. We considered this would therefore require us to demonstrate effect sizes which exceed the 'small' effect size categorisation typically applied in psychological research dependent on the form of analysis, i.e. as represented by Cohen's d =0.2 (t-test); standardised β coefficient = 0.2 (multiple regression); and Pearson coefficient r = 0.1 (correlation) (Cohen, 1992; Fey et al., 2023). In line with the nature of our hypotheses and research design, we have primarily applied multiple regression analyses to assess findings. Fey et al. (2023) suggest that in a multiple regression analysis a standardised regression coefficient of $\beta < .20$ can be designated as a 'small' effect size, and a standardised coefficient β in the range 0.20 - 0.49 can be considered to be a 'medium' effect size. There does not appear to be a consensus amongst scholars regarding the cut-offs for small/medium /large effect size designations derived from regression analyses, so we follow Fey et al. (2023) and consider any standardised $\beta < 0.2$ to be 'small', and for a β in the range 0.2 -0.49 we apply the more conservative designation 'small-medium' to the corresponding effect size.

In the event, across the 10 separate experimental studies making up this thesis we have *partially* achieved our goal as most observed effect sizes were shown to be in the small, or intermediate small-medium effect size categories. Table 7.1 below presents a summarised list of a sample of effect sizes and related hypotheses associated with the key outcome variables of interest for each of 10 studies making up the 5 papers in this thesis, including the respective manipulation effect sizes. From this we see that for all the RCT studies (Papers 2, 3, 4 & 5) the manipulation methods used produced large effect sizes in terms of stimulating the desired mechanism or affective state (guilt, boredom, flattery, and positive affect respectively).

How should we interpret these results in terms of consequentiality? We believe that the results are relevant and of value to practitioners for several reasons, albeit with necessary caveats which we summarise below.

First, it is important to point out that in modern psychological research – and particularly so in respect of pre-registered studies – many if not most studies report small effect sizes (Gotz et al., 2022). This does not diminish the value of such reported findings, but rather is a manifestation of the area of research – i.e. complex psychological phenomena are most likely determined by multiple causes and consequently any individual cause is likely to have only a small effect (Gotz et al., 2022). Indeed, Gotz and colleagues go further and argue that it is only when small effects become accepted as the norm, rather than the exception, can a 'reliable and reproducible cumulative psychological science' be built.

Table 7.1 Effect sizes across the 5 papers comprising this thesis demonstrating main effects and manipulations

Paper / Study type	Study	Hypothesis / manipulation	Predictor Variable / Pearson corr. var 1	Outcome variable / Pearson corr. var 2	Basis of effect size (Regression coeff. - β; t-test -Cohen's d; Corr coeff. - Pearson r)	Effect size obtained	Effect size category (Cohen, 1992; Fey et al, 2023)
1	1[a]	H2a	Mach	Unethical behaviour (UB)	Regression	β = .394	Small-Medium
Correlational		H3a	Mach	Careerism	Regression	β = .470	Small-Medium
		H3d	Narc	Self-promotion	Regression	β = .342	Small-Medium
		H3f	Narc	Ingratiation	Regression	β = .144	Small
		H3g	Mach	Exemplification	Regression	β = .136	Small
		H3h	Psyc	Supplication	Regression	β = .203	Small-Medium
	2[b]	H6c	Psyc	OCB-I	Regression	β = -.172	Small
		H6b	Narc	OCB-O	Regression	β = .179	Small
		H7a	Narc	Creativity	Regression	β = .319	Small-Medium
2	1[c]	***UB Manipulation (H4a)***	***n/a***	***Guilt***	***t-test***	***d = 1.08***	***Large***
R		H5a	Mach	Post-MD	Pearson r	*r* = .20	Small
C		H5b	Post-MD	Guilt	Regression	β = .277	Small-Medium
T		H5c	Post-MD diffusing	Shame	Regression	β = .240	Small-Medium
3	1[d]	***Boredom Manipulation***	***n/a***	***State boredom***	***t-test***	***d = 1.0***	***Large***
		H2	State boredom	Moral Awareness	Regression	β = -.135	Small
R		H3b	Moral ID	Moral Awareness	Regression	β = .113	Small
C	2[e]	***Boredom Manipulation***	***n/a***	***State boredom***	***t-test***	***d = 1.1***	***Large***
T		H7b	Narc	Cheat level	Regression	β = .116	Small
		H9b	Cheat level	Guilt	Regression	β = .248	Small-Medium
4	1[f]	***Flattery manipulation***	***n/a***	***Flattered***	***t-test***	***d = 0.85***	***Large***
		H1	Flattery	Positive affect	t-test	d = 0.82	Large
		H3	Flattery	Co-operation	Regression	β = .137	Small
R		H6c	Mach	Co-operation	Pearson r	*r* = -.13	Small
C	2[g]	***Flattery manipulation***	***n/a***	***Flattered***	***t-test***	***d = 0.80***	***Large***
T		H11b	Self-control	Div. creativity	Regression	β = -.124	Small
		H12a	Narc	Con. creativity	Regression	β = -.135	Small
	3[h]	***Flattery manipulation***	***n/a***	***Flattered***	***t-test***	***d = 0.90***	***Large***
		H14	FUT	Cheat level	Regression	β = .091	Small
		H17b	Narc	Cheat level	Regression	β = .174	Small
5	1[i]	***PA manipulation***	***n/a***	***Positive mood***	***t-test***	***d = 0.83***	***Large***
		H1	Positive affect	Co-operation	Regression	β = .101	Small
R		H2b	Mach	Co-operation	Regression	β = -.165	Small
C		H4c	Self-esteem	Co-operation	Regression	β = -.141	Small
T	2[j]	***PA manipulation***	***n/a***	***Positive mood***	***t-test***	***d = 0.86***	***Large***
		H6b	Narc	Cheat level	Regression	β = .137	Small
		H7b	Cheat level	Cheater's high	Regression	β = .168	Small

Study sample sizes: [a] N=294; [b] N=595; [c] N=589; [d] N=599; [e] N=585; [f] N=572; [g] N=564; [h] N=583; [i] N=593; [j] N=596;

Second, although in some cases our experiments have involved investigation of novel relationships which have not been tested before (e.g. the Paper 4 studies on how flattery affects co-operation, creativity, and ethicality), where we have probed relationships that have been previously tested by researchers our observed effect sizes are in line with published articles dealing with similar phenomena. For example, in respect of our Paper 2 experiment on post-moral disengagement, Tillman et al. (2018) report a Pearson bivariate correlation effect size for the guilt/ post-MD (minimising actions) relationship of $r = -.25$, which compares to our result for the same relationship $r = -.28$. In other published studies researchers have reported effect sizes that are in the medium-large range for similar (but not the same) phenomena that we looked at – e.g. in Paper 3 we tested the effect of boredom on reduced moral awareness and obtained a small effect size, which compares with the result from Gino et al., (2011) who looked at ego depletion (rather than boredom) on reduced moral awareness and found a medium effect size, albeit subsequent experiments on the effects of ego depletion have not replicated in all cases. Hence, we argue that our results are in line both with reasonable expectation for psychological phenomena, and with prior related work, and are thus a reasonable addition to the field.

Third, it is important to mention that a number of our results were replicated in different experiments, which serves to enhance the credibility of those results (e.g. the influence of flattery on positive affect was consistent in three experiments in Paper 4; and the effect of positive affect on co-operation was consistent in separate experiments in Paper 4 and Paper 5).

Fourth, we believe that our a-priori aims, form of hypotheses, and research design meant that we chose to adopt reasonably complex data analytical methods, which centred primarily on multiple regression and interaction studies which, informed by prior studies, involved a relatively large number of covariates and control variables. Our design necessarily affects results obtained and their interpretation. For example, in looking at Dark Triad personalities (Mach, Narc, Psyc) we addressed the call of Jones & Paulhus (2017) by studying all three sub-components as a *constellation*, rather than focusing on a single sub-component or the DT composite measure. Prior research has shown that many aspects of personality are shared amongst the DT (Paulhus, 2014). This design means that we will pick up in the regression results only differential contributions to the outcome variable from a DT sub-component that is unique to it - as a consequence this may result in a lower effect size as compared with a situation in which we had only included

a single DT sub-component covariate – e.g. Mach. (We note that inclusion of a single DT sub-component is a design feature which numerous prior studies on dark personality have adopted (e.g. Becker & O'Hair, 2007; Belschak et al., 2018)). Similarly, we elected to include several relevant covariates (e.g. self-control, self-esteem, moral identity) and control variables which prior studies show account for some variance in the outcomes of interest. We acknowledge that our choice of design affects the interpretation of some results, most particularly in respect of possible differences in how each DT component relates to the regression outcome variable as compared with in a 2-way Pearson correlation (e.g. in Paper 1 we note that hypothesis H6a (Mach is negatively associated with OCB-I) is *not supported* in the regression results (β= -.028, p>.05; Table 2.10a), whereas the hypothesis *is supported* pursuant to the Pearson bivariate correlation data (r = -.11, p<.01; Table 2.9). It will be apparent that the choice of covariate and control variables has implications for the support (or lack of support) for the hypotheses. Consequently, in presenting our results we sought to point out such differences in results that reflect the methodological design choice we made. Moreover, fewer covariates may have resulted in higher effect sizes from the multiple regression analyses, but at the cost of less refined findings and maybe overlooking small effects (which are most likely to be real (Funder & Ozer, 2019)).

Any on-line experiment has inherent limitations which we lay out in detail within each paper. Clearly, an on-line experience cannot realistically replicate the complex situational environment that exists in the workplace. However, we believe that the various experimental designs we employed incorporate some sophisticated aspects which allow for some level of realism and reduced artificiality such that the observed effects are not necessarily exaggerated and thus of only limited interest to a 'real world' setting. For example, the participant population was tailored to comprise solely experienced professionals who are currently in work (something that is typically not applicable to laboratory studies), which we feel enhances the relevance of our findings to organisations. The absence of controlled conditions compared to laboratory studies increases the risk of distraction in an on-line participant pool – however in practice we found this to be a reduced risk based on the overwhelming seriousness and quality of responses obtained which required relatively involved and sustained effort on the part of participants, and for which we applied a very conservative approach to remove non-attentive or inordinately protracted responses. Additionally, as more people are increasingly working from home, and in roles which primarily involve computer-based tasks and interactions (rather than the more traditional face-to-face interactions), an on-line experimental setting is perhaps not as 'artificial' as it may seem. Furthermore, we believe that the interventions used are realistic of work situations – for example the flattery manipulation involved carefully worded feedback typical of the type of balanced feedback found in a work environment – if anything we would argue that the effect of flattery could perhaps be *more pronounced* in a real-world setting compared to our experimental set-up because the flatterer would be known to the recipient. This is conjecture of course, which is why we suggest that the flattery experiments (and indeed all of our RCTs) should be replicated in a laboratory setting and ideally in in fieldwork studies.

In conclusion and as argued above, although most effect sizes reported herein are small (with some intermediate small-medium effect sizes), we believe the results are robust and represent real phenomena. Moreover, some corporate workplace outcomes are of such importance that even small effect sizes will be of immense interest to managers and business owners. We suggest that ethical behaviour and co-operation amongst staff are two such outcomes. Recent corporate history has shown that in large organisations ethical breaches typically start small and are localised - the so-called 'slippery slope' (Welsh et al., 2015) - which if not "nipped in the bud" can become something much wider and more substantial and even threaten the future viability of an entity. Similarly, small gains in co-operation and cohesion amongst staff and in teams can make the difference as to whether people share knowledge and problems, break down barriers, and ultimately generate ideas for improvement, innovation and growth (Totterdill, 2015). As we have seen, people high in DT traits are drawn to successful and entrepreneurial companies in which risk/reward opportunities are high (Cooke, 2020). It is these same environments which are in particular need of heightened ethicality and co-operative traits because of the attendant risks. Consequently, we believe that small effect sizes involving the relationship between DT traits and ethical or co-operative behaviour – as we report herein – are of importance and interest to the corporate world and should be followed up with subsequent studies.

7.2.2 Some overview comments and questions to take forward

First, Dark Triad people are difficult to influence - be it in their response to acting unethically and feeling guilt (Paper 2); the effect of boredom on their moral awareness and cheating behaviour (Paper 3); how flattery changes their co-operative, creative and ethical behaviours (Paper 4); and how their co-operative and ethical behaviour responds to positive feelings (Paper 5). Thus a clear take-away message is that Dark Triad traits are robust. This is notwithstanding their low general self-control, which has merits and demerits in terms of how we might deal with such personalities. Moreover, this linkage of DT with low self-control seems to obscure some specific areas of behaviour affecting such people in which high levels of self-control are required to succeed. As we had expected, we found that people high in DT traits are prone to unethicality. We tried boring them, flattering them, and putting them in a good mood. None

of these mechanisms changed their moral decision-making. This suggests that for Dark Triad people, moral behaviour is hardwired rather than something that responds to self-control related influences such as boredom, flattery or feeling good. From a managerial perspective this presents a challenge. We identified moral identity as a possible trait that can be malleable with the right conditions and leadership, but this is not a quick fix. We also suggested resultant guilt could be an emotion that management could seek to exploit, given the Dark Triad tendency to act unethically, engage in post-moral disengagement, but then fail to experience the trade-off gain in reduced resultant guilt (which 'normal' people benefit from). On the other hand, it means that ethical behaviour by Dark Triad people should be reasonably predictable. Our finding that Dark Triad people can be influenced by flattery and positive affect to increase their co-operative behaviour should be seen as a 'small win' which management should exploit.

Second, we were somewhat surprised by the average level of cheating undertaken by respondents. In all three studies where we ran the matrix experiment which gave people the opportunity to cheat, and where they were led to believe that any cheating could not be identified, more than half cheated – 53% in the boredom study (Paper3); 63% in the flattery study (Paper 4); and 60% in the positive affect study (Paper 5), cheating levels which are not out of line with those reported from other studies who used the same experimental technique (e.g. Gino et al., 2011). This might cause us to reflect on whether we should go a little easier on Dark Triad people as regards their moral behaviour and reputations – yes they cheat more than do low DT people (as our results showed), but cheating is seemingly endemic, at least at low levels. This may give managers cause to emphasise moral principles in their ethics training, and to demonstrate the risks attached to engaging in 'slippery slope' small transgressions (Welsh et al., 2015).

Our third overview observation is a ponderance – just why is it that Dark Triad people are associated with success and achievement? We saw that they have no creative ability beyond the average level (and in fact Narcs are negatively associated with constructive creativity). DT people also relate negatively with co-operation. Prior research findings linking Dark Triad people with job performance and leadership are mixed. Yet, although empirical data is somewhat sparse, Dark Triad individuals are said to occupy most leadership positions (Furtner et al., 2017), with the most extreme of the triad – Psycs - possibly having a base rate of 3% in upper management which is three times the figure in the general population (Cohen, 2016). These findings pose two obvious questions. First, what is it that these personalities are good at that enables them to rise in organisations? A second and related conundrum relates to the reported low levels of self-control associated with people high in DT traits – surely self-control, perseverance and long-term strategizing are required to succeed in such environments, so how can people high in DT traits thrive if they have low self-control? Both questions suggest interesting research opportunities.

In respect of the first question, we speculate that Dark Triad people succeed in large part because they are skilled in the 'dark arts' of impression management. In Paper 1 we found that DT people engage in ingratiation and self-promotion (i.e. specifically Machs and Narcs), and in Paper 4 we saw that Dark Triad people are heavy users of flattery as a tactic. We suggest that this 'skill', combined with a certain level of natural self-confidence and tenacity, are what do the trick. This conjecture can be readily tested – ideally in a field setting within a real organisation in which (i) formal performance appraisals could be assessed (as relatively objective assessments of technical ability and role effectiveness); (ii) interview data could be provided by senior management giving their views on the dark art skills of staff; and (iii) staff could be observed in how they conduct themselves in interactions. Laboratory studies could also be devised involving people working in teams and tasked with needing to persuade one or more team member to act in some way that might require ingratiation, confidence or a combination of the two. Another possible explanation for the apparent success of DT people is linked to their drive (a trait which applies most notably to Narcs) – maybe they are more efficient in the workplace, or work harder and are more determined than so-called 'normal' people, with the result that they are more productive? We could not find any published data to support this suggestion, but again it is something that could be readily researched within a field study. One note of caution for any such study is the need to be cognisant that each of Mach, Narc and Psyc is associated with high self-regard (Jones & Paulhus, 2017), and being known to be a 'hard worker' does not always accord with a high flying image, so it may be that even if DT people do work longer hours, the extra input may not show up in records as captured for example by timesheets (which are typcially used by lawyers and accountants), but might be 'off radar', and is perhaps also invested in the pursuit of dark art strategies including ingratiation, self-promotion and bootlicking. Obtaining empirical data to confirm such behaviour and effort will be difficult and any study may have to involve some level of qualitative interview data provided by senior managers. Relatedly, having some DT individuals on board may positively influence productivity not by what the DT individuals produce per se, but rather because of the influence they have on the productivity of others. Again, there is minimal published research on this possibility. However, research shows that Narcs have charisma, high intelligence, and consequently are able to attract followers (D'Souza et al., 2019) – an ability that is highly prized, particularly in some industries where the 'war for talent' is severe. We suggest that it is not too much of a stretch to imagine that, once in an organisation, followers remain inspired and productive so long as the Narc leader is in place. In Paper 4 we speculated that as Narcs *believe (*erroneously, on average) that they have high levels of creativity, this belief may enable their organisation to attract truly creative talent that is drawn in by them. Indeed LeBreton et al. (2018) found that Narcs *appear* to be more creative when pitching, as their innate enthusiasm (erroneously) influences others to judge them as such – thus we speculate that this ability may result in a Narc's firm

attracting better talent, and getting more from them, at least in the short term – something which would reflect positively on a Narc leader and aid their success. This suggestion regarding the vicarious productivity effect of DT staff would similarly not be readily testable in the laboratory but would be researchable within a field study setting. Finally, we posit that a further reason underlying the apparent success of DT individuals may relate to selection effects, viz a viz because: - (i) DT personalities are overly drawn to the kinds of organisations which offer high risk/reward opportunities and the chance for rapid promotion; and (ii) such organisations actively target DT individuals (perhaps for their drive, leadership, confidence etc). Some of these organisations become highly successful and so we become aware of the association between success and people high in DT traits. This explanation could be assessed by obtaining a mix of field data which can access employees to determine their job seeking preferences, and survey data from firms in industries such as legal services, professional services, private equity, investment banking, and technology to assess their recruitment practices.

Turning to the second question relating to the self-control levels of DT people, it is evident that the research literature suggests that self-control represents a broad concept. We posit that perhaps people high in DT traits have strong self-regulation in respect of *specific situations* or goals (e.g. to ensure self-benefit in the case of a Mach; or recognition in the case of a Narc), and so invariably they achieve their desired outcomes notwithstanding distractions or obstacles; whereas in *other situations* (i.e. more broadly) they have inherently low self-control tendencies where there are no competing goals, e.g. an inability to generally 'be nice' and people-orientated when senior bosses are not around. A possible 'localised self-control' model applicable to DT people could be tested in the laboratory. For example, we found in Paper 5 (Study 1) that Machs have a significant negative bivariate correlation with co-operation *(r* = -.13, p<.01, Table 5.1), yet Machs yearn for self-benefit. A laboratory experiment which involves participants having to co-operate to obtain a benefit would test the localised self-control suggestion as regards this goal and what the boundary conditions are – e.g. the co-operation task could involve differential levels of effort or self-sacrifice, and the benefits could accrue at different levels to the team and/or individual so as to alter the cost/benefit calculus.

A fourth area where we feel future work should be directed relates to looking more carefully at the robustness of DT traits. Personality research suggests that personality traits are relatively stable over time. But does this apply to the aversive traits that make up the Dark Triad, given the negative outcomes and 'costs' associated with such personalities? After all, it can't be easy being someone high in DT traits. Organisations would like to know the extent to which the more toxic aspects of dark personality are malleable. This would require longitudinal studies that follow participants over the medium term to periodically assess their DT trait measures. We have seen that some DT traits are useful for getting ahead at work and thriving in a career – this begs the question as to whether DT traits are in fact facets of personality that are confined *solely* to organisational behaviour (and thus are 'turn-on-able'), or are fixed and permanent - knowledge of which would similarly inform organisations concerning the likely effectiveness of training in areas such as ethics and people management. We suggest that it is possible for some people to strategically demonstrate more corporate and hardnosed behaviours in the workplace for self-promotional reasons (i.e. to be 'DT-like') as compared to their 'normal' persona outside of work, but we speculate that such behaviour requires a level of effort that is difficult to sustain and may entail unhealthy side effects such as stress, something that could be testable via survey data of participants currently in employment.

A fifth summary observation is to question how organisations are recruiting, training and promoting Dark Triad people. It would seem that for many organisations the 'set up' is such that Dark Triad people thrive. This must mean that recruitment policies do not consider dark personality traits as a red flag – indeed it may be that the *opposite* is happening – i.e. self-promotion, self-confidence and an appearance of success may in fact be features in a Dark Triad potential recruit that resonate with recruiters, particularly larger ones with more standardised recruitment policies. This possibility relates to our call above for further research into the hiring policies of high risk/reward firms, and those that are the most competitive to enter. Equally, we speculate that in many organisations annual appraisal policies and corporate culture serve to *promote* ingratiatory behaviour (which comes so easy to Dark Triad people), so that once they are in an organisation Dark Triad people are destined to thrive relative to their lower DT colleagues. It could be that organisations where this is the case are thriving *despite* such sub-optimal policies, in which case inertia will prevent change. But we suggest this is not sustainable given the 'war for talent' and changing attitudes to work amongst millennials and 'Gen Z'. We suggest therefore that more organisations should make the effort to invest in better LMX relationships, upgrade appraisal systems, and get feedback from staff on a frequent basis to assess how staff see things, what they think is needed for career progression, and what needs to be done to prevent 'dark art' influence tactics in the workplace. We doubt that the option to simply screen out Dark Triad people and not recruit them is realistic or workable because traits such as doggedness, self-confidence and risk taking will always be needed – but again it would be informative to test this supposition in a field setting – can a business do well *without* Dark Triad staff?

Finally, as our sixth overview point, the jury is still out in the author's mind as to whether Dark Triad people represent a net benefit to an organisation, i.e.: - given the associated ethical risks, the issues with ingratiation that impede office moral, the lack of co-operation, and no clear-cut leadership or technical skills to bring to the table. For example, a recent study by Eisenbarth et al., (2022) found that Psyc traits are linked *negatively* to objective professional success –

a result that obviously challenges some published findings and popular beliefs about the functional benefits of Psycs in the workplace. Consequently, we believe it would be insightful for future research to drill down further on the 'net benefit' question relating to DT personalities. This would most likely involve a fieldwork experiment and require organisational access to different departments or units within a firm so that some measure of 'success' could be defined and tracked, and related to team personality profiles. Gaining such access within an organisation may not be readily forthcoming given how sensitive firms are regarding their inner workings, but would be worth the effort given the current management and leadership landscape in which DT personalities dominate.

7.3 Supplementary analysis – DT as a moderator in moderated mediation models?

In this thesis, based on our overarching our research question and sub-questions, we chose to examine the influence of dark personality on workplace behaviour by treating DT traits primarily as predictor variables. That said, in Paper 5 we tested whether a mediation model explains how cheating behaviour relates to enhanced positive affect mediated by moral disengagement – and obtained the novel result that the so-called 'cheater's high' positive affect enhancement is indeed mediated through post-moral disengagement and moderated by DT - i.e. this mechanism is represented by a moderated mediation model (i.e. it applies only for people high in DT traits). Given the robustness of DT traits to the influences tested in this research project, and the results from Paper 5, we considered it worthwhile to undertake post-hoc exploratory analyses of the mechanisms looked at in our prior RCT studies to test whether these also support causation explanations involving the mechanisms via moderated mediation models in which DT acts as moderator. Such analyses are possible from our data for those experiments for which we had obtained measurements of potential mediators *post* the respective manipulation, and *prior* to measuring the outcome variable – requirements which applied to two of our RCT experiments, i.e. involving the potential mediators (i) moral disengagement (Paper 2), and (ii) positive affect (Paper 4). We set out below the results of these exploratory analyses of moderated mediation models which extend the findings in Paper 2 (unethical behaviour leading to increased guilt, mediated by post-moral disengagement), and Paper 4 (flattery leading to enhanced cooperation, mediated by positive affect).

7.3.1 Moderated mediation: unethical behaviour leading to guilt mediated by post-moral disengagement (Paper 2)

Recall that Paper 2 involves an RCT experiment in which participants are assigned to either a control group or one of three groups that engages in unethical behaviour. Subsequently, measures of post-moral disengagement and negative emotion (guilt and shame) were made. A key hypothesis (H4a) predicted that guilt would increase for those groups told to assume that they had acted unethically, as compared to the control group. This hypothesis was confirmed with a large effect size (Cohen d=1.08). Previously our primary interest related to investigating how post-moral disengagement related to guilt and shame. In this supplemental analysis our interest is to build on H4a and assess whether unethical behaviour leads to enhanced guilt *mediated* by post-moral disengagement, and whether DT plays a moderating role in a mediation model.

For this exploratory analysis we first ran a mediation analysis in SPSS using the PROCESS macro model 4 (Hayes, 2013) as depicted in the model presented at Fig 7.1. The regression results are shown in Table 7.2

Fig. 7.1 Mediation model (Hayes, 2013, model 4) showing the influence of unethical behaviour on DV = guilt, mediated by post-moral disengagement (see Paper 2).

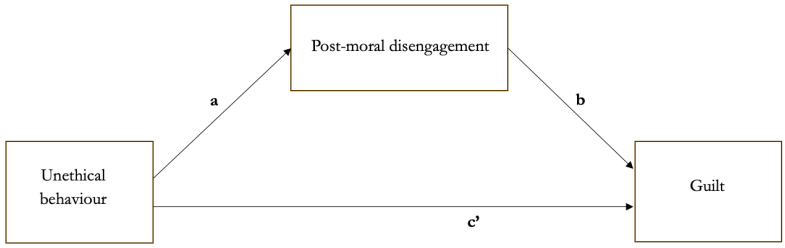


Table 7.2 Mediation regression results (Hayes model 4), with unethical behaviour predicting DV = guilt, mediated by post-moral disengagement.

Outcome variable	**Post- moral disengagement**					
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Constant	-0.163	0.363	-0.451	0.652	-0.875	0.549
Unethical behaviour	2.257	0.068	33.268	<0.001	2.124	2.390
Gender	0.011	0.061	0.176	0.860	-0.109	0.130
Age	-0.002	0.003	-0.737	0.462	-0.007	0.003
Education2 - grad	0.012	0.071	1.579	0.115	-0.027	0.252
Education3 - post grad	0.018	0.082	0.225	0.822	-0.142	0.179
Work2 - managmt	0.014	0.068	0.205	0.838	-0.119	0.147
Work3 – Sen. managmt	-0.023	0.087	-0.262	0.793	-0.193	0.147
Self-control	-0.029	0.046	-0.640	0.523	-0.119	0.061
Moral identity	-0.035	0.058	-0.599	0.550	-0.149	0.079
Pre-moral disengagement	0.245	0.058	4.265	<0.001	0.132	0.358

Model summary	R^2	**MSE**	**F**	**df1**	**df2**	**p**
	0.666	0.504	115.30	10	578	<0.001

Outcome variable	**Guilt**					
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Constant	2.273	0.560	4.059	<0.001	1.173	3.374
Unethical behaviour	2.601	0.179	14.536	<0.001	2.250	2.953
Post-moral disengagement	-0.257	0.064	-3.993	<0.001	-0.383	-0.130
Gender	0.144	0.094	1.540	0.124	-0.040	0.329
Age	-0.004	0.004	-0.920	0.358	-0.012	0.004
Education2 - grad	0.054	0.110	0.487	0.627	-0.163	0.270
Education3 - post grad	-0.074	0.126	-0.586	0.558	-0.321	0.174
Work2 - managmt	-0.012	0.105	-0.119	0.905	-0.218	0.193
Work3 – Sen. managmt	0.082	0.134	0.613	0.540	-0.181	0.345
Self-control	-0.107	0.072	-1.513	0.131	-0.246	0.032
Moral identity	0.016	0.090	0.182	0.856	-0.160	0.192
Pre-moral disengagement	-0.323	0.090	-3.585	<0.001	-0.501	-0.146

Model summary	R^2	**MSE**	**F**	**df1**	**df2**	**p**
	0.423	1.204	38.527	11	577	<0.001

Direct effect of unethical behaviour on guilt

effect	**SE**	**t**	**p**	**LLCI**	**ULCI**
2.601	0.179	14.536	<0.001	2.250	2.953

Indirect effect of unethical behaviour on guilt

	effect	**Boot SE**	**Boot LLCI**	**Boot ULCI**
Post-moral disengagement	-0.579	0.180	-0.933	-0.226

From Table 7.2 we see the regression results show that a mediation model is applicable, with both a significant direct effect of unethical behaviour which *increases* guilt (effect = 2.601, $p<0.001$, [LLCI 2.250, ULCI 2.953], and a significant indirect effect mediated through moral disengagement which serves to *reduce* guilt (effect = -0.579, [LLCI -0.933, ULCI -0.226]. In this model, as expected we see that for the a-path unethical behaviour strongly predicts post-moral disengagement (B = 2.257, p<0.001). We also note that as expected (and as shown in the results in Paper 2), pre-moral disengagement (B= 0.245, $p< .001$) positively predicts post-moral disengagement. For the b-path/c'-path in which DV = guilt, the regression results are in line with expectations. Post-moral disengagement is *negatively* associated with guilt (B= -0.257, p<0.001), whereas unethical behaviour strongly *positively* relates to guilt (B= 2.601, p<0.001).

Given the applicability of the mediation model, we then tested whether a moderated mediation model may be applicable, whereby DT is predicted to moderate each path, given the results we obtained in Paper 2: - (i) DT's strong association with post-moral disengagement following unethicality (a-path); DT's reduced feelings of resultant guilt following an ethical breach (c' path); and our finding that people high in DT traits do not benefit from feelings of reduced guilt when they post-morally disengage (i.e. DT moderation would be expected to serve to attenuate the observed negative relationship between moral disengagement and guilt). For this analysis, using SPSS we applied the moderated mediation analysis model 59 via the PROCESS macro (Hayes, 2013) as depicted in Fig 7.2. The results are presented in Table 7.3.

Fig. 7.2 Moderated mediation model (Hayes, 2013, model 59) showing the influence of unethical behaviour on DV = guilt, mediated by post-moral disengagement and each path moderated by DT

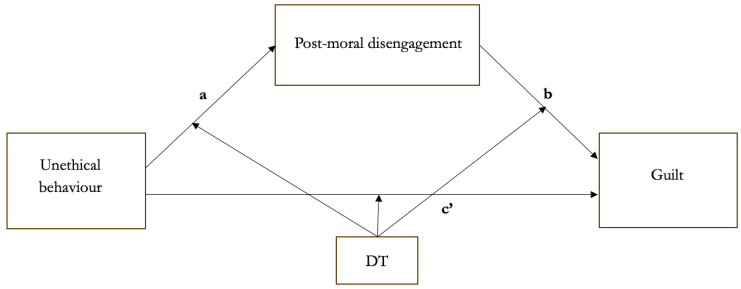


Table 7.3 Moderated mediation regression results (Hayes model 59), with unethical behaviour predicting DV = guilt, mediated by post-moral disengagement and each path moderated by DT

Outcome variable	**Post- moral disengagement**					
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Constant	0.250	0.483	0.517	0.605	-0.699	1.199
Unethical behaviour	1.393	0.368	3.783	<0.001	0.670	2.116
DT	-0.160	0.136	-1.172	0.242	-0.428	0.108
UB*DT interaction	0.350	0.147	2.387	0.017	0.062	0.639
Gender	0.016	0.061	0.261	0.795	-0.103	0.135
Age	-0.001	0.003	-0.437	0.663	-0.007	0.004
Education2 - grad	0.114	0.071	1.605	0.109	-0.025	0.253
Education3 - post grad	0.019	0.081	0.236	0.813	-0.140	0.179
Work2 - managmt	0.001	0.068	-0.006	0.995	-0.134	0.133
Work3 – Sen. managmt	-0.050	0.087	-0.575	0.566	-0.222	0.121
Self-control	-0.028	0.046	-0.619	0.536	-0.118	0.061
Moral identity	-0.028	0.058	-0.481	0.630	-0.142	0.086
Pre-moral disengagement	0.200	0.067	2.970	0.003	0.068	0.333
Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.670	0.500	97.557	12	576	<0.001

Outcome variable	**Guilt**					
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Constant	1.595	0.744	2.145	0.032	0.134	3.056
Unethical behaviour	5.789	0.931	6.220	<0.001	3.961	7.617
Post-moral disengagement	-1.245	0.362	-3.437	0.001	-1.956	-0.533
DT	0.251	0.210	1.194	0.233	-0.162	0.664
UB*DT interaction	-1.309	0.374	-3.495	0.001	-2.044	-0.573
Post-MD*DT interaction	0.402	0.143	2.816	0.005	0.122	0.683
Gender	0.138	0.093	1.475	0.141	-0.046	0.321
Age	-0.004	0.004	-0.927	0.354	-0.012	0.004
Education2 - grad	0.061	0.109	0.558	0.577	-0.154	0.276
Education3 - post grad	-0.067	0.125	-0.538	0.591	-0.313	0.178
Work2 - managmt	-0.008	0.104	-0.076	0.939	-0.213	0.197
Work3 – Sen. managmt	0.115	0.135	0.854	0.394	-0.149	0.379
Self-control	-0.105	0.070	-1.493	0.136	-0.243	0.033
Moral identity	0.011	0.089	0.125	0.900	-0.164	0.186
Pre-moral disengagement	-0.285	0.105	-2.725	0.007	-0.491	-0.080
Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.436	1.184	31.716	14	574	<0.001

Test of unconditional interaction	**ΔR^2**	**F**	**df1**	**df2**	**p**
UB*DT interaction	0.012	12.217	1	574	0.001
Post-MD*DT interaction	0.008	7.932	1	574	0.005

	DT	**effect**	**SE**	**t**	**p**	**LLCI**	**ULCI**
Conditional effects of M (Post-moral disengagement) on Y (Guilt) at values of DT (moderator W)	2.009	-0.437	0.095	-4.616	<0.001	2.688	3.632
	2.470	-0.251	0.064	-3.911	<0.001	2.206	2.907
	2.931	-0.066	0.089	-0.736	0.462	1.451	2.456

	DT	**effect**	**SE**	**t**	**p**	**LLCI**	**ULCI**
Conditional *direct* effects of X (Unethical behaviour) on Y (Guilt)	2.009	3.160	0.240	13.156	<0.001	2.688	3.632
	2.470	2.557	0.178	14.343	<0.001	2.206	2.907
	2.931	1.953	0.256	7.636	<0.001	1.451	2.456

Conditional *indirect* effects of X (Unethical behaviour)) on Y (Guilt) [i.e., UB → post-moral disengagement → guilt)	**DT**	**effect**	**Boot SE**	**Boot LLCI**	**Boot ULCI**
	2.009	-0.915	0.214	-1.333	-0.485
	2.470	-0.567	0.177	-0.930	-0.232
	2.931	-0.159	0.277	-0.711	0.365

From Table 7.3 it is evident that DT positively moderates the a-path in which unethical behaviour significantly predicts post-moral disengagement (interaction term unethical behaviour*DT, B=0.350, *p*=.017) – i.e. DT serves to *increase* the positive relationship between unethical behaviour and post-MD. Moreover, we also see that there are significant interactions for both model paths that predict guilt directly– i.e. the b-path interaction (post-MD*DT, B=0.402, *p* = .005), and the direct c'-path interaction (unethical behaviour*DT, B= -1.309, *p*=.001). Thus, as predicted: - (i) DT moderates (reduces) the negative influence of moral disengagement on guilt (i.e. DT *restricts* the effectiveness of post-MD to lessen feelings of guilt), and (ii) DT moderates (enhances) the positive influence of unethical behaviour on resultant guilt.

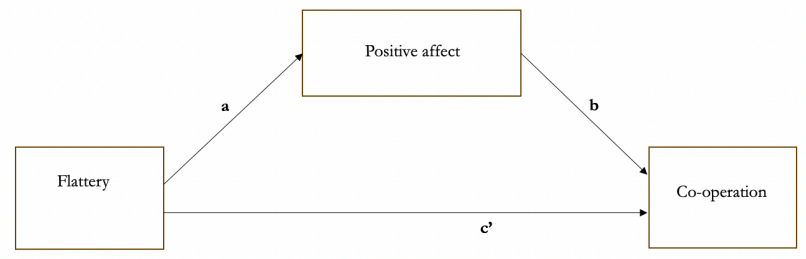
Therefore, we see that the mediation model is applicable, depending on the level of DT. Specifically, and as anticipated, the results show that for people with *low to medium DT traits* the indirect effect of unethical behaviour mediated by moral disengagement serves to *reduce* guilt (an influence which is not applicable for high DT people), whereas the direct effect serves to increase guilt for all personality types, albeit less so as DT traits rise. These results are consistent with our findings seen in Paper 2 in which people high in DT traits were found not to benefit from reduced guilt resulting from post-moral disengagement. The results also indicate that unethical behaviour leads to more direct guilt suffered by people who are lower in DT traits, which is only partially offset by the relief obtained from post-moral disengagement. Overall, we see that in aggregate people low in DT traits end up with higher feelings of resultant guilt than do people high in DT traits, even though such low-DT personalities benefit (in terms of reducing guilt) by the act of morally disengaging.

7.3.2 Moderated mediation: flattery leading to increased co-operation mediated by positive affect (Paper 4)

Building on the results presented in Paper 4 (Study 1), in which we found that flattery was positively related to subsequent co-operation (i.e. in support of H3), we undertook a post-hoc exploratory study to test whether the flattery/ co-operation relationship is mediated by positive affect. All three RCTs on flattery in Paper 4 demonstrated that the flattery mechanism is closely associated with positive affect. In this supplemental analysis our interest was also to test whether DT personality plays a moderating role in a mediation model.

For this exploratory analysis we first ran a mediation analysis in SPSS using the PROCESS macro model 4 Hayes (2013) as depicted in the schematic diagram presented at Fig 7.3. The regression results are shown Table 7.4.

Fig. 7.3 Mediation model 4 (Hayes, 2013) showing the influence of flattery on DV = co-operation, mediated by positive affect (see Paper 4).



From Table 7.4 we see that there is no overall mediation – i.e. there is no significant indirect effect of flattery on co-operation mediated by positive affect. However, it is evident that the a-path result is in line with expectation, i.e. flattery predicts positive affect (B = 0.244, p<0.001). As regards the b-path/c'-path for which DV = co-operation, we see that whilst for the c'-path there is a strong direct positive effect of flattery on co-operation (B= 0.552, *p*< .001), for the b-path there is no significant association between positive affect and co-operation (B= 0.008, *p*= .929).

Table 7.4 Mediation regression results with flattery predicting DV = co-operation, mediated by positive affect.

Outcome variable	**Positive affect**					
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Constant	0.769	0.298	2.578	0.010	0.183	1.355
Flattery	0.244	0.071	3.448	<0.001	0.105	0.383
Gender	-0.209	0.071	-2.975	0.003	-0.348	-0.071
Age	-0.009	0.004	-2.486	0.013	-0.016	-0.002
Education2 - grad	-0.117	0.083	-1.405	0.161	-0.280	0.047
Education3 - post grad	-0.068	0.096	-0.710	0.478	-0.257	0.120
Work2 - managmt	0.052	0.082	0.636	0.525	-0.109	0.213
Work3 – Sen. managmt	-0.171	0.100	-1.706	0.089	-0.367	0.026
Self-esteem	0.352	0.065	5.458	<0.001	0.225	0.478
Political savvy	0.287	0.061	4.682	<0.001	0.167	0.408

Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.157	0.700	11.623	9	563	<0.001

Outcome variable	**Co-operation**					
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Constant	4.001	0.670	5.984	<0.001	2.693	5.326
Flattery	0.552	0.160	3.459	<0.001	0.239	0.866
Positive affect	0.008	0.094	0.089	0.923	-0.176	0.193
Gender	0.058	0.159	0.364	0.716	-0.254	0.369
Age	0.013	0.008	1.559	0.119	-0.003	0.028
Education2 - grad	0.107	0.186	0.573	0.567	-0.259	0.472
Education3 - post grad	-0.196	0.215	-0.913	0.362	-0.617	0.226
Work2 - managmt	-0.192	0.183	-0.913	0.362	-0.617	0.226
Work3 – Sen. managmt	0.208	0.224	0.929	0.353	-0.232	0.648
Self-esteem	-0.218	0.148	-1.478	0.140	-0.508	0.072
Political savvy	-0.197	0.140	-1.413	0.158	-0.472	0.078

Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.043	3.487	2.538	10	562	0.005

Direct effect of flattery on co-operation

	effect	**SE**	**t**	**p**	**LLCI**	**ULCI**
	0.552	0.160	3.459	<0.001	0.239	0.866

Indirect effect of flattery on co-operation

	effect	**Boot SE**	**Boot LLCI**	**Boot ULCI**
Positive affect	0.002	0.029	-0.055	0.060

Notwithstanding the non-applicability of the proposed mediation model as demonstrated in these results, we considered it worthwhile to test for moderated mediation (with DT as moderator), based on (i) our conjecture that DT may play an important role in this relationship, and (ii) the results obtained in Paper 5 (Study 2) in which DT was found to partially moderate the relationship between cheating and positive mood as mediated by post-moral disengagement. Consequently, using SPSS we applied the moderated mediation model 59 via the PROCESS macro (Hayes, 2013) as depicted in Fig 7.4. The results are presented in Table 7.5.

Fig. 7.4 Moderated mediation model (Hayes, 2013; model 59) showing the influence of flattery on DV = co-operation, mediated by positive affect and each path moderated by DT

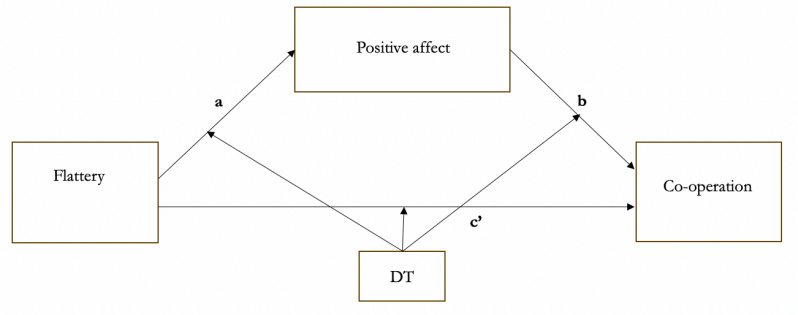


Table 7.5 Moderated mediation regression results (Hayes model 59), with flattery predicting DV = co-operation, mediated by positive affect and each path moderated by DT

Outcome variable	**Positive affect**					
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Constant	-0.867	0.644	-1.347	0.178	-2.132	0.397
Flattery	0.845	0.377	2.241	0.026	0.104	1.586
DT	0.666	0.225	2.961	0.003	0.224	1.107
Flattery*DT interaction	-0.234	0.146	-1.602	0.110	-0.521	0.053
Gender	-0.135	0.072	-1.875	0.061	-0.277	0.006
Age	-0.007	0.004	-1.933	0.054	-0.014	0.001
Education2 - grad	-0.120	0.082	-1.459	0.145	-0.281	0.041
Education3 - post grad	-0.097	0.095	-1.025	0.306	-0.283	0.089
Work2 - managmt	0.024	0.081	0.301	0.763	-0.135	0.184
Work3 – Sen. managmt	-0.222	0.099	-2.240	0.026	-0.417	-0.027
Self-esteem	0.347	0.064	-5.458	<0.001	0.222	0.471
Political savvy	0.250	0.061	4.069	0.001	0.129	0.370
Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.186	0.678	11.654	11	561	<0.001

Outcome variable	**Co-operation**					
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Constant	1.109	1.790	0.619	0.536	-2.407	4.625
Flattery	1.231	0.848	1.453	0.147	-0.434	2.896
Positive affect	1.293	0.433	2.986	0.003	0.442	2.144
DT	1.115	0.664	1.679	0.937	-0.189	2.420
Flattery*DT interaction	-0.288	0.327	-0.880	0.379	-0.931	0.355
Positive affect*DT interaction	-0.478	0.163	-2.934	0.004	-0.798	-0.158
Gender	-0.069	0.162	-0.429	0.668	-0.387	0.249
Age	0.009	0.008	1.120	0.263	-0.007	0.025
Education2 - grad	0.137	0.184	0.742	0.458	-0.225	0.499
Education3 - post grad	-0.084	0.214	-0.393	0.695	-0.504	0.336
Work2 - managmt	-0.156	0.182	-0.856	0.392	-0.512	0.201
Work3 – Sen. managmt	-0.279	0.223	1.253	0.211	-0.159	0.717
Self-esteem	-0.249	0.146	-1.642	0.101	-0.526	0.047
Political savvy	-0.144	0.139	-1.032	0.303	-0.418	0.130
Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.074	3.393	3.427	13	559	<0.001

Test of unconditional interaction	**ΔR^2**	**F**	**df1**	**df2**	**p**
Flattery*DT interaction	0.001	0.774	1	559	0.379
Positive affect*DT interaction	0.014	8.609	1	582	0.004

	DT	**effect**	**SE**	**t**	**p**	**LLCI**	**ULCI**
Conditional effects of M (Positive affect) on Y (Co-operation) at values of DT (moderator W)	2.074	0.302	0.127	2.376	0.018	0.052	0.551
	2.512	0.089	0.095	0.936	0.350	-0.098	0.276
	3.000	-0.141	0.115	-1.223	0.222	-0.368	0.085

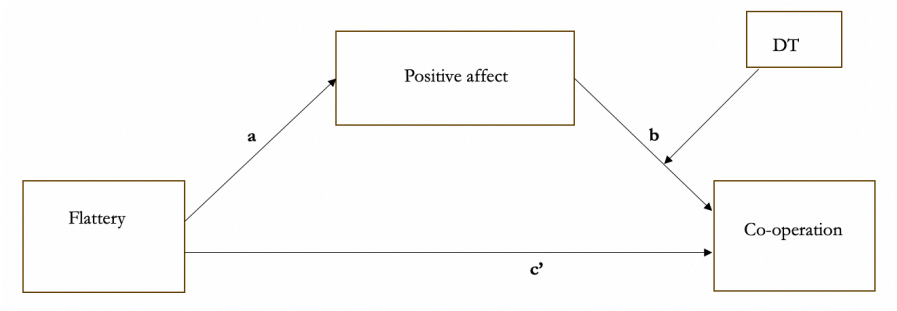
	DT	**effect**	**SE**	**t**	**p**	**LLCI**	**ULCI**
Conditional *direct* effects of X (Flattery) on Y (Co-operation)	2.074	0.634	0.220	2.875	0.004	0.201	1.067
	2.512	0.505	0.158	3.194	0.002	0.195	0.816
	3.000	0.367	0.218	1.685	0.093	-0.061	0.794

Conditional *indirect* effects of X (Flattery) on Y (Co-operation) [i.e., Flattery → Positive affect → Co-operation)	**DT**	**effect**	**Boot SE**	**Boot LLCI**	**Boot ULCI**
	2.074	0.109	0.068	0.002	0.266
	2.512	0.023	0.030	-0.030	0.088
	3.000	-0.020	0.032	-0.099	0.029

From Table 7.5 we see that DT does not significantly moderate the a-path in which flattery positively predicts positive affect. Conversely, we see that the b-path is moderated (negatively) by DT (i.e., positive affect*DT, B=-0.478, p = .004), for which the interaction serves to *attenuate* the positive influence of positive affect on co-operation. Finally, DT does not moderate the direct c' path in which flattery predicts co-operation. Looking at the overall model, the results indicate that a moderated mediation model is applicable, depending on the level of DT. Specifically for people low in DT, the indirect effect of flattery mediated by positive affect serves to *increase* co-operation (effect = 0.109; LLCI =0.002; ULCI =0.266), and the direct effect of flattery also serves to *increase* co-operation. For people who are mid/high in DT traits there is no significant indirect effect on co-operation.

In summary therefore, we see that a mediation model is *not* applicable for explaining how flattery relates to co-operation via positive affect, but a moderated mediation *does* explain this relationship, i.e. a mediation model applies only for people who are low in DT traits. In this case, DT acts as a moderator to reduce the indirect effect of flattery in promoting co-operation. Given that of the three model paths only the b-path was found to show a moderation effect by DT, this suggested that a moderated moderation model 14 (Hayes, 2013) could better capture the relationship between flattery and co-operation – i.e. as mediated by positive affect and moderated by DT. This model is shown schematically in Fig 7.5. For purposes of this exploratory analysis we tested this model 14, the results of which are shown in Table 7.6.

Fig. 7.5 Moderated mediation model (Hayes, 2013, model 14) showing the influence of flattery on DV = co-operation, mediated by positive affect and the b-path moderated by DT



These results confirm that the moderated mediation model 14 *is applicable* (i.e. we note the significant overall index of moderated mediation = -0.116 [LLCI -0.281; ULCI -0.003]), with DT moderating the b-path as we expected given the results from the model 59 moderated mediation regression above. We see that each path in the model has a significant effect on the dependant variable, in line with our expectations. For the a-path, with DV = positive affect, flattery is positively significant (B= 0.244, p=.001). Similarly, with DV =co-operation the direct c'-path is positively significant (with flattery predicting enhanced co-operation, B= 0.498, p=.002), and the b-path shows a positive significant result (with positive affect positively associated with co-operation, B= 1.292, p=.003). For the latter indirect effect, we see that the b-path is moderated by DT, such that flattery-induced positive affect is only associated with co-operation for people *low* in DT traits.

So, in summary, we see that a moderated mediation model explains how flattery leads to co-operation, an influence which is *partially* explained by positive affect. In other words, positive affect (associated with flattery) helps people to co-operate, but only if they are low in DT. Of the total effect of flattery on increased co-operation for people low in DT, approximately 87% [0.4984 /0.0747+0.4984] is directly from flattery, and 13% of the effect [0.0747/ 0.0747+0.4984] relates to the positive affect associated with the flattery. Clearly more is going on with flattery in terms of its influence on increasing co-operation than it simply being due to making people feel good. Moreover, the effect does not work on people with medium and high DT traits. We suggest that future studies can fruitfully look to unpick what underlies the mechanistic effect of flattery on co-operation (i.e. in addition to positive affect), as well as to focus on the impact personality more generally has on this relationship.

Table 7.6 Moderated mediation regression results (Hayes, 2013, model 14) with flattery predicting DV = co-operation, mediated by positive affect and the b-path moderated by DT.

Outcome variable	**Positive affect**					
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Constant	0.769	0.298	2.578	0.010	0.183	1.355
Flattery	0.244	0.071	3.448	<0.001	0.105	0.383
Gender	-0.210	0.071	-2.976	0.003	-0.348	-0.071
Age	-0.009	0.004	-2.486	0.132	-0.016	-0.002
Education2 - grad	-0.117	0.083	-1.405	0.161	-0.280	0.047
Education3 - post grad	-0.068	0.096	-0.710	0.478	-0.257	0.120
Work2 - managmt	0.052	0.082	0.636	0.525	-0.109	0.213
Work3 – Sen. managmt	-0.171	0.100	-1.706	0.089	-0.367	0.026
Self-esteem	0.352	0.065	5.458	<0.001	0.225	0.479
Political savvy	0.287	0.061	4.682	<0.001	0.167	0.408
Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.157	0.700	11.623	9	563	<0.001

Outcome variable	**Co-operation**					
	B	**SE**	**t**	**p**	**LLCI**	**ULCI**
Constant	2.196	1.295	1.696	0.091	-0.348	4.740
Flattery	0.498	0.158	3.155	0.002	0.188	0.809
Positive affect	1.292	0.433	2.985	0.003	0.442	2.143
DT	0.691	0.457	1.513	0.131	-0.206	1.587
Positive affect*DT interaction	-0.476	0.163	-2.920	0.004	-0.796	-0.156
Gender	-0.061	0.162	-0.376	0.707	-0.378	0.257
Age	0.009	0.008	1.122	0.263	-0.07	0.025
Education2 - grad	0.145	0.184	0.786	0.432	-0.217	0.506
Education3 - post grad	-0.076	0.214	-0.356	0.722	-0.496	0.344
Work2 - managmt	-0.162	0.181	0.890	0.374	-0.512	0.195
Work3 – Sen. managmt	0.283	0.223	1.271	0.204	-0.155	0.721
Self-esteem	-0.238	0.146	-1.635	0.103	-0.525	0.048
Political savvy	-0.152	0.139	-1.091	0.280	-0.424	0.122
Model summary	**R^2**	**MSE**	**F**	**df1**	**df2**	**p**
	0.073	3.392	3.650	12	560	<0.001
Test of unconditional interaction		**ΔR^2**	**F**	**df1**	**df2**	**p**
Positive affect*DT interaction		0.014	8.527	1	560	0.004

	DT	**effect**	**SE**	**t**	**p**	**LLCI**	**ULCI**
Conditional effects of M (Positive affect) on Y (Co-operation) at values of DT (moderator W)	2.074	0.306	0.127	2.413	0.016	0.057	0.555
	2.519	0.095	0.095	0.995	0.320	-0.092	0.281
	3.000	-0.134	0.115	-1.169	0.243	-0.360	0.092

	effect	**SE**	**t**	**p**	**LLCI**	**ULCI**
Direct effect of X (Flattery) on Y (Co-operation)	0.498	0.158	3.155	0.002	0.188	0.809

Conditional *indirect* effects of X (Flattery) on Y (Co-operation) [i.e., Flattery → Positive affect → Co-operation]	**DT**	**effect**	**Boot SE**	**Boot LLCI**	**Boot ULCI**
	2.074	0.075	0.045	0.002	0.175
	2.519	0.023	0.029	-0.031	0.085
	3.000	-0.033	0.043	-0.127	0.041

Index of moderated mediation	**Index**	**Boot SE**	**Boot LLCI**	**Boot ULCI**
DT	-0.116	0.072	-0.281	-0.033

7.4 Selective Contributions to Theory

In Paper 1, a correlational study demonstrated clear distinctions in how Dark Triad personalities relate to unethical and selfish outcomes, thereby meeting the challenge of Lu et al. (2018) in helping to "*tease apart the constructs of ethicality and selfishness*". Moreover, by considering the triad as a cluster, we addressed the call by Jones & Paulhus (2017) to look at the trait distinctions amongst the Dark Triad. The results confirm the strong association of Dark Triad traits with 'dark side' behaviours vis-à-vis: - Narcs use selfish tactics based on image (careerism, self-promotion and ingratiation); Psycs engage in unethical behaviour; and Machs act both selfishly and unethically at work. (We subsequently confirmed in Paper 4 that both Machs and Narcs are also avid users of flattery as a tactic). Our findings also add additional nuance to our understanding of the conceptual similarities and differences amongst the three traits. For example, our results confirm the conceptual closeness of the Mach/Psyc 'malicious two' dyad (Rauthmann & Kolar (2012) as regards propensity to engage in unethical behaviour. We also demonstrated some distinctions; - e.g., regarding propensity for selfish behaviour (self-promotion and ingratiation) which applies to Machs but not Psycs, and

supplication which Psycs engage in but Machs do not, constitutes a risky and less strategic workplace tendency which fits the pervading Psyc trait disposition for overt deceitfulness (Stevens et al., 2012). Our finding that Narcs engage in self-focused impression management pursuits aligns with what we know about their deep tendency for self-absorption (Emmons, 1987), conversely our result showing that Narcs are negatively associated with careerism is novel and might be explained on the basis that as careerism is a long-term endeavour, people high in Narc traits may doubt their ability to successfully engage in this pursuit given their short-term focus and low self-control (Harrison et al., 2018), which we suggest supports an evolutionary life history theory explanation of DT traits. Finally, our finding that Narcs do *not* engage in unethical behaviour in the workplace corroborates prior studies which suggest that Narcs are the least morally suspect of the DT (Jones & Paulhus, 2017) – but is at odds with results from our later experiments on cheating behaviour in Paper 3 (Study 2); Paper 4 (Study 3); and Paper 5 (Study 2): - all show that Narcs (alone amongst the Dark Triad) are positively associated with cheating. We speculate that this apparent paradox reflects the experimental set-up and context: - Machs and Psycs are simply not sufficiently stimulated by the risk/reward profile of the cheating opportunity and so are not motivated to partake in cheating at a level different to 'normal' people, whereas Narc self-esteem and short-termism kicks in for self-beneficial ends in the experiment situation. Conversely, in more complex, strategic and higher payoff conditions that are played out over time in the workplace, the true tendencies of Machs and Psycs are revealed. We suggest that the boundary conditions at which cheating and unethical behaviour happen between Machs/Psycs and Narcs represents an important future area of research that has theoretical and practical implications.

In Paper 2 we focused on moral disengagement and showed this to be a mechanism that is highly relevant to Dark Triad moral behaviour. We also advanced theory by demonstrating that following an act of unethical behaviour the resultant feelings of guilt and shame relate differently to post-moral disengagement. These findings suggest that guilt, but not shame, has a trade-off relationship with moral disengagement which may have implications on the functionality of this mechanism, i.e., it helps assuage moral guilt and thereby acts as a regulatory response. We suggest that the process of moral disengagement kicks in soon after a moral breach and instantaneous negative moral emotions occur, whereby post-moral disengagement cognition helps to (partly) assuage these feelings, i.e., impacting resultant guilt (but not shame). Consequently, when we measure post-moral disengagement and resultant guilt we find a negative relationship. However, we cannot say anything about how long this effect lasts, or whether moral disagreement persists, and if it does whether the trade-off relationship between moral disengagement and guilt maintains, all of which are fertile areas for future research.

Further, we showed how this mechanism impacts Dark Triad people. Our findings indicate that the post-moral violation trade-off between post-moral disengagement and guilt is lessened for low-medium level Machs and Psycs, and is eliminated entirely for high Machs and Psycs. This suggests that people high in Mach and Psyc traits are not motivated to engage in post-moral disengagement by any resultant relief in resultant guilt, i.e. as a regulatory response. Something else must drive post-moral disengagement behaviour for these personalities. Bandura (1996) showed that people seek consistency in their moral behaviour. Our findings showed that both Machs and Psycs are highly positively associated with *pre*-moral disengagement, as well as with *post*-moral disengagement (albeit it at a lower level for the latter). We speculate that Machs and Psycs engage in post-moral disengagement motivated by a desire for consistency with their pre-moral disengaging selves, an idea which should be tested in future studies. If this is the case, anything management could do to work on moral identity in Machs and Psycs – which to some extent is malleable – could result in a 'double whammy' of benefits given our finding that moral identity is negatively associated with pre-moral disengagement (i.e. propensity to morally disengage), which if lessened through enhanced moral identity would also lead via the consistency motive to reduced post-moral disengagement.

In Paper 3 we considered boredom as an influence on negative behaviour by Dark Triad individuals. We found that whilst boredom negatively influences moral awareness, it does not affect moral decision-making – i.e., in the form of cheating behaviour. Moreover, boredom does not affect Dark Triad personalities any differently than it does 'normal' individuals. We suggest that the differential influence of boredom on moral awareness compared to moral action reflects the different 'stakes' attached to these two stages of moral decision-making. Moral awareness requires implicit cognitive activity which is effortful (Gino et al., 2011; Chin et al., 2017). One of the functions of boredom is to help economise on cognitive processing. Therefore, when someone is bored, they will engage in reduced cognitive processing (i.e., become 'tuned out') and in this state will find it much harder to re-engage cognitively when challenged with the need to recognise – but not act on - a moral issue. We further suggest that moral-violating action involves higher and more salient risks (than does moral awareness), and therefore presents a much higher self-inhibitory hurdle for boredom to overcome. Consequently, we argue that although cheating would meet the criteria for one of the functional outcomes of boredom - i.e., boredom motivates us to look for a suitable challenge, meaning, novelty or fun (e.g., Moynihan et al., 2021) – in this case the level of novelty inherent in cheating and outsmarting the researcher is insufficient to overcome the inhibitory controls associated with violating personal moral standards.

In terms of how this applies to the Dark Triad and our understanding of self-control, we found that people high in Dark Triad traits are no worse at moral awareness than are 'normal' personalities, but they do cheat more (specifically Narc personalities). Dark Triad individuals are characterised by low self-control (Jonason & Tost, 2010). Self-regulatory resources are challenged by boredom that may have similar depletive effects to ego depletion (Job et al., 2010). Consequently, if a motivational/attitudinal shift model of self-control is applicable – and more specifically the strength model (Baumeister et al., 1994) - then we should expect boredom to readily influence the moral awareness *and* moral decision-making of Dark Triad personalities. This is not what we found. It could be argued that our findings support a strength model of self-control on the basis that boredom is sufficiently strong an affective state to overcome self-control and reduce moral awareness in such a low-risk situation, but is not sufficiently strong to have the same over-powering effect when the stakes are higher and self-control might be expected to be situation-adjusted given the heightened and more salient risks associated with a moral decision. An alternative explanation, which we prefer, is that self-control is better explained by a cognitive model rather than by a motivational shift model – i.e. moral action is somewhat automatic and is therefore immune to a stimulus – such a boredom – that might affect self-control. We further suggest that the cognitive model for self-control may be particularly persuasive in the case of high Dark Triad people in relation specifically to moral behaviour as evidenced by our findings in Paper 2 of this thesis, which showed strong links between DT individuals and the cognitive mechanism moral disengagement. Future research should look to test this suggestion.

In Paper 4 we looked at flattery as an influence on Dark Triad people to promote positive outcomes in the form of co-operation, creativity and ethicality. We chose flattery as an influence informed by the results of Paper 1 which showed that DT personalities (i.e. specifically Machs and Narcs) readily use ingratiation, which is a tactic that includes flattery. Our results confirm prior work by demonstrating the importance of induced positive affect felt by the target of flattery. A novel finding was that flattery promotes co-operation. However, flattery-induced positive affect was not so strong as to influence creativity or increased cheating as theory would suggest.

We posit an explanation for these results by speculating that flattery-induced positive affect is a 'constrained' form of positive affect - i.e. flattery makes people feel good, but flattered people invariably know when they are being flattered, especially in a situation such as that in our experiment in which it was salient that the flatterer was motivated to report favourably on the target. We suggest that this knowledge acts as a brake on feelings of 'pure' positive affect, thereby interfering with the process of freeing up cognitive flexibility to enable fluid and novel thinking which is required for (i) divergent creative thinking (Bar, 2009) – and therefore creative output; and (ii) moral disengagement (Vincent et al., 2013) which promotes increased cheating. In a seminal paper on flattery Vonk (2002) suggests that flattery is primarily a cognitive phenomenon whereby the target is aware of the flatterer's ulterior motive but still accepts the overdue praise as being accurate as it is consistent with the target's self-concept. We suggest a modified explanation, i.e. that flattery works through a mix of affect and cognition, with the exaggerated praise from the flatterer inducing positive affect, but knowledge of motive invoking a rational cognitive response which sees the flattery for what it is – i.e. disingenuous – as a result the flattery-induced positive affect is diluted and fails to act as 'pure' positive affect does in relation to promotion of both creativity and ethicality. Our results therefore demonstrate the limits of flattery as a tactic in terms of promoting behaviours that result in beneficial organisational outcomes. However, given that flattery works (Chan, & Sengupta, 2010), remains ubiquitous in organisations (Long, 2021), and is favoured by Dark Triad personalities who invariably end up in managerial positions, we suggest in the main text that further research should be undertaken to better understand how we can harness flattery and minimise associated negative consequences.

Lastly, in Paper 5 we considered how positive mood might influence positive outcomes in Dark Triad individuals in respect of co-operative and ethical behaviour. A key contribution from this study relates to our demonstration of how a moderated mediation model explains the so-called 'cheater's high' phenomenon, in which someone who cheats feels good afterwards – i.e., experiences heightened positive affect - notwithstanding their moral breach. We showed that post-moral disengagement mediates the relationship between cheating and enhanced positive affect, with DT personality moderating the relationship path between post-moral disengagement and positive affect. Thus a mediation model is only applicable for cases of high DT. How do we explain this model? We suggest that for high DT people the positive relationship between post-moral disengagement and cheating is moderated (i.e., enhanced, compared to people low in DT traits) because for them the moral disengagement process is automatic, hence these personality types are less likely to ruminate or dwell on their unethical actions, which is burdensome and can diminish affect, and being unburdened of guilt, even if just partially presumably feels good. This is the first mediation model that has been posited to explain cheater's high. The model shows that people who cheat get a 'double whammy' hit in terms of positive mood after cheating – with 91% of the cheater's high effect coming directly from feeling good because of the personal gains attached to cheating, and 9% coming from the high associated with the cognitive process of morally disengaging after cheating which helps to lower resultant guilt (as we showed in our findings in Paper 2).

In Paper 5 we also showed that positive affect improves co-operation (a result which aligns with that obtained via flattery in Paper 4). Taken together, the Paper 5 findings allow us to comment further on self-control. Our results suggest that for 'normal' people (i.e. those with modest DT traits), positive affect can be sufficiently strong an influence

to override self-control related inhibitions which act to restrict positive behaviours (co-operation) as well as negative behaviours (decision to cheat), which we suggest argues for a motivational/attitudinal shift explanation for self-control, and more specifically in favour of a strength model interpretation of self-control for such personalities. Conversely, we showed that positive affect is insufficient an influence to affect moral behaviour in Dark Triad individuals, and only positively affects co-operative behaviour at low/med DT levels, findings that suggest self-control is better considered in terms of cognitive models for people high in DT traits, a suggestion which aligns with our conclusions in Paper 2 about self-control in DT people based on a study of moral disengagement. Further study is clearly warranted to assess the implications – vis-à-vis that Dark Triad people may be more hard-wired to undertake negative activities than they are to actively avoid positive behaviours, which is something that management can take advantage of – i.e. in terms of using positive affect to elicit desired behaviours at work.

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