

**The London School of Economics and Political Science**

**Fear of crime as a way of thinking, feeling and acting: An integrated approach to measurement and a theoretical examination of psychological distance and risk construal**

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A thesis submitted to the Department of Methodology  
of the London School of Economics and Political Science  
for the degree of Doctor of Philosophy, London, May 2016

## 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 other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

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As the candidate's supervisor I hereby confirm the extent of the candidate's contribution to the joint-authored papers as indicated in the preface below.

Signed:



Professor Jonathan Jackson

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Doing a PhD has been a journey that lasted a bit longer than usual for me. The destination of the journey changed halfway through. In retrospect, it feels that this was one of the wisest decisions that the captain has ever made. As every journey, this one was full of discovery and adventure. ‘Ithaka’ has been reached now, and the time has come to thank all of those who were on board.

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## **ABSTRACT**

This thesis constitutes a criminological study of the fear of crime as a public reaction to crime and victimization. Its key objectives are to enhance the theorization of the fear of crime, and to develop an integrated methodological approach to its empirical exploration. To achieve the former, the construal-level theory of psychological distance (CLT) is applied to the study of the fear of crime. To achieve the latter, observational and experimental methodologies are combined to evaluate empirically the research hypotheses.

The starting premise of the CLT approach to the fear of crime is that people do not often experience crime directly in their daily lives as victims; yet, they are capable of expressing reactions to the risk of crime. The current thesis explores cognitive processes that help transcend the ‘crime-free’ ‘here and now’ to enable experience and expression of fear of crime reactions to the distal event of crime. Based on the CLT, two such processes are examined. First, psychological distance from crime, which relates to how far in time, space, social distance and probability, crime is psychologically experienced to occur. Second, crime construal, which relates to the abstractness or concreteness of mental representations of crime.

Overall, the findings indicate that experiencing crime as psychologically distant, and mentally representing it abstractly rather than concretely ‘cool off’ fear of crime reactions. One of the main theoretical implications of the current work is that adopting a theory-driven interdisciplinary perspective in the study of the fear of crime improves its theorization. The key methodological implication is that such a perspective renders plausible the use of integrated research. The key policy implication of this work is that its findings can be conducive to the development of public discourses of crime and justice, crime-related narratives and strategies for the public communication of crime that keep people informed about crime, but ‘free from fear’.

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## **PREFACE**

This document constitutes my PhD submission to the London School of Economics and Political Science. The PhD programme at the Department of Methodology allows a ‘paper based’ format that differs from the usual dissertation format. A ‘paper based’ thesis unavoidably involves some repetition of the key concepts and the theoretical framework in its chapters and in the papers that constitute its empirical component. The structure of the current thesis is as follows. The introductory section (Chapter 1) outlines the core reasoning and the main arguments of this thesis, its contribution and limitations, its key research hypotheses, and a brief overview of its empirical component. A conceptual and theoretical review of the criminological study of the fear of crime follows (Chapter 2). This part provides a brief history of the fear of crime, followed by the key conceptualizations, operationalizations and measurements of the phenomenon in the criminological literature. It also reviews the most important theoretical approaches to the explanatory factors of the fear of crime, and its consequences, according to existing criminological research. The third part (Chapter 3) constitutes the empirical component of the current thesis; it starts with a summary of the core arguments and hypotheses of the empirical papers. Then the four papers are presented. The first paper and the third paper are co-authored with Professor Jonathan Jackson. I contributed 55 per cent of the work to Paper 1, and 80 per cent of the work to Paper 3. The other two papers (Paper 2 and Paper 4) are singled-authored by myself. The conclusion of this document (Chapter 4) comprises an overview of the key findings of the current thesis and their implications at the theoretical, empirical and policy levels. It also includes the limitations of this work, relevant ways forward, and a summary of its contribution to the criminological study of the fear of crime.

## CHAPTER 1: INTRODUCTION

### 1.1 The fear of crime and the current thesis

Crime is not encountered by most people through direct victimization in the western world (Harrendorf, Heiskanen, & Malby, 2010; Tonry, 2014). Yet crime is a salient risk in contemporary societies that affects people's daily lives, the trajectory of communities and the functioning of social structures (Hirtenlehner & Farrall, 2013; Hough, 2002; Jackson, Farrall, Hough, & Bradford, 2008). The importance of crime as a social problem is mirrored in the great emphasis that is placed on people's reactions to the risk of crime at the political, scientific, and societal levels. A key concept that has been developed in criminology to describe such reactions is the *fear of crime* (Farrall, Jackson, & Gray, 2009; Hale, 1996).

Fear of crime is a criminological construct that refers to affective, behavioural and cognitive reactions to crime and victimization of oneself as well as 'significant others' (*ibid*). The criminological literature on the fear of crime revolves around the nature of the phenomenon, its prevalence, its explanatory factors and its consequences (Box, Hale, & Andrews, 1988; Hale, 1996; Vanderveen, 2006). The current thesis explores the fear of crime, and aims to expand the existing criminological research into a phenomenon that shapes individual and collective wellbeing as well as penal policy (Farrall et al., 2009; Hough, 2002; Jackson & Stafford, 2009).

The key research question that this thesis seeks to address is the following: *How do people transcend their 'crime-free' 'here and now' in order to be able to experience and express fear of crime reactions?* The starting premise is that one does not need to encounter crime directly in their immediate context in order to be able to experience and express reactions to the risk of crime. When people express such reactions, however, they should draw on processes that enable them to conceive the distal event of crime in some way. The current work explores cognitive processes that render this *transcending* of the 'here and now' plausible, and also looks at whether and how they shape fear of crime reactions.

The overall aim is to develop and examine *new research questions* in the criminological literature on the fear of crime by employing an *interdisciplinary theoretical perspective* and an *integrated methodological approach* to the phenomenon. The constituent parts of these three key objectives are described below.

#### 1.1.1 New research questions

The novelty of the overarching research question of the current thesis lies on the fact that it shifts the analytical focus from direct associations between the risk of crime and the fear of crime to cognitive processes that link the two. Rather than examining, for

instance, whether crime rates are related to the fear of crime, whether perceived incivilities are associated with the fear of crime, whether previous victimization experiences are related to the fear of crime, to name but a few of the most studied relationships in fear of crime research (*see* Baumer, 1978; Box et al., 1988; Hale, 1996; Taylor & Hale, 1986), it focuses on cognitive processes that might explain why fear of crime reactions and such phenomena are or are not related.

Put differently, the current thesis seeks to answer the ‘why’ and ‘how’ of these associations. This endeavour seeks to ‘soften’ the causal tone that characterizes sometimes the existing literature, without being backed up by relevant methodological approaches and research results. Instead of asking whether specific ‘predictors’ of the fear of crime and/or specific effects of the phenomenon are related to fear of crime reactions, the current thesis focuses more on underexplored or unexplored cognitive processes that help explain the links between explanatory parameters of the fear of crime, fear of crime consequences, and fear of crime reactions.

### **1.1.2 Interdisciplinary theoretical perspective**

The current thesis develops a theoretical approach to the processes of transcending the ‘crime-free’ ‘here and now’ that enable individuals to experience and express reactions to the distal event of crime; this is called: *construal-level approach* (Liberman, Trope, & Stephan, 2007; Liberman & Trope, 2008; Trope & Liberman, 2010) to the fear of crime. One of the key criticisms that have been raised in the criminological literature on fear of crime is that it has been under-theorized; this is considered to be the outcome of mixed, inconsistent and highly context-dependent empirical findings as well as the lack of powerful analytical frameworks (Box, Hale, & Andrews, 1988; Garofalo & Laub, 1978; Garofalo, 1981; Hale, 1996; Lupton & Tulloch, 1999). It is suggested here that the ‘under-theorization’ of the phenomenon might relate also to the fact that most of the existing criminological approaches to the fear of crime are data-driven rather than theory-driven.

One of the objectives of the current thesis is to contribute to the theorization of the fear of crime, by developing theory that is based on interdisciplinary insights. To achieve this, the construal-level theory of psychological distance (hereinafter CLT) is employed as the key theoretical framework of this thesis. The reason for employing this particular theory relates to the current overarching research question, i.e., what are the processes that render plausible the experience and expression of fear of crime in ‘crime-free’ contexts. The examination of processes that enable the transcending of the ‘here and now’ in order to react to distal events is the subject matter of the CLT (Liberman & Trope, 2008; Trope & Liberman, 2010).

The CLT suggests that people are capable of transcending their immediate context in order to experience and express reactions to distal events through two paths, namely psychological distance from/proximity to distal events and mental construal (high/abstract or low/concrete) of such events. The two processes are distinct but interrelated. They are distinct in that on the one hand, psychological distance, which comprises four dimensions, refers to *where* (spatial dimension), *when* (temporal

dimension), *to whom* (social dimension), *and whether* ('hypotheticality' dimension) a distal event is psychologically experienced to occur. On the other hand, mental construal, which comprises two levels, refers to how distal events are perceived to be in terms of *abstractness* (high-level construal) or *concreteness* (low-level construal). The two cognitive processes, however, are symmetrically related in that psychologically experiencing a distal event as distant is related to mentally representing it abstractly, and vice versa; whereas psychologically experiencing a distal event as proximal is related to mentally representing it concretely, and vice versa (Liberman & Förster, 2009; Trope, Liberman, & Wakslak, 2007; Trope & Liberman, 2010).

Applying the CLT to fear of crime, the theoretical perspective that is developed in the current thesis is based on the following reasoning: For most people, most of the time and in most contexts, at least in the western world, crime is a distal event, i.e., not directly experienced through personal victimization. What enables them then to experience and express reactions towards a risk, namely crime, that is likely to be absent from their immediate context? What are the cognitive shortcuts that people use to transcend their *crime-free* 'here and now' in order to experience and express fear of crime reactions? Drawing on the CLT, the impact of two means of transcending the 'here and now' on fear of crime is explored, namely psychological distance from/proximity to crime and crime construal.

The former refers to *where* (spatial dimension), *when* (temporal dimension), *to whom* (social dimension), *and whether* ('hypotheticality' dimension) crime is psychologically experienced to occur. The direct link between psychological distance and fear of crime that is assumed is that psychologically experiencing the crime-risk as proximal (vs. distant), i.e., as a risk that is likely to occur nearby, soon and to oneself, is related on average to higher levels of fear of crime. The latter refers to whether crime is mentally represented abstractly and generically or concretely and vividly. The direct link between crime construal and fear of crime that is assumed is that mentally representing crime concretely (vs. abstractly) is related on average to higher levels of fear of crime.

These are the key theoretical premises of the current thesis that are further developed in the four pieces of its empirical work. In general, the CLT approach to the fear of crime that this thesis develops is used on the one hand, to explore associations that have already been studied in the criminological literature on the fear of crime through new theoretical lens; on the other hand, the CLT approach to the fear of crime is used to examine novel associations between explanatory parameters of the fear of crime, fear of crime consequences and fear of crime reactions.

### **1.1.3 Integrated methodological approach**

From a methodological point of view, the dominant perspective in fear of crime research is the survey, i.e., the quantitative exploration of the prevalence of the phenomenon, the factors that explain its variation, and, to a lesser extent, its consequences (Farrall; Bannister; Ditton; Gilchrist, 1997). Qualitative research is not completely absent in fear of crime literature, aiming mostly to overcome the limitations

of quantitative research by exploring the lived experiences of fear of crime in depth, but it is less frequently employed (Ferraro & LaGrange, 1987; Loo, 2008; Farrall; Bannister; Ditton; Gilchrist, 1997). It has been suggested that the ‘dominance’ of quantitative research relates to the origins of the public discourse of fear of crime and its ‘genesis’ as a social phenomenon, political issue and criminological subject (Lee, 2001; Lee, 2008; Loo, 2008). These historical parameters are described in detail in the second chapter of the current thesis. The general idea, however, is that fear of crime as a topic of public and criminological inquiry was born through surveys that explored attitudes to crime and justice (McIntyre, 1967), and this feature has set at large the agenda of both the topics explored, and the methodology used in the empirical work on the fear of crime.

In recent years, a great deal of criminological work has been conducted on the methodological limitations of fear of crime research. This research has focuses, among others, on the nature of the phenomenon (Farrall, 2004; Hough, 2004; Jackson, Gray, & Farrall, 2009). One example is research that has shown differential reported levels of fear of crime depending on the survey questions that are used to measure the phenomenon. This has led to the argument that fear of crime might be an artifact of the survey items that are used to measure it rather than a *real* social phenomenon (Farrall, 2004; Farrall; Bannister; Ditton; Gilchrist, 1997). The critical approaches to the measurement of the fear of crime have contributed immensely to the improvement of the survey items that are used to explore it empirically, and the analytical strategies that are employed (Farrall et al., 2009; Farrall & Gadd, 2004; Gray, Jackson, & Farrall, 2008, 2011). The survey, however, remains at large the most widely used methodology in fear of crime research.

It is argued here that the methodological ‘dominance’ of the survey in fear of crime research does not relate only to the origins of the public and the criminological discourse on fear of crime (Lee, 2001; Loo, 2008), but also to its dominant conceptualizations in the criminological literature. If fear of crime is framed as a public attitude to crime and the risk of victimization, and the research objective is to look at its prevalence and the factors that explain its variation, then quantitative research is a reasonable methodological choice. If fear of crime is, instead, framed as an experience that is embedded in the daily life of people in certain contexts, and the objective is to unravel the meaning that is attributed to it by those who have such experiences, then qualitative methodological research seems a more reasonable methodological choice. Put differently, it is suggested here that the ‘best’ methodological approach to the fear of crime is one that provides the ‘best’ possible answers to the research questions that a piece of research asks (*see* Bryman, 1984; Neuman, 2005).

Fear of crime is conceptualized in the current thesis as public attitudes to crime and the risk of victimization, and thus a quantitative methodological perspective is considered to be the ‘best’ possible way to address the key research questions. The methodological objective, however, is to enhance quantitative research into fear of crime by developing an integrated perspective; this involves the analysis of not only *observational* data, but also *experimental* data. The novelty of the integrated methodological approach to the fear of crime that the current thesis develops relates to

the fact that experiments have been used rarely in fear of crime research (but see Sutton, 2004; Sutton, Robinson, & Farrall, 2011). The limited use of experimental research into fear of crime relates partly to the research questions that are asked in criminological studies, and the fact that they are not often amenable to this type of empirical exploration. In the current doctoral research, conducting experimental studies is rendered plausible via its guiding theoretical framework, and the research hypotheses that are derived from it, which are amenable to experimental manipulation.

Therefore, the benefits of adopting a CLT approach to the fear of crime are not only theoretical, i.e., the improvement of the theorization of the fear of crime by developing an interdisciplinary perspective. There are also methodological benefits in that a CLT approach to the fear of crime expands the scope of the quantitative exploration of the phenomenon by rendering feasible the formulation of research questions that can be empirically tested via experimental methodologies. In the first and second empirical papers of the current doctoral research, observational data from a large-scale survey (Hough & Sato, 2011) are used to explore ‘classic’ associations of the fear of crime literature, partly through the new lens of the CLT. In the third and fourth empirical papers, experimental data from two online experiments are analyzed, exploring more directly CLT-driven relationships that are tested for the first time in fear of crime research.

## 1.2 Methodology

The methodological features of the current thesis are determined by its key objectives, namely, the application of the CLT in the criminological study of the fear of crime, and the exploration of its research hypotheses through integrated methodologies. Regarding the former, this work draws on a theory-testing perspective as opposed to a theory-building perspective (Colquitt & Zapata-Phelan, 2007; Eisenhardt & Graebner, 2007). Theory building is often the dominant practice in criminological research into fear of crime, where relationships and constructs are tested in order to develop new theoretical frameworks (Baumer, 1978; Box et al., 1988; Hale, 1996; Vanderveen, 2006). This process is discussed in the second chapter of this document, where a thorough description of the most important theoretical approaches to the fear of crime is provided.

An alternative approach to the theorization of the fear of crime is proposed here, namely a theory testing perspective (Colquitt & Zapata-Phelan, 2007). This captures the “degree to which an existing theory is applied in an empirical study as a means of grounding a specific set of *a priori* hypotheses” (*ibid.*, p. 1284). The process is thus deductive in that an extant theory is used to formulate general hypotheses, which are then empirically tested to explore the applicability of a theory in a field of research, the relationships described in the hypotheses, and, based on the findings, to assess the theory (Colquitt & Zapata-Phelan). Applied in the current context, the key theoretical objective, as suggested above, is to use the CLT to develop research hypotheses that inform the empirical studies of the current thesis (although to different degrees<sup>1</sup>). This

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<sup>1</sup> It is worth mentioning that rather than stemming directly from a CLT approach to the fear of crime, the first empirical paper of the current thesis has a more exploratory character, testing associations that are

involves exploring existing associations in the criminological literature on fear of crime through new lens as well as examining new associations. In both cases, theoretical models are tested that look at relationships between concepts and social phenomena, represented via logically interconnected arguments, in order to unravel the underlying mechanisms that explain them (*ibid.*). The overall aim is to contribute to the theorization of the fear of crime by using an interdisciplinary analytical framework to test hypotheses that explore its nature, its explanatory parameters, and its consequences.

The novelty of the methodology of the current thesis does not relate only to its theory testing (as opposed to theory building) perspective. It also relates to the theoretical framework that is employed for the current purposes, i.e., the construal-level theory of psychological distance (CLT). The CLT (Trope & Liberman, 2010) is tested for the first time in fear of crime research, and the reasons for choosing this particular theory in order to enrich the theorization of the fear of crime are described in detail below. An overview of the CLT is presented first, followed by a discussion on the key premises of the CLT approach to the fear of crime that this thesis develops.

### **1.2.1 The Construal-level theory of psychological distance (CLT)**

The CLT is a social-psychological theory that was developed in the late 1990s by the New York University based psychologist Yaacov Trope and his colleagues to explore how people mentally transcend the ‘here and now’ (Liberman & Trope, 2008; Trope & Liberman, 2010). The interest in this process stems from the ability of individuals to go beyond ‘myopic’ concerns and immediate contexts, to see themselves in different socio-cultural settings, in the past or in the future, through others’ eyes, and in hypothetical situations, and to experience and express reactions to distal objects or events. The determining factor of what constitutes a distal object or event, i.e., the reference point, is oneself in the ‘here and now’. The CLT explores the ‘mechanisms<sup>2</sup>’ that render the process of transcending the ‘here and now’ plausible, namely *psychological distance* and *mental construal* (Liberman et al., 2007).

In the words of Trope and Liberman (2010: 442): ‘Psychological distance refers to the perception of *when* a distal event occurs, *where* it occurs, to *whom* it occurs, and *whether* it occurs.’ The four ‘Ws’ represent the dimensions of psychological distance, i.e., temporal, spatial, social and hypothetical. The idea is that people are capable of experiencing and expressing reactions to objects or events that happen somewhere else (compared to one’s here), in the past or in the future (compared to one’s now), to different people than one’s own self (compared to oneself or similar others), and are hypothetical (rather than real), (Liberman et al., 2007). People’s reactions to distal events are partly related to how far from oneself in the ‘here and now’ are such distal events psychologically experienced to be.

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used to inform the three other empirical papers, which test the CLT approach to the fear of crime more directly.

<sup>2</sup> This is the wording of the CLT. When it comes to its application in fear of crime research, however, the use of ‘cognitive processes’ is considered to be more appropriate. This is because psychological distance and crime construal are considered to be features of particular forms of cognitive processes, over which the individual exercises no agency.

The second process of transcending the ‘here and now’ is mental construal, which refers to *what* the distal object or event is perceived to be in terms of abstractness of concreteness. Mental construal of distal entities is thus of two-levels, either high-level or low-level (Trope et al., 2007). High-level mental construal is an abstract and generic mental representation of distal objects or events, comprising their primary, decontextualized and schematic features that are core to their content, and thus relatively stable over time and in different contexts. Low-level mental construal is a concrete and detailed mental representation of distal objects or events, comprising their secondary, context-bound and incidental features that are peripheral to their content, and thus relatively unstable over time and in different contexts or more dynamic (Trope & Liberman, 2010). People’s reactions to distal events are partly related to whether they are mentally represented abstractly or concretely (*ibid.*).

According to the CLT, the two processes of transcending the ‘here and now’ are distinct, as evident in their different content, but interrelated through bidirectional associations (Liberman et al., 2007). Psychologically experiencing a distal event as distant in time, space, social distance, and reality in relation to oneself in the ‘here and now’ is related to mentally representing the event abstractly, focusing on its ‘forest’ or its generic features, and vice versa. On the contrary, psychologically experiencing a distal event as proximal in time, space, social distance, and reality in relation to oneself in the ‘here and now’ is related to mentally representing the event concretely, focusing on its ‘trees’ or its contextual features, and vice versa. These patterns of transcending the ‘here and now’, the CLT suggests, determine in turn individual reactions to distal events (Trope & Liberman, 2010).

The key CLT premises can be summarized as follows (*ibid.*):

- i. People’s reactions to the external world are egocentric, i.e., their reference point is oneself in the ‘here and now’;
- ii. People are capable of experiencing and expressing reactions to objects or events that are not present in their immediate context via transcending their ‘here and now’;
- iii. People are able to transcend the ‘here and now’ via their psychological distance from distal events and mental construal;
- iv. Psychological distance comprises four dimensions, which refer to *when*, *where*, to *whom*, and *whether* a distal event is psychologically experienced to occur;
- v. Mental construal refers to *what* the distal event is, and can be either high-level when the mental representation of the distal event focuses on its abstract and schematic features or low-level when the mental representation of the distal event focuses on its concrete and detailed features;
- vi. Psychological distance from a distal event is related to high-level mental construal of it, and vice versa; psychological proximity to a distal event is related to low-level mental construal of it, and vice versa.

The CLT premises have been tested empirically in numerous studies and in

different fields, from cognitive and social psychology (Bar-Anan, Liberman, & Trope, 2006; Liberman & Förster, 2009; Trope et al., 2007) to research into climate change (Spence, Poortinga, & Pidgeon, 2012) and consumer behavior (Williams, Stein, & Galguera, 2014), and in relation to a range of different phenomena, such as visual or verbal stimuli, conceptual abstractions, affect, action identification, prediction, ideology, self-control, and negotiation (Beer et al., 2004; Förster, Özelsel, & Epstude, 2010; Freitas, Gollwitzer, & Trope, 2004; Fujita, Trope, Liberman, & Levin-Sagi, 2006; Henderson, Trope, & Carnevale, 2006; Henderson & Trope, 2009). A few examples of this body of work are presented here in order to provide an overview of the procedures that are used to empirically evaluate CLT hypotheses.

In an experimental study that examined associations between psychological distance, mental construal and prediction (Henderson et al., 2006), New York University students were presented with six graphs that provided information about events that occurred at New York University from 1999 to 2004. The experimental conditions manipulated the spatial dimension of psychological distance, describing the events as occurring either at “the NYU campus in Manhattan” (spatial proximity condition), or at “the NYU campus in Florence, Italy” (spatial distance condition). To manipulate mental construal, half of the graphs depicted an upward trend of cases for 1999–2003, and the other half depicted a downward trend of cases for 1999–2003, while in both cases the final year deviated from the global trend (i.e., downward in the former case, and upward in the latter case). The idea was that the global trend in the graphs constitutes high-level representation in that it shows ‘the big picture’, whereas the deviations from the global trend constitute low-level representation in that they diverge from the ‘big picture’.

Participants were asked to assess the likelihood that cases for 2005 would go up or down from the previous year, using a 6-point scale (1=very unlikely - 6=very likely). As assumed, participants’ assessments relied more on high-level representations, i.e., the global information (vs. deviations), when the predictions were about the spatially distant location (NYU campus in Florence, Italy). Conversely, participants tended to rely more on low-level representations, i.e., the deviations from the upward or downward trend (vs. global information), when the predictions were about the spatially proximal location (NYU campus in Manhattan).

In a study that focused on the social dimension of psychological distance, Liviatan, Trope, & Liberman (2008) instructed their sample of students to read about a target person who had attended classes that were either similar to those attended by them (social proximity condition) or different from those that they attended (social distance condition). Participants were then asked to imagine the hypothetical student engaging in various activities, and choose in each case one of two provided descriptions that best described the activity in question. One of the descriptions always focused on the *means* of the activity, which according to CLT represents low-level construal; the other description always focused on the *goal* of the activity, which according to CLT represents high-level construal. The idea of perceiving *goals* as high-level construal and *means* as low-level construal is justified on the grounds that the former are more generic and relatively stable features of situations, whereas the latter depends more on

the context, and is thus a more peripheral and dynamic feature of situations.

As assumed, participants were more likely to choose goals-focused descriptions, i.e., high-level representations of the activities in question, when they were socially distant from the hypothetical student, i.e., when they thought to have attended different classes from him/her. On the contrary, participants were more likely to choose means-focused descriptions, i.e., low-level representations of the activities in question, when they were socially proximal to the hypothetical student, i.e., when they were told that they have attended similar classes to him/her.

A final example of a research area that CLT assumptions have been tested in, and is relevant to the current purposes, pertains to prediction. In a study that explored associations between dispositions and predictions, Nussbaum, Trope, and Liberman (2006) suggested that dispositions constitute high-level construal in that they are superordinate personality characteristics as opposed to situational characteristics. They thus assumed that people would predict that others and/or themselves handle situations based on their personal dispositions (as opposed to contextual characteristics or personality states) when the situation in question is psychologically experienced as distant (rather than proximal).

They instructed their research participants to imagine a friend's behavior in four different situations (e.g., birthday party, queuing at the supermarket) in either the near future (psychological proximity condition) or in the distant future (psychological distance condition), and then to rate the extent to which the friend would display 15 traits (e.g., friendly vs. unfriendly behaviour), which represented the Big Five personality traits, namely extraversion, agreeableness, conscientiousness, emotional stability, and intellect. As hypothesized, their participants were more likely to predict that others will behave consistently to their dispositions across situations that were described as occurring in the distant future as opposed to situations that were described as occurring in the near-future.

### **1.2.2 CLT and fear of crime**

Taking a theory testing approach to the theorization of the fear of crime, this thesis employs the CLT as its theoretical framework in order to explore explanatory factors and consequences of the fear of crime, aiming to enhance the understanding of the phenomenon and expand the scope of existing literature. The CLT is considered to be a useful means to these ends in that it helps theorize and explore cognitive processes that render feasible the experience and expression of fear of crime reactions in 'crime-free' contexts. This is important considering that frequent and direct experiences of crime, i.e., through personal victimization, are relatively rare for most people, most of the time.

A CLT approach to the fear of crime expands the scope of its extant theorization, by examining how psycho-social processes might explain the 'why' and 'how' of links between explanatory parameters of the fear of crime, consequences of the fear of crime, and fear of crime reactions. Moreover, it softens the 'causal' perspective on the associations between fear of crime 'determinants' and consequences and fear of crime

reactions that is often implicitly suggested in existing literature, and which is not empirically backed up in most studies due to the observational nature of the data (Box et al., 1988; Farrall et al., 1997). This is achieved by developing theoretical arguments that explain such associations through the two CLT processes of transcending the ‘here and now’, namely psychological distance from crime and crime construal (Trope & Liberman, 2010). Put differently, using these processes, the aim is to explore *how* particular explanatory factors of the fear of crime, according to criminological literature, are associated with fear of crime reactions and *how* particular fear of crime consequences, according to criminological literature, are associated with fear of crime reactions.

How does a CLT approach to the theorization of the fear of crime enhance our understanding of the phenomenon? Take the example of gender differences in fear of crime (Cops & Pleysier, 2010; Goodey, 1997; Killias, 1990; Stanko, 1993; Sutton & Farrall, 2004; Sutton, et al., 2011). The key hypothesis in criminological research is some variant of the following: gender helps explain variation in fear of crime reactions; gender is a good ‘predictor’ of fear of crime; gender is associated with fear of crime; knowing someone’s gender can help predict their fear of crime levels.

A CLT approach to the fear of crime develops such hypotheses by using different parameters to explain the associations of interest. For example, a CLT hypothesis in relation to gender differences in fear of crime would suggest that people of a particular gender are more likely to experience crime as psychologically proximal (vs. distant), and are more likely to mentally represent crime concretely (vs. abstractly), which in turn increase on average fear of crime. A CLT approach to the topic thus theorizes in advance the cognitive processes that might help explain the association between gender and fear of crime rather than testing such associations and coming up with speculative evaluations of why and how the two variables are linked to each other or not.

Another important element that CLT adds to the study of the fear of crime is the consideration of the *reference point* in the associations that are tested. In existing criminological literature, the object of fear of crime is theorized either through literal or metaphorical lens. In other words, the ‘crime’ part of the fear of crime is operationalized through either *actual* or *perceived crime* (Hale, 1996; Lupton & Tulloch, 1999; Vanderveen, 2006). In the first case, the idea is that crime rates, victimization experiences, objective vulnerability, objective signs of crime in the environment are related to fear of crime reactions (Garofalo, 1979; Killias, 1990; Lewis & Maxfield, 1980; Pantazis, 2000; Sampson & Raudenbush, 1999; Skogan & Maxfield, 1981). In the second case, the idea is that perceived vulnerability, perceived signs of the criminal threat and perceived social decay are related to fear of crime (Hummelsheim, Hirtenlehner, Jackson, & Oberwittler, 2011; Kanan & Pruitt, 2002; Martin Killias & Clerici, 2000; LaGrange, Ferraro, & Supancic, 1992; Shippee, 2013; Villarreal & Silva, 2006).

These issues are discussed thoroughly in the second chapter of the current thesis, which provides an overview of the criminological literature on fear of crime, including its theorization. However, to make a case for the importance of the reference point here,

it is suggested that the lack of powerful theoretical frameworks in fear of crime literature relates to the framing of the existing research results. Take again the example of gender differences in fear of crime. The dominant framing in the criminological literature is that the observed differences are ‘paradoxical’ in that women are found to report higher levels of fear of crime on average compared to men, despite the fact that they are less likely to fall victim of crime, according to crime statistics and victimization studies (Ferraro, 1996; Gordon & Riger, 1989; Lupton & Tulloch, 1999; Warr, 1984, 1985). If one takes into account, however, the reference point of the association in question, the ‘paradox’ of this finding vanishes.

A CLT framing of the same result would suggest, for instance, that the reference point when one expresses reactions to the distal event of crime is their self in the ‘here and now’; if the crime-risk is considered to be psychologically proximal (vs. distant) to the reference point and/or is mentally represented through concrete (vs. abstract) lens, regardless of whether one has fallen victim of crime or not, the reported levels of fear of crime would be expected to be high. It follows that women might be more likely to report higher levels of fear of crime compared to men, even if they are not victimized more frequently, because women might be more likely to psychologically experience crime as closer to themselves in their ‘crime-free’ daily lives and to mentally represent crime through more detailed and vivid images, i.e., low-level construal, compared to men.

Overall, the aim here is to develop a theory-driven approach to the fear of crime by employing CLT as the key theoretical framework in two ways. First, by looking at associations that have been tested before in criminological research into fear of crime through CLT lens. This is the case in the first and second empirical papers of the current thesis, where the former takes a more exploratory perspective on the topic and the latter explores the CLT approach to the fear of crime directly. One of the incentives is to explore how new framings of previous literature can expand its scope, and whether new explanations of previously studied associations can be developed by employing novel theoretical perspectives.

For example, in the first empirical paper of the current work, the focus is on associations between previous victimization, risk perception, and worry about victimization. The question is whether victimization experiences of varying psychological distances, i.e., experiences of the research participants vs. experiences of people they know, are associated with risk perception and worry about victimization. In the second empirical paper, I aim to explain differences in the magnitude of associations between fear of crime ‘determinants’ and elements of the affective component of fear of crime, taking into account the psychological distance and mental construal that they involve.

Second, by introducing the processes of transcending the ‘here and now’ to the theorization of the fear of crime, the current work develops approaches to explanatory factors of the phenomenon and its consequences that are tested for the first time in criminological literature. For example, in the third empirical paper of the current thesis, I look at whether focusing on the causes (vs. consequences) of hypothetical crime events ‘cools off’ worry about victimization, and whether the association is different at

different levels of psychological distance from crime. These hypotheses draw on CLT research, which suggests that focusing on *causes* of distal events constitutes high-level construal, while focusing on *consequences* of distal event constitutes low-level construal (Rim, Hansen, & Trope, 2013; Trope et al., 2007). This is because consequences depend on causes but causes do not depend on consequences. (Rim et al., 2013).

Building on these results, the fourth empirical paper explores first, the impact of different levels of crime information processing on worry about victimization. The second objective, which is also novel in criminological literature, pertains to the exploration of associations between crime information processing, worry about victimization, and social categorization biases (Hogg, 2000, 2009; Hong et al., 2004), namely in-group identification, out-group derogation, and racist attitudes.

In each of these empirical papers, their specific research hypotheses are presented in detail. However, an overview is provided here of the key hypotheses of the CLT approach to the fear of crime that motivate the empirical component of the current thesis:

**Table 1: General research hypotheses of the CLT approach to the fear of crime**

<b><i>Hypothesis I</i></b>	Experiencing and expressing fear of crime reactions in ‘crime-free’ contexts, i.e., when crime threats are not present in one’s ‘here and now’, is enabled by cognitive processes that transcend the ‘here and now’, namely psychological distance from crime and crime construal.
<b><i>Hypothesis II</i></b>	Psychological distance from crime refers to <i>where, when, to whom and whether</i> the crime-risk is psychologically experienced to occur, and the closer the psychological proximity to the crime-risk, the higher the levels of reported fear of crime reactions.
<b><i>Hypothesis III</i></b>	Crime construal refers to whether crime is mentally represented abstractly or concretely; and the more abstract the mental representation of crime, the lower the levels of reported fear of crime reactions.

As mentioned above, more specific hypotheses regarding the impact of psychological distance and mental construal on associations between fear of crime reactions, explanatory parameters of the fear of crime and fear of crime consequences are presented separately in each of the empirical papers of this thesis.

### 1.2.3 Integrated analytical approach

The second major objective of the current thesis is to explore its general research question and its specific research hypotheses through an integrated analytical strategy. Based on the conceptualization of the fear of crime that is utilized here, i.e., public reactions to crime and the risk of victimization, the most appropriate methodological approach pertains to quantitative research. This also relates to the way in which theory is used in the current context. A theory testing (vs. theory building) approach is adopted, which is a deductive process of testing *a priori* stated hypotheses in order to assess the explanatory power of a specific theory in relation to a topic (Colquitt & Zapata-Phelan, 2007; Eisenhardt & Graebner, 2007). Here the CTL is used to formulate research hypotheses that describe associations between fear of crime reactions and explanatory factors as well as consequences of the phenomenon, and cognitive processes that help explain such associations, namely psychological distance and mental construal. Quantitative methods are then employed to test specific research hypotheses, which stem from the *CTL approach to the fear of crime*.

The most widely used methodology in fear of crime research is the survey for both historical and conceptual reasons (Lee, 2001; Farrall et al., 1997), with its key features in the empirical exploration of the fear of crime being the following. Fear of crime surveys are either large-scale, carried out at the national or international levels, or meso-scale, carried out at the local level (Covington & Taylor, 1991; Ferraro & LaGrange, 1987; Girling, Loader, & Sparks, 2000; Hough, 2003; Jansson, 2007; van Dijk, van Kesteren, & Smit, 2007; Warr, 2000). The data, however, are most often than not individual level, which is one of the reasons that in most studies the overall explanatory power of the statistical models is rather weak.

When higher levels of analysis, such as neighborhood or country levels, are taken into account at the analysis stage, the main models used are fixed-effect models, which assume that the effect of interest is the same across the board (Clarke, Crawford, Steele, & Vignoles, 2013; Snijders, 2005); random-effects models, which assume that the true effect of interest varies in different contexts (e.g., neighborhoods, countries), and thus the goal is to estimate the mean of a distribution of effects (*ibid.*), have not been used widely in criminological research into the fear of crime (Brunton-Smith & Jackson, 2012; Brunton-Smith & Sturgis, 2011; Covington & Taylor, 1991; Sampson & Raudenbush, 1999). This changes slowly but surely in recent years, especially in studies that explore community-related factors to explain variation in the fear of crime (*ibid.*).

Another important improvement in the analysis of fear of crime data in recent years is the use of structural equation modeling (hereinafter SEM), (*see for example* Hirtenlehner & Farrall, 2013; Jackson, 2011; Jackson, 2013). Structural equation models constitute statistical procedures that are employed to test measurement, functional, predictive and causal hypotheses (Bagozzi & Yi, 2012; Bartholomew, Steele, Galbraith, & Moustaki, 2008; Maccallum & Austin, 2000; Suhr, 2006). What motivates the use of SEM instead of other statistical procedures, such as multiple regression and ANOVA, is the idea that some concepts that are used in theories and

research hypotheses are ‘ideal types’ or abstractions that cannot be measured directly. Their measurement is, however, rendered plausible through manifest or observed variables, which are variables that can be measured directly (Bagozzi & Yi, 2012). SEM links latent concepts to observable variables in a network of theoretical associations, after removing components of randomness, if any.

This feature of SEM is one of its advantages over other types of multivariate analysis in that it allows to estimate the magnitude of the sources of error, since in SEM different types of error (e.g., measurement and random error) can be modeled and estimated explicitly (*ibid.*). Other benefits of SEM include provision of methods to assess construct validity and dimensionality of latent constructs, such as confirmatory factor analysis, in more sophisticated ways than correlational analyses (e.g., Cronbach’s alpha) as well as more straightforward tests of indirect associations that involve both latent variables and observed variables, such as mediation analysis (Bagozzi & Yi, 2012; Suhr, 2006).

The aforementioned analytical improvements in the empirical exploration of the fear of crime in recent years take place within the boundaries of the survey as the dominant methodological ‘paradigm’. From a substantive point of view, this is reasonable in that the associations that are typically tested in fear of crime studies, such as between previous victimization, signs of incivilities, social cohesion, vulnerability and fear of crime reactions (*see inter alia* Hale, 1996) are not amenable to other types of quantitative research. The current thesis suggests that by employing alternative theoretical approaches to the factors that explain variation in the fear of crime and to the consequences of the phenomenon, different methodological strategies are rendered plausible.

Developing a CLT approach to the fear of crime, the two key objectives of the current doctoral research, as has been mentioned already, are to explore ‘classic’ associations in the criminological literature in the fear of crime through new theoretical lens, and to examine associations that are tested for the first time in fear of crime research. The incentive is to expand the scope of existing interpretations of fear of crime research results, using interdisciplinary insights.

Empirically, the first objective is accomplished by analyzing secondary data from an observational, large-scale survey that was conducted in three European countries in 2010 (Hough & Sato, 2011). These data are analyzed in the empirical papers 1 and 2 of the current thesis. The analytical strategy that is employed in both cases is structural equation modeling. This is because the hypotheses tested are derived from models of networks of associations that are examined simultaneously, and also because the associations explored involve both latent variables and observed variables. The second empirical objective is accomplished by analyzing primary, experimental data that were collected through online experiments, conducted on Amazon Mechanical Turk (Buhrmester, Kwang, & Gosling, 2011) between 2014 and 2015. The analysis of these data is included in the third and fourth empirical papers of the current thesis.

The novelty thus of the current empirical work does not pertain only to the exploration of new research hypotheses in fear of crime research, but also to the use of experimental methodologies, along with analysis of observational data, to test the

associations of interest. This is rendered plausible, as mentioned above, through the use of the CLT approach to the fear of crime.

To sum up, the integrated methodological approach to the fear of crime that the current thesis employs, comprises both observational and experimental studies that explore different components of the fear of crime, and their associations with fear of crime ‘predictors’ and fear of crime consequences. Drawing on interdisciplinary insights to develop alternative *theoretical* approaches to the fear of crime, alternative *methodologies* for its empirical exploration are also rendered plausible. In the remaining sections of this introduction, concrete contributions as well as specific limitations of the theoretical and methodological features of the thesis are discussed.

### 1.3 Contribution

This section discusses the contribution of the current thesis to criminological literature on the fear of crime. The presentation of the key points is focused on four areas, namely the research question(s), the theoretical perspective, the methodological strategy, and the policy implications of the current work. Starting with the core research question that motivates this research, it is argued that it expands the scope of the ‘typical’ questions asked in fear of crime literature. Typical such questions, as discussed in detail in the second chapter of this document, concern the nature of the fear of crime, the factors that explain variation in fear of crime reactions and the impact of such reactions (Box et al., 1988; Ferraro & LaGrange, 1987; Garofalo, 1981b; Hale, 1996; Vanderveen, 2006). While this thesis draws on criminological research, it expands its scope by adding new variables to the research questions and hypotheses that are derived from interdisciplinary hypotheses.

The new variables that are used in the current work aim on the one hand, to explore cognitive processes that are directly related to fear of crime reactions, and on the other hand, that explain frequently studied associations in the criminological literature between fear of crime explanatory factors and consequences and fear of crime reactions. The new variables lead to the formulation of research questions that are tested for the first time in criminological literature, with the overarching one being: *How do people transcend their ‘crime-free’ ‘here and now’ in order to be able to experience and express fear of crime reactions?*

Extant research questions seem to take for granted people’s ability to express reactions to the crime-risk in that they do not question the cognitive processes that render this feasible. The current doctoral research seeks to explore such processes, to unravel whether and how they are related to different fear of crime components, and to look at their usefulness in explaining already studied relationships in the literature as well as associations that are looked at for the first time.

Closely related to the contribution of this thesis to the research questions that are typically asked and explored in criminological research into fear of crime is its theoretical contribution. The existing theorizations of the fear of crime rely at large on a theory building perspective as opposed to a theory testing perspective (Colquitt & Zapata-Phelan, 2007). The current thesis, however, adopts the latter (*ibid.*) by

employing the construal level theory of psychological distance (CLT) as its key theoretical framework. This theoretical choice was made on the basis of the key CLT premises, i.e., that people are capable of transcending the 'here and now' in order to experience and express reactions to distal events via two cognitive processes, psychological distance and mental construal (Trope et al., 2007).

When it comes to the fear of crime, it can be argued that as people do not often encounter crime directly in their daily lives, they are unable to rely on readily available stimuli when they express fear of crime reactions. In other words, crime is often a distal event from oneself in the 'here and now'. However, people are capable of reporting reactions to the distal event of crime, and a CLT approach to the phenomenon suggests that this is plausible by transcending the 'crime-free' 'here and now'. The cognitive processes that enable the transcending of the 'here and now' are psychological distance from the crime-risk and type of mental representation of crime.

As regards the consequences of the fear of crime, the key features of existing criminological literature are as follows. First, this area has been less developed compared with work on the nature of fear of crime and its explanatory factors; second, it focuses on the impact of fear of crime at the individual level (Garofalo, 1981; Hale, 1996). The phenomena that have been put forward in criminological research as fear of crime consequences pertain, in general, to individual wellbeing, including avoidance behaviours and protective measures that alter routine activities, and thus damage quality of life, and lack of trust in law enforcement that is related to higher demand for punitive penal policies (Cheliotis & Xenakis, 2011; Garofalo, 1981; Hough, 2002; Jackson & Stafford, 2009; Liska et al., 1988).

The empirical findings are mixed in this area (Garofalo, 1981; Liska et al., 1988). For example, a limitation that is often pointed out is that testing such associations using cross-sectional, and not, for instance, longitudinal studies, renders claims about the directionality of the relationships ambivalent (Allen Liska et al., 1988; Stafford, Chandola, & Marmot, 2007). It might be, for example, that constraining daily activities increases on average levels of fear of crime, and not the other way round, as it is often hypothesized in criminological research.

The contribution of the current thesis to the theorization of the consequences of the fear of crime pertains to its focus on the impact of the phenomenon on collective wellbeing (Lee & Kim, 2015; Suh & Sung, 2009). Drawing on psychological work on the impact of affective evaluations of risk on social interaction through processes of social categorization (Hogg, 2000, 2009; Yzerbyt, Dumont, Wigboldus, & Gordijn, 2003; Zhong, Phillips, Leonardelli, & Galinsky, 2008), this thesis looks at associations that are tested for the first time in criminological research, involving the affective component of the fear of crime and social categorization biases, namely in-group identification, out-group derogation and racist attitudes (Hogg, 2000).

Overall, the current work expands the scope of the theorization of both the explanatory parameters and the consequences of the fear of crime, drawing on interdisciplinary insights that help develop psycho-social theoretical perspectives and novel research questions in the criminological study of the phenomenon. The details of the application of such interdisciplinary insights in the criminological study of the fear

of crime are discussed in detail in the empirical papers of this thesis. The overall point to be raised here is that the theoretical contribution of this work to the fear of crime literature is twofold. On the one hand, it relies on a theory testing approach that helps enhance the theorization of the fear of crime. On the other hand, it develops an interdisciplinary perspective to the theorization of the fear of crime by utilizing theories that have not been tested before in criminological research.

Turning to the methodological contribution of this thesis, the main point to be raised relates to its integrated nature in that the analytical strategies that are adopted in its empirical papers combine observational and experimental research. Observational studies of fear of crime, with the main method used being the survey, have dominated the field, as already mentioned. The political and criminological interest in fear of crime increased in a context where politicians wanted to know more about what people think, feel and do about several social phenomena in order to develop evidence-based policies (Loo, 2008; McIntyre, 1967). This requires the exploration of attitudes of large, representative samples of the population, and the survey provides a rigorous methodological tool to obtain such information.

The interest in fear of crime was born in this context, and so the dominance of the survey methodology in this area is not surprising. In the course of more than a century of criminological research into fear of crime, other methodological approaches have also been developed, such as community-level quantitative studies as well as qualitative research that aims to explore the lived experience of fear of crime in people's daily lives and local contexts (Girling, Loader, & Sparks, 2000; Hollway, & Jefferson, 2000; Sparks, Girling, & Loader, 2001). Mixed methods designs have also been employed in recent studies, introducing the idea of methodological triangulation in fear of crime research, i.e., the process of combining multiple methods in one study in order to overcome the weaknesses and intrinsic biases of single methods (Farrall et al., 1997). Overall, however, these advances have not changed significantly the widespread use of observational studies in fear of crime research.

The dominance of the survey in fear of crime research is considered to be the outcome of not only historical reasons, but also analytical reasons. For example, if fear of crime is conceptualized as affective attitudes to the crime-risk and the research objective is to find out what explains variation in such attitudes, then the survey is an appropriate methodological tool. On the contrary, a conceptual approach to the fear of crime that would highlight the ways in which it is embedded in particular contexts and experienced by individuals or communities in their daily lives would require more qualitative approaches to the empirical examination of the phenomenon.

The conceptualization of the fear of crime that is used in the empirical work of this doctoral research draws on the dominant 'paradigm'. Fear of crime is defined as public attitudes to crime and the risk of victimization, and the focus is mostly on affective and cognitive such attitudes. Therefore, the overall methodological perspective of this work is quantitative. Contrary, however, to employing only a survey methodology, the current thesis takes an integrated perspective, by combining survey and experimental methodologies. This is rendered feasible by using the CLT as the key

theoretical framework, which enables the formulation of research questions that are amenable to both types of research.

In sum, the substantive, theoretical, and methodological contributions of the current thesis are interrelated in that they stem from the development of a CLT approach to the study of the fear of crime, which enables the formulation of new research questions, the adoption of a theory-testing perspective on the fear of crime, and the integration of experimental methodologies, along with observational, in the empirical exploration of the phenomenon.

Turning lastly to the policy implications of this thesis, it is argued that the policy area that this work speaks to more directly is the public communication of the crime-risk (Hough, 2003). This involves providing information to the public about issues of crime and justice through evidence-based strategies, and the integration of social marketing techniques in the dialogue between politicians, experts, stakeholders and the public in relation to crime and justice (Hindelang, 1974; Hough, 2002, 2003; MacGregor et al., 2000; Mythen & Walklate, 2006). This is a relatively underdeveloped area in the criminological literature, and it is mostly based on speculative arguments rather than empirical evidence. In general, it is suggested that political rhetoric, expert views and public opinions occupy different cultural spheres, use incompatible languages, have different priorities, and thus any attempt to bridge the three 'communities' seems futile (Green, 2006).

Lacking direct knowledge about crime and justice, it is argued, the public relies on media discourses that are averse to evidence-based analysis, and rest instead on visceral and emotional crime images and information that set at large the agenda of what constitutes public knowledge about crime (Altheide, 1997; Heath & Gilbert, 1996; Hirtenlehner & Farrall, 2013; Lowry, Nio, & Leither, 2003; Mythen & Walklate, 2006; Surette, 1998; Taylor, 2014). Elected representatives and policy makers in turn are incentivized to exploit poor public knowledge and public sentiments for political ends, responding to media filtered public opinion through populist penal policies (Cheliotis & Xenakis, 2011; Dowler, 2003; Hough, 2002). Meanwhile, the experts are considered to be rather 'absent' from the context, engaged either fully in academic research or collaborating with governmental and non-governmental organizations, but being rarely 'in touch' with the public (Green, 2006).

On a more positive note, it is proposed that there are ways to develop a crime-related dialogue between policy makers, experts and the public, with the focus being mostly on educative strategies to improve public knowledge about crime and justice (*ibid.*). The goal is to provide the public with access, incentive and opportunity to engage in factual and contextual information about crime and justice. The assumption is that a better informed public about issues of crime and justice, with their information being expert-mediated rather than media-mediated, will be better equipped to engage in the corresponding public dialogue, which in turn will inform rational, evidence-based (vs. populist) penal policies (Hough & Roberts, 2005; Roberts & Stalans., 1997; Roberts, 2008). Such educative strategies rely thus at large on a 'one-way' exchange, where the experts and/or politicians speak 'words of wisdom', and the citizens listen, accumulate and react accordingly (Green, 2006).

The current thesis draws on these criminological insights, but takes a slightly different perspective. It suggests first, that any attempt to improve public knowledge about crime and justice should be evidence-based, i.e., designed and implemented based on relevant research findings; second, it should engage all the parties that are involved in information provision and processing in relation to crime and justice, including politicians, experts and the public, and also the media and the civil society; third, it should be based on ‘multi-way’ exchanges, i.e., not only from politicians and experts to the public, but the other way round too. The last point does not suggest, however, that expert knowledge and policy-making should draw on sentimental attitudes to crime in order to be able to speak to the public in their own ‘language’.

Drawing on empirical evidence that is provided in this work, it is suggested that alternative ways forward in this area are possible. The current research findings suggest that particular levels and types of crime information processing are capable of informing people about crime without raising their fear of crime. Although further research is definitely needed in this area, as it will be discussed in the limitations section that follows, the current research can pave the way for a broader discussion on the public communication of the crime-risk in criminological literature. Based on the current findings, it is suggested that taking into account the type of crime information that is disseminated and the public reactions that are targeted can help build communication strategies that inform the public honestly and truthfully, but not ‘coldly’, about crime and justice without damaging their wellbeing.

#### **1.4 Limitations**

As every piece of research, this one is not without limitations. The weaknesses of the current work are divided into two broad categories, namely theoretical and methodological. Starting with the theoretical drawbacks, at least, two can be identified. The former relates to the conceptualizations of the fear of crime that are adopted in the empirical studies of this thesis, and consequently the operationalization and measurement of the phenomenon in each of these studies. Although, it is acknowledged that fear of crime is a multi-faceted construct that comprises affective, behavioural and cognitive reactions to crime and victimization (Farrall et al., 2009; Ferraro & LaGrange, 1987; Gabriel & Greve, 2003; Hale, 1996; Jackson, 2004), not all of these facets have been included in the empirical studies and the analyses that have been conducted for the purposes of this work. In particular, the emphasis is placed on the affective and cognitive components of the fear of crime.

In the first empirical paper of this thesis, fear of crime is operationalized as worry about victimization and risk perception, and measured through frequency of worry items and perceived likelihood of victimization, perceived consequences of victimization and perceived controllability of victimization items, respectively, following the most recent advances in the measurement of the phenomenon (Farrall & Gadd, 2004; Gray et al., 2008; Jackson & Gray, 2010; Jackson, 2011; Jackson et al., 2009; Warr, 1987). The second empirical paper of this thesis includes an operationalization of the fear of crime that slightly diverges from the ‘traditional’

approaches in that it draws on the *temporality* of fear of crime reactions. The focus is on the affective component of the fear of crime, i.e., worry about victimization, that is measured using frequency of worry questions and intensity of worry questions (Farrall & Gadd, 2004; Gray et al., 2008). In the third and fourth empirical papers of this thesis, the fear of crime is operationalized through its affective component, i.e., worry about victimization, and measured via items of intensity of worry about falling victim of different types of crime (Gray et al., 2008).

Overall, the key limitation in relation to the current choices of conceptualization, operationalization and measurement of the fear of crime is the lack of examination of its behavioural component (Gabriel & Greve, 2003; Jackson & Gray, 2010; Liska et al., 1988). This partly relates to the theory testing perspective of this thesis. Developing a CLT approach to the fear of crime, which is an entirely novel theoretical perspective in fear of crime literature, has the drawback of not having much or any previous theoretical and/or empirical ground to be based on. This lack of previous knowledge was dealt with by trying to keep the models that were tested in the empirical papers of the current thesis as parsimonious as possible. The idea is that the new hypotheses and associations that a CLT approach to the fear of crime explores, should focus on each component of the phenomenon separately at first, before moving on to more complex models and analytical strategies, when there will be theoretical and empirical evidence to draw on.

This also relates to the way in which the cognitive component of the fear of crime is treated in the empirical part of the current thesis. It is often the case that the components of the fear of crime are not treated empirically as symmetrical; instead, some of them are usually perceived and modeled as factors that explain variation in others (*see* Ferraro & LaGrange, 1987). The most common example of this practice involves the cognitive and the affective components of the fear of crime; the former is often treated as explanatory factor of the latter, with the general hypothesis being that the more negative the perception of the crime-risk, the higher the level of worry about victimization (Ferraro, 1995; Jackson, 2011; Jackson, 2009; Warr, 1987). Treating the association between the two components asymmetrically could be perceived as ‘arbitrary’ in that the observational nature of most fear of crime studies does not allow for strong claims about directionality.

In the studies that comprise the empirical part of the current thesis the cognitive component of the fear of crime is also modeled as ‘predictor’ of the affective component. However, the suggested directionality in this case is based on the theory testing perspective of this work. In some of the current studies, for example, perceived likelihood of victimization is conceptualized as the ‘hypotheticality’ dimension of psychologically distance (Todorov, Goren, & Trope, 2007; Wakslak & Trope, 2009), and included as such in the theoretical models that test *a priori* stated hypotheses. Therefore, the proposed directionality is theoretically justified.

Another theoretical limitation of this thesis pertains to the conceptualization, operationalization and measurement of crime construal in its two experimental studies. The crime construal is the one of the two cognitive processes that, according to the CLT approach to fear of crime, enables people to experience and express fear of crime reactions in their ‘here and now’, despite the absence of crime. The third and fourth

empirical papers of this thesis draw on experimental research where crime construal is manipulated to explore, among others, its potential effect on worry about victimization. To build the experimental manipulations, CLT work has been used, which suggests that causal thinking about distal events constitutes high-level or abstract mental construal, whereas consequential thinking about distal events constitutes low-level or detailed mental construal (Rim et al., 2013; Trope et al., 2007).

This is because consequences depend on causes but not vice versa, and thus causes are primary features of distal events that inform abstract mental representations of them, while consequences are secondary features of distal events that inform their context-bound mental representations (*ibid.*). It follows that causal thinking about distal events is related to psychological distance and ‘colder’ reactions to them, whereas consequential thinking about distal events is related to psychological proximity and ‘hotter’ reactions to them (Trope et al., 2007).

The distinction between causal and consequential thinking is the one that is used in the experimental studies of the current work to manipulate crime construal. The limitation pertains to the fact that other ways of conceptualizing crime construal, of the numerous that are used in CLT research (Trope et al., 2007), might also be useful in relation to their impact on the fear of crime. Once again the novelty of these associations requires a step-by-step exploration. The current thesis is a first such step; after developing some first theoretical and empirical evidence of the impact of crime construal on fear of crime reactions, future research will then build on and expand these findings by conceptualizing and experimentally manipulating crime construal in different ways.

The second broad category of limitations of the current thesis includes methodological drawbacks. For a long period of time, fear of crime was measured using single items in fear of crime surveys (Farrall et al., 1997; Ferraro & LaGrange, 1987; Jansson, 2007; Marsh, Evans, & Weigel, 2009); slowly but surely the ‘one-item’ practice was replaced by using either more measures of the same fear of crime component (e.g., different questions about the affective component of the fear of crime, such as worry intensity and worry frequency items) or more measures of different fear of crime components (e.g., measures of perceived risk of victimization, worry about victimization, and avoidance behaviours against victimization), (*see* Ferraro & LaGrange, 1987; Gray et al., 2008; Jackson, 2011).

In most cases, results from different items are aggregated to develop scales of the different components of the phenomenon, normally after looking at the internal consistency of the items (Furr, 2011). In recent years, more sophisticated approaches to the measurement of fear of crime have been developed, such as factor analysis, which allow for exploring associations between manifest indicators that are directly measured and latent variables that are unobserved, including exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and structural equation modeling (SEM), (Jackson & Kuha, 2014, 2015).

The limitations of the measurement of the fear of crime in the empirical work of the current thesis are related to the weaknesses of some of the aforementioned measurement strategies of the phenomenon. In the empirical papers 1 and 2, the

analytical approach to the measurement of the fear of crime draws on confirmatory factor analysis and structural equation modeling (Bagozzi & Yi, 2011; Bartholomew, Knott, & Moustaki, 2011; Hoyle, 1995). The former refers to the measurement models that are used to test associations between manifest indicators and latent variables of the affective and the cognitive components of the fear of crime; the latter is used to explore associations between the latent variables (and also other elements) of the models. As Jackson and Kuha (2015) suggest, this is a reflective (vs. formative) approach to the measurement of unobservable constructs, where imperfect indicators that are subject to measurement error, are used to explain variation in the latent construct under examination.

Applied to the current context, the assumption is that fear of crime is an unobserved criminological construct, and thus both its existence and meaning are inferred. The process of inference involves testing hypotheses about the nature of fear of crime (e.g., that it comprises affective, behavioural and cognitive reactions to victimization), fielding indicators that tap into the elements of the underlying construct (e.g., survey items of worry about victimization, risk perception and avoidance behaviours against victimization), and using a statistical technique, such as CFA, to assess the hypothesized dimensionality. The limitation of this process, which is adopted in the empirical papers 1 and 2 of the current thesis, concerns the fact that the conceptualization that is modeled and tested is relatively ‘arbitrary’. Although it relies on previous research, this process does not say much about whether the adopted conceptualization of the fear of crime is valid (Jackson & Kuha, 2015). This is a general limitation, however, of the measurement of abstract constructs in general, and fear of crime in particular, and not a unique one to this work.

The other methodological limitation of the current thesis pertains to the measurement practice that is followed in its third and fourth empirical papers. In these cases, different items that measure the cognitive and the affective components of the fear of crime are aggregated to create scales of perceived likelihood of victimization and worry about victimization respectively, after exploring their internal consistency and dimensionality, using correlational techniques and factor analysis (Furr, 2011; Neuberg, West, Judice, & Thompson, 1997). The main limitations of such ‘ad hoc’ scales are at least two (Furr, 2011). First, the use of previously-validated scales are preferable in that their psychometric properties have been tested in different contexts, adding to their reliability. Although, the scales that are utilized in the current work have been used in previous criminological studies, they are not considered to be ‘standardized’. The second drawback of using relatively ‘ad hoc’ scales relates to their limited psychometric evaluation. Assessment of psychometric quality involves examining the internal consistency and the dimensionality of the scale in question in different contexts (*ibid*). In the current work, although both the dimensionality and the internal consistency of all of the scales are tested, there is not a criminological ‘benchmark’ against which to evaluate their psychometric quality.

The last methodological limitation of the current empirical work that is discussed here pertains to the way in which the research participants of its experimental studies were recruited. The samples of the two experiments that were conducted for the

purposes of the current doctoral research were drawn from the web-based platform Amazon Mechanical Turk (MTurk). The corresponding data are analyzed in the empirical papers 3 and 4 of this thesis.

In 2005 Amazon launched MTurk, a marketplace where ‘requesters’ can pay ‘workers’ from all over the world to complete ‘human intelligence tasks’ (HITs) over the Internet (Buhrmester et al., 2011; Paolacci & Chandler, 2014). MTurk is used to crowdsource many tasks, including social research. In recent years, social scientists are increasingly turning to MTurk to recruit research participants for surveys and experiments in different disciplines, including political science, psychology, economics, and sociology (Paolacci & Chandler, 2014). The increasing popularity of MTurk stems from the democratization of the research process that it creates, allowing the rapid recruitment of a diverse sample of subjects at a much lower cost than professional online panels (Berinsky, Huber, & Lenz, 2012).

As ever, the new possibilities are accompanied by new concerns. These include the MTurk samples’ representativeness of the populations that they are drawn from, the engagement of the participants with the tasks of MTurk studies, and the validity of the MTurk research results (Clifford, Jewell, & Waggoner, 2015; Huff & Tingley, 2015; Mason & Suri, 2012; Peer, Vosgerau, & Acquisti, 2014). Regarding the first concern, Berinsky et al. (2012) compared MTurk data to convenience samples from previous research, and the American National Election 2008–2009 Panel Study, and found that MTurk samples are more representative of the US population than in-person convenience samples, but less representative than participants in Internet-based panels or national probability samples. In a recent study, Huff and Tingley (2015) showed that MTurk is a useful tool in studies of political preferences for recruiting young participants, Hispanics and Asian respondents, and participants from industries and geographic locations that parallel other professionally supplied samples.

In 2014, the MTurk workforce was composed of more than 500,000 ‘workers’ from 190 countries. It has been found, however, that MTurk workers reside more frequently in the United States and India, with less than a quarter residing elsewhere (Paolacci, Chandler, & Stern, 2010; Paolacci & Chandler, 2014). In general, MTurk workers are more diverse than student samples, which is one of the most common pool of participants in experimental studies; yet they are not representative of the populations they are drawn from, reflecting also the wider differences between Internet and non-Internet users (Berinsky et al., 2012; Buhrmester et al., 2011). Research shows that MTurk workers are more likely to be younger, overeducated, underemployed, less religious, and more liberal than the general population (Berinsky et al., 2012). Asians are overrepresented, while Blacks and Hispanics are underrepresented relative to the US population as a whole (Berinsky et al., 2012). These results are important for understanding the external validity of studies conducted on MTurk, and when there are theoretical reasons to believe that the experimental manipulations might interact with the sample’s characteristics (Huff and Tingley, 2015).

The two experimental studies of the current thesis drew from US MTurk workers to recruit participants. The choice of the location was based on the overrepresentation of Americans among MTurk workers (Berinsky et al., 2012), which

might eliminate to some degree the unrepresentativeness of MTurk samples. Although these are convenience samples, and no claim in relation to representativeness of the US population can be made, it is worth looking at the general socio-demographic characteristics of the two samples that were used in the current experimental studies, and how they differ from the US population. Table 2 provides an overview of this information.

Echoing previous research into the socio-demographic characteristic of US MTurk workers and their comparison with the American general population (Berinsky et al., 2012; Clifford et al., 2015; Huff & Tingley, 2015; Paolacci et al., 2010; Paolacci & Chandler, 2014), younger, well-educated, unmarried, Asian participants were more likely to be included in the MTurk samples of the two experiments that are used in the empirical work of the current thesis. It appears, however, that the sample of the experiment that is used in the fourth empirical paper of the current work is closer to the US population data in terms of educational attainment, marital status and ethnicity. Although these are very basic comparisons, they are considered to be informative. It is also the first time that such information is provided in a criminological piece of research.

**Table 2: Comparison of MTurk samples and US population**

MTurk samples <sup>3</sup> ( <i>see paper 3 &amp; 4 of this thesis</i> )				US Population Data ( <i>see footnotes for sources</i> )	
Gender					
MTurk experiment 3 (N= 300)		Frequency	%	Frequency <sup>4</sup>	%
	Female	164	55.0	161,920,569	50.8
	Male	134	45	156,936,487	49.2
MTurk experiment 4 (N= 312)		Frequency	%	Frequency	%
	Female	140	44.9	161,920,569	50.8
	Male	172	55.1	156,936,487	49.2
Age					
Median		34 (MTurk experiment 3)		37.7 <sup>5</sup>	
Median		33 MTurk experiment 4)		37.7	

<sup>3</sup> Data may not sum to totals because of additional categories that were included in the measurement of the variables. Where needed categories were dropped to increase comparability with the US population data.

<sup>4</sup> Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2015.

<sup>5</sup> Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2015.

Educational Attainment					
MTurk experiment 3 (N= 300)		Frequency	%	Frequency (in thousands) <sup>6</sup>	%
	9th grade to 11th grade, no diploma	2	0.7	14,686	6.9
	High school graduate	25	8.4	62,575	29.5
	Some college, no degree	99	33.2	35,164	16.6
	Associate's degree	32	10.7	20,867	9.8
	Bachelor's degree	103	34.6	43,500	20.5
	Graduate or professional degree	37	12.4	21,836	10.3
MTurk experiment 4 (N= 312)		Frequency	%	Frequency (in thousands)	%
	9th grade to 11th grade, no diploma	4	1.3	14,686	6.9
	High school graduate	14	14.1	62,575	29.5
	Some college, no degree	84	26.9	35,164	16.6
	Associate's degree	41	13.1	20,867	9.8
	Bachelor's degree	99	31.7	43,500	20.5
	Graduate or professional degree	40	12.8	21,836	10.3
Marital Status					
MTurk experiment 3 (N= 300)		Frequency	%	Frequency (in thousands) <sup>7</sup>	%
	Never married	144	48.3	41,381	19.5
	Married	97	32.6	125,595	59.2

<sup>6</sup> Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2015.

<sup>7</sup> Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2015.

	Divorced	15	5	25,591	12.1
	Widowed	6	2	14,554	6.9
MTurk experiment 4 (N= 312)		Frequency	%	Frequency (in thousands)	%
	Married	148	47.4	125,595	59.2
	Never married	119	38.1	41,381	19.5
	Divorced	14	4.5	25,591	12.1
	Widowed	1	0.3	14,554	6.9
<b>Employment Status</b>					
MTurk experiment 3 (N= 300)		Frequency	%	Frequency <sup>8</sup>	%
	Employed	212	71.1	147,439	59.2
	Unemployed	24	8.1	8,704	3.5
MTurk experiment 4 (N= 312)		Frequency	%	Frequency	%
	Employed	220	71.5	147,439	59.2
	Unemployed	27	8.7	8,704	3.5
<b>Ethnicity</b>					
MTurk experiment 3 (N= 300)		Frequency	%	Frequency <sup>9</sup>	%
	White	233	78.5	195,352,200	62
	Asian	24	8.1	18,308,800	6
	Black	23	7.7	38,605,000	12
	Hispanic	11	3.7	55,614,200	18
MTurk experiment 4 (N= 312)		Frequency	%	Frequency	%
	White	245	78.5	195,352,200	62
	Black	35	11.2	38,605,000	12
	Asian	15	4.8	18,308,800	6

<sup>8</sup> Source: Bureau of Labor Statistics, US Department of Labor, December 2014.

<sup>9</sup> Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2015.

	Hispanic	13	4.2	55,614,200	18
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Another caveat of MTurk studies relates to the uncontrollability of the participants' level of engagement with the content and the tasks of a study (Huff & Tingley, 2015; Peer et al., 2014). Controlling research participants' engagement with a study is more feasible in physical settings, such as laboratories, but not so much in MTurk studies, where they might be distracted by contextual stimuli and/or not follow the survey instructions properly, damaging the quality of the collected data. In a recent study, Peer et al. (2014) looked at the impact of two methods of ensuring data quality on MTurk, namely attention check questions (ACQs) and restricting participation to MTurk workers with above 95% approval ratings on the quality of the collected data. Overall, it was found that MTurk workers with high-level approval ratings were providing more reliable data, regardless of whether they had been asked ACQs.

An important feature of MTurk is that it allows social researchers to approve or reject HITs that MTurk workers have completed, based on the quality of the data provided. The proportion of approved HITs constitutes the MTurk worker's reputation, which can be used as an *a priori* criterion when social researchers recruit their MTurk samples (Peer et al., 2014). In both experiments that were conducted for the purposes of the current doctoral research, one of the prerequisites for participation, along with residing in the US, was an approval rate no less than 95%. Based on the current research experience of MTurk, it can be argued that MTurk workers with high approval rates provide good quality data in that they tend to be more coherent, spend adequate amount of time in the tasks, and pass manipulation checks that are used to provide good quality responses.

In order to further assess the quality of the data that are collected via MTurk studies, research has been conducted on personality characteristics of MTurk workers, how they choose the HITs that they complete, and the honesty and reliability of the provided answers (Huff & Tingley, 2015; Mason & Suri, 2012; Paolacci et al., 2010). It has been found that MTurk workers are more introvert than student and community samples, and report higher levels of social anxiety compared to the US population (*ibid.*). This body of work also demonstrates that personality differences between MTurk workers and other samples are similar to the differences between frequent and infrequent Internet users (*ibid.*). In terms of the criteria that MTurk workers use to select HITs, research shows that these include amount of compensation, task complexity, the time that the HITs are posted, and whether they are discussed in online forums (Buhrmester et al., 2011; Paolacci et al., 2010; Paolacci & Chandler, 2014). Regarding the reliability and honesty of MTurk workers in their responses, research shows that they exhibit the same cognitive biases (e.g., framing effects), logical fallacies (e.g., conjunction fallacy), and behaviour in economic games as traditional participants in behavioural science studies (Paolacci et al., 2010).

MTurk provides social scientists with the opportunity to determine who can and cannot participate in their studies, based on the qualifications that the MTurk assigns to workers, such as country of residence and ratio of approved to submitted tasks, as

mentioned above, and also qualifications that are decided by the requesters themselves, such as whether a worker has participated in a previous study that was posted by the same requester (Paolacci & Chandler, 2014). In the two MTurk experiments that were conducted for the purposes of the current thesis, apart from the country of residence and the approval rate requirements, the participants of the first experiment were excluded from the sample of the second experiment to prevent ‘familiarity’ effects, which could distort the collected data. Other quality checks that were used in both experimental studies include manipulation checks, which were used to screen out participants who do random clicking at the beginning of each experiment and in the scales that were used (Oppenheimer, Meyvis, & Davidenko, 2009).

Although none of these measures of improving data quality ascertains that all of the caveats of MTurk studies are dealt with, it is argued, based on relevant research findings that were presented in this section, that they can improve the quality of the collected information considerably. Much remains to be learned, however, about the factors that influence sample composition, performance, and behaviour of MTurk workers, especially when it comes to criminological research, where the use of the platform is in its infancy.

## **1.5 General research questions of the current thesis**

The last section of the introduction discusses the general research questions that are explored in each of the four empirical papers of this thesis. Having presented above an overview of the benefits and the limitations of a CLT approach to the fear of crime, its key objectives and the ways that will be used to achieve them, the aim here is to provide specific information about the application of CLT in fear of crime research that the current work develops theoretically and explores empirically.

### **1.5.1 Observational studies of fear of crime**

Observational data are analyzed in the first and the second empirical papers of this thesis that were drawn from a large-scale survey conducted in three European countries in 2010 (Hough & Sato, 2011). The key objective is to look, through CLT lens, at associations between fear of crime reactions and fear of crime ‘predictors’ that have already been explored in previous criminological research. In particular, the focus is on relationships between the affective and the cognitive components of the fear of crime and previous victimization experience, both direct and indirect (Balkin, 1979; Garofalo, 1979; Tyler, 1984; Winkel, 1998), the need for cognitive closure (Jackson, 2013; *see also* Webster & Kruglanski, 1994), and societal views (Hirtenlehner & Farrall, 2013; Taylor & Jamieson, 1998).

It should be mentioned from the outset that the first empirical paper of the current thesis does not test the CLT directly. Put differently, the hypotheses that the study explores are plausible without the CLT as a theoretical framework. Importantly, the first empirical paper of this thesis functions, instead, as a starting point for the development of the CLT approach to the fear of crime. The empirical study that it involves explores associations that have been at the forefront of fear of crime research,

and thus its results are utilized to lay the foundations for the CLT approach to the fear of crime. Despite the fact that CLT is not directly tested in the first empirical paper of this thesis, it has been chosen to present its key hypotheses through CLT lens here in order to illustrate one of the core arguments of the current work, i.e., that powerful theoretical frameworks can be used to motivate research questions that have already been asked through new lens, expanding the theorization of the fear of crime.

The corresponding CLT-driven research questions are as follows.

### Study 1

*Q1. Are direct and indirect experiences of victimization related to the affective and cognitive components of the fear of crime?*

The impact of previous victimization on fear of crime is one of the most studied topics in criminological research (Garofalo, 1979; Hale, 1996; Winkel, 1998). Overall, it has been suggested that the research findings do not provide us with clear conclusions about whether victims of crime are more likely than non-victims to express higher levels of crime (Box & Hale, 1988; Hale, 1996; Taylor & Hale, 1986). It is suggested here that previous victimization is more likely to be positively related to affective and cognitive reactions to crime. Moreover, it is assumed that the positive associations will be stronger in the case of direct victimization compared to indirect victimization.

Although the first empirical paper of this thesis does not test CLT directly, as mentioned above, motivating its hypotheses from a CLT point of view (Lieberman, Trope, McCrea, & Sherman, 2007; Liberman & Trope, 2008), suggests that previous victimization involves psychological proximity to crime, and thus it is more likely to be positively related to fear of crime reactions. Moreover, direct experiences of victimization that involve the research participants themselves are likely to be more strongly related to fear of crime reactions compared to indirect experiences of victimization that involve people who the research participants know. This is because the former involves more psychological proximity to crime and oneself compared to the latter.

*Q2. Does the need for cognitive closure moderate the association between direct and indirect victimization experiences and the affective and cognitive components of the fear of crime?*

The need for cognitive closure has been defined as aversion to uncertainty, and preference for order, structure and certainty (*see* Kruglanski & Webster, 1996; Kruglanski, 2004; Mannetti, Pierro, Kruglanski, Taris, & Bezinovic, 2002; Webster & Kruglanski, 1994). It is a psychological construct, which has been used to measure trait and/or state worry (*see also* Berenbaum, 2010). Its relevance to the criminological literature on the fear of crime has been shown in recent research, where it is found that research participants who are high in need for order, structure and certainty, i.e., averse to risk in general, are more likely to worry frequently about the specific risk of crime, and to perceive it as highly likely, consequential and uncontrollable (Jackson, 2011, 2013).

In the current work, the objective of looking at the need for cognitive closure is to explore whether it explains variation in fear of crime reactions, and whether it interacts with previous victimization to ‘predict’ fear of crime reactions. It is assumed that people who are in high need for closure are more likely to report higher levels of fear of crime compared to those who feel comfortable with uncertainty. Moreover, the positive association between need for cognitive closure and levels of fear of crime might be stronger for victims of crime compared to non-victims.

Why this might be so? Although not directly tested in the first empirical study of this thesis, a CLT approach to the question is telling. If one accepts that past victimization involves some psychological proximity to the crime-risk, it may be that this proximity triggers a state of uneasiness especially to those who are averse to risk in general; this uneasiness in turn is expressed through higher fear of crime reactions of victims who are high in need for closure<sup>10</sup>.

## Study 2

*Q3. Do fear of crime reactions differ based on the psychological distance that they involve?*

The second empirical paper of this thesis develops a ‘temporal’ model of the fear of crime, which uses the temporality of survey questions to draw conceptual distinctions between elements of fear of crime components, and evaluate them empirically. Based on CLT insights (Day & Bartels, 2008; Trope et al., 2007), the idea is that even fear of reactions of the same nature might involve different levels of psychological distance from the crime-risk, which in turn might affect the magnitude of their associations with explanatory parameters. The temporal model of the fear of crime suggests that the temporality of fear of crime reactions, i.e., whether they are past-oriented or present/future-oriented, captures the different levels of psychological distance and mental construal that they involve.

The model uses this temporal feature of fear of crime survey questions to theorize potential differences in the magnitude and significance of associations between elements of the affective component of the fear of crime and factors that have been put forward in criminological research as ‘predictors’ of the phenomenon. It thus provides a new way of approaching questions that have already been asked in criminological literature through new theoretical lens, expanding thus the theorization of the fear of crime.

*Q4. How does the temporality of different fear of crime reactions affect the magnitude of their associations with previous victimization, need for cognitive closure and societal attitudes?*

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<sup>10</sup> This kind of reasoning slightly deviates from the earlier argument that the empirical studies of this thesis rely on a theory-testing rather than theory-building perspective. This is because paper 1 does not test directly *a priori* stated assumptions that are CLT-driven. However, as clearly stated from the beginning, the role of paper 1 in the process of testing the CLT approach to the fear of crime is highly exploratory, serving as its point of departure.

The temporal model of the fear of crime looks at the magnitude and significance of associations between fear of crime reactions of different temporalities, i.e., past-oriented and present/future-oriented, and fear of crime explanatory factors. The key CLT-driven hypothesis is that the magnitude of such associations is higher when there is ‘compatibility’ between the constituent parts of the association in terms of psychological distance and construal level.

The temporal model of the fear of crime seeks to provide alternative and more theory-driven explanations of associations between different elements of the same fear of crime component and factors that have been shown to explain variation in them. In this process, it utilizes the cognitive processes of psychological distance and mental construal in order to theorize the observed links and their strength in a more systematic (vs. speculative) way.

*Q5. How does the perceived likelihood of victimization impact on the association between past and present/future worry about victimization and previous victimization experience, need for cognitive closure and societal attitudes?*

According to the CLT, psychological distance from distal events comprises four dimensions, temporal, spatial, social and hypothetical (Liberman et al., 2007). The ‘hypotheticality’ dimension refers to the perceived likelihood of a distal event occurring; higher perceived likelihood of occurrence of a distal event indicates psychological proximity to it, whereas lower perceived likelihood of occurrence of a distal event indicates psychological distance from it (Todorov et al., 2007; Wakslak, Trope, Liberman, & Alony, 2006). These CLT insights are adopted in the current study to model perceived likelihood of victimization as psychological distance from the crime-risk, also assuming that psychological proximity to crime, i.e., perceiving the likelihood of victimization to be high, will tend to be more strongly related to fear of crime reactions.

It is also assumed that perceived likelihood of victimization might influence the associations between fear of crime ‘determinants’ and fear of crime reactions, based on their ‘compatibility’ in terms of psychological distance and crime construal. It is expected, for instance, that perceived likelihood of victimization will interact with previous victimization to predict past fear of crime reactions, but not present/future fear of crime reactions. This is because both previous victimization and past fear of crime are past-oriented, and are thus assumed to involve psychological distance from the ‘here and now’, and abstract mental construal.

### **1.5.2 Experimental studies of fear of crime**

The third and the fourth empirical papers of the current thesis analyze data from two experimental studies that were conducted on MTurk (Buhrmester et al., 2011; Paolacci & Chandler, 2014) between 2014 and 2015. The key objective of the experimental part of the current work is to employ a methodological strategy, namely experiments, that is different from the ‘traditional’ survey studies of the fear of crime. This also enables

the exploration of novel research questions and their theoretical evaluation via interdisciplinary perspectives, namely the CLT approach to the fear of crime.

The new research questions focus on associations between the affective component of the fear of crime, different ways of thinking about crime events and processing crime information, social categorization biases, and psychological distance from crime. Each of these associations is tested for the first time in criminological research into fear of crime, and inform the following research questions that are explored in the empirical papers 3 and 4 of the current thesis.

### Study 3

*Q6. Do different types of mental representation of hypothetical crime events impact differently on fear of crime, depending on the level of their abstractness or concreteness?*

CLT suggests that abstract mental representation of distal events is associated with psychological distance from them, and thus ‘cooler’ affective reactions, whereas detailed mental representation of distal events is associated with psychological proximity to them, and thus ‘hotter’ affective reactions (Trope & Liberman, 2010; Williams & Bargh, 2008; Williams et al., 2014). This is because an abstract way of thinking about events that are not present in one’s ‘here and now’ enables them to see the ‘big picture’ of the issue in question, whereas a detailed way of thinking about distal events is more likely to make people focus on incidental features of such events or the ‘trees’ of the situation. CLT also suggests that causal thinking about distal events constitutes abstract mental representation, whereas consequential thinking constitutes detailed mental representation. This is because consequences dependent on causes, but not vice versa, rendering the former secondary features of distal events and the latter primary features of such events (Rim et al., 2013).

Applying these insights to the fear of crime, it is suggested that engaging in causal thinking about crime events, i.e., focusing on the causes of hypothetical crimes, ‘cools off’ on average fear of crime reactions. On the contrary, engaging in consequential thinking about crime events, i.e., focusing on the consequences of hypothetical crime events, intensifies on average fear of crime reactions.

*Q7. Does psychological distance from crime impact on fear of crime?*

Turning to the other CLT process of transcending the ‘here and now’, namely psychological distance, it is assumed that experiencing the crime-risk as psychologically distant in time, space, social distance and ‘hypotheticality’ is more likely to be related to lower levels of fear of crime as opposed to psychologically experiencing it as temporally, spatially, socially and actually proximal.

Psychological distance is measured in this work via a semantic differential scale that has been developed for the purposes of the current study, comprising the four dimensions of the construct, namely temporal, spatial, social and hypothetical (Todorov et al., 2007; Wakslak & Trope, 2009). Higher scores in the scale indicate more

psychological distance from crime in time, space, social distance and ‘hypotheticality’, and are thus expected to be related to lower levels of fear of crime.

*Q8. Does the level of psychological distance from crime impact on the association between type of thinking about hypothetical crime events and fear of crime?*

CLT suggests that psychological distance from distal events impacts on affective evaluations of them by shifting their *intensity*, whereas mental representation of distal events impacts on affective evaluations of them by shifting their *valence* (Williams et al., 2014). Thus, in general, psychological distance hurts evaluations of positive experiences by decreasing the intensity of positive affect, but improves evaluations of negative experiences by decreasing the intensity of negative affect. Abstract construal, on the contrary, positively shifts the valence of experiences, and thus improves affective evaluations of both positive and negative experiences (*ibid.*). The assumption is thus that the CLT processes of transcending the ‘here and now’, namely psychological distance and mental construal, impact on affective evaluations of distal events separately, i.e., via direct associations.

However, exploring interactions between fear of crime, type of thinking about crime events and psychological distance is also of interest. It is hypothesized that causal thinking about hypothetical crime events ‘cools off’ on average fear of crime reactions, but the association is different at different levels of psychological distance. This is because crime is not a conceptually ‘neutral’ event, but an inherently negative one. It follows that focusing on the causes of hypothetical crime events might reduce on average worry about victimization because abstract mental construal reduces the valence of negative events, but this association might be stronger for those who psychologically experience crime as a distant (vs. proximal) risk because psychological distance improves evaluations of negative experiences by reducing their intensity.

#### Study 4

*Q9. Do different levels of crime information processing explain variation in fear of crime?*

How do people process information about real crime events? Are different levels of processing crime information associated with affective reactions to the risk of crime? These research questions that are explored in the current empirical work expand the research findings of the third empirical study in two ways. First, the focus is on crime information that involves real crime events as opposed to hypothetical crime events, which was the case in study 3. It is assumed that this might impact on research results in that information about real crime events involves more psychological proximity to crime in comparison with hypothetical crime events.

Second, the levels of crime information processing that are tested include a ‘causal’ way of thinking about crime, i.e., focusing on causes of real crime events, that represents high-level crime construal; a consequential way of thinking about crime, i.e., focusing on consequences of real crime events, that represents low-level crime

construal; and absence of further engagement with crime information except for reading about real crime events. It is assumed that when it comes to real crime events, because of their inherent psychological proximity to one's here and now, the *level* of processing crime information (i.e., whether one engages further with the crime information or not) will be a better 'predictor' of fear of crime compared to the *type* of engagement with the crime information (i.e., whether it is 'causal' or 'consequential').

*Q10. Does psychological distance from crime impact on the relationship between crime information processing and fear of crime?*

As explained above, a CLT approach to the fear of crime suggests that psychological distance from crime and crime construal, i.e., the two cognitive processes of transcending the 'here and now', are related to affective reactions to the crime-risk via separate routes. This is because the former shifts the intensity of affective reactions to crime, while the latter shifts their valence (*ibid.*). Due to the inherently negative nature of crime, however, it is assumed that the two processes of transcending the 'here and now' might also impact on affective reactions to crime jointly.

Applied to the current context, the effect of crime information processing on affective reactions to crime is expected to be different at different levels of psychological distance from crime.

*Q11. Does the affective component of the fear of crime affect collective wellbeing negatively?*

The consequences of the fear of crime have been less explored in criminological literature compared to its explanatory parameters (Garofalo, 1981). Furthermore, when empirical studies do look at the impact of fear of crime, the focus is at large on its negative effect at the individual level. The key idea is that fear of crime motivates negative action (e.g., avoidance behaviour) that damages individual wellbeing (e.g., by restricting people's daily activities, and thus eroding their quality of life). The possibility that fear of crime motivates problem solving, and/or that it affects not only individual wellbeing, but also collective wellbeing is less explored (*see, however, Jackson & Gray, 2010*).

The current thesis aims to fill in the second gap by looking at the impact of the affective component of the phenomenon on social categorization biases (Gaertner, Dovidio, & Houlette, 2010). Based on psychological work (*see inter alia* Bodenhausen, 2012; Hogg, 2000, 2009), it is assumed that affective reactions to crime might motivate social categorization biases as a means to deal with the uncertainty elicited by the crime-risk. Social categorization biases are operationalized and measured as in-group identification, out-group derogation and racist attitudes (Flecker et al., 2006; Hong et al., 2004; Zick, Küpper, & Hövermann, 2011). It is suggested that the more intense the affective reaction to the crime-risk, the higher the level of social categorization biases.

## 1.6 Summary

The aim of this introduction was to provide an overview of the topic, the content, the aims and objectives, the contribution and the limitations, and the key research questions of the current thesis. Its sections discussed the key features of the conceptualization, the operationalization and the measurement of the phenomena that are encompassed in its reasoning; the key research questions that it seeks to address; the methodological directions that are taken in order to answer its research questions; the new insights that it brings in the criminological study of the fear of crime; and the weaknesses that are related to its theoretical and methodological choices.

Overall, this thesis constitutes a criminological study of public reactions to crime and victimization, and in particular *fear of crime*, which aims to expand the scope of the existing literature, theoretically and methodologically. To achieve the former, a CLT approach to the fear of crime, i.e., an interdisciplinary theoretical perspective, is developed to explore research questions that have already been examined in criminological literature through new lens, and to investigate research questions that are explored for the first time in criminological research. To achieve the latter, an integrated methodological approach to the empirical exploration of the research hypotheses is employed, comprising both observational studies and experimental studies.

The second chapter of this thesis provides an overview of the criminological literature on fear of crime, discussing theoretical and empirical approaches to the nature, the determinants and the consequences of the phenomenon.

## CHAPTER 2: CONCEPTUAL AND THEORETICAL REVIEW

### 2.1 A brief history of the fear of crime

Criminological research into ‘fear of crime’ was born in the US in the 1960s in the context of the President’s Commission on Law Enforcement and the Administration of Justice (hereinafter National Crime Commission or NCC, see McIntyre, 1967). The NCC was comprised of nineteen researchers, appointed by the US President Lyndon Johnson to study the criminal justice system and people’s attitudes to crime, justice, and punishment. This is not to say that the phenomenon of fear of crime *per se*, i.e., public reactions to crime and the risk of victimization, emerged in the 1960s all of a sudden. The increased focus on the phenomenon at the time should be rather thought of as the outcome of political agendas and disciplinary trends in relation to the public discourse on crime and justice (*see* Lee, 2001).

Looking at the origins of the criminological literature on the fear of crime is important in that it helps explain the ‘shape’ of its criminological study from its ‘genesis’ onwards; and although this might vary in different contexts, the overall history of criminological work on fear of crime does have ‘universal’ features, at least as it happened in the western world. These features are mirrored in the ‘criminological agenda’ of the fear of crime, i.e., the most frequently studied topics at both the theoretical and empirical levels. Although such summaries involve generalizations that conceal distinctive features of social phenomena, they are useful in providing an overview of the topic of interest. Such an overview is provided below.

Any complete summary of the common themes of the literature on the fear of crime would include, at least, four topics in relation to the prevalence, the nature, the determinants and the consequences of the phenomenon.

#### 2.1.1 Theme I: How much fear of crime exists out there?

In 1966, the US National Opinion Research Centre carried out a national survey for the NCC, where participants were asked to choose from a list of provided answers the problems that have attracted most of their attention recently (Ennis, 1967). Crime was the second most frequently selected option, following race relations. Interestingly, when Gallup polls prior to the 1960s were asking US citizens the same question through open-ended items, crime hardly ever made it to the list of perceived top national problems (McIntyre, 1967, p. 36). This highlights the importance of the methodology that is used to explore public reactions to crime in their reported levels; it also highlights the fact that drawing firm conclusions about the prevalence of fear of crime is not straightforward.

To try to provide some answers about the prevalence of the fear of crime, one needs to take into account at least two contextual parameters, namely time and place. Also, from

a conceptual perspective, ‘fear of crime’ is used here as an ‘umbrella concept’ that includes perceptions of safety, perceived likelihood of victimization, perceived change in crime levels, worry about victimization (Farrall et al., 2009; Hale, 1996; Jackson, 2006; Vanderveen, 2006; Warr, 1987). According to the International Crime Victims Survey (ICVS) and the European Crime and Safety Survey (EU ICS), although the trends of feelings of safety in the street after dark between 1992 and 2005 are not uniform across countries, in most cases the levels of felt safety remained largely stable (i.e., 24% on average; van Dijk et al., 2007, p. 133). Data from the European Social Survey show a similar trend, with the reported feelings of safety in the local area after dark in the participating countries remaining relatively stable between 2002 and 2014<sup>11</sup>. In England and Wales, the proportion of people who reported that they felt very unsafe has remained stable between 1982 and 2005/06 (i.e., between 10% and 13%; Jansson, 2007, p. 17). The same holds true when it comes to people’s perceptions of changes in crime levels (varying between 63% to 75% between 1996 and 2005/06; Jansson, 2007, p. 20). However, the levels of worry about falling victim of different types of crime reached their highest levels in the mid-1990s, they then decreased considerably until early 2000s, to stabilize from 2005/06 onwards (Jansson, 2007).

Overall, to examine the prevalence of fear of crime, one must take into account contextual and conceptual parameters, such as time and place as well as the facet of the fear of crime. The big picture is that fear-of-crime reactions have been relatively stable since the mid-1990s in the western world.

### **2.1.2 Theme II: What is fear of crime?**

The short answer to this question is that fear of crime is a multi-faceted phenomenon and a multi-dimensional concept (Farrall, Jackson, & Gray, 2009; Hale, 1996; Jackson, 2004). The former indicates the complexity of fear of crime as it is experienced and expressed by individuals in real life; the latter relates to the ways in which fear of crime is measured in empirical studies. This complexity renders the investigation of the fear of crime challenging, and thus a great deal of criminological research has focused on the conceptualization, operationalization and measurement of the phenomenon, especially since the 1990s (Farrall, 2004; Farrall et al., 1997; Ferraro & LaGrange, 1987; Gray, Jackson, & Farrall, 2008; Hough, 2004; Jackson, 2004).

This body of work has suggested on the one hand, that fear of crime is a socio-political construct that is shaped by the lived experiences of individuals and/or the political discourse of crime and justice, and on the other hand, that fear of crime is an objective phenomenon, existing above and beyond the ways in which it is experienced, expressed and framed, and it is thus amenable to measurement (Farrall et al., 1997; Murray Lee, 2007; Loo, 2008). The first view draws epistemologically on social constructivism (*see inter alia* Berger & Luckmann, 1967), and empirically on qualitative methodologies. The second view draws epistemologically on positivist traditions (*see inter alia* Comte, 1957), indicating that fear of crime is an objectively

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<sup>11</sup> <http://www.europeansocialsurvey.org/data/>

existing social phenomenon, and thus empirically, amenable to quantitative research (Bryman, 1984). In practice, the dominant criminological approach is the latter, with the main methodology used in fear of crime research being the survey (Farrall et al., 1997).

Drawing on existing criminological literature (Farrall et al., 2009; Ferraro, 1995; Gabriel & Greve, 2003; Hough, 2004; Jackson, 2004), fear of crime is defined as affective, behavioural and cognitive reactions of the public to crime as a social phenomenon and victimization as a personal risk.

### **2.1.3 Theme III: What are the factors that explain variation in the fear of crime?**

One of the findings from the NCC surveys that attracted the criminological and political attention was the “little statistical relationship between the experiences of victimization and attitudes towards most aspects of the crime problem” as well as the discrepancies between local crime rates and reported levels of fear of crime (McIntyre, 1967, p. 37). This finding proved to be crucial in its consequences in that it shaped at large the framing of fear of crime both within the criminological literature and outside, i.e., in the public realm.

The observed discrepancies are often approached as ‘paradoxical’ findings (Lupton & Tulloch, 1999), and the implications of such a framing have been, at least, of two kinds. First, it implies that fear of crime *should be* directly related to actual crime and victimization rates (Sparks et al., 2001). Second, such an argument channels empirical research into particular directions; if fear of crime is perceived as the direct outcome of crime rates and victimization experiences, and research shows otherwise, it follows that the empirical focus should be on the factors that explain the ‘paradox’ (Farrall et al., 1997). Indeed, a great deal of criminological research has explored the factors that explain the ‘paradoxes’ of the fear of crime, including socio-demographic characteristics (such as age, gender, socio-economic status), community characteristics (such as incivilities and collective efficacy), and societal features (such as decline of moral values and social cohesion), (Box, Hale, & Andrews, 1988; Farrall et al., 2009; Vanderveen, 2006).

This body of work has shed light on the explanatory parameters of the fear of crime, and has thus improved our understanding of the phenomenon. Its perspective, however, is mostly data-driven rather than theory-driven, which has contributed to the ‘under-theorization’ of the fear of crime or the lack of powerful theoretical frameworks. As suggested in the introduction of the current thesis, one of its key aims is to enrich the theorization of the fear of crime by adopting a theory testing (vs. theory building) approach to the phenomenon (*see* Colquitt & Zapata-Phelan, 2007; Eisenhardt & Graebner, 2007).

### **2.1.4 Theme IV: What are the consequences of the fear of crime?**

One of the studies that was conducted for the NCC in Washington, D.C., asked participants to report the steps that they had taken to protect themselves from crime (Biderman, 1967). Among the most frequently provided responses were the following:

avoid talking to strangers, stay home at night, use taxis when out at night, keep firearms or watchdogs, put locks on doors and windows. In reporting these findings, NCC argued that the measures that people take to prevent victimization indicate that ‘underlying the fear of crime is a profound fear of strangers’ (McIntyre, 1967, p. 40), highlighting also that this fear is not consistent with objective risk. Fear of strangers can thus diminish sociability and reduce social interaction, the NCC posited, also damaging social order. Reduced sociability can in turn lead to indifference to others as well as scapegoating, and higher demand for stricter law enforcement and more punitive official responses to crime (*ibid*).

This reasoning summarizes the key topics that are covered in the criminological discussion around the consequences of the fear of crime (*see* Garofalo, 1981). One of the limitations of this body of work relates to the directionality of the associations that are explored. It has been argued, for example, that people take precautions against crime due to high levels of fear of crime, but it might also be that taking precautions against crime increases people’s fear of crime (Liska, Sanchirico, & Reed, 1988). Moreover, the association between fear of crime and punitiveness is one that politicians and policy makers might rely on to justify their decisions, policies and initiatives, but the empirical evidence of direct associations is often weak and inconsistent (Cheliotis, 2013; Cheliotis & Xenakis, 2011; Hough, 2002; Langworthy & Whitehead, 1986). Finally, when it comes to the link between fear of crime and scapegoating, the argument is mostly speculative rather than empirically evaluated (Garofalo, 1981).

The current thesis aims to fill in this gap by looking at associations between individual and collective wellbeing in relation to crime and fear of crime (Denkers & Winkel, 1998; Jackson & Stafford, 2009; Stafford et al., 2007).

The rest of this conceptual and theoretical review comprises three main sections that look at the criminological conceptualization of the fear of crime, its empirical measurement in criminological research, and the theoretical approaches to the ‘causes’ and the ‘consequences’ of the phenomenon.

## **2.2 Criminological definitions of the fear of crime**

The multi-dimensionality of the fear of crime as a social phenomenon is reflected, among others, in the pluralism of its criminological definitions (Garofalo & Laub, 1978; Hale, 1996; Vanderveen, 2006; Warr, 2000). To provide an overview of the key conceptual perspectives, a two-level approach is developed (*see* table 1) based on existing literature. The first level refers to the distinction between fear of crime as a diffuse state that stems from perceptions of crime as a general social problem and fear of crime as a concrete state that stems from perceived crime as an imminent threat in the immediate context (Farrall, 2004; Hough, 2004; Jackson, 2004). The second level refers to the nature of fear of crime reactions that is affective, behavioural, and cognitive (Gabriel & Greve, 2003; Jackson, 2004).

In criminological literature, some combinations of these two levels are more frequently explored than others. For example, the affective element of the fear of crime

tends to be the most studied one when it comes to both diffuse states of fear of crime and concrete episodes of fear of crime, whereas cognitive reactions tend to be more closely related to the diffuse aspect of the fear of crime, probably because their measurement is often future-oriented<sup>12</sup>, and thus the expression of concrete episodes of fear of crime is logically hindered.

### 2.2.1 Expressive and experienced fear of crime

A key conceptual distinction in the criminological literature, which has influenced both the measurement and the theorization of the fear of crime, is between the *expressive* fear of crime and the *experienced* fear of crime (Farrall et al., 2009; Gray, Jackson, & Farrall, 2011; Jackson, 2004). The *expressive* dimension of the fear of crime comprises either reactions to vague risks at the societal level that characterize late modernity or reactions to signs of physical and social deterioration at the community level (Hirtenlehner & Farrall, 2013). The *experienced* dimension of the fear of crime includes reactions to concrete crime events, criminal threats, and victimization experiences (*ibid.*). The distinction is thus based on the object of the fear of crime, namely crime, which is seen metaphorically in the former case and literally in the latter case.

Drawing on sociological postmodernism (Bauman, 1999, 2013; Beck, 1992; Giddens, 1990), the *expressive* dimension of the fear of crime is considered to be related to broad social, political, cultural, and financial changes that shape the societal landscape of late modernity (Taylor & Jamieson, 1998). It is argued that individuals channel these changes subliminally into more specific subjects, such as the social problem of crime, in order to cope with the uncertainty of risks that surrounds them (Hirtenlehner & Farrall, 2013). Fear of crime is thus perceived not as separate from other affective reactions to the risks of modernization, but as intertwined with other such reactions that render the sense of uncertainty manageable.

The advocates of this view posit that the metaphorical function of the expressive dimension of the fear of crime explains the ‘paradoxical’ research finding that societal groups that face low objective risk of victimization, are often more concerned about crime compared to other groups that are at higher risk of victimization. According to the ‘experience and expression’ perspective, the risk of crime provides people with a means of detaching ‘liquid’ postmodern anxieties from their origins and reattaching them to more ‘tangible’ objects, such as crime (*ibid.*).

It has also been argued that the expressive fear of crime encompasses one more aspect that is less metaphorical and more context-bound, namely community-level concerns. Although not related to actual crime directly, this aspect of the expressive fear of crime is not as vague as the previous one in that the fear of crime in this case pertains to people’s reactions to community conditions and perceptions of decline in

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<sup>12</sup> The temporality of the fear of crime components and its impact on associations between fear of crime reactions and fear of crime explanatory factors are discussed in the second empirical paper of the current thesis.

their immediate environment that might signal threat (Hirtenlehner & Farrall, 2013; Innes, 2004b). The objects of such perceptions include physical and social incivilities, social cohesion, collective efficacy, socio-cultural order in the local context (LaGrange et al., 1992; Morenoff, Sampson, & Raudenbush, 2001; Sampson & Raudenbush, 2004; Sutherland, Brunton-Smith, & Jackson, 2013).

The two aspects of the expressive fear of crime – generalized insecurity and community concern – are distinct but interwoven (Farrall et al., 2009; Hirtenlehner & Farrall, 2013). They are distinct in that the former refers to an abstract sense of uneasiness in relation to the risks of modernity that are channeled into crime, while the latter refers to anxieties about more concrete contextual characteristics of a community. The two are interrelated, however, in that general anxieties about social change in late modernity feed into concerns about the deterioration of community, and vice versa (*ibid.*).

In comparison with the *expressive* fear of crime, the *experienced* dimension focuses on actual episodes of worry about concrete crime events and victimization experiences (Farrall et al., 2009). The criminological discussion around the discrepancies between crime rates and fear of crime draws conceptually on the experienced dimension of the fear of crime, with the question being *if ‘most people’ do not experience crime directly, i.e., as victims, why do they worry about it?* (Lupton & Tulloch, 1999; Warr, 1984). The expressive dimension functions often as the answer to this question, suggesting that people at low risk of victimization might report high levels of fear of crime either because they displace diffuse anxieties about social change into crime or because they are concerned about social decay and community deterioration (Hirtenlehner & Farrall, 2013).

The existing conceptualizations of the *experienced* dimension of the fear of crime often overlook the importance of perceptions of crime events and experiences (Innes, 2004, 2014). As it stands at the moment in the criminological literature, the distinction between *expressive* and *experienced* fear of crime seems to suggest that perceptions are related to the former and events are related to the latter. This, however, does not need to be the case at all. For example, the ‘paradoxes’ argument vanishes if one assumes that experienced fear of crime is not related (only) to actual crime incidents and victimization experiences, but also, and more importantly, to crime events, which, albeit not experienced directly, are psychologically experienced as proximal and/or mentally represented as threatening. One of the analytical goals of the current thesis is to expand the conceptualization of the fear of crime based on interdisciplinary insights, as discussed in detail in the introduction of the current document.

### **2.2.2 Affect, behaviour, and cognition in the fear of crime**

A stable argument in the criminological literature on fear of crime is that it is a multifaceted social phenomenon and criminological construct (Gabriel & Greve, 2003; Hale, 1996; Jackson, 2004), meaning that it encompasses different types of reaction to crime. The multidimensional approach to the conceptualization of the fear of crime suggests that it comprises affective, behavioural and cognitive components, which are

themselves multi-faceted (Farrall et al., 2009; Gabriel & Greve, 2003; Gray et al., 2011). The *affective* component of the fear of crime, which is arguably the most studied one (Hale, 1996), relates to emotional reactions to the risks of crime and victimization. Emotions are defined as states that involve affect, physiological change, expressive behavior, and inclinations to act (Fridja, 2000); the criminological definitions of the emotional component of the fear of crime focus on affect and encompass a range of concrete episodes of worry about imminent criminal threats to diffuse anxieties about the crime problem in society and community (Farrall, 2004; Garofalo & Laub, 1978; Hough, 2004, Jackson, 2004).

When it comes to the behavioural component of the fear of crime, the criminological discussion is centered on action tendencies and behaviours that aim to prevent crime. According to Miethe's categorization (1995: 21-26), the behavioural component of the fear of crime includes avoidance behaviours, self-protection, lifestyle adjustments, and participation in collective activities. Existing criminological research has looked at concrete examples of such actions, including avoidance of potentially 'dangerous' areas and people, situational crime prevention, such as installation of alarms, change of routine activities, such as avoiding using public transport in the evening, and participation in crime prevention programs, such as neighbourhood watch (Bordua & Lizotte, 1979; Clarke & Lewis, 1982; Gordon & Riger, 1989; Skogan & Maxfield, 1981).

Although the criminological connotation of such behaviours used to be negative, recent findings have shown that there are both 'functional' and 'dysfunctional' aspects in the behavioural component of the fear of crime (Jackson & Gray, 2010). The distinction lies on the idea that behavioural reactions to the crime-risk might not erode one's quality of life, but function instead as problem-solving activities that improve individual wellbeing (Dugas, Letarte, Rhéaume, Freeston, & Ladouceur, 1995; Ladouceur, Blais, Freeston, & Dugas, 1998; Thomas & Marvin, 1971). Jackson and Gray (2010) found that for a significant minority of individuals who worried about falling victim of crime, and were taking precautionary measures to prevent victimization, neither their worry nor their preventive measures affected their quality of life negatively.

The cognitive component of the fear of crime is comprised of appraisals of the risk of crime (Jackson, 2011; Warr, 1987). Criminological research has shown that the appraisals might refer to perceptions of the likelihood of victimization, perceptions of the consequences of crime and victimization, and perceptions of the controllability of their occurrence (Ferraro, 1995; Jackson, 2011, 2013; Warr, 1987). The underlying idea is that one might perceive the risk of crime as likely to occur, consequential and/or uncontrollable, but this is conceptually distinct from developing affective reactions to it and/or behaving in certain ways to prevent its occurrence.

Empirical work in this area supports the idea that the cognitive component of the fear of crime is an integral part of the phenomenon, but conceptually distinct from its affective and behavioural components (Warr, 1987; Ferraro, 1995; Jackson, 2011, 2013). As regards its three elements, namely, likelihood, consequence and controllability, they are perceived as interwoven rather than distinct, and they are

studied mostly as such in recent criminological research (Jackson, 2006, 2009, 2013). The perceived likelihood, however, has been the focus of more studies compared to the other two elements of the cognitive component of fear of crime (Ferraro, 1995).

When it comes to the relationship between the affective, the behavioural and the cognitive components of the fear of crime, the analytical approach is rather mixed. Early criminological perspectives tended to use the different components interchangeably, without acknowledging their distinct nature (Garofalo & Laub, 1978). Another criminological approach to the relationship between the three components of the fear of crime is to consider their associations to be 'asymmetrical', i.e., to treat some of them as explanatory parameters of others (Box, Hale, & Andrews, 1988; Ferraro, 1995; Killias, 1990). In this case, a common practice is to treat risk perception as 'predictor' of worry about crime, which in turn motivates behavioural reactions to the crime-risk (Liska et al., 1988). Recent research, however, has refined such approaches by not using the three components interchangeably, and by modeling their interrelations through advanced analytical approaches, such as structural equation modelling (Hirtenlehner & Farrall, 2013; Jackson, 2011).

### **2.3 The measurement of the fear of crime**

Research into social attitudes enhances our understanding of how people think about, feel about and act on social phenomena, and thus can be used to develop evidence-based social policies. Therefore, refining the measurement of social attitudes is a methodological task of great importance, for the more accurate the research results, the higher the likelihood of designing and implementing effective policies. Fear of crime is a social attitude, the measurement of which has been the focus of numerous studies.

Indeed, criminologists have placed significant emphasis on the methodological caveats of fear-of-crime research in general, and on the empirical measurement of the phenomenon in particular (Farrall et al., 1997; Ferraro & LaGrange, 1987; Hale, 1996). As the most widely used methodology in fear of crime research is the survey, when it comes to the measurement of the phenomenon the focus is on survey questions. Qualitative approaches to the study of the fear of crime do exist, and, to some extent, have been developed to address the limitations of quantitative research, but they do not constitute the main methodological approach (Farrall et al., 1997; Hollway & Jefferson, 2000).

The criminological measurements of the fear of crime are presented in the current review through a categorization that comprises 'three generations' of fear of crime survey items (*see* table 1), which are differentiated by the level of methodological improvement that they involve (Farrall et al., 1997; Ferraro & LaGrange, 1987; Gray, Jackson, & Farrall, 2008). The criminological discussion around the measurement limitations of the fear of crime has focused, in general, on issues of vagueness in the wording of the items, the use of hypothetical tone, the absence of reference to crime and/or particular types of crime, the lack of distinction between different elements of fear of crime, the absence of contextual specificity, the limited use of measures that tap

into concrete episodes of worry about victimization vs. diffuse anxieties about the crime-risk (Ferraro & LaGrange, 1987; Hale, 1996).

‘First-generation’ items of the fear of crime can be considered to be research questions that were used in the first empirical studies of the phenomenon. Taken together, some of their most typical features include the extensive use of the word ‘safe’ to describe the attitude under examination, the lack of reference to crime, and the hypothetical tone of the question (Ferraro & LaGrange, 1987). A characteristic example of a first-generation item is the following: “How safe do you feel or would you feel being out alone in your neighbourhood at night?” (*ibid.*). The vagueness in the formulation of the questions is the key point that is raised in criminological criticisms of the first-generation measures. For example, Ferraro & LaGrange (1987) suggest that such ‘global’ questions are unclear in relation to the component of the fear of crime that they measure, although their wording suggests that they are more of a judgmental rather than affective nature (Ferraro & LaGrange, 1987; Hale, 1996).

Another caveat of the first-generation measures of the fear of crime is that in most cases they do not refer to crime explicitly. Rather they use situations and events as proxies for the crime-risk, such as ‘walking alone in your area at night’ (*ibid.*). Many groups of people, however, hardly ever find themselves in such situations, and this might distort the research findings. Another drawback of the first-generation items, as suggested by existing criminological work, is the lack of specificity in the contextual information that they involve (Ferraro & LaGrange, 1987). For example, it is likely that the spatial and temporal elements of the questions, such as the wording ‘in your neighbourhood’ and ‘at night’, mean different things to different people. This lack of specificity might also affect the quality of research findings.

In the face of such criticisms, the improvement of the fear of crime survey items focused on bringing more specificity into the measurement of the phenomenon. This led to the development of what is called here ‘second-generation’ survey questions. Their improved features include the distinction between different components of the fear of crime (e.g., affective vs. cognitive), the use of the word ‘crime’ or particular types of crime in the wording of the questions, the use of more specific contextual information, and the distinction of the reference point, i.e., whether the reaction in question refers to respondents themselves or ‘significant others’ (e.g., members of their family), (Garofalo & Laub, 1978; Hale, 1996). Examples of second-generation items of the fear of crime are the following: “Are you personally concerned about becoming a victim of crime?”; “Does crime in the streets cause you any special difficulties in getting around?” (Janson & Ryder, 1983); “I worry a great deal about my personal safety from crime and criminals” (Miethe & Lee, 1984); “How afraid are you of becoming a victim of ... (*sixteen different crimes*)” (Warr, 1984; Warr and Stafford, 1983); “How likely do you think it is that you will be the victim of a). robbery, b). burglary, and c). vandalism during the next year?” (Smith & Patterson, 1984).

The way in which fear of crime survey questions have evolved over time is evident also in large-scale research into social attitudes to crime and the criminal justice system. Take the British Crime Survey (BCS) – Crime Survey for England and Wales (CSEW) since 2012 – as an example. The first BCS was carried out in 1982 in England,

Wales and Scotland, to collect information about people's experiences of crime (Hough & Mayhew, 1983), and attitudes to crime in the previous year, with a sample size of 11,000 at the time (Jansson, 2007). The survey was carried out periodically since 2001, and since then it has been conducted annually (Jansson, 2007). Fear of crime is among the attitudes to crime that are explored in the survey. The first BCS measured fear of crime using the question "How safe do you feel walking alone in this area after dark?", which is what has been called in criminological literature a 'global measure' of fear of crime because of its generic nature (Hale, 1996). Since 1984, however, the BCS has explored fear of crime using additional measures of the intensity of worry about falling victim of violent crime, vehicle crime and burglary; this falls into the 'second-generation' questions of the current categorization in that they refer to specific emotional reactions (namely worry) and specific types of crime.

Despite such improvements, a key limitation of the 'second-generation' questions of fear of crime is considered to be the lack of focus on its multi-faceted nature, i.e., on the different components of the phenomenon (Farrall et al., 1997). Regarding the affective component of the fear of crime, for example, the key issue with 'second-generation' questions is that they capture mostly diffuse anxieties about crime and/or vague worries about different crimes, and not concrete worry episodes (Farrall & Gadd, 2004; Farrall et al., 1997). As regards, the behavioural component of the fear of crime, it has been argued that 'second-generation' items encompass a negative connotation, which precludes the investigation of the extent to which precautionary measures against victimization can also function as problem-solving activities (Dugas et al., 1995; Liska, Sancirico, & Reed, 1988). Regarding the cognitive component of the fear of crime, it has been suggested that the main limitation of what is called here 'second-generation' questions pertains to their focus on perceived likelihood of victimization, overlooking other cognitive appraisals of the crime-risk (Ferraro, 1995; Warr, 1987).

These criticisms paved the way for further improvements in the measurement of the fear of crime. Examples of 'third-generation' fear of crime questions are the following: "During the past 12 months, have you ever felt worried about ... (*different types of crime*)?" (Farrall et al., 2009; Gray et al, 2008); [if 'yes' to a filter question] "How much, if at all, is your quality of life affected by the precautions you take against crime?" (Jackson & Gray, 2010); "To what extent do you feel personally able to control whether or not you will fall victim of (*different types of crime*)?" (Jackson, 2011, 2013). The 'third-generation' questions of the fear of crime have contributed significantly to more sophisticated research results in recent years; this has been achieved in combination with the analytical strategies that are employed in many studies currently, which take into account and model the multi-dimensionality of the fear of crime (Hirtenlehner & Farrall, 2013; Jackson, 2011; Jackson & Kuha, 2015).

The approach of the current thesis to the measurement of the fear of crime draws on the 'multi-dimensionality perspective', suggesting that fear of crime encompasses affective, behavioural and cognitive reactions to the risk of crime and victimization. Although the empirical papers that are included in this thesis involve slightly different approaches to the conceptualization, operationalization, and measurement of the fear

of crime based on their research objectives, the general definitional perspective to the phenomenon is the following: Fear of crime comprises public reactions to the risk of personal victimization. The reactions in question are of an affective and cognitive nature, and refer to different types of crime.

The contribution of the current approach to the *measurement* of the fear of crime relates first, to the fact that it employs analytical strategies that capture its multi-faceted nature, and second, to the fact that it develops for the first time a model that takes into account the ‘temporality’ of fear of crime measures (*see* second empirical paper). A key limitation of the current approach is the lack of focus on the behavioural component of the fear of crime from its empirical studies, as discussed in the introduction of this document.

**Table 1: Criminological conceptualization and measurement of the fear of crime**

Diffuse Fear of Crime: Anxieties about crime, social change and community conditions			
	Affect	Behaviour	Cognition
1 <sup>st</sup> generation measures (examples)	How safe do you feel or would you feel being out alone in your neighbourhood at night? (Liska et al. 1982);	Have there been any times recently when you might have wanted to go somewhere in town but stayed home instead because you thought it would be unsafe to go there? (Erskine, 1974)	Do you think that people in this neighborhood are safe inside their homes at night? (Clarke and Lewis, 1982); How often do you think of your own safety? (Riger et al., 1978)
2 <sup>nd</sup> generation measures (examples)	Is there any area right around here-that is, within a mile-where you would be afraid to walk alone at night? (Braungart et al., 1980); Compared to a year ago, do you personally feel more worried, less worried, or not much different about your personal safety on the streets? (Erskine, 1974)	I avoid shopping in the downtown section of this city because of the crime problem (Thomas & Hyman, 1977)	Is living in a high crime neighborhood a serious problem to you? (Janson & Ryder, 1983)
3 <sup>rd</sup> generation measures (examples)	How worried are you about being mugged or robbed, being physically attacked by strangers, pestered by anybody, while in the street or any other public space? (Brunton-Smith & Sturgis, 2011)	Is there anything you do to protect yourself from crime? (Norris & Kaniasti, 1994)	How likely do you think it is that you will become a victim of crime outside? (Tyler & Rasinski, 1984)
Concrete Fear of Crime: Episodes of reactions to crime events, crime threats, victimization experiences			
	Affect	Behaviour	Cognition
1 <sup>st</sup> generation measures	Are you personally concerned about becoming a victim of crime? (Jaehnig et al., 1981);	Does crime in the streets cause you any special difficulties in getting around? (Janson & Ryder, 1983)	In the past year, do you feel the crime rate in your neighborhood has been increasing, decreasing, or has it

(examples)			remained about the same as it was before? (Erskine, 1974); In terms of crime, do you think that your neighbourhood is a very safe place in which to live? (Lee, 1982);
2 <sup>nd</sup> generation measures (examples)	Do you ever feel afraid that someone might deliberately harm you? (Riger et al., 1978)	Do you secure your home and other structures on the premises from burglary? (Ollenburger, 1981).	How likely is it that a person walking around here at night might be held up or attacked? (Block, 1971); How much of a problem does (burglary, robbery, assault, and sexual assault) represent? (Lewis & Maxfield, 1980); What is the possibility of having your purse snatched? (Wiltz, 1982)
3 <sup>rd</sup> generation measures (examples)	In the past year, have you ever felt fearful about the possibility of becoming a victim of crime?; [If yes], How frequently have you felt like this in the last year?; On the last occasion, how fearful did you feel? (Farrall & Gadd, 2004).	How often (if at all) do you avoid using public transport; avoid certain streets or areas during the day; avoid certain streets or areas at night (each as a result of the risk of crime)? (Jackson & Gray, 2010).	How likely do you think it is that you will become a victim of physical assault during the next twelve months? (Winkel, 1988); To what extent do you feel able to control whether or not you will become a victim of attack by a stranger in the street, robbery or mugging in the street ... (Jackson, 2009); To what extent do you think your life would be affected if you become a victim of attack by a stranger in the street, robbery or mugging in the street ... (Jackson, 2009)

## 2.4 Theoretical approaches to the fear of crime

If one major area of the criminological literature on the fear of crime pertains to its conceptualization, another significant one pertains to the theorization of its ‘causes’, and, to a lesser extent, its consequences. To review this body of work, the development of some kind of taxonomy is considered to be useful. It is recognized, however, that such taxonomies involve inevitably a level of generalization that collapses unique characteristics of particular studies and meaningful distinctions for the sake of parsimony. The taxonomies that will be used for the current purposes are described separately for the theorization of the fear of crime explanatory factors and the fear of crime consequences.

Prior to this, however, a more general discussion is developed in relation to the common criminological argument about the ‘under-theorization’ of the fear of crime (Farrall et al., 1997; Hale, 1996; Vanderveen, 2006). The ‘under-theorization’ argument suggests that criminological research lacks powerful theoretical perspectives on the ‘determinants’ and the consequences of the fear of crime. The ambiguity of research findings in these areas, it is argued, does not allow for clear and firm conclusions (Hale, 1996). Here a different perspective is taken on the issue, suggesting that the ‘under-

theorization' argument relates more to the ways in which the research findings have been interpreted and framed than to their quality.

The 'under-theorization' argument indicates, for example, that the factors, which have been used to explain variation in fear of crime in one study, appear to be unrelated or weakly related to the phenomenon in other studies (Lupton & Tulloch, 1999). Such discrepancies are typically attributed to the complex nature of the fear of crime, to its context-bound character, to the research designs employed (Box et al., 1988; Hale, 1996). For example, fear of crime might mean different things to different people, and thus in different socio-cultural contexts, variation in the phenomenon is explained by different factors. It is also suggested that the way in which fear of crime reactions, their explanatory parameters and their consequences are conceptualized, operationalized and measured might also lead to different research results in different studies (Farrall et al., 1997).

Although these arguments are correct, they might illustrate only some parts of the story. It is suggested here that the lack of powerful theoretical perspectives in fear of crime literature is, partly, associated with two of its characteristics, namely its epistemological and methodological approach to theory and the dominant framing of the research results. Regarding the former, criminological literature on fear of crime is based mostly on a theory building rather than a theory testing perspective (Eisenhardt & Graebner, 2007), i.e., it is largely data-driven rather than theory-driven.

Theory building is an inductive process that involves testing relationships empirically and introducing constructs to a field of research in order to generate theory (Colquitt & Zapata-Phelan, 2007). On the contrary, the process of theory testing is deductive and involves applying an existing theory to an empirical study as a means of grounding a set of already stated hypotheses. In recent years, criminological research has adopted a more theory-driven approach by testing models that are based on previous research findings and employing structural equation modeling as a key analytical approach (Hirtenlehner & Farrall, 2013; Jackson, 2011, 2013; see also Bagozzi & Yi, 2011).

The second characteristic of the criminological literature on fear of crime that might explain its 'under-theorization' refers to the way in which the results are usually framed. Of particular interest here is the ways in which the levels of analysis that criminological studies on fear of crime draw on are treated. For example, research results are often reported along the following lines: *explanatory variable 'X' was not found to be a strong predictor of fear of crime contrary to previous studies*. Such statements, however, do not make explicit reference to a number of issues that might explain the supposed 'discrepancies'; for example, is fear of crime measured similarly in the studies that are compared? Are individual-level data, community-level data and country-level data used interchangeably? Are different-levels of analysis taken into account in the interpretation of research findings?

To make the current point more explicit, let's look at examples of frequent findings in fear of crime literature. The first example refers to the 'incompatibility' between actual crime rates and levels of fear of crime (Hale, 1996). Imagine that people are asked *how worried they are about falling victim of different types of crime*, and then

at the analysis stage the researchers try to explain variation in fear of crime including different crime-related explanatory variables in their models, such as local and/or national crime rates. The fear of crime explored pertains to individual-level reactions to the risk of victimization; as such its reference point is oneself. It follows that an explanatory variable, such as local or national crime rates, which is contextual or structural in nature (vs. individual) would not be expected to explain much of the variation in individual-level reactions. Seen through this lens, the ‘persistent’ research finding does not seem to be ‘paradoxical’. The point here is not that the observed inconsistencies are incorrect, but that their framing in criminological literature narrows down their theoretical explanation.

The second example refers to the argument that fear of crime is to some extent ‘constructed’ by the items that are used to measure it (Farrall, 2004; Farrall et al., 1997). This is based on research findings, for example, which have shown that intensity-related measures of the fear of crime yield higher reported levels of such reactions compared to frequency measures of the fear of crime (Farrall & Gadd, 2004; Farrall et al., 1997; Gray et al., 2008). Once again the interpretation of such discrepancies might be different if one focuses on the reference point of the items in question. For example, the intensity items refer to one’s *current or near future* worry about victimization, whereas the frequency items refer to *past* worry episodes; the former are thus closer to one’s self in the ‘here and now’ compared to the latter. This proximity to the current self might, at least partly, account for the differences in the reported levels of the fear of crime between the two types of items. Once again, the point here is not that the criminological finding lacks credibility, but that its framing renders the scope of the discussion that could be developed around it narrow.

A final example of the limitations that partly characterize criminological interpretations of fear of crime research findings concerns the multi-level approaches to the phenomenon that have been developed in recent years (Brunton-Smith & Sturgis, 2011). The idea here is that variation in fear of crime might not only be explained by individual-level factors, but also higher-level factors, such as community-level or country-level, which if not taken into account, the research findings might be distorted.

Franklin et al. (2008), for instance, tested three models of fear of crime - the ‘vulnerability model’, the ‘disorder model’ and the ‘social integration model’ - to assess their differential impact on two measures of the phenomenon, namely, perceived safety of walking alone during the day in the area where one lives and frequency of worry about falling victim of different types of crime. It was found that the disorder model was the best to explain variation in both components of fear of crime, followed by the social integration model and the vulnerability model. When presenting their results, however, the authors do not mention the potential effect of the nature of the data, i.e., that they comprised 2,599 citizens nested within 21 cities across Washington State. The question here is to what extent their conclusions in relation to the higher explanatory power of the ‘disorder’ and ‘social integration’ models (community-level and societal level, respectively) as opposed to the ‘vulnerability model’ (individual-level) can be attributed to the nested nature of their data.

To sum up this comment on the existing theorization of the fear of crime, the key point is that extant criminological literature focuses primarily on the magnitude and significance of tested associations, and on the analytical strategies employed to explain as much variation in fear of crime reactions as possible. This emphasis is often at the expense of theoretical and methodological features of the studies, such as the reference point of the variables used, which could provide alternative interpretations of the findings, expand the scope of the criminological discourse of fear of crime, and improve its theorization.

In the rest of this review, the key criminological approaches to the explanatory factors and the consequences of the fear of crime are presented. In the first case, the taxonomy that is used draws on two features of the literature, i.e., whether the nature of the factor in question is *actual* or *perceived*, and within each of these, whether it is an individual-level or a non-individual level (e.g., community-level or country-level) parameter. In the second case, the categorization is based on whether the consequence in question pertains to individual wellbeing or collective wellbeing (*see* table 2).

#### **2.4.1 The ‘determinants’ of the fear of crime**

Starting with explanatory factors of the fear of crime that relate to ‘objective’ crime at the individual level of analysis, one of the most studied associations in criminological research is between previous victimization experiences and reported levels of fear of crime (Arnold, 1991; Garofalo, 1979; Hale, 1996; Shippee, 2013; Skogan, 1987; Stafford & Galle, 1984; Winkel, 1998). The key hypothesis is that encounters with crime, which can be direct/primary, involving the research participants themselves as victims (Denkers & Winkel, 1998; Tyler, 1980, 1984; Winkel, 1998) or indirect/secondary involving victimization of other people that the research participants know (Barchia & Bussey, 2010; Ben, 2013; Chiricos, Eschholz, Gertz, & Chiricos, 1997; Hanson, Sawyer, Begle, & Hubel, 2010; Skogan & Maxfield, 1981), are related to higher levels of fear of crime.

Extant research provides mixed results. Some studies have shown that the relationship is stronger when it comes to particular types of crime, such as violent crime rather than property crime (Miethe & Lee, 1984) as well as that the impact is stronger in the case of repeat victimization (*see* Lauritsen & Davis Quinet, 1995). Turner et al. (Turner, Finkelhor, & Ormrod, 2006) found that cumulative exposure to different types of victimization over a child’s life-course constitutes a substantial source of depression, aggression and other mental health risks, including excessive fear. Other studies, however, do not find strong direct links between previous victimization and fear of crime (Box et al., 1987; Hale et al., 1994).

It has also been suggested that the closer the victimization to oneself (i.e., experienced directly rather than indirectly), the higher the fear of crime (Balkin, 1979; Boney-McCoy & Finkelhor, 1995; Covington & Taylor, 1991; Garofalo, 1979; Kury & Ferdinand, 1998; Liska et al., 1988; Rountree, 1998; Skogan & Maxfield, 1981; Skogan, 1987; Stafford & Galle, 1984). Other studies, however, come to the opposite conclusion, suggesting that hearing about crime events in the locality and knowing

others who have been victimized is related to higher fear of crime levels compared to having direct experiences of victimization. One of the most frequently stated explanations of this finding is that direct victimization might 'desensitize' victims to the aftermath of crime (Chiricos et al., 1997; Covington & Taylor, 1991; Ferraro, 1995; LaGrange et al., 1992; Skogan & Maxfield, 1981; Tyler, 1980, 1984; Winkel, 1998).

Overall, it has been suggested that while a relationship between previous victimization experiences and fear of crime does exist, its strength depends at large on other factors, such as socio-demographic characteristics of the victims and the type of crime (Balkin, 1979; Liska, Sancirico, & Reed, 1988; Skogan, 1987). Farrall et al. (2009), for example, found that the impact of secondary victimization on worry about crime was mediated by perceiving the likelihood of victimization as high. Victimization has also been found to increase perceived likelihood, and in turn worry about re-victimization, only when such an event is viewed as highly consequential (Winkel, 1998).

The second 'objective' determinant of the fear of crime at the individual level pertains to one element of the 'vulnerability hypothesis' (Killias, 1990; Killias & Clerici, 2000; Shippee, 2013; Skogan & Maxfield, 1981). The hypothesis here is that 'objective' indicators of vulnerability to the risk of crime might explain variation in the fear of crime. For example, women might not be at higher actual risk of falling victim of crime, but their higher levels of reported fear of crime compared to men (Ferraro, 1996; Gidycz & Koss, 1991; Riger, Gordon, & LeBailly, 1978; Stanko, 1993; Warr, 1984) might be because female gender functions as a proxy for vulnerability to the crime-risk (Killias, 1990). Other 'objective' indicators of vulnerability, according to this body of work, are demographic and social characteristics of individuals, such as age (older age), ethnicity (ethnic minorities), physical and mental illness, and profession (e.g., taxi drivers), (FitzGerald & Hale, 1996; Gordon & Pantazis, 1997; Killias, 1990; Liska et al., 1988; Skogan & Maxfield, 1981).

A characteristic example of empirical work on the 'objective vulnerability' hypothesis pertains to the gender and age differences in reported levels of fear of crime. Some studies have suggested that women (Ferraro, 1995; Jackson, 2009; Warr, 1987) and the elderly (Box, Hale, & Andrews, 1988; Clarke & Lewis, 1982; Clemente & Kleiman, 1976; Yin, 1980) are more likely to report higher levels of fear of crime compared to men and younger people. According to the 'objective vulnerability' hypothesis, gender differences in fear of crime are related to two factors; first, personality and behavioural characteristics 'inherent' in the female sex, such as passivity, sense of powerlessness, dependency (Garofalo, 1979; Gordon & Riger, 1989) that render women more susceptible to the risk of crime compared to men, and second, women's actual greater risk of falling victim of particular types of crime, such as rape and sexual harassment, due to sexist social structures and norms (*see* Stanko, 1988, 1993). Regarding age differences in fear of crime, the 'objective vulnerability' hypothesis suggests that the frailty of older people makes them less able to protect themselves in the event of victimization, and thus more 'fearful' compared to younger people (Lee, 1982; McCoy, Wooldredge, Cullen, Dubeck, & Browning, 1996; Miethe & Lee, 1984; Warr, 1984; Yin, 1980).

The next class of fear of crime ‘determinants’ in the current taxonomy also refers to ‘objective crime’, but in this case at the community and/or country levels. When it comes to the prevalence of crime, the key hypothesis is that as crime rates increase, either locally or nationally, people’s reactions to crime will echo the intensification of the social problem of crime through increasing levels of reported fear of crime (Balkin, 1979; Lewis & Maxfield, 1980; Rountree, 1998; Skogan & Maxfield, 1981; Mark Stafford & Galle, 1984). One of the first studies that explored direct associations between crime and fear of crime was the study conducted by Skogan and Maxfield (1981), which provided some evidence of a direct association at the local level, controlling for neighbourhood characteristics.

In recent years, the discussion around the relationship between levels of crime and levels of fear of crime relies on studies that use more advanced analytical strategies to look at the impact of contextual parameters on fear of crime, such as ‘multilevel modeling’ (Chiricos, Mcentire, & Gertz, 2001; Covington & Taylor, 1991a; Liska & Warner, 1991; Morenoff et al., 2001; Rountree, 1998; Taylor & Hale, 1986; Wyant, 2008). Taylor (2001), for example, found a significant association between rates of burglary and fear of crime in a local area in Baltimore, after controlling for characteristics of the local environment. As Brunton-Smith & Sturgis (2011) point out, however, this body of work is not without limitations; some studies analyze their data at the aggregate level without information about individual-level variability, while other studies do not include statistical controls for ‘objective’ (vs. perceived) disorder in the local environment. Overall, there is not systematic empirical evidence of direct links between local and/or national crime rates and fear of crime.

The second class of fear of crime explanatory factors that refer to the actual crime-risk at the community and/or country level in the current taxonomy, focuses on ‘objective’ characteristics of the local environment and/or the social milieu (LaGrange et al., 1992; Perkins, Wandersman, Rich, & Taylor, 1993; Robinson, Lawton, Taylor, & Perkins, 2003; Sampson & Raudenbush, 1999). This is one of the few approaches to the ‘predictors’ of fear of crime that draws on specific criminological theories, such as the ‘social disorganization’ perspective of the Chicago School (Shaw & McKay, 1942).

According to the social disorganization approach to crime and deviance, urban environments that are characterized by rapid residential mobility, low socio-economic status and high ethnic diversity are more likely to develop weak formal and informal social controls, which might result in higher levels of crime and delinquency (*ibid.*). Applied to the fear of crime, it has been argued that the breakdown of the ability of a community and of local authorities to control offending due to social disorganization might result in increased crime rates, which in turn may trigger higher levels of fear of crime (Brunton-Smith & Jackson, 2012; Brunton-Smith & Sturgis, 2011; Sturgis, Brunton-Smith, Kuha, & Jackson, 2013).

At the empirical level, this body of work has provided more robust results compared to other perspectives that involve ‘objective’ predictors of fear of crime. Two of the most important scholars in this area, Sampson and Raudenbush, have shown in their studies that social disorganization at the local level is positively related to fear of crime either by eliminating social control as suggested by perspectives that draw on the

Chicago School or through affecting crime rates (Morenoff et al., 2001; Sampson & Raudenbush, 1999; Sampson, 2009). In a study that looked at the impact of neighborhood characteristics, physical disorder, and reported crime on fear of crime, Brunton-Smith and Sturgis (2011) found that higher levels of fear of crime were reported in urban areas that were ethnically diverse, socioeconomically disadvantaged, with a younger age structure and with greater population mobility.

Moving on to explanatory factors of the fear of crime that focus on *perceived* (vs. actual) crime or crime signals, the starting point is the individual level of analysis. One of the most important perspectives is the part of the ‘vulnerability hypothesis’ that focuses on ‘subjective’ (vs. ‘objective’) indicators of vulnerability (Cops & Pleysier, 2010; Gilchrist, Bannister, Ditton, & Farrall, 2007; Goodey, 1997; Jackson, 2009; Killias & Clerici, 2000; Sutton & Farrall, 2005; Walklate, 1994). The perceived vulnerability thesis was developed to explain fear of crime differences in population groups with varying levels of objective crime-risk. Instead of focusing on socio-demographic characteristics of individuals to explain these differences, it explores factors that individuals themselves perceive as signs of vulnerability (Jackson, 2009; Killias & Clerici, 2000).

Building on the model of (objective) vulnerability that was introduced by Maxfield and Skogan (1981), Killias (1991) defined vulnerability as ‘exposure to non-negligible risk’, ‘loss of control’ to deal with the crime-risk, and ‘anticipation of serious consequences’. His model has been used to explore the differential impact of subjective and objective vulnerability on the fear of crime (Killias, 1990; Killias & Clerici, 2000). At the empirical level, there is evidence that perceived vulnerability is an important parameter in explaining variation in fear of crime, without, however, explaining away the impact of ‘objective’ indicators of vulnerability in many cases. In a study that explored the validity of various indicators of subjective and objective vulnerability and their impact on fear of crime, Killias and Clerici (2001) found that gender and age, i.e., ‘objective’ indicators of vulnerability according to their model, and self-assessed vulnerability were the most important determinants of the fear of crime. On the contrary, the contribution of interviewer-rated vulnerability in explaining variation in fear of crime, which was also treated as a measure of ‘objective’ vulnerability, was rather weak.

Important empirical work on perceived vulnerability has also been conducted in the area of gender differences in fear of crime. For example, Goodey (1997) explored the impact of gender identity on fear of crime of young boys, and showed that the observed ‘male fearlessness’ that is found in many studies of fear of crime might be shaped largely by ‘hegemonic masculinity’ that is developed over childhood and adolescence. Applying the sociological perspective of ‘doing gender’ (West & Zimmerman, 1987) to fear of crime, Cops & Pleysier (2010) found that the more compatible the research participants’ gender attitudes with dominant gender norms, the higher the female levels of fear of crime and the lower the male levels of fear of crime.

Developing an alternative methodology to the study of gender differences in fear of crime to control for social desirability biases in survey responding, Sutton & Farrall (2005) examined the role of social pressure in the expression of fear of crime

that might stem from one's desire to express attitudes that are congruent with their gender identity. The researchers found that their male participants were more likely than female participants to provide socially desirable as opposed to honest answers to fear of crime survey questions (*see also* Sutton et al., 2011).

The last class of explanatory factors of the fear of crime in the current taxonomy pertains to indicators of 'subjective crime' or signs of crime at the community and societal levels. One stream of research in this area follows on from the 'social disorganization' approach to the fear of crime that was discussed above; in this case, however, instead of using 'objective' indicators of social disorganization to explain variation in fear of crime, the focus is on *perceived* signs of disorganization and disorder in the local environment and in society.

The key premise is that visible signs of physical and social disorder or 'incivilities' are related to higher levels of perceived threat, and thus fear of crime (LaGrange et al., 1992; Perkins et al., 1993; Sampson & Raudenbush, 2004; Sturgis et al., 2013; Wyant, 2008). Such signs include abandoned buildings, noise pollution, litter, graffiti, vandalism, young people hanging around, concentration of deviant behaviours, and might be perceived by individuals as signs of inadequate social control and collective efficacy, which in turn may raise their levels of fear of crime (Brunton-smith, Jackson, & Sutherland, 2014; Brunton-Smith & Jackson, 2012; Brunton-Smith, 2011; Hunter, 1978; Skogan & Maxfield, 1981; Sutherland et al., 2013).

One of the most influential perspectives in this area of research is Wilson and Kelling's 'broken windows' thesis (Wilson & Kelling, 1982), which suggests that incivilities in the local environment inform perceptions of social decay, lack of control, absence of solidarity, and thus higher levels of fear of crime. Using the metaphor of the broken windows, the authors argue that "one unrepaired broken window is a signal that no one cares, and so breaking more windows costs nothing ... 'untended' behaviour also leads to the breakdown of community controls ... At this point it is not inevitable that serious crime will flourish ... But many residents will think that crime, especially violent crime, is on the rise, and they will modify their behavior accordingly." (*ibid.*, pp. 6-8). Despite the fact that the 'causal' tone of the argument has not been supported by empirical evidence, the 'broken windows' thesis paved the way for a great deal of research into the impact of environmental signs of the crime-risk on fear of crime (Sampson and Raudenbush, 2004; Skogan and Maxfield, 1981; Taylor, 2001; Wyant, 2008).

In a study that explored associations between perceived incivilities, collective efficacy and fear of crime, employing a multilevel approach, Swatt et al. (2013) found that the association between perceived incivilities and fear of crime does not exhibit significant heterogeneity between neighbourhoods, whereas the association between perceived collective efficacy and fear of crime does. Wyant's study (2008) in Philadelphia also found a significant neighbourhood-level association between perceived disorder and fear of crime, controlling for other characteristics of the local area. Other studies, however, do not find significant relationships between perceived disorder and fear of crime, after controlling for structural characteristics of the environment. Taylor (2001), for example, demonstrated that the impact of signs of

disorder on fear of crime was explained away by crime rates at the neighbourhood level and other characteristics of the locality.

At a different level of analysis, the investigation of the effect of ‘perceived’ crime or signs of crime on fear of crime has been developed in research into the impact of media images of crime on fear of crime reactions. The assumption is that direct encounters with crime and/or symbols of crime might not be frequent for most people in their daily lives, but the mass media ‘bring crime home’ via crime news, crime representations in popular culture, crime images in social media, and so on (Callanan, 2012; Chadee & Ditton, 2005; Chiricos, Eschholz, Gertz, et al., 1997; Chiricos, Padgett, & Gertz, 2000; Ericson, 1991; Sparks, 1992; Winkel & Vrij, 1990).

Media images of crime tend to be biased towards the most sensational crime events. Therefore, when they are used to fill in the gaps in people’s direct knowledge about crime, they provide them with distorted or partial information, which might elevate their fear of crime. Indeed, research suggests that a good deal of public knowledge about the criminal phenomenon is based on mass media representations of crime, criminals, victims, and the criminal justice system (Chiricos, Eschholz, Gertz, et al., 1997; Liska & Baccaglini, 1990; Roberts & Stalans., 1997).

Research into the impact of media images of crime on fear of crime provides mixed results (Dowler, 2003; Heath & Gilbert, 1996; Sparks, 1992; Surette, 1998). In a study conducted by a leading scholar in this area, George Gerbner, it was suggested that the heavier the viewing of television crime, the greater the perceptions of the crime-risk, the more likely the belief that crime statistics underrepresent crime rates, and the more frequent the adoption of precautions against crime (Gerbner, Gross, Morgan, & Signorielli, 1980). While research findings that suggest direct links between media images of crime and fear of crime are inconsistent (Barille, 1984; Bryant, Carveth & Brown, 1981; Morgan, 1983; Weaver & Wakshlag, 1986), there is evidence that the association is mediated and moderated by contextual and individual characteristics (Health & Gilbert, 1996).

Chiricos et al. (2000), for example, found that both local and national crime news were associated with higher levels of fear of crime, but the impact of the former was stronger for participants living in high crime areas and victims of crime (*see also* Doob & McDonald, 1979). Liska and Baccaglini (1990) found, however, that the association between media portrayals of crime on fear of crime was stronger for females, white research participants and the elderly, i.e., population groups that are less likely to be victimized, according to official crime statistics.

Finally, a recent approach to the perceptual ‘determinants’ of the fear of crime is the ‘signal crimes perspective’ (Innes, 2004, 2014), which explores the ways in which people interpret crime and signs of crime, the ways in which these interpretations are related to perceived risk of crime, and how risk perceptions inform public attitudes to crime (Innes, 2004: 336). The key idea is that some crimes and symbols of crime act as signals of heightened crime risk more than others, and are thus more likely to trigger fear of crime.

For a criminal behavior or a sign of disorder to constitute a *crime signal*, it has to attract the attention of the public, the public attention should involve some sort of

perceived threat to one's safety, and the whole process should alter somehow people's reactions to crime (Innes, 2014). Although the 'signal crimes perspective' has been developed recently, and thus its empirical evaluation has not been extensive yet, it is argued that its key hypotheses are supported by empirical data (*ibid.*). In a qualitative study that was conducted in Surrey and South London, Innes (2004) found that participants leaving in the same area drew on similar key signal crimes and disorderly incidents to construct their fear of crime, which was comprised of affective, behavioural and cognitive reactions.

#### **2.4.2 The consequences of the fear of crime**

Although less developed than the work on fear of crime explanatory factors, the literature on the consequences of fear of crime has provided interesting results. The behaviours and situations that have been put forward as fear of crime consequences include health problems, restrictions of everyday activities, crime displacement, punitive attitudes, and social conflict (Garofalo, 1981). A limitation of the literature on the effects of fear of crime has been the negative connotation of the key arguments, taking for granted that the impact of fear of crime is mostly negative (Jackson & Gray, 2010). An alternative perspective has been developed recently, which differentiates between 'functional' and 'dysfunctional' fear of crime, with the former comprising problem-solving activities and the latter referring to damages to the quality of life (*ibid.*).

Drawing on psychological work on the positive effects of worry (Dugas et al., 1995; Ladouceur et al., 1998), Jackson and Gray (2010) analyzed data from a London survey to explore the (dys)functionality of the fear of crime. Their findings showed that from the 1/3 of the sample who expressed some level of fear of crime, one quarter suggested that they take precautions against crime, these precautions increased their sense of safety, and their quality of life was not affected by either their fear of crime or their precautions against victimization.

However, the bulk of research into the consequences of the fear of crime focuses on its negative impact. Overall, the emphasis is placed on the harm that fear of crime reactions might do to the well-being of individuals, communities, and societies (Denkers & Winkel, 1998; James Garofalo, 1981). To review the key arguments and empirical findings, a distinction is drawn here between fear of crime consequences at the individual level and fear of crime consequences at the community and societal levels. Starting with fear of crime consequences at the individual level, criminological literature has linked fear of crime to damages to individual wellbeing either directly or indirectly (Denkers & Winkel, 1998; Green & Pomeroy, 2007; Jackson & Stafford, 2009). In the first case, the focus is on the impact of fear of crime on mental and physical health; in the second case, the same impact is explored, but through the possible influence of the adoption of measures against victimization that might distort everyday life.

The impact of fear of crime on mental and physical health has been examined in studies that have shown significant associations between the former and subjective well-being, mental and social well-being and physical functioning. Drawing from

survey data, Ross (1993) found that fear of crime is related to subjective health via a psychological process, namely distress, and a behavioural process, namely walking. The findings suggested that there was a direct association between poor self-assessed health and levels of fear of crime, which was partly explained by high levels of psychological distress and high levels of physical inactivity. In another study that looked at the association between mental health and fear of crime in the city of Liverpool (Green, Gilbertson, & Grimsley, 2002), it was demonstrated that fear of crime was the strongest 'predictor' of poor mental functioning, including nervousness, depression, tiredness, difficulties in dealing with daily activities due to emotional problems, and difficulties in social functioning due to emotional and physical problems.

A serious drawback of this body of work is that it draws mostly on cross-sectional, self-reported data, which do not allow for firm conclusions about the directionality of the associations of interest; it might be, for example, that poor physical and mental health lead to higher levels of fear of crime too, and not only vice versa (*see* Jackson & Stafford, 2009).

An exception to this limitation has been a longitudinal study of London-based civil servants, which used questionnaires that covered issues of mental health, physical functioning, health status and fear of crime at two of its phases (Stafford, Chandola, & Marmot, 2007). The results suggested that participants with higher levels of fear of crime were almost twice as likely to suffer from depression as those with lower fear of crime levels and better reported mental health. The participants who reported higher levels of fear of crime were also more likely to exercise less, to have fewer interactions with friends, and to be less socially active, by e.g., doing voluntary work, going to pubs, and visiting cultural venues.

Criminological work on fear of crime consequences at the individual level suggests that the links between fear of crime and individual well-being can also be indirect. The key hypothesis is that fear of crime might motivate individuals to take measures to prevent the risk of victimization, which might alter their routine activities; if such changes, however, involve restrictions of activities, they may end up damaging individual wellbeing (Jackson & Stafford, 2009; Liska et al., 1988). Such precautionary measures may include avoidance behaviours related to specific urban areas (Dubow, McCabe, & Kaplan, 1979; Miethe, 1995), use of public transport at specific times, night-time activities, bar attendance, shopping at particular areas (Clarke & Lewis, 1982; Mesch, 2000; Miethe, 1995; Yin, 1980), ownership of guns (Hauser & Kleck, 2010), carrying whistles (Ferguson & Mindel, 2006), self-defense training, and travelling in groups (Miethe, 1995).

Analyzing data from a large-scale survey, Liska et al. (1988) explored reciprocal effects of fear of crime and constrained social behaviour. The constrained behaviours that were tested pertained to the frequency of entertainment, night-time activities and changes in routine activities because of crime. Their results suggested that higher levels of fear of crime were related to higher levels of constrained behaviour, and constrained behaviour was in turn related to higher fear of crime.

Turning to the consequences of the fear of crime at the non-individual level, the criminological emphasis has been placed on the impact of fear of crime on collective

well-being either directly or indirectly through punitive attitudes (Garofalo, 1981). Direct links between fear of crime and collective well-being are based on the assumption that the former might damage social interaction, informal social control, collective efficacy and social solidarity (Gibson, Lovrish, & Gaffney, 2002; Liska & Warner, 1991; Sutherland et al., 2013; Swatt et al., 2013; Villarreal & Silva, 2006; Wickes, Hipp, Zahnow, & Mazerolle, 2013) or more generally, might lead to community withdrawal, which in turn weakens social bonds (Markowitz, Bellair, & Liska, 2001; Robinson, Lawton, Taylor, & Perkins, 2003; Wyant, 2008).

An alternative model, based on the Durkheimian notion of ‘mechanical solidarity’ (Durkheim, 1984), posits that more ‘fear’ might be related to heightened solidarity (Hawdon, Rasanen, Oksanen, & Vuori, 2014; Lauderdale, 1976; Liska & Warner, 1991), just like the occurrence of crime has been assumed to stimulate solidarity (*see* Collins, 2004; Hawdon et al., 2014). Conklin (1975), however, questioned this idea, suggesting instead that crime produces fear of crime, and that fear of crime in turn unleashes a series of negative social outcomes, such as heightened interpersonal distrust, deficit of formal and informal social controls, and decreased levels of social interaction. In a recent study that explored associations between fear of crime that attacks the collective, such as fear of terrorism and school shootings, and community solidarity in two Finnish communities, Hawdon et al. (2014) found that fear of collective-targeted violence was either unrelated or negatively related to community solidarity, depending on the community examined and the type of crime.

Indirect links between fear of crime and collective wellbeing have also been studied, testing as intervening variables mostly public attitudes to the formal social control of crime (Garofalo, 1979). The key assumptions here are that fear of crime might reduce support of liberal penal policies, and pave the way for higher demand for punitive policies (Cullen, Clark, Cullen, & Mathers, 1985; Hough, 2002; Langworthy & Whitehead, 1986); increased punitiveness might in turn undermine the importance of legitimacy of the criminal justice system and procedural justice (Hough, Jackson, Bradford, Myhill, & Quinton, 2010; Hough, 2002), and intensify scapegoating and vigilant attitudes (Scheingold, 1984), which erode collective wellbeing. Sprott & Doob (1997), for instance, found that fear of crime was positively associated with the research participants’ perceptions of adult sentences as lenient, controlling for gender, age and previous victimization. Overall, however, research findings are mixed in this area (*see* for example Beckett, 1999; Cullen, Fisher, & Applegate, 2000), with the biggest obstacle to drawing firm conclusions being the unclear direction of the associations in question.

**Table 2: ‘Determinants’ and consequences of the fear of crime**

‘Determinants’ of the Fear of Crime		
	Actual	Perceived
Individual level	Victimization experience; Objective vulnerability  <i>Key explanatory variables:</i> past experiences of victimization (direct/indirect)	Perceived vulnerability  <i>Key explanatory variables:</i> exposure to non-negligible risk, loss of control, anticipation of serious consequences, gender identity
	Objective vulnerability  <i>Key explanatory variables:</i> sex, age, socio-economic status, disability, occupation	
Non-individual level	Crime/victimization rates  <i>Key explanatory variables:</i> crime statistics at the local and/or country levels; prevalence of victimization at the local and/or country levels	Signs of the crime threat at the local and/or national levels  <i>Key explanatory variables:</i> physical and social incivilities, collective efficacy, social cohesion, social solidarity, media images of crime, signal crimes
	Social disorganization  <i>Key explanatory variables:</i> physical and social incivilities, population density, population mobility, ethnic diversity	
Consequences of the Fear of Crime		
	Individual wellbeing	Collective wellbeing
Direct link	Mental and physical health  <i>Key variables tested:</i> depression, exercising, emotional functioning	Social interaction; social categorization  <i>Key variables suggested:</i> sense of belongingness, in-group identification, out-group derogation
Indirect link	Change of routine activities  <i>Key variables tested:</i> avoidance behaviours, use of public transport, nighttime activities, gun ownership, installation of alarms and locks, precautionary measures	Punitiveness  <i>Key variables tested:</i> attitudes to the criminal justice system, evaluation of effectiveness of law enforcement agencies, demand for punitive penal policies

## 2.5 Summary

The second chapter of the current thesis provided an overview of the main conceptualizations, operationalizations, measurements of and theoretical approaches to the fear of crime in the criminological literature. Following a brief history of the fear of crime in public and criminological discourses, it has been shown how its origins have determined the agenda of criminological research in terms of the ‘dominant’ definitions of the phenomenon, the ‘dominant’ methodologies of its empirical exploration and the ‘dominant’ interpretations of associations with its explanatory factors and its consequences.

Fear of crime is a multi-faceted social phenomenon and criminological construct. It refers to public reactions to crime and the risk of victimization, and comprises affective, behavioural and cognitive components. Fear of crime is empirically explored mainly through quantitative methodologies, with the survey being the prevalent methodological approach. The theorization of the phenomenon has focused on both its ‘causes’ and ‘consequences’. The former includes *actual* crime at the individual and community or national levels, such as crime and victimization rates, objective vulnerability, objective incivilities, as well as *perceived* crime at the individual and community or national levels, such as perceived vulnerability, perceived incivilities, media images of crime, and signal crimes. The latter includes mainly negative consequences that refer to damages to individual and collective wellbeing, such as physical and mental health problems and erosion of collective efficacy and social interaction, respectively.

In the following chapter, the empirical component of the current thesis is presented. As explained in the introduction of the current document, the empirical papers of this thesis seek to expand the criminological literature on the fear of crime by exploring research questions that have already been tested in criminological research through new theoretical lens and research questions that are examined for the first time in fear of crime research through interdisciplinary theoretical insights and integrated methodological perspectives.

## CHAPTER 3: EMPIRICAL PAPERS

### 3.1 Overview of the empirical studies

The current thesis explores factors that explain variation in different fear of crime reactions and consequences of the fear of crime. To do so, it develops an interdisciplinary theoretical perspective, namely the construal level (CLT) approach (Trope & Liberman, 2010) to the fear of crime, and employs an integrated methodological perspective by combining analysis of data from observational and experimental studies. Its objective is twofold. On the one hand, to explore research questions that have already been tested in criminological literature through novel theoretical lens; on the other hand, to explore research questions that pertain to associations between explanatory factors of the fear of crime, consequences of the fear of crime and fear of crime reactions, which are tested for the first time in criminological literature.

The empirical component of the current thesis comprises four studies that reflect its two main objectives. The empirical papers 1 and 2 relate to the former. They examine associations between fear of crime explanatory parameters and different components of the fear of crime, which have been explored before in the criminological research, partly through CLT lens, drawing on observational data from a large-scale survey. The empirical papers 3 and 4 relate to the latter objective. They examine associations between explanatory factors of the fear of crime, consequences of the fear of crime and the affective component of the fear of crime, which are explored for the first time in criminological research, drawing on experimental data from two online experiments. The ultimate goal of the four studies of the current thesis is to improve the theorization of the fear of crime, and to expand the scope of its empirical exploration.

Before moving on to the papers, a brief overview of each one's content is provided here. The first empirical paper of the current thesis looks at one of the most studied associations in the criminological literature on fear of crime, namely the impact of previous victimization on fear of crime reactions (Shippee, 2012; Skogan, 1987; Winkel, 1998), drawing on observational data from a large-scale survey. It explores whether direct and indirect victimization experience is related to the frequency of worry about victimization in the recent past and to risk perception, including perceived likelihood of victimization, perceived consequences of victimization and perceived controllability of victimization. Interaction effects with the need for cognitive closure as a general personality trait (Kruglanski & Webster, 1996) are also examined; with the question being whether victims of crime, direct and/or indirect, are more likely to express higher levels of frequent worry about victimization and higher levels of risk perception compared to non-victims, depending on how much in need for cognitive

closure they are. To address these questions, the analytical strategy employed pertains to structural equation modeling (SEM).

This research does not test CLT directly; its hypotheses are plausible without using CLT as its theoretical framework, as mentioned above. It functions, however, as the starting point for the CLT approach to the fear of crime that the current thesis seeks to develop. If one was to motivate theoretically the aforementioned associations that the first empirical paper of this thesis tests through CLT lens, they would suggest that previous victimization compared to not having fallen victim involves psychological proximity to crime, and is thus related to higher levels of fear of crime reactions. The type of victimization, however, might make a difference in the magnitude of the association in that direct victimization involves the research participants themselves, and thus more psychological proximity to oneself in the 'here and now'; whereas indirect victimization involves people that the research participants know, and thus more psychological distance from oneself in the 'here and now'. Need for cognitive closure as a personality trait (rather than state) also involves psychological distance and abstract representations of the self; it is thus suggested that its moderating role in the association between victimization experience and fear of crime reactions might depend on the type of the experience in question.

Drawing on the same observational data, the second empirical study of the current thesis examines whether explanatory factors of the fear of crime, which have been tested before in criminological research, are differentially associated with the elements of the same fear of crime component, namely its affective component. This work builds on the previous empirical paper by looking at previously examined associations in the criminological literature on fear of crime, but this time through CLT lens directly. This is a first attempt to develop and test CLT-driven hypotheses in relation to previously examined associations in the fear of crime literature, aiming to enhance their theorization through novel interdisciplinary lens.

The explanatory parameters tested include perceived likelihood of victimization, previous victimization, need for cognitive closure and societal attitudes. The elements of the affective component of the fear of crime, which constitute the response variables in the model, are the frequency of worry about victimization in the past year and the intensity of worry about victimization currently or in the near future (Gray et al., 2008). To test these assumptions SEM is employed in this case too.

Following on from the findings of the first empirical paper of the current thesis, the theoretical motivation, i.e., the CLT approach to the fear of crime, of the second paper's research suggests that past victimization experience, the need for cognitive closure and societal attitudes involve psychological distance from oneself and crime and mental representations of the self and crime. These properties can be used to explain the differences in the magnitude of their association with the two elements of the affective component of the fear of crime. This is because these elements also involve different levels of psychological distance and abstractness of mental construal. The frequency of worry about victimization in the past year is, by definition, past-oriented, involving more psychological distance and more abstract construal compared to the intensity of worry about victimization currently or in the near future, which is

present/future-oriented, and thus involves psychological proximity and concrete construal. The perceived likelihood of victimization, however, instantiates one of the four dimensions of psychological distance, namely its ‘hypotheticality’ dimension (Todorov et al., 2007; C. Wakslak & Trope, 2009). It is thus expected that its impact on past worry and present/future worry about victimization will not be very different in magnitude.

The third empirical study of the current thesis draws on experimental data from an Amazon Mechanical Turk experiment, exploring the impact of different types of crime representations on the affective component of the fear of crime. In particular, it looks at whether thinking about hypothetical crime events in a high-level, abstract manner, by focusing on their causes, is associated with lower levels of worry about victimization on average, compared to thinking about hypothetical crime events in a low-level, concrete manner, by focusing on their consequences. Interaction effects with the psychological distance from crime in time, space, social distance and ‘hypotheticality’, which is measured using a semantic differential scale, are examined too. The main CLT-driven assumption is that experiencing crime as psychologically proximal to the ‘here and now’ is related to higher levels of worry about victimization; the association, however, might be moderated by the level of crime construal that one has developed. To explore these hypotheses analysis of variance and regression analysis are conducted.

The theoretical, CLT-driven, motivation of this research draws on CLT findings, which show that a causes-focused mindset constitutes high-level construal, whereas a consequences-focused mindset constitutes low-level construal. This is because consequences depend on causes, and are thus secondary and incidental features of distal events, whereas causes do not depend on consequences, and are thus primary and universal features of distal events (Rim et al., 2013). Moreover, CLT has shown that psychological distance and mental construal, exert their influence on affective evaluations of distal objects via distinct paths (Williams et al., 2014). Psychological distance is related to affect by shifting its *intensity*; mental construal is related to affect by shifting its *valence* (*ibid.*). Therefore, psychological distance hurts evaluations of positive experiences by decreasing the intensity of positive affect, but improves evaluations of negative experiences by decreasing the intensity of negative affect. Conversely, abstract construal shifts the valence of experiences, improving affective evaluations of both positive and negative experiences (*ibid.*). The inherently negative nature of crime and worry about crime, however, suggests that the impact of psychological distance and mental construal might not only be separate in the case of the fear of crime, but also interactive.

The fourth, and last, empirical paper of the current thesis builds on the previous study, also drawing on experimental data from an Amazon Mechanical Turk experiment. The focus is on associations between different levels of crime information processing, worry about victimization and social categorization biases. The first objective is to look at whether processing information about real crime events by adopting an inactive engagement with them or a high-level active engagement or a low-level active engagement with the information explains variation in worry about

victimization. The moderating role of perceived likelihood of victimization as the ‘hypotheticality’ dimension of psychological distance in the aforementioned association is also explored. The second objective is to look at whether both the level of crime information processing and the worry about victimization, as an indicator of deteriorating wellbeing at the individual level, impact on processes of social categorization, namely in-group identification, out-group derogation and racist attitudes, which are considered to erode social interaction, and thus collective wellbeing. To explore these assumptions, the experimental data are analyzed through multiple linear regression models.

The theoretical motivation of this research, based on the CLT approach to the fear of crime, stems from the CLT distinction between the high-level, causes-focused, mindset and the low-level, consequences-focused, mindset, as in the third empirical study. It expands, however, this work in two ways. First, one more layer is added to the crime information processing, namely the ‘inactive’ engagement, aiming to bring the manipulation of crime construal closer to ‘real-life’ situations, where people might read crime news without further mental engagement with it. Second, the crime information processing involves real crime events in this case as opposed to hypothetical crime events, which was the case in the third empirical study. It is expected that the nature of the information in question influences the association between crime construal and affective reactions to crime.

Finally, the relationships between crime information processing, worry about victimization and social categorization draw on psychological literature on managing self-uncertainty. The main assumption is that the psychological proximity to crime that is involved in particular levels of crime information processing and in worrying about falling victim of crime motivates attempts at resolution. One such type of resolution pertains to processes of social categorization; these processes, however, might hurt social interaction, by being channeled into social categorization biases, and thus collective wellbeing (Gaertner et al., 2010).

## PAPER 1

# Threatened by Violence: Affective and Cognitive Reactions to Violent Victimization

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### Abstract

Stranger violence can have a variety of different physical, psychological, social, and economic effects on the victim. In this article, we address one possible impact, namely, a heightened sense of uncertainty, risk, and fear of violent crime. Drawing on recent advances in the psychology of risk, we make three contributions. First, we differentiate in our analysis between primary experience of violence (where the individual in question has been attacked by a stranger in the local streets) and secondary experience of violence (where the individual knows somebody who has been attacked in the local streets by a stranger). Second, we assess whether risk perception (beliefs about the likelihood, impact, and controllability of future victimization) mediates the empirical links between primary and secondary experience of violence and worry about violent crime. Finally, we examine whether victimization experience seems to have a greater impact on risk perception and worry among people with a high need for cognitive closure (who are averse to uncertainty and desire order and structure in their lives). Our findings indicate a number of potentially important mediating and moderating effects regarding the impact of stranger violence on fear of violent crime. We conclude with some implications for research and policy.

### Keywords

violence, victimization, fear of crime, risk perception, need for cognitive closure

### Introduction

Violence can have a variety of different physical, psychological, and socioeconomic effects on victims, communities, and societies (Denkers & Winkel, 1998; Green & Diaz, 2007; McCann, Sakheim, & Abrahamson, 1988). Violence damages educational attainment and income realization in early adulthood (Macmillan, 2001), exacerbates unemployment or occupational maladjustment after the incident (e.g., Hanson, Sawyer, Begle, & Hubel, 2010; Mezey, Evans, & Hobdell, 2002; Resick, Calhoun, Atkeson, & Ellis, 1981), and harms psychological well-being and interpersonal relations (Becker, Skinner, Abel, & Cichon, 1986; Bunch, Clay-Warner, & McMahon-Howard, 2014; Burnam et al., 1988; Golding, 1999; Green & Pomeroy, 2007; Hanson et al., 2010; Lurigio, 1987; Macmillan, 2001; Yap & Devilly, 2004). Violence can also impair the socioeconomic conditions of individuals and families, especially in conjunction with existing problems of poverty and addiction (Denkers & Winkel, 1998; Kilpatrick,

Acierno, Resnick, Saunders, & Best, 1997; Koss, Woodruff, & Koss, 1990; Norris & Kaniasty, 1994).

One of the peculiarities of violent victimization pertains to its long-term aftermath. Victims of violent crime tend to suffer its effects for longer periods of time compared with victims of other crimes (Davis, Taylor, & Lurigio, 1996; Hanson et al., 2010; Macmillan, 2001; Norris & Kaniasty, 1994). Turner et al. (2006) found that cumulative exposure to different types of victimization over a child's life course constitutes a substantial source of depression, aggression, and other mental health risks. Other studies have shown that violent victimization and exposure to violence in the community can have independent and cumulative effects on adolescent mental health, with symptoms ranging from depression, anxiety, and posttraumatic stress disorder (PTSD) to substance abuse and criminal offending (Kilpatrick et al., 1985; Kort-Butler, 2010; Kunst, Winkel, & Bogaerts, 2010). In work investigating the pathways to self-harm (other than suicide) among women, Nada-Raja and Skegg (2011) found that past victimization and PTSD were significant predictors of self-harm. One possible explanation of the long-term effect of violence on mental health and well-being is that violence can shatter the belief in personal invulnerability and create a sense of uncertainty and disempowerment (Green & Pomeroy, 2007; Janoff-Bulman & Frieze, 1983; Macmillan & Hagan, 2004).

In this article, we assess some of the empirical links between prior violent victimization, people's subjective risk judgments, and the frequency with which they worry about violent victimization. Building on extant work into fear of crime and the psychology of risk (Custers & Van den Bulck, 2012; Jackson, 2011, 2013; Killias, 1990; Shippee, 2013; Warr, 1985, 1987; Winkel, 1998), we consider two potential downstream effects of stranger violence: first, that victimization experience links to people's subjective sense of the likelihood, impact, and uncontrollability of violence; and second, that this seemingly elevated sense of risk in turn explains variation in worry about crime. We also examine whether people's need for cognitive closure alters the fitted relationships between victimization experience, risk perception, and worry. According to prior theory (e.g., Kruglanski & Webster, 1996), people who are high in need of cognitive closure prefer definite knowledge, dislike uncertainty, and are motivated to attain and maintain closure (i.e., an answer to an ambiguous situation). We explore the relevance of such motivated tendencies and proclivities regarding knowledge and certainty to the estimated impact of violent victimization. We examine whether people with a high need for cognitive closure seem to be especially troubled by the sense of uncertainty and threat that the experience of crime can create.

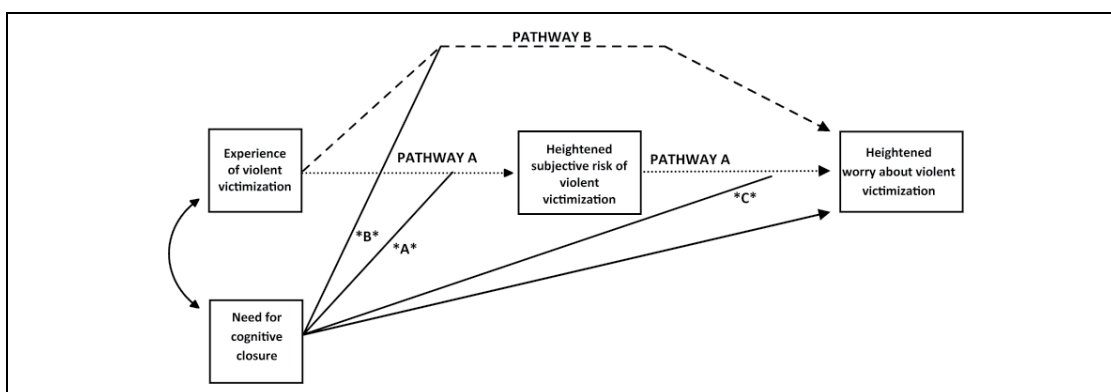
Following a common empirical strategy in the fear of crime literature (for reviews, see Farrall, Jackson, & Gray, 2009; Hale, 1996), we compare average levels of risk perception and worry about future victimization among people who have (a) experienced primary violent victimization in the past 5 years, (b) experienced secondary violent victimization in the past 5 years, and (c) not experienced primary or secondary victimization in the past 5 years. Drawing on data from a national probability survey of the general populations of Italy, Bulgaria, and Lithuania, and building on prior research into the impact of victimization, we differentiate between primary

experience of stranger violence over the past 5 years (where the individual in question has been physically attacked in the local streets by a stranger) and secondary experience of stranger violence over the past 5 years (where the individual knows of someone who has been physically attacked in the local streets by a stranger). Using structural equation modeling to estimate additive and interactive statistical effects, we examine empirical associations between violent victimization, need for cognitive closure, risk perception, and worry about future victimization. While we analyze observational data, we hope that our findings nevertheless shed light on how victimization experience links to the salience and appraisal of risk regarding future victimization.

The article proceeds as follows. After giving a brief sketch of how the various predictions come together to form a coherent whole, we describe more fully each of the three main objectives. We then outline the methodology. Following a presentation of findings, our concluding remarks focus on future avenues of research, as well as some policy implications of our results.

## An Overview

Figure 1 gives an overview of the three main objectives of the study in the form of potential pathways between victimization experience and worry. Note that because we employ data from a national probability survey of three European countries, our empirical strategy involves estimating conditional correlations in the various populations of interest. With that caveat set, consider some possible empirical links between the constructs depicted in Figure 1.



[Figure 1](#). Overview of the theoretical model.

We first examine whether primary and secondary victims of violence are more worried about crime than nonvictims and, if they are, whether seemingly elevated perceptions of risk among victims explain some or all of the statistical effects. Following recent criminological research into the psychology of risk, we define subjective risk as perceptions of the likelihood and controllability of the uncertain and undesirable event, as well as perceptions of the impact of the event if it were to occur (see, *inter alia*, Acuña-Rivera, Brown, & Uzzell, 2014; Custers & Van den Bulck, 2012; Ireland, 2011; Jackson, 2006, 2009; Killias, 1990; Killias & Clerici, 2000; Shippee, 2013; Warr, 1987; Warr & Stafford, 1983). Conceiving of personal threat as not just one's subjective probability of a negative uncertain event, but also one's beliefs about its controllability

and consequences, we examine whether victims of violence (compared with nonvictims) tend to see violence as more likely, as more consequential for the victim, and as more difficult to control. We also assess whether varying levels of risk perception help to explain why victims of violence worry more than nonvictims. Might experience of violence be related to higher on average subjective risk? Might heightened subjective risk in turn be related to higher average levels of worry about violent attack?

The second objective is to examine “risk sensitivity” (Warr, 1985) in the context of interpersonal violence. Risk sensitivity is the idea that likelihood and other risk judgments (like impact) “multiply” to generate emotional response (meaning an interactive, rather than additive, statistical effect should be observed). Imagine a hypothetical dial that you can use to shift up or down the level of everyone’s subjective probability of violent victimization. Turn the dial up and everyone’s perceived likelihood goes up. Turn the dial down and everyone’s perceived likelihood goes down. According to the risk sensitivity model, turning the dial up will result in higher expected levels of worry for the entire group, but the increase in average levels of worry will be especially strong among those who associate violence with especially serious personal consequence (Warr, 1987), who believe that violence is difficult to control (Jackson, 2011), and who already have an aversion to ambiguity (Jackson, 2013).

As the dial is turned up, the increased likelihood brings the event closer to oneself subjectively, and emotional response heightens. But the frequency and impact of worry is expected to be stronger among individuals who believe that violence has an especially severe impact on the victim and who represent the event as highly difficult to control. Why might risk sensitivity be relevant to the relationship between the experience of violence and worry about violent victimization? It seems to us plausible that, as a result of their experience, primary and secondary victims tend to represent the expected impact of violence as higher and its controllability as lower compared with people without direct or vicarious experience. The very fact that the event has transpired may raise (on average) the possibility that it could happen again, may make it seem (on average) more difficult to control by the victim because it has occurred already, and may make the consequences (on average) seem more severe. If this is so—and if perceived control and perceived consequence strengthen the fitted relationship between subjective probability and affect (Jackson, 2011, p. 516; Warr, 1987, p. 38)—then we might reasonably conclude that victims of violence are more “sensitive to risk” than nonvictims. Victims (a) see their risk to be higher than nonvictim and (b) these constitutive elements of risk perception subsequently combine interactively to predict frequent worry about crime.

The third objective is to consider the relevance of need for cognitive closure to the potential impact of violent victimization on worry about crime. Psychological research has shown that people vary in their basic need to believe that things are stable, certain, and predictable. Need for cognitive closure refers to an epistemic function of closed-mindedness (vs. open-mindedness) that shapes how people make sense of and form knowledge about the world (Kruglanski, 2004; Kruglanski & Webster, 1996). On one hand, people with a high need for cognitive closure are said to prefer their world to be

“black-and-white,” that is, clear, understandable, and easily categorizable. On the other hand, people with a low need for cognitive closure seem to prefer variety, flexibility of thought, and uncertainty (and as such tolerate ambiguity). Prior criminological work (Jackson, 2013) has found that need for closure moderated the observed association between perceived likelihood and worry about crime. Might need for cognitive closure also moderate the estimated impact of violent victimization? We assess whether victims who prefer definite knowledge and eschew uncertainty seem to be especially affected by the sense of risk and unpredictability that violence conceivably brings into their lives.

Having presented a general overview of the three objectives of the present study, we expand on each in more detail in the next three sections. The first relates to the idea that risk perception links prior victimization experience to worry about future victimization.

### *Objective 1: Does Risk Perception Mediate the Relationship Between Victimization and Worry?*

The association between previous victimization and fear of crime is one of the most studied topics in the fear of crime literature, and most of this work distinguishes between types of crime (e.g., violent and property crime) and between direct (primary) versus indirect (secondary) victimization (see Brunton-Smith & Sturgis, 2011; Drakulich, 2015; Riggs & Cook, 2014; Rountree, 1998; Tyler, 1980). Out of this body of research has come a good deal of evidence that the more experience people have of victimization the more fearful they are on average, albeit with a fair amount of variation in the strength of the estimated effects (Balkin, 1979; Covington & Taylor, 1991; Garofalo, 1979; Kury & Ferdinand, 1998; Liska, Sancirico, & Reed, 1988; Rountree, 1998; Skogan, 1987; Skogan & Maxfield, 1981; Stafford & Galle, 1984). Moreover, hearing about events and knowing others who have been victimized is also associated with greater fear of crime (Chiricos, Eschholz, Gertz, & Chiricos, 1997; Covington & Taylor, 1991; Ferraro, 1995; Kinsella, 2012; LaGrange, Ferraro, & Supancic, 1992; Skogan & Maxfield, 1981; Tyler, 1980, 1984; Villarreal & Silva, 2006; Winkel, 1998).

Given the focus of the current study on worry about future victimization, it is important to define worry clearly. To do this, we draw on Berenbaum’s (2010) *initiation–termination two-phase model*. Berenbaum defines worry as repetitive and anxiety-producing thoughts that have three characteristics: “. . . (1) the repetitive thoughts concern an uncertain future outcome; (2) the uncertain outcome about which the person is thinking is considered undesirable; and (3) the subjective experience of having such thoughts is unpleasant” (p. 963). Uncertainty is central to this definition. As Berenbaum puts it,

If one is certain that an undesirable future event will occur, one can anticipate it and grieve about it, but one cannot worry about it . . . As it turns out, remarkably few outcomes are certain relative to the number of outcomes that are uncertain. (pp. 964-965)

Berenbaum's model draws attention not just to the links between perceived threat and emotion (people worry about an uncertain future event that poses a threat to something of value) but also to worry as a dynamic process that unfolds over time. On one hand, worry is initiated by the perceived probability and cost of undesirable future outcomes, as well as the salience of risk and threat; one may start to worry about an event that suddenly seems likely, costly, and salient. On the other hand, people continue to worry unless they can come to accept the uncertain future possibility and have taken whatever efforts they can to prevent or cope with the threat; one may stop worrying when one becomes comfortable with the possibility that the threat might still be realized. From a psychological perspective, this acceptance of threat is linked to one's desire for certainty, beliefs about the value of worrying, a perseverative iterative style (i.e., the tendency to focus on an object of concern by repeatedly thinking about the next possible step in a chain of connected outcomes), and a sense of closure in one's role to prevent or cope with the threat (i.e., the sense that every possible preventive or coping action has been taken).

Although we do not address many of the more intricate aspects of Berenbaum's account of worry and the worry process, we do use this theoretical model to guide our understanding of the links between prior experience of crime and worry about future victimization. Figure 2 summarizes the first objective, which is to investigate whether primary and secondary victimization predict worry about future victimization directly (bypassing risk perception) and indirectly (where the estimated statistical effects run via risk perception). Note (a) that there are multiple pathways linking previous victimization to risk perception to worry about violence (these are posited mediational paths running from both primary and secondary victimization via the three different dimensions of risk perception) and (b) that the two pathways denoted "B" link primary and secondary victimization directly to worry (these are posited statistical effects bypassing risk perception).

According to the proposed pathways from victimization experience to risk perception to worry, primary and secondary victims of stranger violence are expected to have higher on average levels of worry about violent victimization (in the case of primary victims of it happening again, and in the case of secondary victims of it happening to oneself) than nonvictims because of a seemingly heightened sense of personal risk. In particular, primary and secondary victimization experience may shape people's beliefs about the likelihood, impact, and controllability of stranger violence (higher average levels of perceived likelihood, higher average levels of perceived consequence, and lower average levels of perceived control), leading the two victim groups to have heightened levels of risk perception compared with the nonvictim group. Risk perception may then be strongly associated with worry about future victimization, with higher levels of worry being expressed by the two victim groups compared with the nonvictims. Given the dynamic nature of the worry process, a heightened sense of risk may at first initiate worry but then maintain the worry process through a continuing sense of threat.

Having considered the possibility that risk perception mediates the estimated statistical effects of victimization on worry, we consider next the potential direct effect

of victimization experience on worry (see the two “B” pathways in Figure 1). Why might past experiences of stranger violence

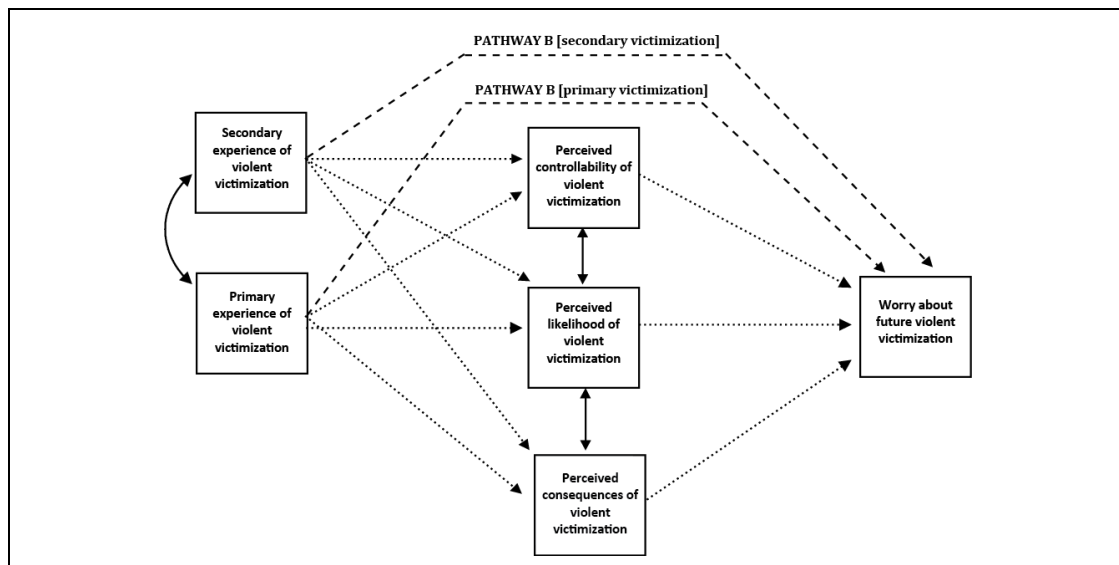


Figure 2. Additive associations between victimization experience, risk perception, and worry about stranger violence.

predict worry about falling victim of violence directly, that is, irrespective of perceived risk? Berenbaum’s model is again instructive in that the definition of threat includes not just probability and impact but also the salience of risk and threat. The addition of salience in the definition reflects a rather fundamental point: namely,

. . . that the number and variety of undesirable outcomes that could befall individuals is unlimited. As a result, humans are constantly surrounded by potentially threatening stimuli. Despite this, most people most of the time, are not aware of the threats to their safety and well-being. In order to perceive a threat one must be aware of its presence. (Berenbaum, 2010, p. 966)

From this perspective, one may view any number of future uncertain events as likely and costly, but one might also have to see a particular event as salient to be worried about that transpiring rather than another event. In the current context, it is plausible that primary and secondary victimization experience makes crime salient, thereby explaining any direct statistical effect of victimization experience on worry that bypasses risk perception. Although this is pure speculation, it may be that salience works in part via affective imagery, that is, mental representations of the risk that have feelings attached because of prior experience and prior learning (Slovic et al., 2004). It seems to us plausible that experiencing directly the event and hearing about somebody else being physically attacked generates representations of violence that have an affective charge, which in turn heightens salience.<sup>1</sup>

## *Objective 2: Are Victims Sensitive to Risk?*

At the heart of the assumption of risk sensitivity (Warr, 1985, 1987) are two linked ideas: that (a) “perceived likelihood multiplies with perceived consequence” to produce the emotional appraisal of threat and (b) different social groups associate victimization with different levels of expected consequence (and, in an extension of this work, with different levels of expected controllability). The risk sensitivity perspective seeks thus to explain why different groups will be differentially fearful even if they see the likelihood of crime to be equally low or equally high (Chadee, Austin, & Ditton, 2007; Custers & Van den Bulck, 2012; Jackson, 2011; Warr, 1987)

In the first study on this topic, Warr (1985) considered the idea that females tended to see crimes as more serious than males partly because they tended to view certain types of crime as a prelude to more serious ones (so-called “perceptually contemporaneous offenses” as one event is judged to covary with another event). He found that the association between perceived likelihood and worry was stronger among people who believed a particular crime was especially serious—and was associated with other crimes (e.g., where burglary could also lead to sexual assault). He concluded with the notion that people are “sensitive to risk” when they associate a particular event with very serious consequences, such that an increase in the subjective probability of a hazard will have an especially strong impact on fear of (or worry about) future victimization.

This work has since been extended to include perceived control and need for cognitive closure. First, Jackson (2011) found that a sense of personal consequence and a sense of control moderated the observed association between perceived likelihood and worry. The observed correlation between perceived likelihood and worry about future victimization was stronger among people who associated criminal victimization with strong personal consequences and among people who believed these events were difficult to control. Second, Jackson (2013) found that need for cognitive closure strengthened the observed correlation between perceived likelihood and worry. The observed correlation between perceived likelihood and worry about future victimization was stronger among people who had a strong need for certainty, order, and structure.

To our knowledge, the idea that victims are more sensitive to risk than nonvictims has not yet been studied. To fill this gap, we test two connected predictions:

1. that victims tend to believe that victimization is less controllable and more serious in its impact (compared with nonvictims) and
2. that perceived likelihood, perceived control, and perceived consequences have interactive estimated effects on worry about crime. More specifically, that the association between worry and perceived likelihood is higher among people who view the consequences to be high and the controllability to be low.

We predict that the relation between perceived likelihood and worry about stranger violence will be stronger among the two victim groups compared with the nonvictim group, because (a) victims have an elevated sense of the consequences of victimization

and a lower perceived level of control and (b) perceived consequence and perceived control moderate the estimated relationship between perceived likelihood and worry.

Figure 3 gives an overview of the basic elements of the risk sensitivity model, with victim groups added as predictors of risk perception. Interpreting the model through the lens of observational data, we might say that victims may worry more (compared with nonvictims) about a risk that they all construe at a given and fixed level of likelihood, because victims tend to represent the consequences attached to the risk as more serious than nonvictims, and because victims tend to represent the event as less controllable than nonvictims. Viewed through the lens of experimental data, we might say that a given exogenous increase in the subjective probability of victimization may have a bigger impact on the affective response of victims than it would have on the affective response of nonvictims, again because victims tend to construe the event as more severe in its consequences and more difficult to control.

*Objective 3: Does the Need for Cognitive Closure Heighten the Estimated Impact of Victimization on Risk Perception and Worry?*

The final part of our framework focuses on people's aversion to uncertainty and their preference for definite knowledge. According to Kruglanski and Webster (1996) need for cognitive closure is

. . . a desire for definite knowledge on some issue and the eschewal of confusion and ambiguity . . . need for closure is presumed to exert its effects via two general tendencies: the urgency tendency, reflecting the inclination to attain closure as quickly as possible, and the permanence tendency, reflecting the tendency to maintain it for as long as possible. (p. 278)

Might the associations between victimization, perceived risk, and worry be moderated by need for cognitive closure? Might, in other words, the impact of violent victimization on risk perception and worry depend on a psychological proclivity to order and certainty in people's lives?

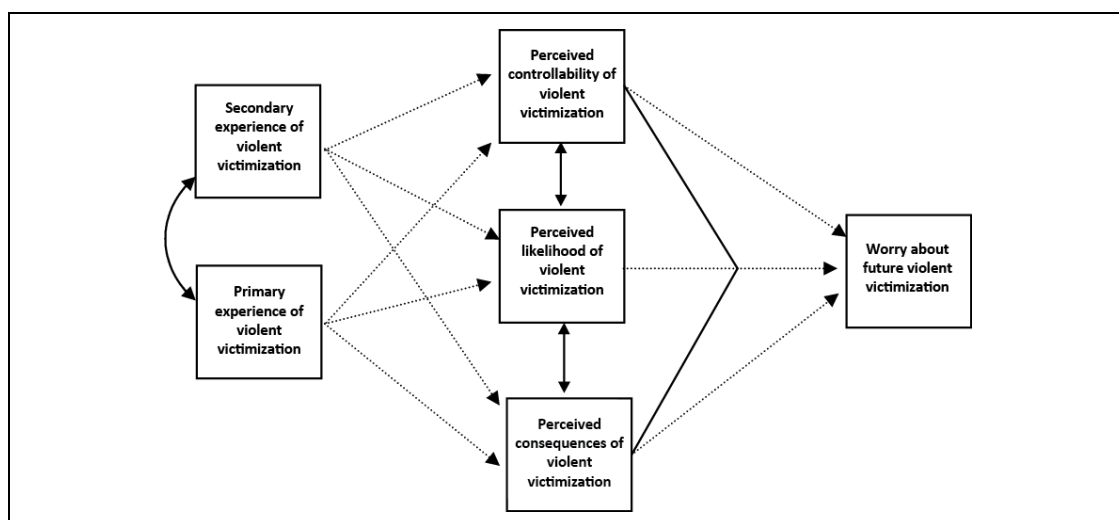
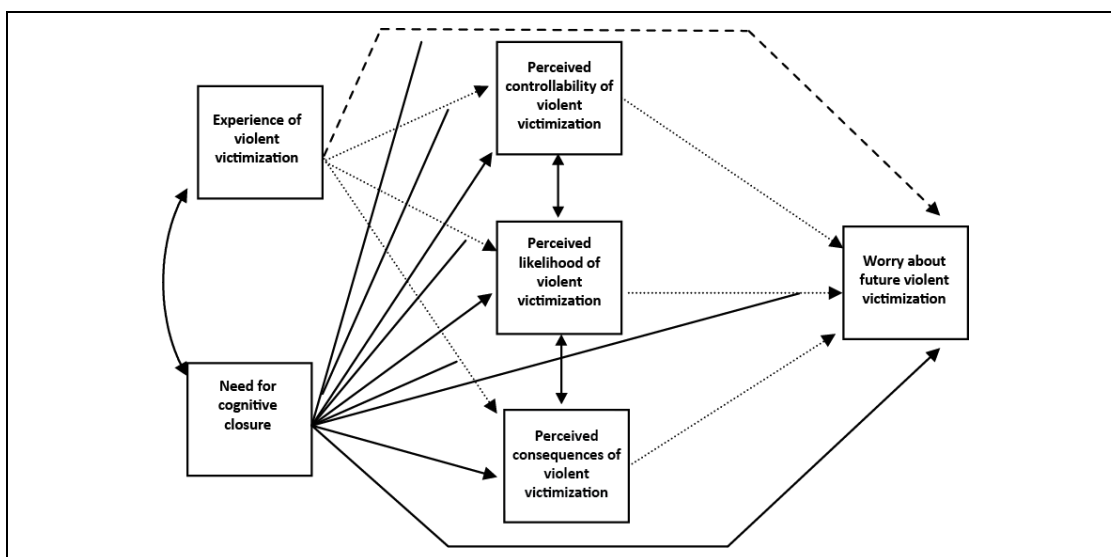


Figure 3. Risk sensitivity.

Prior theory suggests that need for cognitive closure could moderate the estimated statistical effects of primary and secondary victimization (Figure 4). Recall that our definition of worry stresses uncertainty in the face of a negative outcome possibly being realized. By heightening subjective risk, primary and secondary victimization brings uncertainty into people's lives, where what was previously a rather abstract and irrelevant potential event suddenly becomes something psychologically present and real. In the immediate aftermath of victimization, one would predict that people with a high need for cognitive closure will be motivated to act in ways that reduce the uncertainty by, for example, seeking information about the danger in an attempt to reduce their risk status and trying to do all that they can do to stop worrying (because they are averse to uncertainty).

Yet, theory also predicts that people with a high need for cognitive closure will use less complex information-seeking strategies, to employ more basic heuristics, and to more readily "seize" on media representations of crime and "freeze" on the sense of risk and harm (cf. Kruglanski & Webster, 1996). They are expected to process less information before committing to a judgment, to base judgments on early cues, to rely on stereotypes rather than de-individuating information, and to be motivated to keep close to initial impressions rather than correct them in the light of subsequent evidence.

Accordingly, we predict that victimization experience has stronger statistical effects on risk perception and worry among people with a high need for cognitive closure (Figure 4). People with a high need for cognitive closure may "seize" and "freeze" on information from the experience itself



[Figure 4.](#) Interactive statistical effects of primary victimization and need for cognitive closure on risk perception and worry about victimization.

and from that sought in the aftermath. They try to make sense of the sudden salient risk, yet ironically, their aversion to uncertainty and rush to try to reduce uncertainty may, if anything, increase subjective threat and produce more powerful affective imagery. Take secondary victimization experience: People with a high need for cognitive closure may

be motivated to find out as much as possible about their own personal risk as a way of getting closure, yet their strategies for searching for information may lead them to find out more about the event and “freeze” on frightening details. This may help to only increase risk salience and thus only to heighten their worry about future victimization.

Finally, we posit a statistical interaction between need for cognitive closure and perceived likelihood on worry (Figure 4). As mentioned earlier, Jackson (2013) found that need for cognitive closure increased the fitted relationship between perceived likelihood and worry. This suggests that risk sensitivity is not just about representations of the impact and the controllability of a given personal threat but also about the individual differences in need for order, certainty, and predictability.

### Present Study

To recap, we examine first whether primary and secondary victims tend to see their personal risk of future victimization to be higher than nonvictims, and whether perceived risk and victimization in turn predict worry; second, whether primary and secondary victims are more sensitive to risk than nonvictims; and third, whether need for cognitive closure affects the associations between prior victimization, risk perception, and worry.

### *Method*

Our data come from a nationally representative survey of adults in Italy, Bulgaria, and Lithuania, conducted between October and November 2010 as part of the project, Euro-Justis (Hough & Sato, 2011), which was funded by the European Commission under the 7th Framework Programme. The Italian sample comprises 522 individuals, aged 16 years and older, with a response rate of 28%. The sample was selected via quota sampling, using regions and city sizes (interlocked), gender and age (interlocked), education level, and occupation as quotas. The 111 sampling points were selected randomly. The Bulgarian sample covers the entire population of Bulgaria aged 18 years and older, with a response rate of 63%. The sampling method followed was a two-stage random route cluster sample: first, selecting 126 random nationwide sample of clusters based on a list of electoral sections and, second, selecting the 1,008 participants themselves. The Lithuanian sample comprised 1,021 individuals, with a response rate of 37%, using multistage random sampling, covering 18 towns and 54 villages. Table 1 presents the demographic composition of the three samples.

### *Measures*

*Worry about stranger violence.* Our measures focus on the frequency of worry in the past year and the negative impact of worry on one’s quality of life. Echoing the European Social Survey indicators of worry about crime (for more details, see Jackson & Kuha, 2014), respondents were first asked, “During the last 12 months have you ever felt worried about being physically attacked in the street by a stranger?” Those answering yes in the filter question were then asked, “How many times have you felt like this in the past 12 months?”:

*all or most of the time* ( $n = 31$ ), *some of the time* ( $n = 104$ ), *just occasionally* ( $n = 39$ ) and *never* ( $n = 922$ ). Participants who answered yes to the filter question were also asked whether their worry about being physically attacked in the street by a stranger had an effect on their quality of life: *not at all* ( $n = 295$ ), *a little* ( $n = 437$ ), *moderately* ( $n = 239$ ), *quite a bit* ( $n = 39$ ), and *very much* ( $n = 17$ ).

*Risk perception.* Perceived likelihood, control, and consequence were each measured using a single indicator: “How likely do you think it is that you will be physically attacked in the street by a stranger during the next 12 months?”: 1 = *definitely not going to happen* ( $n = 574$ ), 2 ( $n = 759$ ), 3 ( $n = 969$ ), 4 ( $n = 190$ ), 5 = *certain to happen* ( $n = 48$ ); “To what extent do you feel personally

[Table 1.](#) Demographic Composition of the Three Subsamples.

	Education										
	Gender		Age		Education (Years)		Location				
	Male (%)	Female (%)	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	Suburbs or		Town or	Country Village (%)	Farm or
							Big City (%)	Outskirts of a Big City (%)	Small City (%)		Home in the Country (%)
Italy	51	49	48	18	11	5	15	10	28	45	1
Bulgaria	57	43	52	18	12	4	37	6	26	31	0
Lithuania	57	43	51	18	14	4	43	0	22	33	1

able to control whether or not you will be physically attacked in the street by a stranger during the next 12 months?”: 1 = *not at all able* ( $n = 556$ ), 2 ( $n = 553$ ), 3 ( $n = 881$ ), 4 ( $n = 415$ ), 5 = *to a very great extent* ( $n = 143$ ); and “To what extent do you think your life will be affected if you are physically attacked in the street by a stranger during the next 12 months?”: 1 = *not affected much at all* ( $n = 170$ ), 2 ( $n = 277$ ), 3 ( $n = 607$ ), 4 ( $n = 666$ ), 5 = *affected to a very great extent* ( $n = 828$ ).

*Need for cognitive closure.* For reasons of space, a shortened version of the standardized scale of the “need for cognitive closure” (with 42 items), was used, covering four of the five dimensions of the construct (see Mannetti, Pierro, Kruglanski, Taris, & Bezinovic, 2002). Respondents were asked to express their agreement or disagreement, with the following statements: “I enjoy having a clear and structured mode of life” (*order*): *disagree strongly* ( $n = 13$ ), *disagree* ( $n = 141$ ), *neither agree nor disagree* ( $n = 449$ ), *agree* ( $n = 1,077$ ), and *agree strongly* ( $n = 744$ ); “I don’t like to go into a situation without knowing what I can expect from it” (*predictability*): *disagree strongly* ( $n = 18$ ), *disagree* ( $n = 93$ ), *neither agree nor disagree* ( $n = 311$ ), *agree* ( $n = 1,354$ ), and *agree strongly* ( $n = 736$ ); “I don’t like situations that are uncertain” (*ambiguity*): *disagree strongly* ( $n = 24$ ), *disagree* ( $n = 76$ ), *neither agree nor disagree* ( $n = 302$ ), *agree* ( $n = 1,426$ ), and *agree strongly* ( $n = 691$ ); and “I dislike questions which could be answered in many different ways” (*closed-mindedness*): *disagree strongly* ( $n = 43$ ), *disagree* ( $n = 201$ ), *neither agree nor disagree* ( $n = 551$ ), *agree* ( $n = 1,140$ ), and *agree strongly* ( $n = 504$ ).

*Violent victimization.* Two survey questions were used to examine primary and secondary experience of stranger violence. In line with the International Crime and

Victim Survey (Van Dijk, van Kesteren, & Smit, 2007), respondents were asked if they had fallen victim of physical assault in the street by a stranger in the last 5 years (primary victimization); they were also asked if they knew someone in their area who had fallen victim of physical assault in the street by a stranger in the last 5 years (secondary victimization). Pooling the data, there were 116 primary victims, 645 secondary victims, and 92 who had both been a victim of physical assault and knew someone in the locality who had been a victim of physical assault.

### *Analytical Strategy*

To model statistical associations between latent constructs and manifest indicators, we employ a combination of path analysis and structural equation modeling (see Bartholomew, Knott, & Moustaki, 2011). Full information maximum likelihood (FIML) estimation was used to include each respondent's answers in the likelihood function of all fitted models, under the assumption that the missing data were missing at random (MAR; in the sense of Rubin, 1976).<sup>2</sup> Data were pooled from the three countries, with fixed effects for country membership included in the fitted models. Following Jackson (2013), we assume that, although country of residence might predict levels of worrying, country membership will not moderate the strength of the associations between the factors of current interest, for example, perceived likelihood and worry about victimization. Finally, all models were fitted with and without sociodemographic covariates, namely, gender, age, and country of residence. The effect on the key parameter estimates of theoretical interest was, in all cases, inconsequential.

### *Results*

Testing additive and interactive statistical effects of risk perception on worry about stranger violence (see Figure 5), our findings echo previous research into fear of crime (e.g., Custers & Van den Bulck, 2012). We see that perceived likelihood is a strong predictor of worry about victimization ( $b = .21, p < .001$ ), as is perceived consequence ( $b = .12, p < .001$ ) and perceived controllability ( $b = -.18, p < .001$ ). From the two estimated interaction effects, we also see that the association between perceived likelihood and worry is weaker when people feel that violence is controllable ( $b = -.03, p < .05$ ) and stronger when people feel that violence has serious consequences ( $b = .05, p < .001$ ). Of course, these interaction effects are to be interpreted symmetrically. Thus, at high levels of perceived likelihood, the negative association between perceived controllability and worry is stronger and the positive association between perceived consequence and worry is stronger.

Figure 6 adds victimization experience to the model. The pathways from primary victimization to cognitive and affective reactions to violent victimization can be summarized as follows. First, primary victimization is associated with higher fitted levels of perceived likelihood of falling victim of stranger violence ( $b = .46, p < .001$ ),  $p < .001$ ), higher fitted levels of perceived consequences ( $b = .16, p < .001$ ), and lower fitted levels of perceived controllability ( $b = -.28, p < .001$ ). Second, these three aspects

of perceived risk have additive and interactive statistical effects on worry. Third, there is a significant (and large) direct statistical effect of primary victimization on worry ( $b = .78, p < .001$ ).

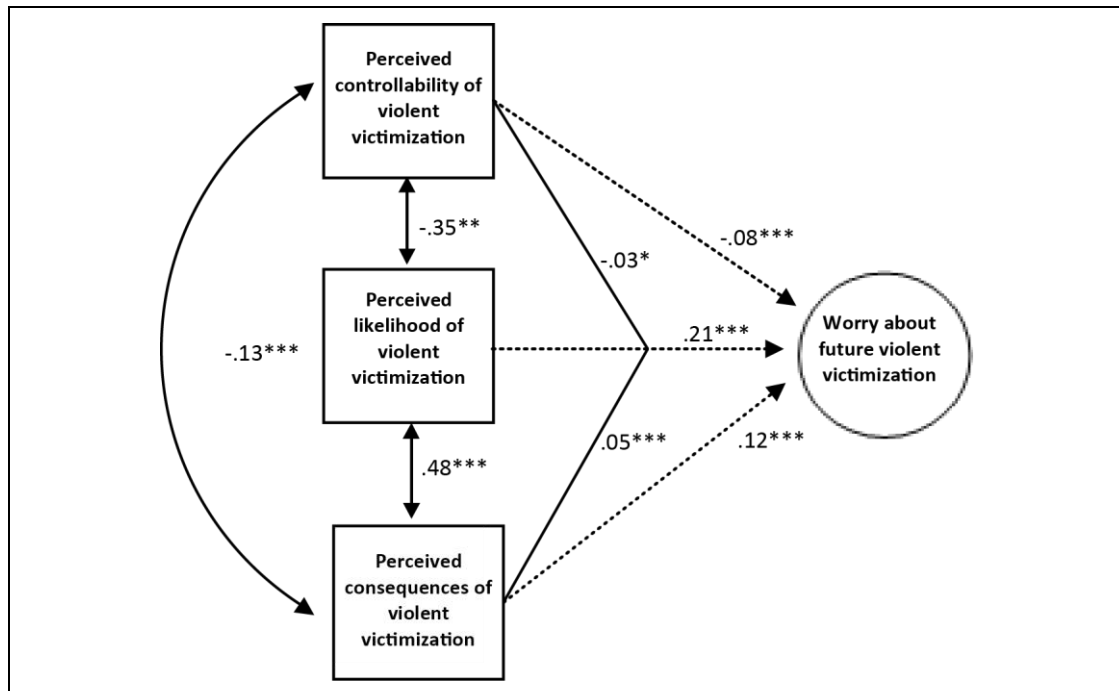


Figure 5. Fitted model of risk perception and worry about stranger violence.

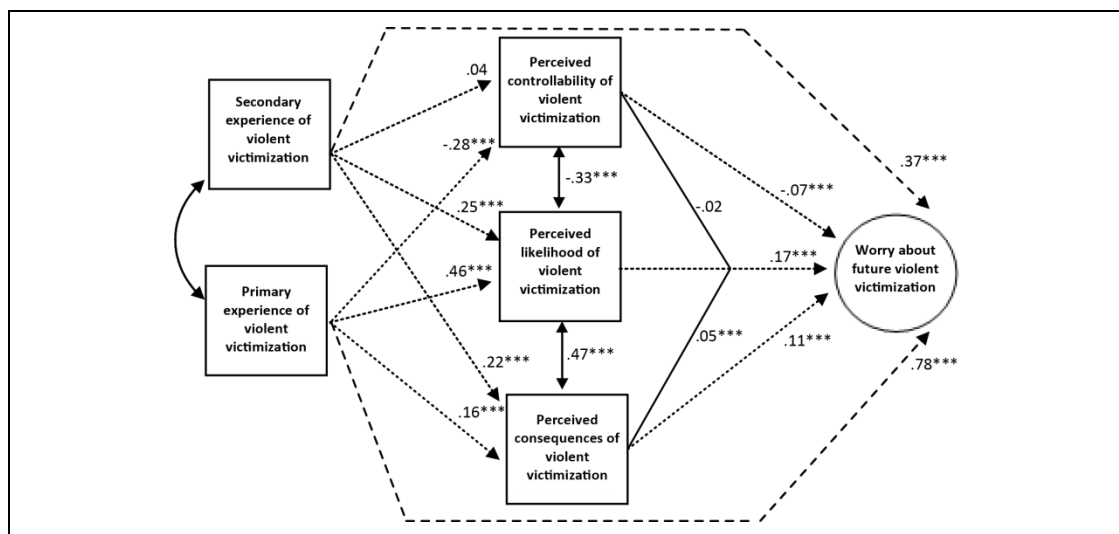


Figure 6. Adding primary and secondary victimization to the fitted model.

What about secondary victimization (Figure 6)? Having heard about others' physical assault in the local streets by a stranger is related to higher fitted levels of perceived likelihood of falling victim of stranger violence ( $b = .25, p < .001$ ) and higher fitted levels of perceived consequences ( $b = .22, p < .001$ ) but not to lower fitted levels of perceived controllability ( $b = .04, p = .33$ ). Moreover, there is a significant direct statistical effect of secondary victimization on worry ( $b = .37, p < .001$ ).

Recall the first objective of the current study, which was to assess (a) whether primary and secondary victimization predicts risk perception and worry about violence,

and (b) whether risk perception mediates some of the statistical effects. Our analysis indicates that both are occurring. What about the second objective—to assess whether victims of crime can be called “sensitive to risk,” in the sense that they hold representations of crime (specifically about its impact and controllability) that heighten the link between subjective probabilities and affect. Combining the finding that perceived consequence of violent victimization interacted with perceived likelihood to predict worry (see Figure 5), with the higher expected levels of risk perception (likelihood and consequence) among primary and secondary victims, we can infer that primary and secondary victims are sensitive to risk.

Primary and secondary victims are more likely to perceive the consequences of a violent victimization as serious compared with nonvictims, and these perceptions strengthen the fitted association between perceived likelihood and worry. This implies, for instance, that primary and secondary victims will worry more than nonvictims *at the same level of subjective likelihood* because they tend to represent the impact of the event as more severe in its consequences than nonvictims.

The final step is to add need for cognitive closure. We find a statistically significant interaction—using latent moderated structural equations, taking into account the nonnormality caused by the latent nonlinear terms (see Klein & Moosbrugger, 2000)—between need for cognitive closure and perceived likelihood when predicting worry ( $b = .17, p < .01$ ).<sup>3</sup> We also test a series of interaction effects involving need for cognitive closure and victimization experience (primary and secondary). Table 2 summarizes the results.

We find no statistical interaction involving need for cognitive closure and primary victimization experience and only one statistical interaction involving need for cognitive closure and secondary victimization experience. Among people with a high need for cognitive closure, the association between secondary victimization experience and worry is stronger, compared with people with a lower need for cognitive closure ( $b = .34, p < .05$ ). If one interprets a statistical effect of victimization experience on worry (one that bypasses risk perception) as a heightened sense of risk salience, then it seems from the current analysis that secondary victimization creates a stronger sense of risk salience among people who desire order in their lives and dislike

[Table 2.](#) Summary of Fitted Interaction Effects Involving Need for Cognitive Closure Moderating Victimization Experience.

	Coeff	SE	Coeff/SE	p value
Predicting worry about future victimization				
Primary victimization experience	.83	.12	7.10	<.0005***
Secondary victimization experience	.38	.05	8.28	<.0005***
Need for cognitive closure	.04	.05	0.87	.39
Need for cognitive closure interaction with primary victimization experience	.20	.33	0.61	.55
Need for cognitive closure interaction with secondary victimization experience	.34	.13	2.54	.01*
Predicting perceived likelihood of violent victimization				
Primary victimization experience	.60	.11	5.72	<.0005***
Secondary victimization experience	.28	.05	6.15	<.0005***
Need for cognitive closure	.00	.07	0.02	.99
Need for cognitive closure interaction with primary victimization experience	-.03	.28	-0.10	.92

Need for cognitive closure interaction with secondary victimization experience	.23	.13	1.72	.09
Predicting perceived consequence of violent victimization				
Primary victimization experience	.03	.12	0.21	.84
Secondary victimization experience	.22	.06	3.9	<.0005***
Need for cognitive closure	.49	.09	5.23	<.0005***
Need for cognitive closure interaction with primary victimization experience	-.14	.34	-0.42	.68
Need for cognitive closure interaction with secondary victimization experience	-.17	.16	-1.07	.29
Predicting perceived control over violent victimization				
Primary victimization experience	-.06	.11	-0.54	.59
Secondary victimization experience	.07	.05	1.26	.21
Need for cognitive closure	.02	.08	0.25	.80
Need for cognitive closure interaction with primary victimization experience	-.11	.31	-0.36	.72
Need for cognitive closure interaction with secondary victimization experience	-.25	.16	-1.56	.12

*Note.* Interaction effects estimated in four blocks, that is, separately for each of worry, perceived likelihood, perceived consequence, and perceived control. coeff = unstandardized coefficient.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

uncertainty and ambiguity, resulting in stronger affective responses. Hearing about someone in the neighborhood being attacked by a stranger in public space may generally create affective imagery of risk that increases the salience of threat, but this may be especially true among people who are averse to the uncertainty that secondary victimization brings. We discuss this further in the “Discussion” section.

## Discussion

### *Summary and Directions for Future Research*

In this study, we have built on a massive amount of research showing that victimization can be a traumatic experience with a variety of negative consequences (Denkers & Winkel, 1998; Green & Diaz, 2007; Norris & Kaniasty, 1994). Drawing on extant work into the psychology of risk, we have linked direct and indirect victimization to people’s feelings and thoughts about the subjective threat of falling victim of stranger violence. Our starting premises have been that (a) the experience of crime can shape perceptions of risk and threat, (b) perceptions of risk and threat comprise not just people’s assessments of the likelihood of victimization but also their beliefs about the seriousness of the consequences if they were to fall victim and their sense of control over the event occurring, (c) these perceptions are correlated with emotional reactions to risk, and (d) need for cognitive closure may also alter the impact of victimization experience on perceived risk and worry about violent crime.

Applying these ideas to stranger violence in public space, we have made three empirical contributions. First, we have shown that primary and secondary victimization experiences are strongly associated with higher levels of worry. Although this may not be terribly surprising to many readers, compared with prior work, the statistical effects of violent victimization on worry about violent victimization were relatively large in magnitude. We recommend that future research assesses whether this is because

physical attack in the local streets by a stranger is a particularly serious and frightening crime.

We also found that the association between victimization experience and worry was only partly mediated by higher fitted levels of perceived likelihood of falling victim of violence, perceived consequence, and perceived controllability (in the case of primary victimization). There were strong direct effects of victimization on worry. More work is needed to assess the meaning of the effects of victimization experience on affect that bypass risk perception. In our view, Berenbaum's (2010) model of worry can guide such work. On his account, threat comprises not just likelihood and impact but also salience. It may be that primary and secondary victimization experience raises the salience of victimization (by generating affectively laden representations of violence, that is, mental imagery, of the uncertain event) in a way that initiates and helps to maintain worry about victimization above and beyond any effects of risk perception.

Second, our study has extended the risk sensitivity framework of Warr and others (Jackson, 2011, 2013; Warr, 1985, 1987). Our data indicate that both primary and secondary victims of violence were sensitive to risk in that they tended to see the consequences to be higher than nonvictims, which in turn seemed to strengthen the conditional correlation between perceived likelihood and worry. This adds to prior evidence that particular social groups (e.g., women) are sensitive to risk because they tend to associate particular crimes with relatively severe consequences (Warr, 1985). We recommend future work attempts to replicate this finding, turns to examine whether other groups are sensitive to risk, and moves to experimental designs to the core idea that it is not just "likelihood + impact = affect" but rather "likelihood  $\times$  impact = affect."

Third, we showed that need for cognitive closure moderated only one of the estimated effects of victimization experience. According to Kruglanski and Webster (1996), people with a high need for cognitive closure rush to answers and certainty, form judgments quickly and strongly, and prefer not to alter their swiftly formed beliefs in the wake of alternative or supplement evidence. Our analysis was guided by the idea that victimization experience brings uncertainty and ambiguity into people's lives, that people with a high need for cognitive closure are motivated to reduce that uncertainty and ambiguity, and that if they cannot do so, they will find the threat particularly unsettling. In accordance with this, we found that high need for cognitive closure seemed to alter the modeled relationships between secondary victimization experience and worry about future victimization. That this was not the case with primary victims suggests something specific about mediated or indirect experience in the context of need for cognitive closure and worry about violent victimization. It is for future research to examine whether secondary victimization hinders the acceptance of nonnegligible risk, whereas primary victimization does not.

One line of future work could focus on need for cognitive closure and information searching and processing in the context of secondary victimization. People with a high need for cognitive closure have a preference for definite knowledge and an aversion to ambiguity. Hearing about local crime events may present a particularly strong threat to their sense of stability and certainty, motivating them to find out more about crime to reduce the sense of threat. Psychological theory predicts that

these individuals will first “seize” on information that permits a judgment on the topic of interest, and second “freeze” on such judgment, becoming relatively closed-minded to alternative information (Kruglanski, Pierro, Mannetti, & De Grada, 2006; Kruglanski & Webster, 1996). By seizing and freezing on information that makes the risk of victimization more personally relevant, these individuals might ironically find it difficult to reduce uncertainty and difficult to become comfortable with nonnegligible risk, meaning that worry about crime becomes more persistent over time.

### *Limitations*

There are, of course, limitations to the study that must be acknowledged. The first stems from its observational nature. While experimental design generates the leverage to isolate and detect causal effects, violent victimization does not lend itself to ethical manipulation under experimental conditions. Modeling naturally occurring variation in general and special populations is thus particularly important. Moreover, this was the first study to assess the links between victimization experience and fear of crime in the form that we developed (i.e., bringing in risk perception and need for cognitive closure). We see the value of an observational snapshot that can highlight regularities for further work to explore in more detail using different methodologies.

The second limitation is our inability to track the dynamics of worry over time. Future research might explore covariates that are related to wider worrying mechanisms, such as need for cognitive closure, using longitudinal research designs. Psychological work shows, for example, that acceptance of nonnegligible risk might decrease worrying. The acceptance that stems from one’s need for cognitive closure has been found to relate to factors, such as disinclination of problem solving approaches to risks, a tendency to avoid exposure to risk, and levels of concreteness of perceived threat and emotional clarity (Borkovec et al., 2004; Davey, 1994; Gohm & Clore, 2002; Stober & Borkovec, 2002). Longitudinal studies could pave the way for the development of more integrated, interdisciplinary approaches to fear of crime.

The third limitation relates to the nature of the explanatory variables that are included in our analysis and which focus on the individual level. Future research might examine whether other types of covariates (e.g., community level and/or societal level) influence the pathways explored in the current study. One example of such factors is the environmental and social characteristics of one’s local area, which have been found to predict fear of crime (see Brunton-Smith, Jackson, & Sutherland, 2014; Brunton-Smith & Sturgis, 2011; Wyant, 2008). Does victimization experience increase people’s perception of neighborhood disorder and social disorganization, with knock-on effects on risk perception and worry about victimization? Another example is national levels of welfare state provision. Previous research has shown, for instance, that welfare security arrangements are negatively related to fear of crime (Hummelsheim, Hirtenlehner, Jackson, & Oberwittler, 2011). Future work may analyze both the neighborhood and national context of fear of crime using an ambitious multilevel framework.

## *Lessons for Policy*

Albeit not within the scope of the current study, our findings do have policy implications. A common wisdom in victim-support services is that abnormal events, such as criminal victimization, increase negative affect (e.g., worry), and thus the key objective of these interventions is to bring the affective reactions back to “normal” levels (Winkel, 1998, p. 481). In our view, a victim-support policy that focuses solely on negative affectivity and overlooks factors of a more cognitive and behavioral nature, might fail to address victims’ real needs. In a study exploring the associations between the combination of negative affectivity and social inhibition, and PTSD among victims of violence, Kunst, Bogaerts, and Winkel (2011) found that it is not so much the negative affect per se that makes it more likely for victims of violence to develop PTSD but the strategies that they adopt (or not) to cope with the violent victimization, such as the degree of expressing emotions and inhibiting behaviors in social interactions.

Importantly, PTSD and poor well-being of victims have been found to relate to factors, such as catastrophizing, social inhibition, beliefs about the value of worrying, intolerance of uncertainty, and so on. In a study that investigated the prevalence of PTSD among victims of violence who applied for state compensation with the Dutch Victim Compensation Fund (Kunst et al., 2010), it was found that if additional factors (such as age, sex, acquaintance with perpetrators) to negative affectivity are assessed properly in the examination of the application phase, victims likely to develop PTSD, and who remain unidentified in the first stage of the process, may still be identified and referred to the appropriate support services before their files are closed.

Our study indicates that the affective response of victims of violence may partly be mediated by risk perception, such as the likelihood and the impact of violent victimization, and that the affective response of secondary victims of violence may also be partly moderated by their need for certainty, order, and structure. These findings indicate that cognitive factors are important in explaining the underlying mechanisms of the association between experience and affect. Therefore, to help victims of violence to cope effectively with the immediate damage caused by the victimization experience, and to prevent the development of more persistent mental health problems and damages in their well-being, screening them for cognitive factors, such as risk perception and need for closure appears to be important. Victim support policies should focus on such cognitive parameters, which might prevent victims from coming to terms with nonnegligible risk, and thus contribute in “delayed” (rather than immediate) but persistent emotional reactions to violent victimization.

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#### Notes

1. Given the situated nature of fear of crime in public space, it is also possible that victims of crime “see” social and physical cues in their environment differently to nonvictims because of the salience and affective imagery. For instance, victims may more actively look for signs of criminal threat in their environment, and to more readily interpret ambiguous cues as signs of potential danger. We know from a variety of different studies that different people can come to different conclusions about the same environmental cues in the context of difference, deviance, disorder, and crime (Harcourt, 2001; Ross & Mirowsky, 2009; Sampson & Raudenbush, 2004). It is for future research to examine whether victimization experience is relevant here.
2. The number of missing values for the individual indicators ranged from 1 to 125, with no respondent having missing values on all manifest variables.
3. Main effects of need for cognitive closure and perceived likelihood were  $b = .27, p < .01$  and  $b = .20, p < .001$  (respectively). Please contact the first author for full details of this particular fitted model.

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## PAPER 2

### *How far is far enough?: The ‘when’ of the fear of crime*

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To be submitted to *Legal and Criminological Psychology*

#### **Abstract**

**Purpose.** This study explores associations between fear of crime reactions and fear of crime ‘determinants’ through the lens of the construal-level theory of psychological distance. The key questions are two. First, are the same explanatory factors of worry about victimization, namely past victimization, need for cognitive closure and societal attitudes, differentially associated with its different elements? Second, what is the impact of psychological distance from crime, measured through perceived likelihood of victimization, on such associations?

**Methods.** Data are drawn from a large-scale survey carried out in three European countries in 2010. Employing structural equation modeling, direct and interactive effects of ‘predictors’ of fear of crime on two ‘temporal’ elements of its affective component are explored.

**Results.** The direct associations of the ‘temporal model’ of the fear of crime suggest that explanatory variables that involve psychological distance from oneself in the ‘here and now’ and abstract mental representations tend to explain more variation in past worry about victimization (vs. present/future worry). Perceiving the likelihood of victimization as high appears to ‘boost’ such associations.

**Conclusions.** To express reactions to the distal risk of crime, people might rely on their psychological distance from crime and crime representations. Fear of crime reactions that involve psychological distance and abstract mental construal are more likely to be related to factors that involve similar features. By exploring the applicability of a social-psychological theory in criminological literature, the ultimate goal is to enhance the theorization of the fear of crime.

**Keywords:** *affect, psychological distance, mental construal, theory testing*

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The aim of the current study is to theorize associations between fear of crime reactions and factors that have been put forward in criminological literature as their ‘determinants’ (see Steven Box & Hale, 1988; Taylor & Hale, 1986). This endeavor draws theoretically on the construal-level theory of psychological distance (Trope & Liberman, 2010), which is tested for the first time in criminological research, and empirically on secondary data from a large-scale survey (Hough & Sato, 2011). The key objective is to develop an interdisciplinary perspective on the theorization of the fear of crime.

The theorization of the fear of crime has been data-driven rather than theory-driven. The former process develops theoretical perspectives inductively, based on research findings (Eisenhardt & Graebner, 2007). The latter uses pre-existing theories to develop research hypotheses deductively, which are then tested empirically (Colquitt & Zapata-Phelan, 2007). The current study adopts a theory testing perspective (*ibid.*).

At the empirical level, the focus is on associations between the affective component of the fear of crime (Ferraro & LaGrange, 1987; Gabriel & Greve, 2003; Hough, 2004; Jackson, 2004; Jackson & Gouseti, 2013), namely, worry about victimization, and factors that have been tested in criminological literature to explain its variation, namely previous victimization, need for cognitive closure and societal attitudes (Steven Box & Hale, 1988; Hale, 1996; Hirtenlehner & Farrall, 2013; Jackson, 2013; Shippee, 2013; Winkel, 1998).

Criminological research into the impact of victimization on worry about crime suggests that the magnitude of the association depends on the type of victimization, the type of crime, and socio-demographic characteristics of the research participants (Shippee, 2012; Winkel, 1998). The need for cognitive closure (Kruglanski & Webster, 1996; Webster & Kruglanski, 1994), which has been explored recently (Jackson, 2013) as a personality trait that might impact on fear of crime, appears to be differentially associated with the components of fear of crime (*ibid.*). Previous research has also shown that negative societal attitudes are more likely to be related to higher levels of fear of crime, with the associations being conditional on contextual and individual factors too (Dowler, 2003; Hirtenlehner & Farrall, 2013; Tyler & Weber, 1984).

Fear of crime is multi-faceted, including affective, behavioural and cognitive components (Farrall, Jackson, & Gray, 2009; Gabriel & Greve, 2003; Hough, 2004; Jackson, 2004; Jackson, Gray, & Farrall, 2009). The current study focuses on the affective component of the phenomenon, namely worry about victimization. Previous research has shown that there is a distinction between the *frequency* of worry about victimization and the *intensity* of worry about victimization. It has been found, for instance, that when people are asked about the *frequency* of worrying about falling victim of different crimes in the recent past, they tend to report lower levels of worry compared to when asked about the current *intensity* of worrying about victimization (Farrall & Gadd, 2004; Gray et al., 2008, 2011).

It has thus been suggested that the two measures tap into different elements of the affective component of the fear of crime. The frequency measure reflects more a *state worry* about concrete criminal threats, representing an ‘experiential’ type of fear of crime. This is because the frequency measures are considered to capture concrete

episodes of worry that are related to specific threatening incidents. On the contrary, the intensity measure reflects more a *trait worry* that might encompass wider anxieties that are channeled into crime, representing an ‘expressive’ type of fear of crime (*see* Farrall & Gadd, 2004; Jackson, 2004). The intensity measure is considered to be not directly linked to specific worry episodes but general worry levels.

Building on criminological literature, the aim of the current study is twofold. First, to explore potential differences in the magnitude and significance of the associations between the two different elements of the affective component of the fear of crime and their explanatory parameters. Second, to explore the applicability of the construal-level theory of psychological distance (CLT) in the theorization of such differences. Testing the CLT in fear of crime research is useful because the theory examines how people are capable of experiencing and expressing reactions to events that are not present in their immediate context (Trope & Liberman, 2010).

CLT suggests that this is plausible by *transcending* one’s ‘here and now’ through *psychological distance* and their *mental construal* (Liberman & Trope, 2008). Furthermore, psychologically experiencing a distal event as proximal is related to mentally representing it concretely; whereas psychologically experiencing it as distant is related to abstract mental representations (Trope & Liberman, 2010). Interestingly, when it comes to affective reactions to distal events, CLT argues that affect that ensues from a psychologically distant perspective is different from affect that ensues from a psychologically proximal perspective (Trope, Liberman, & Wakslak, 2007).

Applying these insights to fear of crime, the two aspects of its affective component, namely frequency and intensity, are considered to involve different levels of psychological distance and mental construal. In explaining variation in fear of crime, affective reactions that involve a psychologically distant perspective, by, for example, referring to the past, might be more strongly related to factors that also involve psychological distance and abstract representations. Conversely, affective reactions that involve a psychologically proximal perspective, by, for example, referring to the present, might be more strongly related to factors that also involve psychological proximity and concrete crime representations.

The frequency of worry about victimization is assumed to involve a temporally distant perspective in that its measures refer to the past; the intensity of worry about victimization is assumed to involve a temporally proximal perspective in that its measurement refers to the present and/or the near future. The temporal differences between *past worry* and *present/future worry* might thus impact on the magnitude and significance of their associations with factors that are used to explain their variation.

The paper comprises three sections. The rest of the introduction discusses the ‘temporal model’ of the fear of crime, and states the key research hypotheses. This is followed by the methodological features of the study, its findings and some concluding remarks.

### ***An interdisciplinary perspective on worry about victimization***

The current study theorizes through CLT lens the distinction between ‘state worry’ and ‘trait worry’ about victimization, which are elements of the affective component of fear of crime according to previous criminological literature (Farrall and Gadd, 2004; Gray et al., 2008; Jackson, 2004; Hough, 2004). It explores whether the two elements are differentially associated, in terms of magnitude and significance, with factors that have been put forward in criminological literature as explanatory parameters of affective reactions to victimization. This section outlines the reasons for considering CLT to be a useful theoretical means to this end.

CLT’s main objective is to examine how people transcend the ‘here and now’ in order to express reactions to distal objects or events, i.e., not present in their immediate context (*see* Liberman, Trope, & Stephan, 2007; Liberman & Trope, 2008; Trope, Liberman, & Wakslak, 2007; Trope & Liberman, 2010; Wakslak & Trope, 2009). Transcending the ‘here and now’ might involve remembering the past, making future plans and evaluations, understanding other people’s point of view and considering alternatives to reality. CLT suggests that people are mentally capable of going beyond their current circumstances through two cognitive processes, *psychological distance* and *mental construal*.

Psychological distance comprises four dimensions that refer to *where* (spatial dimension), *when* (temporal dimension), to *whom* (social dimension) and *whether* (‘hypotheticality’ dimension) a distal event is psychologically experienced to occur. Mental construal refers to the abstractness or concreteness of the representation of the distal event; abstract mental representation of distal events is defined as *high-level construal*, whereas concrete mental representation of distal events is defined as *low-level construal*. The CLT posits that psychological proximity to a distal event is related to concrete mental representations of it, and vice versa; whereas psychological distance from a distal event is related to abstract mental representations of it, and vice versa (Trope & Liberman, 2010).

The theory has been tested in many topics, including visual and verbal stimuli, affect, prediction, negotiation (*see for example*, Freitas, Gollwitzer, & Trope, 2004; Fujita, Trope, Liberman, & Levin-Sagi, 2006; Henderson, Trope, & Carnevale, 2006; Henderson & Trope, 2009; Ledgerwood, Trope & Chaiken, 2009; Semin & Fiedler, 1988; Trope & Liberman, 2010). The current study applies CLT in criminological literature on fear of crime for the first time to enhance its theorization. In particular, it is employed to theorize the distinction between ‘trait worry about victimization’ and ‘state worry about victimization’ or the frequency and the intensity aspects of the affective component of the fear of crime, respectively (Gray et al., 2008).

The former is considered to involve a psychologically distant perspective and the latter a psychologically proximal perspective. This is because the frequency of worry is measured by asking research participants how often they were worried about falling victim of different crimes in the *recent past* (*ibid.*); it thus captures past worry, which, by definition, is distant from oneself in the ‘here and now’. On the contrary, the intensity of worry is measured by asking research participants how worried they *are*

about falling victim of different types of crime (*ibid.*), capturing present/future worry, which is, by definition, more proximal to oneself in the ‘here and now’. Present/future worry about victimization is thus considered to involve a psychological proximity perspective to the risk of crime, and concrete mental construal.

The main CLT-driven assumption that is thus tested is that any differential associations between the two elements of worry about victimization and their explanatory factors might be explained by the psychological distance and the mental construal that they involve.

### ***Modeling the ‘when’ of worry about victimization***

The key objective of the current study is to look at whether the distinct *temporality* of the two elements of the affective component of fear of crime can be used to theorize the mechanisms that link certain explanatory factors to its different elements. The first temporal element refers to the frequency of episodes of worry about victimization that have been experienced in the recent past. The second temporal element pertains to the intensity of worry about falling victim of crime in the present time or the near future (Hough & Sato, 2011).

Criminological research has shown that participants are more likely to report lower levels of worry about victimization when they are asked about the *frequency* of affect and higher levels of worry about victimization than when they are asked about the *intensity* of affect (Farrall; Bannister; Ditton; Gilchrist, 1997). A temporal model of the fear of crime indicates that to experience and express affective reactions to crime in a ‘crime-free’ context, people draw on experiences, general views, personality characteristics, and representations; in the process of transcending the crime-free ‘here and now’, the experiences, events and objects that people draw on might be similar in terms of psychological distance and mental construal with the fear of crime reactions that they express. It is thus expected that associations between fear of crime reactions and fear of crime ‘determinants’ that are ‘compatible’ in relation to the psychological distance and mental construal that they involve will be stronger in magnitude and/or significance compared to ‘incompatible’ such associations.

The ‘determinants’ of fear of crime that are examined in the current study are previous victimization, the need for cognitive closure, general attitudes to society, and perceived likelihood of victimization. These explanatory factors were chosen because they represent important categories of fear of crime ‘predictors’, such as crime-related factors (past victimization), personality traits (need for cognitive closure), worldviews (societal attitudes) and risk perception (perceived likelihood of victimization), (*see* Box, Hale, & Andrews, 1988; Ferraro, 1995; Hale, 1996; Hirtenlehner & Farrall, 2013; Jackson, 2011, 2013; Shippee, 2012; Skogan & Maxfield, 1981; Skogan, 1987; Tyler, 1980; Warr, 1987; Winkel, 1998).

### ***Research hypotheses***

*H1. Previous victimization is more strongly related to past worry about victimization than present/future worry about victimization.*

From a CLT perspective, it is suggested that victimization, as an already experienced event, involves psychological distance and a mentally abstract perspective on oneself in the ‘here and now’. It is thus expected that past experiences of victimization will be a better ‘predictor’ of (i.e., will be more likely to explain more of the variation in) past worry about victimization than present/future worry about victimization. This is because the former is past-oriented, and thus considered to involve psychological distance and abstract mental construal, whereas the latter is present/future-oriented, and thus considered to involve psychological proximity and concrete mental construal.

*H2. Need for cognitive closure is more strongly related to past worry about victimization than present/future worry about victimization.*

The need for cognitive closure is a psychological construct, treated conceptually as either personality trait or personality state, and instantiating aversion to ambiguity and uncertainty and preference for continuity, order and structure (*see* Kruglanski & Webster, 1996). The concept has been used in criminological research to explore the impact of wider worrying mechanisms on reactions to crime and justice (Jackson, 2011, 2013). It is thus conceptualized as a personality trait that motivates a tendency to worrying.

From a CLT perspective, it is expected that need for cognitive closure will be more strongly related to past worry about victimization than present/future worry about victimization. This is because CLT research has shown that personality traits as general self-characteristics involve more psychological distance from the current self and more abstract and schematic self-representations (Eyal, Sagristanob, Trope, Liberman, & Chaikene, 2009; Nussbaum, Liberman, & Trope, 2006; Wakslak, Nussbaum, Liberman, & Trope, 2008).

*H3. Societal attitudes are more strongly related to past worry about victimization than present/future worry about victimization.*

Attitudes to society can be considered to be stable individual views, relatively consistent across time and context (Ledgerwood, 2008). In the current study, societal attitudes are measured as a ‘global’ evaluative summary of societal features (Hough & Sato, 2011), abstracted across multiple contexts and stable across them.

It is thus assumed that societal attitudes involve more psychological distance from the current self and more abstract and schematic representations. From a CLT point of view, then, societal attitudes are expected to be more strongly related to past worry about victimization, which also involves psychological distance from one’s here and now, than to present/future worry about victimization.

*H4. Perceived likelihood of victimization is ‘equally’ related to present/future worry about victimization and past worry about victimization.*

The CLT-driven conceptualization of perceived likelihood of victimization that is adopted in the current study suggests that it instantiates the ‘hypotheticality’ dimension of psychological distance from crime. This is based on the CLT assumption that situations that are perceived as unlikely involve psychological distance from one’s ‘here and now’ and abstract representations as opposed to situations that are perceived as likely (Todorov et al., 2007; Wakslak et al., 2006).

Perceptions of victimization as likely are considered to instantiate psychological proximity to crime, and thus bring the risk of crime closer to one’s ‘here and now’. The psychological closeness to crime is thus expected to explain similar proportions of variation in affective reactions to victimization, regardless of whether they involve psychological distance/proximity and abstract/concrete mental representations.

*H5. Perceived likelihood of victimization moderates the associations between worry about victimization (5a), need for cognitive closure (5b), and societal attitudes (5c) and worry about victimization, depending on whether the affective reaction is past-oriented or present/future oriented.*

The research hypotheses so far test direct associations between the variables of interest. The last set of hypotheses examines interaction effects. Drawing on CLT’s assumption that psychological distance and mental construal are related to reactions to distal events both separately and jointly (Trope et al., 2007), it is expected that perceived likelihood of victimization, which represents psychological distance, moderates associations between worry about victimization and previous victimization, need for cognitive closure and societal attitudes.

It is assumed, however, that the magnitude and significance of such interactions depend also on the psychological distance and mental construal that are involved in different *elements* of the affective component of the fear of crime, i.e., whether they are past-oriented or present/future-oriented.

It is worth clarifying from the outset that the research hypotheses are motivated by a CLT approach to the fear of crime. This suggests that the possibility of different theoretical explanations of the same associations is possible. The aim of the current study, however, is to test the applicability of the CLT in the fear of crime literature to enhance its theorization.

## **Methods**

The current study draws on secondary data from a large-scale survey, which was conducted in 2010 in Italy, Bulgaria and Lithuania. The survey was part of the research project ‘EURO-JUSTIS’ Scientific Indicators of Confidence in JUSTIS: Tools for Policy Assessment (Hough & Satto, 2011), funded primarily by the European Commission from the 7<sup>th</sup> Framework Programme for Research. The aim was to develop

and test new indicators to assess public confidence in justice (ICPR, 2011a). As part of EURO-JUSTIS, survey questions that measured perceptions of fairness and trust in justice, insecurity, fear of crime, personality traits, previous victimization, and attitudes to society were fielded in three European countries (*ibid.*). The survey data that are analyzed here come from these pilot studies.

### **Sample**

The sampling procedures in each of the three countries included methods of multi-stage random sampling to produce representative samples of the national populations (*see* ICPR, 2011b). The fieldwork in Italy was carried out between October and November 2010, using CAPI (Computer Assisted Personal Interviewing); the sample comprised 522 individuals with a response rate of 28%. The Bulgarian survey was conducted in October 2010 via face-to-face interviews; the sample comprised 1,008 individuals and the response rate was 63%. Finally, the survey in Lithuania was conducted between October and November 2010 via face-to-face interviews; the Lithuanian sample comprised 1,021 individuals with a response rate of 37%.

Table 1 presents socio-demographic characteristics and percentages of previous victimization by country:

**Table 1: Socio-demographic characteristics and victimization experience**

<b>Gender</b>			
	Bulgaria	Italy	Lithuania
Male	42.8%	49.3%	42.9%
Female	57.2%	50.7%	57.1%
<b>Age</b>			
	Bulgaria	Italy	Lithuania
Mean (SD)	52.5 (17.8)	47.8 (18.2)	50.6 (18.3)
<b>Years in education</b>			
	Bulgaria	Italy	Lithuania
Mean (SD)	11.6 (3.7)	11.2 (4.8)	13.1 (3.8)
<b>Political orientation (10-point scale, 0=left – 10=right)</b>			
	Bulgaria	Italy	Lithuania
Mean (SD)	5.1 (2.4)	5.1 (2.6)	5.1 (2.3)
<b>Past victimization experience</b>			
	Bulgaria	Italy	Lithuania
Victims	40.4%	59.1%	57.9%

## Measures

*Past worry about victimization.* Past-oriented affect is represented by measures of the frequency of worry about falling victim of different crimes in the last year (ICPR, 2011a, see also Farrall & Gadd, 2004; Gray et al., 2008). The survey questions were: *During the last 12 months, have you ever felt worried about: having your home broken into and something stolen; being physically attacked in the street by a stranger?* (-- Yes; No). Those who answered 'yes' in each case were then asked: *How many times have you felt like this in the past 12 months?* (--All or most of the time; Some of the time; Just occasionally; Never).

*Present/future worry about victimization.* Present/future-oriented affect is represented by measures of the intensity of worry about falling victim of different crimes (*ibid.*). The participants were asked: *Overall, how worried (if at all) are you about: being insulted or pestered by anybody while in the street or any other public place; being mugged/robbed in the street; being physically attacked by strangers in the street; having your home broken into and something stolen; having your car stolen; having things stolen from your car?* (--Very worried; Fairly worried; Not very worried; Not at all worried).<sup>13</sup>

*Perceived likelihood of victimization.* The perceived likelihood of victimization was measured via the following survey question (ICPR, 2011a; see also Jackson, 2011, 2013; Warr, 1987): *How likely do you think it is that you will fall victim of each of the following crimes during the next twelve months?: being physically attacked in the street by a stranger; having your home broken into and something stolen?*(-- 1=definitely not going to happen; 2; 3; 4; 5=certain to happen).

*Past victimization.* Participants were also asked about their direct and indirect experiences of victimization in the last five years (ICPR, 2011a; see also van Dijk, van Kesteren, & Smit, 2007): *Have you been the victim of burglary in the last 5 years?* (-- Yes; No); *Do you know someone in this area who has been the victim of burglary in the last 5 years?* (-- Yes; No); *Have you been the victim of a physical assault in the street by a stranger in the last 5 years?* (-- Yes; No); *Do you know someone in this area who has been the victim of a physical assault in the street by a stranger in the last 5 years?* (-- Yes; No).

*Need for cognitive closure.* Participants' need for cognitive closure was measured via a standardized scale (Berenbaum, 2010; Webster & Kruglanski, 1994), asking their agreement or disagreement with the following statements (Jackson, 2011, 2013): *I enjoy having a clear and structured mode of life; I don't like to go into a situation without knowing what I can expect from it; I don't like situations that are uncertain; I dislike questions that can be answered in many different ways* (-- 1=Agree strongly; Agree; Neither agree nor disagree; Disagree; 5=Disagree strongly).

It is worth clarifying that the need for cognitive closure is not considered to be the only or the most important personality trait in relation to worry about victimization. It is explored here, however, for two reasons. First, it is one of the few such traits that

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<sup>13</sup> Summary statistics for the two temporal elements of the affective component of fear of crime are presented in the results section.

have already been examined in the criminological literature on fear of crime (*ibid.*). Second, psychological literature on worry has shown that the need for cognitive closure as a dispositional characteristic serves as a means to channel wider anxieties into more situational worries (*see* Berenbaum, 2010).

*Societal attitudes.* Participants were asked to express their agreement or disagreement with statements that refer to wider values and views on contemporary society: *We live in a dangerous society in which good, decent and moral people's values and way of life are threatened by bad people; We live in a society that is unsafe, unstable and insecure where good and decent people are the exception rather than the rule; People don't know the difference between right and wrong anymore; I'm worried about where morality is headed in society* (-- 1= Agree strongly; Agree; Neither agree nor disagree; Disagree; 5= Disagree strongly).

**Table 2: Summary statistics of the explanatory factors of worry about victimization**

<b>Perceived likelihood of victimization</b> (range 1-5; higher values=higher perceived likelihood)	
Mean (SD)	2.4 (0.9)
<b>Previous victimization</b>	
Direct	13.8%
Indirect	48.9%
<b>Need for cognitive closure</b> (range 1-5; higher values=higher need for closure)	
Mean (SD)	4 (0.6)
<b>Societal attitudes</b> (range 1-5; higher values=more positive societal attitudes)	
Mean (SD)	3.7 (0.8)

### ***Analytical strategy***

Structural equation modeling (SEM) is employed in the current study to test the network of associations of the temporal model of fear of crime. SEM is considered to be relevant for the current purposes in that it examines relations between observed (measured) and unobserved (latent) variables (*see* Bagozzi & Yi, 2012; Bartholomew, Steele, Galbraith, & Moustaki, 2008; Hoyle, 1995; Klein & Moosbrugger, 2000; Maccallum & Austin, 2000). Such a reflective analytical strategy (Jackson & Kuha, 2015) is considered appropriate when *a priori* stated hypotheses that derive from a concrete theoretical framework, here CLT, are tested (Colquitt & Zapata-Phelan, 2007).

The aim is to understand the patterns of associations (correlations/covariances) among the sets of observed (measured) and unobserved (latent) variables, and to use the model specified to explain as much of the variation in these associations as

possible<sup>14</sup> (Suhr, 2006). The unobserved constructs of the current model are: past worry about victimization, present worry about victimization, perceived likelihood of victimization, need for cognitive closure and societal attitudes.

Based on previous criminological research (*see inter alia* Hale, 1996)<sup>15</sup>, all of the analyses that were conducted include gender (dummy variable, with male as reference category) and age (measured in years) as control variables. Also, given the cross-national nature of the data, country was also included in the analysis as a covariate.

## Results

The results section comprises two parts. The first involves univariate analysis of the distribution of past worry about victimization and present/future worry about victimization in the pooled sample. The second includes multivariate analysis, exploring both direct and indirect effects.

### *Levels of past worry and present/future worry about victimization*

Looking at univariate statistics (*see* Table 2) in relation to past worry about falling victim of physical assault and burglary, 12.3% participants said that they worry some of the time or all or most of the time about falling victim of physical assault (vs. 87.7% who said that they never worry or worry just occasionally about this risk); 23.8% said that they worry some of the time or all or most of the time about falling victim of burglary (vs. 76.2% who said that they never worry or worry just occasionally about home burglary). Overall, research participants were more frequently worried in the recent past about property crime than violent crime.

The expressed levels of present/future worry about victimization were as follows: 68.3% were very or fairly worried about home burglary (vs. 43.5% who were not at all worried or not very worried); 58.3% were very or fairly worried about having the car stolen (vs. 41.7% who were not at all worried or not very worried); 53.8% were very or fairly worried about having things stolen from the car (vs. 46.2% who not at all worried or not very worried); 50.7% were very or fairly worried about being mugged in the street (vs. 49.2% who were not at all worried or not very worried); 49.3% were very or fairly worried about being physically assaulted in the street (vs. 50.7% who were not at all worried or not very worried); 31.8% were very or fairly worried about being insulted or pestered in the street (vs. 68.2% who were not at all worried or not very worried). In this case too, research participants were currently more worried about property crime than crime that involves violence.

Echoing previous research (Farrall et al., 1997; Gray et al., 2008), these results suggest that the reported levels of present/future worry about victimization are higher on average than the reported levels of past worry. The difference in proportions is four times higher in the case of current worry about physical assault in the street and

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<sup>14</sup> Maximum likelihood estimation methods are used in SEMs to calculate parameter estimates simultaneously.

<sup>15</sup> The models were also fitted without these control variables, and their effect was found to be minimal.

approximately three times higher in the case of home burglary compared to past worry about falling victim of these crimes.

**Table 3: Descriptive statistics of past worry and present/future worry about crime**

Temporal elements of the affective component of fear of crime	Percentages	
<b>Past worry about victimization</b>	Worried some of the time or all or most of the time about burglary	Never worried or worried just occasionally about burglary
	23.8%	76.2%
	Worried some of the time or all or most of the time about physical assault	Never worried or worried just occasionally about physical assault
	12.3%	87.7%
<b>Present/future worry about victimization</b>	Very or fairly worried about burglary	Not at all or not very worried about burglary
	68.3%	43.5%
	Very or fairly worried about having the car stolen	Not at all or not very worried about having the car stolen
	58.3%	41.7%
	Very or fairly worried about having things stolen from the car	Not at all or not very worried having things stolen from the car
	53.8%	46.2%
	Very or fairly worried about being mugged in the street	Not at all or not very worried being mugged in the street
	50.7%	49.2%
	Very or fairly worried about physical assault	Not at all or not very worried about physical assault
	49.3%	50.7%
	Very or fairly worried about being insulted or pestered in the street	Not at all or not very worried about burglary
	31.8%	68.2%

### ***The temporal model of the fear of crime***

Starting with direct effects, the emphasis is on differences in the strength of the observed associations (*see* Figure 1), which were examined first via comparisons of the corresponding regression coefficients. Although, these statistics might be small in magnitude, especially when it comes to individual-level data, the process was considered to be appropriate for the current purposes. The second step was to explore interaction effects that look at the impact of moderators on the observed direct associations.

First, past victimization experience was more strongly related to past worry about victimization ( $b=0.29$ ;  $p<.0.001$ ) compared to present/future worry about victimization ( $b=0.13$ ;  $p<.0.001$ ). This supports the CLT-driven (Day & Bartels, 2008; Henderson et al., 2006; Liberman, Trope, McCrea, & Sherman, 2007; Wakslak, Nussbaum, Liberman, & Trope, 2008) *hypothesis 1* of the current study. As a past-

oriented experience, previous victimization involves a psychologically distant and mentally abstract perspective on oneself and the crime-risk in one's current context; it is thus a better 'predictor' of the element of worry about victimization with the same features, namely past worry about victimization.

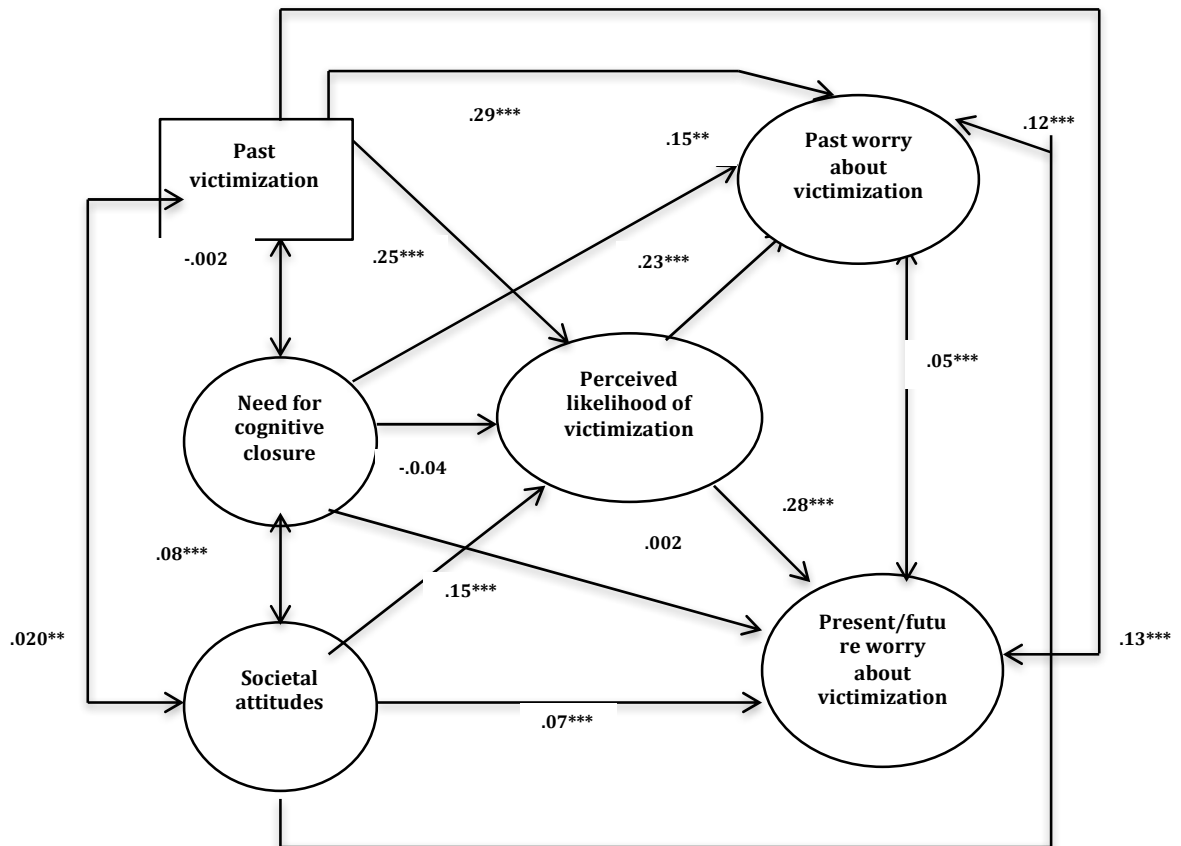
Second, the need for cognitive closure was statistically significantly related to past worry about victimization ( $b=0.15$ ;  $p=.001$ ), but not present/future worry about victimization ( $b=0.002$ ;  $p=0.935$ ). This supports a 'stronger' claim than the one made in *hypothesis 2*. Echoing also CLT research (Eyal et al., 2009; Nussbaum et al., 2006; Wakslak et al., 2008; Williams & Bargh, 2008), personality traits, such as the need for cognitive closure, are considered to be general self-characteristics, involving more psychological distance from the current self and more abstract and schematic self-representations. Therefore, its association with affective reactions to distal events that also involve a psychologically distant perspective from oneself in the 'here and now', such as past worry about victimization is stronger and/or significant compared with its association with present/future worry, which is, by definition, temporally closer to one's immediate context.

Third, societal attitudes explained more variation in past worry about falling victim of crime ( $b=0.12$ ;  $p<.001$ ) compared to present/future worry about victimization ( $b=0.07$ ;  $p<.001$ ). This supports *hypothesis 3*. Societal attitudes, as measured in the current study, provide a 'global' evaluative summary of social features, abstracted across specific contexts, instead of a context-bound evaluative summary of social features (Ledgerwood, 2008; Wakslak et al., 2008). They are thus considered to involve more psychological distance from the current self and more abstract and schematic representations of society, which might also make them better 'predictors' of past worry about victimization than present/future worry about victimization.

Fourth, perceived likelihood of victimization was strongly related to both present/future worry about victimization ( $b=0.28$ ;  $p<.001$ ) and past worry about falling victim of crime ( $b=0.23$ ;  $p<.001$ ). *Hypothesis 4* of the current study is thus supported by the data. The temporal model of the fear of crime conceptualizes perceived likelihood of victimization as psychological distance from the risk of crime (Todorov, Goren, & Trope, 2007; Wakslak, Nussbaum, Liberman, & Trope, 2008; Wakslak, Trope, Liberman, & Alony, 2006; Wakslak & Trope, 2009). Perceiving the likelihood of victimization to be high is assumed to bring the risk of crime psychologically closer to one's 'here and now', and thus informs worry about victimization in one's 'crime-free' 'here and now', regardless of whether the worry is past-oriented or present/future-oriented.

**Figure 1: Fitted temporal model of the fear of crime (SEM)**

Structural equation modeling using MPlus 6.1. Measurement model for ‘temporal fear’ is not presented for visual ease (available upon request). Unstandardized coefficients. Age and gender controls included. Chi-square(160) 1139.844,  $p < .001$ ; CFI .944; TLI .930; RMSEA .048(90% CI, .045; .051)



Turning to interaction effects (Table 4), they explored whether the direct associations between past experiences of victimization, need for cognitive closure, societal attitudes and the two temporal elements of the affective component of fear of crime were moderated by perceived likelihood of falling victim of crime. The incentive was twofold. CLT suggests that psychological distance and mental construal are related to reactions to distal events, both separately and jointly (Trope et al., 2007; Williams, Stein, & Galguera, 2014). It is thus suggested that the observed direct associations between worry about falling victim of crime and past experiences of victimization, need for cognitive closure, and societal attitudes might be different at different levels of one's psychological distance from the crime-risk, i.e., when the likelihood of victimization is considered to be high or low.

The interaction effects that were found to be statistically significant involved past worry about victimization (but not present/future worry about victimization), and previous experiences of victimization, need for cognitive closure and societal attitudes. First, research participants who tended to perceive the likelihood of falling victim of crime as high were more likely to worry frequently about victimization in the last year, especially when they had fallen victim in the past ( $b=0.35$ ;  $p < .001$ ) as opposed to not having previous victimization experiences ( $b=0.14$ ;  $p < .001$ ). The impact of perceived

likelihood of victimization on past worry about victimization was twice as much for victims of crime compared to non-victims.

Second, participants in high need for cognitive closure were more likely on average to report higher levels of past worry about victimization, and even more so when they tended to perceive the likelihood of victimization as high ( $b=0.41$ ;  $p<.001$ ). A 1-unit increase in the need for cognitive closure scale (with higher values indicating higher need for closure) was expected to increase levels of past worry about victimization, other things being equal, by 0.11 units ( $p=.01$ ) for participants with lower levels of perceived likelihood of victimization. As the perceived likelihood of victimization increased, a 1-unit increase in participants' need for cognitive closure was expected to increase levels of past worry about victimization, other things being equal, by 0.52 units ( $p<.001$ ). The impact of need for cognitive closure on past worry about victimization was 5 times higher on average at higher values of perceived likelihood of victimization.

Third, participants who held negative societal views (compared to those who held more positive attitudes to society) were more likely on average to report higher levels of past worry about victimization, especially as their perceptions of the likelihood of victimization increased ( $b=0.17$ ;  $p<.001$ ). For those participants who were more likely to perceive victimization as an event that is highly likely to occur, the expected increase in levels of past worry about victimization for those who tended to have negative societal views, other things being equal, was 0.23 ( $p<.001$ ) units, i.e., approximately 3 times as much as those with lower levels of perceived likelihood of victimization ( $b=0.07$  units;  $p=.01$ ).

Interestingly, no statistically significant interaction was found in the case of present/future worry, except for a borderline significant interaction effect of societal views on present/future worry about victimization at higher levels of perceived likelihood of victimization ( $b=0.05$ ;  $p=.05$ ). From a CLT perspective, this might suggest that psychologically experiencing crime as a proximal risk, i.e., perceiving it as likely to occur rather than unlikely, has a 'knock-on' effect on the impact that specific factors have on worry about victimization only in the case of elements of worry for which such factors are already relevant in explaining their variation. In the current model, the factors under examination were more strongly associated with past worry than present/future worry about victimization.

**Table 4: Fitted interaction effects of past victimization, need for cognitive closure societal attitudes, and perceived likelihood of victimization on past worry and present/future worry about victimization**

	coeff	S.E.	coeff./S.E.	p-value
<b>Interaction effect of victimization and perceived likelihood of victimization on past worry about victimization</b>				
<b>Victimization*Perceived likelihood (interaction effect)</b>	<b>.22</b>	<b>.06</b>	<b>3.85</b>	<b>.001***</b>
Higher perceived likelihood of victims	.35			.
Higher perceived likelihood of non-victims	.14	.04	3.35	.001***
<b>Interaction effect of victimization and perceived likelihood of victimization on present/future worry about victimization</b>				
Victimization*Perceived likelihood (interaction effect)	-.05	.03	-1.68	.094
Higher perceived likelihood of victims	.26			
Higher perceived likelihood of non-victims	.30	.02	6.39	.001***
<b>Interaction effect of need for closure and perceived likelihood of victimization on past worry about victimization</b>				
<b>Need for closure* Perceived likelihood (interaction effect)</b>	<b>.41</b>	<b>.12</b>	<b>3.54</b>	<b>.001***</b>
Higher need for closure with higher perceived likelihood	.52			
Higher need for closure with lower perceived likelihood	.11	.04	2.48	.01*
<b>Interaction effect of need for closure perceived likelihood of victimization on present/future worry about victimization</b>				
Need for closure* Perceived likelihood (interaction effect)	.04	.03	1.29	.198
Higher need for closure with higher perceived likelihood	.03			
Higher need for closure with lower perceived likelihood	-.01	.03	-0.37	.714
<b>Interaction effect of societal attitudes and perceived likelihood of victimization on past worry about victimization</b>				
<b>Societal attitudes* Perceived likelihood (interaction effect)</b>	<b>.17</b>	<b>.05</b>	<b>3.66</b>	<b>.001***</b>
Negative attitudes with higher perceived likelihood	.23			
Negative attitudes with lower perceived likelihood	.06	.03	2.53	.01*
<b>Interaction effect of societal attitudes and perceived likelihood of victimization on present/future worry about victimization</b>				
<b>Societal attitudes* Perceived likelihood (interaction effect)</b>	<b>.05</b>	<b>.02</b>	<b>1.99</b>	<b>.05*</b>
Negative attitudes with higher perceived likelihood	.09			
Negative attitudes with lower perceived likelihood	.05	.02	2.58	.011*

Note: coeff = unstandardized coefficient. S.E. = standard error. \*= $p < .05$ , \*\*= $p < .01$ , \*\*\*= $p < .001$

## Conclusions

The current study seeks to develop an interdisciplinary perspective on fear of crime reactions to enhance its theorization. Applying CLT to criminological research, it suggests that expressing worry about victimization in ‘crime-free’ contexts is enabled

by transcending the ‘here and now’ through psychological distance from crime and mental representations of crime. The CLT is employed to model and interpret associations between fear of crime reactions and fear of crime ‘predictors’ by developing a temporal model of the fear of crime. The model’s main questions are: What is the association between experiences of victimization, general social views, and anxiety traits and different elements of worry about victimization? Can psychological distance from crime and crime construal explain potential differences in the magnitude and significance of such associations?

The explanatory factors of the fear of crime that were tested are considered to involve different levels of psychological distance and mental construal. Therefore, psychological distance and representational abstractness that is involved in previous experiences of victimization (as past rather than present experiences), the need for cognitive closure (as personality trait rather than personality state) and societal attitudes (as general rather than situational views) were assumed to be better ‘predictors’ of past worry about victimization compared to present/future worry. This is because the former also involves, by definition, more psychological distance from one’s here and now, and thus and representational abstractness, compared with the latter.

Conversely, perceived likelihood of victimization was expected to be strongly related to both temporal elements of the affective component of fear of crime. This is because, from a CLT perspective, perceived likelihood instantiates the ‘hypotheticality’ dimension of psychological distance. It was thus assumed that perceiving the likelihood of victimization to be high brings psychological proximity to crime in one’s current context and involves concrete crime representations. This proximity and representational vividness were thus assumed to be related to worry about victimization, regardless of whether its temporal dimension.

Interaction effects were also tested to explore the strength of direct associations, involving the three explanatory variables, the two temporal elements of worry about victimization and the perceived likelihood of victimization as the moderator. The statistically significant interactions involved only past worry about falling victim of crime, and not present/future worry about victimization. It is suggested that this was so because perceiving the likelihood of victimization as high might boost the impact of previous victimization, need for cognitive closure and societal views on past worry about victimization of which these factors were better ‘predictors’ anyway compared to their impact on present/future worry about victimization.

In conclusion, the primary aim of the temporal model of the fear of crime that the current study tested is conceptual in that it does not seek so much to ‘discover’ factors that explain variation in fear of crime. The primary aim is, instead, to examine processes that can be used to interpret associations between specific fear of crime ‘predictors’ and fear of crime reactions. To do so, the current study employed CLT as its theoretical framework. CLT was considered particularly useful for the current purposes in that it theorizes processes that enable the experience and expression of reactions towards objects or events that are not present in one’s immediate context. Fear of crime encompasses such reactions, i.e., reactions to the crime-risk which most people do not often experience directly.

Ultimately, the temporal model of the fear of crime seeks to enhance our understanding of the processes that take place when people express affective reactions to crime, while the risk of crime is not present in their immediate context. This endeavor draws on a theory testing perspective, which contributes to the theorization of the fear of crime through interdisciplinary lens.

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## PAPER 3

### **Cause and Effect: Does Thinking about crime Abstractly “Cool Down” Worry about Victimization?**

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#### **Abstract**

**Objectives.** This paper applies the construal level theory of psychological distance (CLT) in the criminological study of the fear of crime. We, first, explore whether thinking about crime abstractly (vs. concretely) decreases on average worry about victimization. We, second, examine whether psychologically experiencing the distal event of crime as distant (vs. proximal) is related to lower levels of worry about victimization. Finally, we assess whether psychological distance from crime moderates the association between thinking abstractly or concretely about crime and worry about victimization.

**Method.** In an online experiment, participants were randomly assigned to six conditions using a 2X3 factorial design ( $N=300$ ). Participants were presented with hypothetical crime events – variously described as occurring in three different locations (proximal, distant, unspecified) – and asked to generate either possible causes of crime events, representing a high-level crime mindset or possible consequences, representing a low-level crime mindset. They then reported their psychological distance from crime, and their level of worry about becoming a victim of crime.

**Results.** First, thinking abstractly (vs. concretely) about crime decreased average levels of worry about future victimization (regardless of the location of the crime events). Second, manipulating the spatial dimension had no effect on worry about victimization (regardless of the ‘high’ or ‘low’ crime mindset). Third, the estimated impact of psychologically experiencing crime as distant on worry about victimization was stronger among participants who were primed with a high-level crime mindset vs. a low-level crime mindset.

**Conclusions.** This study provides the first test of the applicability of CLT in fear of crime. Our findings open up a new line of experimental research into criminological literature, exploring how people mentally represent and psychologically experience crime and risk, and affectively evaluate the risk of victimization through these cognitive processes.

**Keywords:** Fear of crime, affect, crime construal, psychological distance, experimental design, communicative crime control

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## Introduction

Fear of crime has attracted a good deal of research in many disciplines, including criminology (*see inter alia* Box & Hale, 1988; Brunton-Smith, Jackson, & Sutherland, 2014; Farrall, Jackson, & Gray, 2009; Taylor & Hale, 1986), sociology (*see inter alia* Adams & Serpe, 2000; Hummelsheim, Hirtenlehner, Jackson, & Oberwittler, 2011; Lee, 2001), geography (*see inter alia* Bromley & Stacey, 2012; Pain, 2000) and gender studies (*see inter alia* Custers & Van den Bulck, 2012; Goodey, 1997; Loukaitou-Sideris & Fink, 2008; Riger, LeBailly, & Gordon, 1981; Stanko, 1988, 1993; Sutton & Farrall, 2005; Sutton, Robinson, & Farrall, 2011). Studies have highlighted the importance of numerous different factors, including socialisation, neighbourhood context, social and risk perception, and victimization experience in explaining variation in fear of crime (for reviews *see* Farrall et al., 2009; Garofalo, 1981; Hale, 1996; Vanderveen, 2006).

Yet, the literature is limited in two respects. First, the lack of experimental work has hampered our ability to infer cause-and-effect relationships. Second, the lack of interdisciplinary research has limited our understanding of how people variously represent crime and how they variously respond to risk. Our goal in the current paper is to address these two important gaps in the literature. Presenting an experimental study into the fear of crime, we derive a series of novel predictions from the construal level theory of psychological distance (CLT, Liberman & Trope, 2008; Trope & Liberman, 2010).

CLT is a psychological theory that posits two cognitive processes through which people represent and experience events that are not present in their ‘here and now’ in order to express reactions to distal events. The first is *psychological distance*. In the words of Trope and Liberman (2010: 442), ‘psychological distance refers to the perception of when an event occurs, where it occurs, to whom it occurs, and whether it occurs.’ The second is *mental construal*, which refers to the representation of the distal event itself – that is, ‘what’ might occur. Central to CLT’s account of mental construal is the distinction between (a) a high-level representation of a distal object/event/person (broad categorization) and (b) a low-level representation of an object/event/person (concrete categorization). The two cognitive processes are distinct but interrelated (Liberman, Trope, & Stephan, 2007; Trope, Liberman, & Wakslak, 2007; Trope & Liberman, 2010): high-level construal is associated with psychological distance from distal events, and vice versa; low-level construal is associated with psychological proximity to distal events, and vice versa.

Turning to the fear of crime, it is worth clarifying from the outset that the conceptualization of the phenomenon in the current study focuses on its affective component, and, in particular, its intensity of worry about victimization (Gray, Jackson, & Farrall, 2008). This ‘narrow’ conceptualization is related to the novel theorization of the fear of crime that this study aims to develop, which requires maintaining other aspects, such as its operationalizations, simple. Considering that the affective component of the fear of crime is arguably the most studied one in the criminological

literature compared to its cognitive and behavioural components (Gabriel & Greve, 2003; Jackson, 2004), it was decided to focus on this for the sake of parsimony.

Applying CLT to the fear of crime, the first hypothesis of the current study is that encouraging people to think abstractly about crime (as opposed to thinking concretely about crime) reduces worry about victimization. From a criminological perspective, there is a good deal of evidence (Farrall, Jackson, & Gray, 2009; Girling, Loader, & Sparks, 2000; Jackson, 2004) that people worry about victimization (*crime as personal risk*) and people worry about crime as a broader social problem (*crime as societal malaise*). Drawing on CLT, it is suggested that the level of mental construal changes the negative valence of crime (Williams, Stein, & Galguera, 2014). Valence is the emotional value attached to a stimulus (Barrett, 2006), and negative valence here refers to the intrinsic aversiveness attached to crime. Encouraging people to think abstractly about crime may mean a shift in perspective, moving the focus away from the valence of crime as a low-level, concrete, local, personal risk, towards the valence of crime as a high-level, abstract, global, social problem. This might result in less negative affective evaluations of the personal risk of victimization.

The second hypothesis refers to the psychological distance from crime. We assume that when people experience the distal event of crime as psychologically proximal in their ‘here and now’, they also tend to worry more about falling victim. Recent CLT research has shown that psychological distance impacts on affect via shifting its *intensity*. It thus improves affective reactions to negative experiences, but hurts affective reactions to positive experiences (Williams et al., 2014). Applied in fear of crime, it is assumed that psychological proximity to crime increases on average worry about victimization.

The third and final hypothesis relates to the possible interaction of crime construal and psychological distance. This is tested in two ways. First, our experimental design allows us to explore whether the effect of activating an abstract way of thinking about crime is different in different levels of the psychological distance of the crime events. Second, a semantic differential scale is used to measure research participants’ psychological distance across the four dimensions of the concept, namely temporal, spatial, social and hypothetical (Trope & Liberman, 2010). Using this scale (see Spence, Poortinga, & Pidgeon, 2012), it was explored whether encouraging participants to think about crime concretely (vs. abstractly) was related to higher levels of worry about crime, especially when one experienced crime as a psychologically proximal event.

The study employed a 2x3 factorial design in which participants ( $N=300$ , recruited via Amazon Mechanical Turk) were randomly assigned to six conditions. We presented participants with hypothetical crime events – variously described as occurring in different locations (local, global, neutral) – and asked them to generate a specific number of possible causes (designed to generate high-level crime mindset) or consequences of crime (designed to generate low-level crime mindset). Participants then reported their psychological distance from crime as well as the extent to which they were worried about becoming a victim of crime.

To foreshadow the results, we find that activating a low-level crime mindset reduces worry about future victimization. Moreover, it is found that psychologically

experiencing crime as a distant event is associated with lower levels of worry about victimization. We also demonstrate that the effect of crime construal on worry about victimization is stronger among people who psychologically experience crime as a distant (rather than proximal) event. We do not find, however, that psychologically experiencing crime as spatially proximal had an effect on worry about crime, either directly or jointly with crime construal.

The paper is structured as follows. We first review CLT. After drawing out the novel predictions that CLT makes in the context of fear of crime, we outline the method and results. Our conclusions focus on the theoretical implications of a newly developed CLT approach to the criminological study of the fear of crime, the limitations of the current study as well as potential ways forward and policy implications.

## **Construal level theory and fear of crime**

### *Mental construal*

CLT holds that considering an event that is not present in one's immediate context involves mental representations. Mental construal pertains to how individuals represent an event that is not present in their 'here and now' in terms of abstractness or concreteness in order to be able to experience and express reactions to it (Trope et al., 2007). Importantly, the level of abstraction is based, according to CLT, on the weight that is placed on either the primary (central) or the secondary (incidental) features of the distal event.

'High-level' construal comprises abstract, decontextualized and schematic features of distal events that are stable over time and context; 'low-level' construal comprises concrete, subordinate and context-bound features of distal events that vary over time and context (Trope & Liberman, 2010). Applied in crime, it is assumed that 'high-level' crime construal involves decontextualized and schematic features of crime that are stable over time and in different settings, while 'low-level' crime construal involve concrete features of crime, which are incidental and context-based, and thus vary over time and in different settings.

According to CLT (Rim, Hansen, & Trope, 2013), causal thinking is an example of mental construal. Thinking about the causes of an event is considered to constitute high-level construal, whereas thinking about the consequences of a distal event is considered to be low-level construal. This is because causes are not dependent on consequences, whereas consequences do depend on causes (Mill & Robson, 1973). Hence, causes are more central and primary features of events, while consequences are more peripheral and secondary features. We manipulated crime construal in the current study by asking participants to generate a specific number of possible causes or consequences of four hypothetical crime events that they were presented with, depending on the experimental condition that they were randomly assigned to.

Why might manipulating the level of crime construal influence people's worry about future victimization? First, it is important to consider what it means to represent crime abstractly or concretely. Plausibly, an abstract way of thinking about crime focuses on its defining features that remain relatively invariant across time and space,

with features of crime that may generalize across its various forms, its various realisations, including ‘harm’, ‘intent’ and ‘cause.’ Such abstract representations may involve thinking about crime in terms of its general causes (e.g., inequality and moral breakdown), its general goals (e.g., the immoral pursuit of material goods and the desire to harm others), and its wider implications for society (e.g., the damage to the social fabric and the costs of the criminal justice institutions). Viewed in such abstract terms, crime may be more easily connected to other abstract, global issues like poverty and moral degradation (Farrall et al., 2009; Girling et al., 2000).

Moreover, inducing a high-level crime mindset may increase the valence of crime as a wider social problem, meaning increase its inherent emotional aversiveness. At the same time, an abstract crime mindset might shift attention away from the valence of crime as a personal risk, and thus ‘cool off’ worry about victimization. By contrast, invoking a low-level crime mindset may increase the valence of crime as a personal risk. A low-level conception of crime stresses more varied, concrete, detailed and vivid crime images. Viewed in such terms, crime may be more easily connected to personal risk, and thus increase average worry about victimization. This reasoning leads to the first hypothesis of the current study:

- Hypothesis 1a: inducing an abstract (causes-focused) crime mindset will decrease worry about victimization as opposed to inducing a concrete (consequences-focused) crime mindset.

Recent CLT work (Williams et al., 2014) suggests, as mentioned above, that crime construal and psychological distance influence affective evaluations of distal events via two separate paths; mental construal shifts valence and psychological distance shifts intensity of affect. Yet, psychological distance and mental construal are interrelated mechanisms (Trope & Liberman, 2010). Mentally representing a distal event abstractly vs. concretely (by focusing, for example, on its causes rather than its consequences) is related to psychologically experiencing the event as distant rather than proximal (Rim et al., 2013). The association is assumed to be bidirectional. As Liberman & Trope (2008: 1202) argue: ‘Objects that are more distant on any dimension will be represented at a more abstract, higher level of construal, because higher-level construal captures those features of objects that remain relatively invariant with increasing distance, and thus enable prediction across distance.’ On these grounds, the second hypothesis of the current study is as follows:

- Hypothesis 1b: inducing an abstract (causes-focused) crime mindset will decrease psychological proximity to crime as opposed to inducing a concrete (consequences-focused) crime mindset.

### *Psychological distance*

The second cognitive process that enables traversing time (by thinking about the past and the future), space (by thinking about locations that are geographically remote),

social distance (by thinking about different ‘others’) and ‘hypotheticality’ (by thinking about alternatives to reality), and thus expressing reactions to distal events, according to the CLT, is psychological distance (Trope et al., 2007). Applied in crime, psychologically experiencing the distal event of crime in one’s immediate context as distant is to experience it as a risk that is far from the ‘here and now’, that occurs to people with different characteristics than one’s own, and that is unlikely to occur. Conversely, psychologically experiencing the distal event of crime in one’s ‘here and now’ as proximal is to experience it as a risk that is looming in temporal and spatial terms, that occurs to oneself or similar ‘others’, and that is likely to take place.

Psychological distance has been explored in a range of psychological phenomena – including visual perception, action identification, prediction, self-regulation (Trope & Liberman, 2010; see also Todorov, Goren, & Trope, 2007; Trope & Liberman, 2010; Wakslak, Trope, Liberman, & Alony, 2006; Wakslak & Trope, 2009). Its relevance has also been explored in other areas like climate change (Spence et al., 2012) and consumer behaviour (Williams et al., 2014).

For example, examining the social dimension of psychological distance, Galinsky, Gruenfeld, & Magee (2003) asked research participants to complete a writing task that activated the experience of either high or low power, with the former representing social distance from others and the latter social proximity to others. Participants were then asked to complete a measure of inclusiveness of categorization, indicating how good members of a given category were atypical exemplars. It was found that social distance, induced through high-power priming, was related to categorizations of broader categories, whereas social proximity, induced through low-power priming, was related to less inclusive categorizations.

Exploring the applicability of the CLT in public attitudes to climate change, Spence et al. (2012) demonstrated that the UK public psychologically experience climate change as ‘global’, involving both distant and local features. Their results indicated that, in general, psychologically experiencing climate change as a personal, local, and close risk, was associated with higher concern about climate change. When it came to action on climate change, however, it was found that psychologically experiencing climate change as a wider, abstract, and thus more distant risk was related to higher motivation for action.

The second objective of the current study is to examine the relationship between psychological distance and worry about victimization. When it comes to the affective component of the fear of crime, existing literature suggests that negative affect draws on either concrete dangers in one’s immediate context or threats that are looming at the cognitive level. The distinction is between (a) worry about crime as a visceral and immediate experience, and (b) a more future orientated projection of possible outcomes. Consider, for instance, worrying about one’s own immediate safety while walking through the streets at night. In this particular situation, the presence of certain cues in the environment (e.g., signs of urban disorder) might lead one to infer that one is at risk of being victimized. Here, the uncertain future outcome is relatively close to one’s immediate context.

Psychological proximity to crime, however, develops an additional aspect in the experience of risk. It argues that one can affectively evaluate a distal event, e.g., one can worry about becoming a victim of crime in their *crime-free* ‘here and now’ by psychologically experiencing it cognitively as an imminent event, even if it is not actually present. This describes the sense of being at risk, when risk is not present either through signs of crime or crime events. Our focus in the current study is on such cognitive experiences, and their association with worry about victimization.

This reasoning is summarized in the next research hypothesis, which comprises two parts based on the two measurements of psychological distance that were described above (H2a relates to the experimental manipulation of psychological distance; H2b relates to the psychological distance scale):

- Hypothesis 2a: increasing psychological proximity to crime (through manipulating spatial distance) will increase worry about future victimization;
- Hypothesis 2b: there is a strong negative association between psychological distance from crime (measured via higher scores in the psychological distance scale) and worry about future victimization.

#### *The interaction between crime construal and psychological distance*

The research design allows us to test whether crime construal and psychological distance interact in their association with worry about victimization. This suggests that the impact of thinking abstractly (vs. concretely) about crime on worry about victimization is moderated by psychological distance from crime. So far, we have assumed that crime construal and psychological distance impact on worry about victimization via separable paths (Williams et al., 2014).

Drawing on the CLT (*ibid.*), it is also assumed that psychological distance and crime construal impact on worry about victimization jointly. Taking first the experimental manipulation of psychological distance, we reason that abstract thinking about crime, by focusing on causes of hypothetical crime events, decreases worry about victimization, especially when research participants are encouraged to psychologically experience crime as an event that occurs far from their immediate context in spatial terms.

- Hypothesis 3a: the effect of inducing an abstract mindset on worry about future victimization will be stronger when crime is psychologically experienced as spatially distant (as opposed to spatially proximal).

We also examine whether the experimental effect of crime construal interacts with psychological distance, measured via our semantic differential scale that comprises the four distance dimensions of time, space, social distance and ‘hypotheticality’.

- Hypothesis 3b: the effect of inducing an abstract mindset on worry about future victimization will be different at different levels of psychological distance.

## Method

*Participants and design.* Three hundred US participants (164 women and 134 men) were recruited in October 2014 on the web-based platform Amazon Mechanical Turk (MTurk; Berinsky, Huber, & Lenz, 2012; Paolacci, Chandler, & Stern, 2010) to participate in the experimental study “Thinking about crime-related events”. They were randomly assigned to one of six conditions in a 2 (crime construal: causes/high-level vs. consequences/low-level) X 3 (psychological distance: spatially proximal vs. spatially distant vs. spatially neutral) between-participants factorial design, where they were asked to think about four hypothetical crime events, and then generate either possible causes or consequences of each of them (*see* Table 1). The sample’s age ranged from 18 to 75 year ( $M=36.2$ ,  $SD= 14.4$ ). The reward for participating in the study was \$0.70.<sup>16</sup>

Based on the experimental condition that they were randomly assigned to, research participants were asked to: either a) generate a number of possible causes of each of the four hypothetical crimes, which were described as having occurred (i) close to their neighbourhood, or (ii) far from their neighbourhood, or (iii) without any spatial specification; or b). generate a number of possible consequences of each of the four hypothetical crimes, which were described as having occurred (i) close to their neighbourhood, or (ii) far from their neighbourhood, or (iii) without any spatial specification.

After the vignettes, psychological distance from crime was measured along all its four dimensions using the semantic differential scale that was developed for the current study, drawing on interdisciplinary literature (Spence et al., 2012). Then the intensity of worry about falling victim of different types of crime was measured (Gray et al., 2008), and other variables related to risk perception and victimization experience.

**Table 1: Experimental design**

<b>Spatial proximity</b>	<b>Crime events close to one’s neighbourhood</b>	
<i>Crime construal</i>	<b><i>High-level construal</i></b> = Causes-focused crime mindset ( $N=50$ )	<b><i>Low-level construal</i></b> = Consequences-focused crime mindset ( $N=50$ )
<b>Spatial distance</b>	<b>Crime events far from one’s neighbourhood</b>	
<i>Crime construal</i>	<b><i>High-level construal</i></b> = Causes-focused crime mindset ( $N=50$ )	<b><i>Low-level construal</i></b> = Consequences-focused crime mindset ( $N=50$ )
<b>Spatial neutrality</b>	<b>Crime events without any spatial specification</b>	
<i>Crime construal</i>	<b><i>High-level construal</i></b> = Causes-focused crime mindset ( $N=50$ )	<b><i>Low-level construal</i></b> = Consequences-focused crime mindset ( $N=50$ )

<sup>16</sup> The amount of the reward was decided on the basis of the average reward that was offered to MTurk studies of similar length at the time that our study was carried out.

*Procedure.* After being informed about the content of the study in detail, participants were asked to give their informed consent in order to be able to proceed. They were asked first, to complete an instructional manipulation check that was used to screen out people who do random clicking (Oppenheimer, Meyvis, & Davidenko, 2009), and to provide socio-demographic information; second, to answer questions about the frequency of worry about falling victim of physical assault and burglary in the last 12 months; and third, to assess the impact of such worry episodes, if any, on their quality of life (Gray et al., 2008; Jackson & Gray, 2010).

Participants were then presented with the following four hypothetical crime events in random order: *J. D. being attacked by a stranger in the street*, *J. D. being robbed or mugged in the street*, *J. D. having the home vandalised*, *J. D. having the home broken into*. They were asked to think about each of these events, and then to generate a specific number of possible causes (high-level construal,  $N=150$ , i.e., 50 participants in each spatial condition) or possible consequences of each of these crime events (low-level construal,  $N=150$ , i.e., 50 participants in each spatial condition), depending on the experimental condition that they were randomly assigned to.

In particular, they were asked to generate three<sup>17</sup> causes or consequences of the corresponding event that they could “naturally come up with without being repetitious”. The crime events were presented successively on separate screens with a text box provided to type the causes or consequences. After the causes-focused or the consequences-focused priming, participants were asked about their psychological distance from crime, current worry about falling victim of different crimes, and previous victimization experience.

*Measures.* Drawing on criminological research (Farrall et al., 2009; Gray et al., 2008), our key response variable, namely worry about victimization, was measured as follows: “How worried are you, if at all, about (a) being physically attacked in the street by a stranger, and (b) having your home broken into and something stolen”; with the provided answers being “not at all worried” (113 & 56, respectively),<sup>18</sup> “a bit worried” (125 & 137, respectively), “fairly worried” (40 & 62, respectively), “very worried” (22 & 45, respectively). Looking at the internal consistency of the two worry items, we found an alpha coefficient score (.74) that is within the conventionally acceptable Cronbach’s alpha levels ( $>.7$ ), (Furr, 2011). We thus calculated and used in subsequent analysis, an ‘overall worry’ variable, averaging the estimates across the crimes of physical assault and burglary.

The key explanatory variables of the current study, namely crime construal and psychological distance, were measured as follows. Crime construal was manipulated in the experimental design, based on the distinction between a causes-focused crime mindset that represents high-level crime construal, and a consequences-focused crime mindset that represents low-level crime construal, as described above (Rim et al., 2013). The measurement of psychological distance, as already describes, was twofold;

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<sup>17</sup> The number of the generated causes/consequences was determined based on pre-tests.

<sup>18</sup> The numbers in the parentheses are the frequencies of responses in each category.

psychological distance was manipulated in the experimental design, and also measured through a semantic differential scale.

In the latter case, participants were instructed to read the following psychological distance pairs of statements, and choose one of the 7 points between each pair that best described their views and experiences: (a) I believe that falling victim of crime is something that will happen to me soon - I believe that falling victim of crime is not something that will happen to me soon (*temporal proximity/distance*); (b) Falling victim of crime happens to very different people than myself - Falling victim of crime happens to people like me (*social distance/proximity*); (c) Falling victim of crime is something that happens very often in my area of residence - Falling victim of crime is something that happens very rarely in my area of residence (*spatial proximity/distance*); and (d) I can very easily imagine falling victim of crime - I cannot very easily imagine falling victim of crime (*hypothetical proximity/distance*).

The order of the statements was randomized to prevent response bias. Looking at the internal consistency of the psychological distance scale, we found an alpha coefficient score (.64) that is slightly below the conventionally acceptable levels (>.7) of Cronbach's alpha (Furr, 2011). We also looked at the dimensionality of the scale, conducting exploratory factor analysis (Bartholomew, Knott, & Moustaki, 2011; Furr, 2011). A one-factor solution appeared to be satisfactory in that the proportion of the total variance that was accounted for by the first factor was 1.25 (followed by the second factor's .14 proportion). The factor score, which was derived from the factor analysis, was used in subsequent analyses.

## Results

First, we explored whether our experimental manipulation shifted worry about victimization. Does thinking about crime in an abstract manner, by focusing on causes of hypothetical crime events, reduce worry about victimization? Does thinking about crime in a concrete manner, by focusing on consequences of hypothetical crime events, increase worry about victimization? Our experimental manipulation also described the crime as occurring (a) close to one's neighborhood, (b) far from one's neighborhood, or (c) without reference to the spatial context. Does spatial proximity to one's here impact on worry about victimization (direct effect), and on the association between crime construal and worry about victimization (interaction effect)?

To explore these hypotheses, we fitted a 2-way factorial ANOVA with crime mindset (high-level/causes-focused vs. low-level/consequences-focused) and the location of the crime events (spatially proximal context vs. spatially distant context vs. spatially unspecified context) as between-subjects factors. First, the interaction effect of crime construal and spatial proximity to the four crime events on worry about victimization was not found to be statistically significant ( $F(2, 294) = .89, p = .41, \eta^2 = .006$ ). Hypothesis 3a was not supported by the data, and thus we next focused on direct effects of the two factors on worry about victimization.

As assumed, thinking about crime concretely, by focusing on the consequences of crime events, increased the average levels of worry about falling victim of physical

assault and burglary ( $M= 2.24, SD=0.66$ ). Conversely, thinking about crime abstractly, by focusing on the causes of crime events, reduced on average worry about victimization ( $M= 1.98, SD=0.66$ ),  $F(1, 294)= 7.89, p=0.005$  ( $\eta^2 = 0.03$ <sup>19</sup>). This supports hypothesis 1a; focusing on causes of hypothetical crime events that constitute their primary, high-level features ‘cools down’ average worry about falling victim of crime as opposed to focusing on consequences of hypothetical crime events that constitute their secondary, low-level features.

The main effects of the location of the hypothetical crime events on either crime construal or worry about physical assault and burglary, however, were not statistically significant; hypotheses 1b and 2a were thus not supported by the data. This suggests that focusing on primary features of hypothetical crime events (vs. their incidental features) was more likely to decrease worry about victimization, regardless of *where* the crime events in question were described to occur, namely, close to participants’ neighbourhood ( $M= 2.11, SD=0.08$ ), far from their neighbourhood ( $M= 2.15, SD=0.08$ ), or in an unspecified location ( $M= 2.06, SD=0.08$ ),  $F(2, 296)= 0.31, p=0.73, \eta^2 = 0.002$ ).

We next looked at the partial effect of psychological distance, measured via the semantic differential scale that was described above, on worry about victimization, controlling for crime construal. Hypothesis 2b suggested that experiencing crime as a psychologically distant event in spatial, temporal, social and hypothetical terms will be related to lower levels of worry about falling victim of crime, other things being equal. To examine this, we regressed worry about victimization on psychological distance and crime mindset (*see* Table 2). We found that higher scores in the psychological distance scale, denoting higher psychological distance from crime, were related to lower levels of worry about victimization on average ( $b=-.42; t=-7.72, p<.001$ ), controlling for crime construal.

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<sup>19</sup> The low value of the eta-squared, which is a measure of the amount of variation in worry about victimization that is explained by the explanatory variable(s), here crime construal, is not considered to be of great concern in the current context. This is because our argument is not that crime construal is the only or the most important predictor of fear of crime. As suggested by previous literature, the phenomenon is too complex to be explained by single predictors. Our goal here was to explore for the first time whether different types of crime construal alter the intensity of worry about victimization. Our results indicate that this is the case indeed.

**Table 2: Additive and interactive effects of crime construal and psychological distance on worry about victimization**

	Model 1	Model 2	Model 3	Model 4
Crime mindset (consequences-focused mindset)	0.263** (2.81)		0.196* (2.28)	0.196* (2.30)
Psychological distance (higher values=more distance)		-0.428*** (-7.94)	-0.415*** (-7.72)	-0.537*** (-7.14)
Consequences-focused condition*Psychological distance				0.246* (2.30)
_cons	1.980*** (29.95)	2.112*** (49.08)	2.014*** (33.24)	2.024*** (33.56)
<i>N</i>	300	300	300	300

*t* statistics in parentheses;

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

The final objective was to explore the possibility that the two cognitive processes of transcending the ‘here and now’ impact on worry about victimization not only individually, but also jointly. Drawing on CLT research (Williams et al., 2014), the interactive effects on crime construal and psychological distance on worry about victimization were theorized via two possibilities. First, it was assumed that thinking about crime abstractly improves the inherently negative valence of the phenomenon, and thus ‘cools off’ worry about victimization, especially when one psychologically experiences crime as a distant event, because psychological distance also reduces the intensity of negative affectivity.

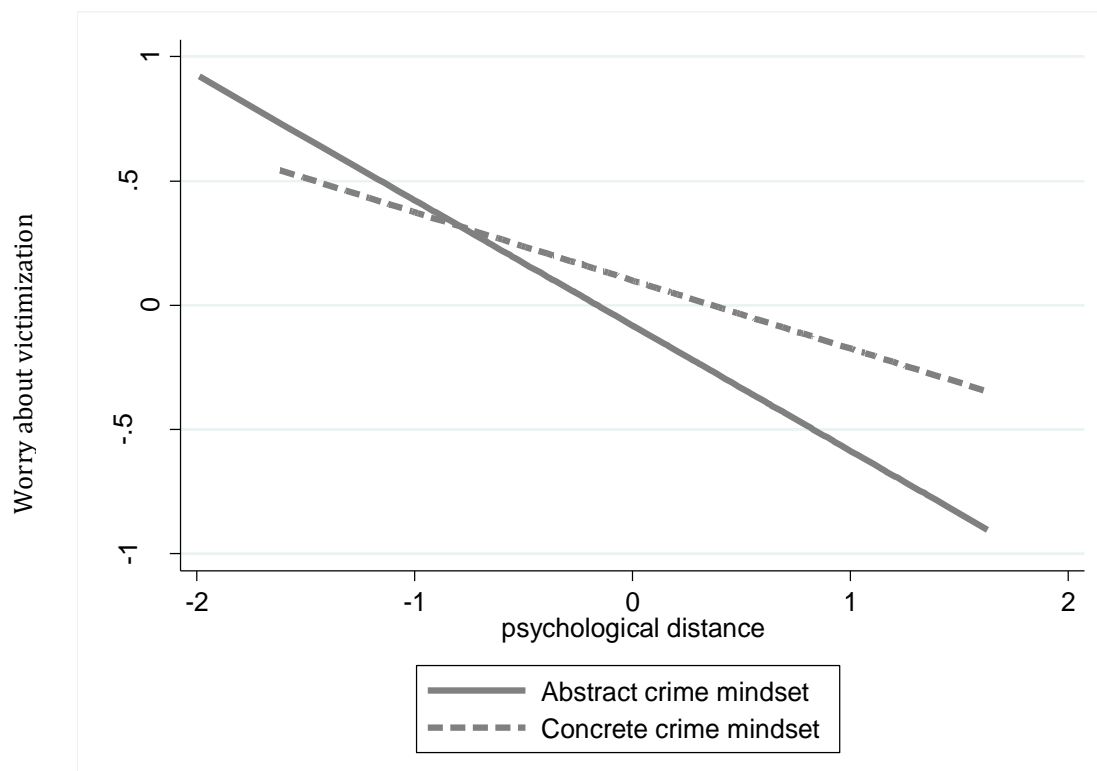
The second possibility was that psychological distance from crime impacts on the association between crime construal and worry about victimization, only in the case of the high-level, causal thinking about hypothetical crime events vs. the low-level, consequential thinking about such events. This is because when people are ruminating about the consequences of crime, they are already psychologically close to it by focusing on its incidental and vivid details. Therefore, experiencing crime as psychologically proximal in such cases might not make any difference in terms of how worried one feels about victimization; psychological proximity to crime is already there through the low-level mental construal, and the two mechanisms might cancel each

other out.

This was empirically tested by submitting worry about victimization to a 2-way factorial ANOVA with crime construal (high-level/causes-focused vs. low-level/consequences-focused) and psychological distance from crime (scores in semantic differential scale with higher scores more distance) as between-subjects factors. The interaction effect on worry about victimization was found to be statistically significant ( $F(1, 296) = 5.28, p = .02, \eta^2 = .01$ ). This supports hypothesis 3b. The direction of the interaction suggests that the second of the aforementioned possibilities is supported by the data. Participants who psychologically experienced crime as a distant risk were more likely to worry less intensely about victimization on average ( $b = -.54; t = -7.14, p < .001$ ), especially when they were focusing on the causes of crime events as opposed to the consequences of crime events ( $b = -.29; t = -3.85, p < .001$ ).

As illustrated in the line graph below (*see* Figure 1), the slopes of the association between psychological distance and worry about crime are different for the different crime mindsets, i.e., abstract thinking vs. concrete thinking. The regression coefficient of the interaction term ( $b = .25; t = 2.30, p < .05$ ) in Table 2 (model 4) indicates how much different these slopes are.

**Figure 1: Interactive effect of crime construal & psychological distance on worry about crime**



## Discussion

This study was built on four inter-connected assumptions: a). a conceptual distinction between crime as a more abstract, societal problem and crime as a more concrete, situational risk; b). a CLT-driven idea (Trope & Liberman, 2010) that people are capable of affectively reacting to crime in 'crime-free' contexts via crime construal and psychological distance; c). crime construal is either abstract "high-level" or concrete "low-level"; d). people psychologically experience crime as proximal or distant in time, space, social distance and reality.

Overall, our results suggest that encouraging people to think abstractly (vs. concretely) about crime, by focusing on causes (vs. consequences) of hypothetical crime events, decreased average levels of worry about victimization. This was regardless of whether the hypothetical crime events were described as occurring far from one's here or close to one's here or in an unknown location. Second, manipulating the spatial dimension of psychological distance, via describing where the hypothetical crime events that the participants were presented with took place, had no effect on worry about crime. Finally, psychologically experiencing crime as distant in time, space, social distance and 'hypotheticality' moderated the association between thinking abstractly about the hypothetical crime events and worry about victimization. Psychologically experiencing crime as distant in the 'here and now' was more likely to decrease the intensity of worry about victimization for those who focused on causes rather than consequences of the hypothetical crime events.

These findings speak to research on risk perception and worry about victimization (Jackson, 2006, 2011, 2013; Warr, 1987). This body of work typically conceptualizes risk perception as subjective probability judgments, whereby research participants are asked how likely they think it is that they will become a victim of crime within a given future time period. A number of studies have widened the focus beyond perceived likelihood, drilling into perceptions of the possible impact and seriousness of crime and victimization (Warr, 1987; Jackson, 2011) as well as the sense of control over the event (Jackson, 2009; *see also* Farrall et al., 2009; Gabriel & Greve, 2003; Jackson, 2009, 2011; Killias, 1990).

The current study shows that when it comes to crime, perceived likelihood connects the four psychological distance dimensions of time, space, social distance and 'hypotheticality'. Building on this idea, our work suggests further value in a more detailed examination of each of the four distance dimensions of psychological distance in fear of crime research. CLT predicts that moving up and down one distance dimension also tends to move up and down the other distance dimensions (Liberman & Trope, 2008). Applied in crime, it might be, for example, that learning about a neighbour's victimization may reduce spatial distance from crime, but also temporal, social and hypothetical distance, with a knock-on effect on worry about oneself becoming victim.

The interaction between psychological distance (as measured by the semantic differential scale) and construal level is also of note. The availability heuristic (Tversky and Kahneman, 1973) predicts that the probability of an event tends to be judged by

the ease with which instances of it can be retrieved from memory. People tend to overestimate the frequency of very rare, spectacular events, and underestimate the incidence of more frequent, less spectacular events. Applied to crime, it is suggested that when individuals hold a particularly resonant and vivid image of a risk object (of a given crime, say), they also tend to judge its likelihood to be especially high: they substitute a relatively difficult question (e.g., how likely is it that I will become a victim of crime?) with a relatively easy question (e.g., how easy can I imagine becoming a victim of crime?).

The interaction between psychological distance and crime construal that was found in the current study suggests that participants who were experiencing crime as psychologically proximal in their ‘here and now’ were more likely on average to worry about falling victim of crime, especially when they were primed to think about crime events by focusing on their causes rather than their consequences, i.e., when they relied on a high-level crime mindset vs. a low-level crime mindset.

This might be telling in terms of what constitutes ‘vividness’ in terms of mental imagery when it comes to crime. It may be that thinking abstractly about crime attenuates worry about victimization, but at the same times attracts psychological proximity to crime, and thus when the risk of crime is psychologically experienced as proximal, abstract mental imagery becomes more salient compared to thinking concretely about crime, which involves psychological proximity anyway. In the latter case, the ‘boosting’ effect of psychological proximity on the association between crime construal and worry about victimization is rendered irrelevant.

Apart from the theorization of the fear of crime, our findings are also relevant to “communicative” approaches to crime and crime control. Illustrating the impact of mental representations and psychological distance on worry about victimization, this study suggests focusing on the social control of crime (i.e., tackling crime) might not be an adequate measure to enhance public’s sense of safety (Altheide, 1997; Innes, 2004; Mythen & Walklate, 2006).

Our results indicate that an abstract framing of hypothetical crime events as well as psychological distance from them ‘cool down’ negative affectivity, whereas a concrete framing of hypothetical crimes as well as psychological proximity to them heighten negative affectivity. We thus suggest that such cognitive processes that are used to transcend the ‘here and now’ to experience and express reactions to the distal event of crime, should be taken into account when strategies for the public communication of the crime-risk are designed and implemented (Green, 2006).

The current study is not without limitations. Firstly, it uses a narrow conceptualization of the fear of crime by focusing only on the intensity-related element of its affective component, namely the intensity of worry about victimization (Gray et al., 2008). Fear of crime, however, is a multi-dimensional phenomenon, including not only affective, but also cognitive and behavioural evaluations of the risk of crime (*see inter alia* Farrall et al., 2009; Hale, 1996). The current findings could thus pave the way for exploring effects of crime construal and psychological distance on other fear of crime components, such as risk perception and behavioural reactions to crime.

Another limitation concerns the external validity of the findings. Experiments are considered to be the ‘gold standard’ in exploring causal associations, but the potential setback of laboratory and online experiments refers to the degree to which the results can be generalized (Brown, Cherrington, & Cohen, 1975; Lynch, 1982). In our study, for instance, the priming of abstract or concrete crime mindsets was based on (four) crime events that were hypothetical. Do the observed associations between crime construal and worry about victimization hold if the priming involves real crime events?

A final limitation relates to the experimental manipulation that was used. The manipulation of crime construal – causes-focused vs. consequences-focused – was based on CLT research, which suggests that causes of distal events constitute high-level mental representation, whereas consequences of distal events constitute low-level mental representations (Rim et al., 2013). This is, however, one among many ways that mental construal has been manipulated in CLT research (Trope et al., 2007). Future work on fear of crime could rely on this research to explore whether the observed pattern of effects in the current study, namely that a ‘causal’ crime mindset was related to lower average levels of worry about victimization compared with a ‘consequential’ crime mindset, is replicated when other types of crime construal are used.

In general, future research could expand the applicability of CLT in other criminological topics. A particularly interesting such avenue for future research pertains to judgments about the justice or injustice of group procedures in shaping legitimacy, compliance, and cooperation (Hough, Jackson, Bradford, Myhill, & Quinton, 2010; Tyler & Jackson, 2013). Tyler argues, for example, that public – police encounters ‘teach’ the former about the legitimacy of the latter. It has also been suggested that the ‘lessons’ learnt in such encounters depend, among other factors, on procedural justice (*ibid.*). Our work stresses the important role that particular cognitive processes play in affective reactions to crime. It might thus be that particular framings of ‘law and order’ enhance positive evaluations, and thus perceived legitimacy, while others damage positive evaluations, and thus reduce perceived legitimacy. Moreover, one’s psychological distance from (vs. proximity to) law and authority might also impact on their affective, cognitive and behavioural reactions to these phenomena, irrespective of the visibility of their enactment.

Finally, the current findings are considered to be particularly timely considering the current state of ‘criminological’ affairs in western democracies. On the one hand, in recent years official responses to crime seem to inch away from the ‘tough on crime’ era in both sides of the Atlantic (Cheliotis, 2006; Garland, 2001; Greene, 2002; Newburn, 2007; Tonry, 2006). This has been reflected, for example, in a number of States in the US that have been closing prisons in favour of rehabilitation (Silard, 2014), and in an enduring discussion that has been developed in the UK about prison conditions and the urgent need for a ‘rehabilitation revolution’ (*see* Ministry of Justice, 2012).

On the other hand, the 2013<sup>20</sup> official announcement of the end of the ‘global war on terror’ might not last long. The recent terrorist attacks in Europe might suggest that a new turn is around the corner, taking more and different forms, identifying ‘new enemies’ at national and international levels, and hampering efforts to promote a more democratic, less populist, and less punitive crime control (Hough, 2002; Zedner, 2007).

The role of public reactions to these transformational changes is crucial for the directions that will finally prevail. As social movements research indicates, the development of a new discourse - in this case on crime and justice – is important in shaping processes of ‘taking sides’ when it comes to the public (*see* Benford & Snow, 2000). Therefore, investigating the psycho-social processes that people use to build their knowledge about phenomena that they do not often encounter directly, such as crime and justice, is considered particularly useful. This is especially relevant to the development of evidence-based communication tools and strategic recommendations for criminal policy. Such communication strategies can be used to effectively (re)frame the dominant narratives about crime, justice and public safety in ways that promote public understanding of, and support for, necessary reforms as well as individual and collective wellbeing.

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<sup>20</sup> This refers to President Barack Obama’s public announcement in 2013 that the United States was no longer pursuing a War on Terror. *See* Goldberg, J. (2016). The Obama Doctrine. *The Atlantic*, <http://www.theatlantic.com/magazine/archive/2016/04/the-obama-doctrine/471525/>; Wittes, T. C. (2016), The Slipperiest Slope of them All. *The Atlantic*, <http://www.theatlantic.com/international/archive/2016/03/obama-doctrine-goldberg-inaction/473520/>

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## PAPER 4

### Worry about victimization, crime information processing and social categorization biases

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#### Abstract

This study seeks to address novel fear of crime questions, exploring associations between worry about victimization, crime information processing and social categorization biases. Theoretically, it draws on the construal-level theory of psychological distance and the uncertainty identity theory, and methodologically, on experimental data. The results suggest that engaging with information about real crime events *inactively*, i.e., by only reading about them, is more likely to decrease average levels of worry about victimization compared to engaging with crime information *actively*, i.e., by not only reading, but also thinking about it either abstractly or concretely. It is also found that worry about victimization is significantly related to social categorization biases.

Overall, the level of crime information processing appears to be important in explaining variation in affective reactions to crime. Also, worry about victimization as an indicator of deteriorating wellbeing at the individual level appears to be related to social categorization that damages collective wellbeing. The policy implications of these findings in relation to the public communication of crime are also discussed.

**Key words:** worry about victimization, crime information processing, crime construal, social categorization, social marketing

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## Introduction

The objective of the current study is twofold. To explore how crime information can be communicated to the public without raising their worry about victimization, and whether crime information processing and fear of crime impact on collective wellbeing. In particular, the impact of different *levels* of crime information processing on worry about victimization (Gabriel & Greve, 2003; Jackson, 2004) is first examined, followed by the impact of crime information processing and worry about victimization on social categorization biases (Flecker et al., 2006; Zick, Küpper, & Hövermann, 2011).

Theoretically, the study draws on the construal-level theory of psychological distance (Liberman & Trope, 2008; Trope & Liberman, 2010) and the uncertainty-identity theory (Hogg, 2000, 2009). Empirically, it draws on recent criminological findings (Gouseti & Jackson, 2016) suggesting that thinking about crime abstractly, by focusing on *causes* of *hypothetical* crime events, is related to lower levels of worry about falling victim of different crimes as opposed to thinking about crime concretely, by focusing on *consequences* of *hypothetical* crime events.

Following on from an experiment conducted in December 2015 on Amazon Mechanical Turk, the current study expands the aforementioned findings in three ways. First, it looks at the impact of different *levels* of engagement (inactive engagement vs. active engagement) with crime information on worry about victimization rather than type of active engagement (i.e., causal vs. consequential); second, it uses crime information that pertains to *real* crime events as opposed to *hypothetical* crime events; third, it looks at the impact of crime information processing and worry about victimization on social categorization biases (Lee & Kim, 2015).

The research results suggest that those prompted to engage actively with information about real crimes in a concrete manner, by focusing on the consequences of such crimes, did not tend to report significantly different levels of worry about victimization compared to those who also engaged actively with information about real crimes, but in an abstract manner by focusing on their causes. On the contrary, participants who read the information about real crimes without further engagement with it were more likely to report lower levels of worry about falling victim of crime compared to those who engaged with the same information actively, regardless of whether they engaged concretely or abstractly. The research results also suggest that only worry about victimization (and not crime information processing) explain variation in social categorization biases, namely in-group identification, out-group derogation and racist attitudes.

The article comprises four sections. First, I discuss the two theoretical frameworks that inform the research hypotheses, namely the construal-level theory of psychological distance and the uncertainty-identity theory. Second, the research methodology is presented, followed by the research results section, which focus on direct and indirect associations. Finally, the study's policy-related conclusions are discussed.

### **Construal-level theory of psychological distance and worry about victimization**

The first topic that the current study explores pertains to the impact of crime information processing (inactive vs. active) on worry about victimization. The construal-level theory of psychological distance (CLT) can provide a useful theoretical framework for this purpose (Gouseti & Jackson, 2015, 2016). The CLT explores cognitive processes that enable people to experience and express reactions to events that are not present in their immediate context (Trope & Liberman, 2010); e.g., when people react to the crime-risk while crime is not present in their ‘here and now’. CLT argues that it is the ‘transcending’ of the ‘here and now’ that enables expression of reactions to distal events via *psychological distance* and *mental construal* (Liberman & Trope, 2008; Trope, Liberman, & Wakslak, 2007).

Psychological distance comprises four dimensions, namely *when*, *where*, *to whom*, and *whether* a distal event is perceived to occur. The further away in time, space, social distance, and reality, an event is perceived to be, the higher its psychological distance from one’s ‘here and now’ (*ibid.*). Mental construal refers to *what* the distal event is perceived to be. The more detailed and context-bound the mental representation of the distal event, the *lower* the level of its construal; the more generic and abstract the mental representation of the distal event, the *higher* its construal level. According to the CLT, psychological distance and mental construal are distinct but interrelated; psychological distance is related to abstract construal, and vice versa; psychological proximity is related to concrete construal, and vice versa (Amit, Algom, & Trope, 2009; Liberman, Trope, & Stephan, 2007).

The focus of the CLT on the representational (vs. actual) proximity to distal events (Trope & Liberman, 2010) renders it especially relevant to the study of the fear of crime. Criminological literature has shown that *subjective perceptions* of crime, victimization and signs of the criminal threat are important explanatory parameters of the phenomenon, often even more so than their ‘*objective*’ counterparts (Box, Hale, & Andrews, 1988; Chadee & Ying, 2013; Hale, 1996). It is thus suggested that the more psychologically proximal (vs. distant) crime is experienced to be, the higher the level of reported fear of crime, and the more detailed and vivid (vs. schematic and abstract) the mental representation of crime, the higher the level of reported fear of crime.

Initial evidence of the applicability of CLT in fear of crime is provided by recent findings. In a study that analysed experimental data, Gouseti & Jackson (2017) examined associations between crime construal, psychological distance from crime, and worry about victimization. The findings showed that a consequences-focused thinking about *hypothetical* crimes was related to psychological proximity to crime, and both low-level construal and psychological proximity to higher levels of worry about victimization. On the contrary, a causes-focused thinking about crime was related to psychological distance from crime (Rim, Hansen, & Trope, 2013), and both to lower levels of worry about victimization.

## Social categorization

The second topic of this study is the impact of crime information processing and worry about victimization on social categorization biases (Gaertner, Dovidio, & Houlette, 2010; Hogg, 2000; Lee & Kim, 2015; Suh & Sung, 2009). Exploring these associations for the first time in fear of crime literature, this study provides empirical evidence of the argument that fear of crime does not only affect individual wellbeing (Denkers & Winkel, 1998; Green et al., 2002; Jackson & Stafford, 2009), but also collective wellbeing (Hale, 1996; Morenoff, Sampson, & Raudenbush, 2001; Sampson & Raudenbush, 2004).

Drawing on the uncertainty-identity theory (Hogg, 2000), the impact of crime information processing and worry about victimization on in-group identification, out-group derogation and racist attitudes (Flecker et al., 2006; Zick et al., 2011) as proxies for social-categorization biases, is explored. In psychological literature, collective wellbeing is defined as “a sense of satisfaction or happiness related to the collective dimension of the self” (Suh & Sung, 2009). The collective dimension of the self stems from one's membership in (ethnicity, gender, and social class) groups (Bodenhausen, 2012). This membership is partly enabled through a process of sorting individuals into social categories, which is a fundamental human condition, organizing and giving structure to lay knowledge of the world. In the process of simplification, however, classifying people into categories might also contribute to stereotyping, and thus damaging collective wellbeing (*ibid.*).

The uncertainty-identity theory (UIT, Hogg, 2009) is relevant to the current research in that it perceives affective reactions to uncertainty and risk not so much as grounded in personality, but as a context-bound phenomenon (Hogg, 2000). It suggests that uncertainty-related affect is ‘aversive’ and motivates attempts at resolution. One such motivated resolution pertains to processes of social categorization, such as in-group identification and out-group derogation (*ibid.*). Social categorization helps reduce uncertainty and negative affectivity, UIT holds, by depersonalizing perception in terms of group's attributes that define the group members and differentiating them from others (*ibid.*). Depersonalization of others helps predict how they will behave and interact; depersonalization of self engenders a sense of belonging, and both processes are related to the reduction of negative affect (Hogg, 2000; Hogg, 2009).

By utilizing these theoretical insights in the study of fear of crime, the possibility of other factors being at play in the interpretation of associations between fear of crime and social categorization is not disregarded. It might be, for example, that instead of managing negative affectivity that stems from uncertainty, social categorization is related to associating crime with groups of people with particular characteristics, which in turn motivates out-group hostility. The current choice, however, is justified by the research objective to explore associations between fear of crime and *collective* (vs. individual) wellbeing, which is operationalized through social categorization.

## The study

### *Research hypotheses*

The first question of the study is ‘*what is the association between different levels of engagement with crime-information processing and worry about victimization?*’ The key hypothesis is that *active engagement* with crime information, i.e., reading about crime events and also ruminating about either their causes or consequences, is more likely to be related to higher levels of worry about victimization compared to *inactive engagement* with crime information, i.e., reading about crime events without any further engagement with it (*hypothesis 1*).

From a CLT perspective, and building on recent criminological findings (Gouseti & Jackson, 2016), it is also assumed that when people are *actively* engaged with information about actual crimes by focusing on their detailed and incidental features, namely their consequences, they will be more likely to report higher worry about victimization compared with people who are also *actively* involved in processing information about actual crimes but by focusing on their generic and abstract features, namely their causes (*hypothesis 2*). This is because consequences dependent on causes, but causes do not depend on consequences; the former are thus secondary features of distal events, while the latter are primary features of such events (Rim et al., 2013).

Indirect effects are also tested, involving variables that have been put forward in criminological literature as important ‘predictors’ of fear of crime. This is to test the strength of the direct effects that are suggested in hypotheses 1 and 2. The moderators were past worry about victimization (*hypothesis 3*), (Farrall & Gadd, 2004; Gray, Jackson, & Farrall, 2008); need for cognitive closure (*hypothesis 4*), (Jackson, 2013), psychological distance from crime (Gouseti & Jackson, 2016), and perceived likelihood of victimization (*hypothesis 5*), (Jackson, 2006, 2011; Warr, 1987). Four hypotheses emerge from this analysis, exploring whether each of the aforementioned parameters moderate the association between crime information processing and worry about crime.

The second question of the current study is the following: ‘*Are crime-information processing and worry about victimization related to social categorization biases?*’ It is assumed that crime information processing is related to worry about victimization, which represents damaged wellbeing at the individual level. Drawing on UIT (Hogg, 2000, 2009), it is further assumed that crime information processing and worry about victimization impact on processes of social categorization, such as in-group identification, out-group derogation and racist attitudes, damaging social interaction, and thus collective wellbeing (Gaertner et al., 2010).

In particular, the level of engagement with crime information (*hypothesis 7*) and worry about victimization (*hypothesis 8*) are expected to be related to social categorization biases, namely in-group identification (*hypotheses 7a & 8a*), out-group derogation (*hypotheses 7b & 8b*) and racist attitudes (*hypotheses 7c & 8c*).

## Method

*Participants, design, and procedure.* The sample comprises 312 US participants (140 women and 172 men), recruited in December 2015 on the web-based platform Amazon Mechanical Turk (MTurk), (Berinsky, Huber, & Lenz, 2012; Buhrmester, Kwang, & Gosling, 2011). Participants were randomly assigned to one of three conditions, which were differentiated by the level of engagement with the crime information that they were presented with (*see* Table 1) in a between-subjects design. The sample's age ranged from 18 to 73 year ( $M=34.73$ ,  $SD= 10.44$ ). The reward for participating in the study was \$1,00<sup>21</sup>.

After providing participants with general information about the topic, length, participation requirements, reward of the study, they were asked to give their informed consent and complete an instructional manipulation check that screens out people who do random clicking (Oppenheimer, Meyvis, & Davidenko, 2009). The first set of items comprised questions about socio-demographics, participants' worry about victimization in the last year (*see* Gray, Jackson, & Farrall, 2008), the impact of crime, if any, on quality of life in the last year (*see* Jackson & Gray, 2010), and the need for cognitive closure (*see* Webster & Kruglanski, 1994).

Participants were then presented with information about three real crime events (*see* Table 1). The crime stories were the same within each of the three experimental conditions (*consequences* condition; *causes* condition; *control* group), and were presented in random order. The three crimes referred to events that took place in the US, namely the September 11 attacks in New York City and Washington, D.C. (2001), the shooting of Michael Brown by a police officer in Ferguson, Missouri (2014), and the murder of Amanda Blackburn by three men during a home invasion in Indianapolis (2015)<sup>22</sup>.

Participants were asked to read carefully the crime information about the three events. Then, depending on the experimental condition that they were randomly assigned to, they were asked after each crime to suggest what they think that are its main *causes* ( $n=104$ ) or its main *consequences* ( $n=104$ ). They were instructed to generate either at least three<sup>23</sup> causes or three consequences that they could naturally come up with without being repetitious. In the control group ( $n= 104$ ), participants were presented with the same crime information, but were then instructed to move on to the next group of items, without engaging any further with the information about the three events.

After the information-processing task, participants were asked about their current worry about falling victim of different types of crime (*see* Gray et al., 2008; ICPR, 2011), their crime-risk perceptions (*see* Jackson, 2011; Warr, 1987), their social categorization attitudes (*see* Flecker et al., 2006; Zick et al., 2011) and their

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<sup>21</sup> The amount of the reward was based on the average value of rewards offered in MTurk studies of similar length as the current study at the time that it was conducted.

<sup>22</sup> The length of the text was almost the same in each case (story 1= 81 words, story 2= 81 words, story 3= 82 words) in order to control for potential effects of features of the text on participants' answers to subsequent questions. *See* Appendix I for the exact wording of the vignettes.

<sup>23</sup> The number of the causes/consequences was specified via pre-tests.

psychological distance from the crime-risk (*see* Gouseti & Jackson, 2016). Finally, participants were debriefed and thanked for their participation.

**Table 1: Experimental design**

Active engagement-Consequences condition	Active information processing-Consequences of real crime events ( <i>n</i> =104)		
<i>Crime events</i>	September 11 attacks ( <i>n</i> =104)	Ferguson shooting ( <i>n</i> =104)	Blackburn murder ( <i>n</i> =104)
Active engagement-Causes condition	Active information processing-Causes of real crime events ( <i>n</i> =104)		
<i>Crime events</i>	September 11 attacks ( <i>n</i> =104)	Ferguson shooting ( <i>n</i> =104)	Blackburn murder ( <i>n</i> =104)
Inactive engagement-Control group	Inactive information processing -Reading about real crime events without further engagement ( <i>n</i> =104)		
<i>Crime events</i>	September 11 attacks ( <i>n</i> =104)	Ferguson shooting ( <i>n</i> =104)	Blackburn murder ( <i>n</i> =104)

*Measures and summary statistics.* This is an overview of the variables<sup>24</sup> that are used in subsequent analyses, along with relevant descriptive statistics.

*Worry about victimization.* Participants' worry about falling victim of six crimes was measured via intensity-related items (*see* USFD, 2009). The following question was asked *after* the experimental manipulation: "How worried, if at all, are you about falling victim of the following crimes"; the provided answers were: 1= not at all worried, 2= a bit worried, 3= fairly worried, 4= very worried. A composite worry variable<sup>25</sup> was

<sup>24</sup> In all of the scales that were used in the current study, the following measures were taken to prevent response bias and improve the quality of the data (Furnham, 1986; Kalton & Schuman, 1982; Oppenheimer et al., 2009; Tourangeau, Rips, & Rasinski, 2000). Some of the scales included statements that asked participants not to choose any of the provided options in this particular item to screen out people who do random clicking. Only two respondents were found to do this relatively systematically, and they were dropped from the sample. Also, the statements of the scales were presented to participants in random order, using the randomization function of Qualtrics, which was used to build the study. This intended to overcome biases that relate to the ordering of the items. Finally, to overcome acquiescence bias, scale items were reversed in order to create balanced response sets in terms of positively and negatively worded questions.

<sup>25</sup> To evaluate the psychometric properties of the scales that are included in subsequent analyses, their dimensionality was also examined, using exploratory factors analysis (Bartholomew, Knott, & Moustaki, 2011; Furr, 2011). In all cases, a one-factor solution fitted the data well.

computed and included in subsequent analyses, averaging the estimates across the six crimes ( $\alpha=.86$ ). Summary statistics of each of the crimes are presented in Table 2.

**Table 2: Descriptive statistics of worry about victimization**

Current worry about crime	No of observations	Mean	Standard Deviation	Minimum (not worried)	Maximum (very worried)
Home burglary	312	2.1	.83	1	4
Terrorist attack	312	2	1.00	1	4
Psychical assault	312	1.8	.85	1	4
Mugging	312	1.8	.79	1	4
Pickpocketing	312	1.5	.70	1	4
Acquaintance violence	312	1.3	.72	1	4
Overall worry about crime	312	1.8	.63	1	4

*Social categorization.* Drawing on psychological research (Bodenhausen, 2012; Hewstone, Rubin, & Willis, 2002; Hogg, 2000; Hogg, 2009), social categorization was operationalized as in-group identification, out-group derogation and racism, and measured via standardized attitudinal scales. Regarding in-group identification (Flecker et al., 2006; Zick et al., 2011), participants were asked to indicate how much they agree or disagree with the following statements: “If you love your country, you must be ready to fight for it” ( $M=2.3$ ,  $SD=1.06$ ); “I am proud to be American” ( $M=2$ ,  $SD=.98$ ); “I love my country. I was taught to respect and care for it, just the way I learned that it is not right to steal” ( $M=2$ ,  $SD=.88$ ); “What our politicians should keep in mind is to defend our own country against economic, cultural and social threats” ( $M=2.2$ ,  $SD=1.03$ ); “What our politicians should pursue in the currently changing socio-economic context is the interests of America” ( $M=2.2$ ,  $SD=.85$ ); “America should keep taking center stage in the international landscape, in economic, political and cultural respects” ( $M=2.7$ ,  $SD=1.06$ ). The provided answers were: 1= agree strongly, 2= agree, 3= neither agree nor disagree, 4= disagree, 5= disagree strongly. At the analysis stage, a composite in-group identification variable was used ( $M=2.2$ ,  $SD=.71$ ), computed by averaging the estimates across the six statements ( $\alpha=.82$ ).

Out-group derogation (*ibid.*) was measured by asking participants how much they agree or disagree with the following statements: “There are too many immigrants in America” ( $M=3.3$ ,  $SD=1.24$ ); “Immigrants enrich our culture” ( $M=3.9$ ,  $SD=.97$ ); “Immigrants get job opportunities which legitimately Americans would deserve” ( $M=3.2$ ,  $SD=1.22$ ); “Most politicians take too much care of immigrants and do not take enough care of American people” ( $M=3.2$ ,  $SD=1.35$ ); “It would be better if immigrants who live in our country avoided places where their presence is not preferred” ( $M=3.7$ ,  $SD=1.02$ ); “Americans and immigrants can never be really comfortable with each other, even if they are close friends” ( $M=4$ ,  $SD=1.00$ ). The scale of provided answers was the same as in the in-group identification measures. An overall out-group variable ( $M=3.5$ ,  $SD=.92$ ) was computed by averaging the estimates across the six statements ( $\alpha=.92$ ) in order to be included in the analysis.

Finally, racist attitudes were measured by asking participants to express their agreement or disagreement with the following (*ibid.*): “There is a natural hierarchy between black and white people” ( $M=3.8$ ,  $SD=1.11$ ); “Jews have too much influence in America” ( $M=3.9$ ,  $SD=1.03$ ); “Jews in general do not care about anything or anyone but their own kind” ( $M=4$ ,  $SD=1.02$ ); “The Muslim culture fits well into America” ( $M=2.8$ ,  $SD=1.13$ ); “There are too many Muslims in America” ( $M=3.5$ ,  $SD=1.23$ ). The provided answers were: 1= agree strongly, 2= agree, 3= neither agree nor disagree, 4= disagree, 5= disagree strongly. Averaging the estimates across the statements ( $M=3.6$ ,  $SD=.82$ ), a composite racism variable ( $\alpha=.80$ ) was calculated and included in data analyses.

It should be acknowledged that every ‘measure’ of worldviews, including understanding and interpretation of intolerance, prejudice and racism is characterized by limitations. The standardized scales that were used in the current study (Flecker et al., 2006; Zick et al., 2011) draw on the distinction that is made in psychological literature between overt or explicit racism and aversive or implicit racism (Gaertner & Dovidio, 1986, 2000, 2005). The standardized nature of the scales is considered to be evidence of their validity, although the inherent weaknesses of exploring such views quantitatively are also recognized.

*Perceived likelihood of victimization.* Likelihood judgments, according to the CLT (Todorov et al., 2007; Wakslak & Trope, 2009), instantiate psychological distance. Outcomes that are perceived as likely are experienced as psychologically proximal, drawing also on concrete mental construal; outcomes that are perceived as unlikely are experienced as psychologically distant, and draw on abstract mental construal. To measure perceived likelihood of victimization (*see* Jackson, 2011; Warr, 1987), participants were asked how likely, if at all, they thought it was to fall victim of home burglary ( $M=2.3$ ,  $SD=.81$ ), terrorist attack ( $M=2.1$ ,  $SD=1.00$ ), mugging ( $M=2$ ,  $SD=.77$ ), physical assault in the street by a stranger ( $M=1.9$ ,  $SD=.77$ ), pickpocketing ( $M=1.9$ ,  $SD=.77$ ), and acquaintance violence ( $M=1.4$ ,  $SD=.75$ ). The provided answers ranged from 1 to 5, with lower values indicating less likelihood (1= definitely not going to happen - 5= certain to happen). A composite perceived likelihood variable ( $M=1.9$ ,  $SD=.59$ ) was computed by averaging the estimates across the six crimes ( $\alpha=.81$ ), and used in subsequent analyses.

## Results

### *Crime construal, information processing and worry about victimization*

The first research question of the current study explored the association between crime-information processing and worry about victimization (*see* Table 3). In particular, it was explored whether different levels of worry about victimization were expressed by participants who engaged with the provided information about the three crime events *actively* by focusing on the consequences of these crimes (*low-level construal condition*) or *actively* by focusing on their causes (*high-level construal condition*) or

*inactively* by only reading the provided information without further engagement with it (*control group*).

It was found that worry about victimization was more likely to decrease on average for participants who only read about the three crimes without any further engagement with the information. This was true independently of whether those who were actively engaged with the crime information focused on consequences of the crime events or their causes ( $b = -.27, p = .002$  &  $b = -.23, p = .008$ , respectively). The observed association between worry about victimization and engaging in a consequential way of thinking about crime vs. a causal way of thinking about it was in the expected direction (Rim et al., 2013), i.e., higher on average for the former compared to the latter, but not statistically significant ( $b = -.04, p = .653$ ). These findings support *hypothesis 1*, but not *hypothesis 2*.

Why was not the *type of active* crime information processing (abstract vs. concrete) related to worry about victimization? Building on previous research, a possible explanation might be the following (Gouseti & Jackson, 2016). Previous experimental research on the impact of ‘causal’ (vs. consequential) thinking about hypothetical crime events on worry about victimization, showed that focusing on the consequences (vs. causes) of hypothetical crime was strongly related to negative affect (*ibid.*). This was not the case in the current study.

A crucial difference between the two experiments is the use of *hypothetical* crime events in the experimental manipulation of the first study and *real* crime events in the experimental manipulation of the second study. It might thus be that the ‘actual’ nature of real crimes as opposed to the ‘imagined’ nature of hypothetical crimes involves psychological proximity to crime and low-level crime construal, and these features might cancel out the effect of the type of engagement with the information, namely whether it is abstract/causes-focused or concrete/consequences focused.

To further examine the strength of the observed direct associations, interaction effects were also tested. The potential moderators of the association between worry about victimization and crime information processing were past worry about victimization, need for cognitive closure, psychological distance from crime, perceived likelihood of victimization, based on existing literature (Farrall et al., 2009; Gouseti & Jackson, 2016; Jackson, 2006, 2011, 2013; Warr, 1987). Of the interaction effects that were tested via a stepwise regression analysis, the only one that was statistically significant involved perceived likelihood of falling victim (supporting *hypothesis 6*, but not hypotheses 3-5). The statistically significant results are presented in *Table 3*.

Participants who engaged actively with the information about the three crimes by focusing on their causes (*active, high-level engagement*) were more likely on average to worry about falling victim of crime, when they perceived the likelihood of victimization as high, compared to those who either engaged actively with the information about the three crimes by focusing instead on their consequences (*active, low-level engagement*) or those who were not engaged actively with the crime information, by just reading about the three crimes (*inactive engagement*), ( $b = .89, p < .001$  and  $b = .70, p = .05$ ;  $b = .89, p < .001$  and  $b = .62, p = .01$ , respectively). No statistically significant difference in the impact of perceived likelihood of victimization

was found on worry about victimization between those who engaged actively with the information about the three crimes by focusing on their consequences (*active, low-level engagement*) and those who were not engaged actively with the crime information by only reading about the three crimes (*inactive engagement*).

**Table 3: Direct and interaction effects on worry about victimization**

<b>Variable</b>	(1) <b>Model 1</b> Mean of worry	(2) <b>Model 2</b> Mean of worry
Experimental group= Causes condition	-0.039 (0.09)	
Experimental condition= Control group	<b>-0.27***</b> (0.09)	<b>0.37*</b> (0.21)
Perceived likelihood		<b>0.89***</b> (0.07)
Experimental group= Consequences condition		0.33 (0.2)
Consequences condition* Perceived likelihood		<b>-0.19*</b> (0.09)
Control group*Perceived likelihood		<b>-0.27**</b> (0.11)
Constant	1.86*** (0.06)	0.10 (0.14)
N	312	312
R-squared	0.04	0.54

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

More research is needed to explain these findings. It might be that the simultaneous presence of low-level construal and psychological proximity to crime for those who engaged actively with the crime information by focusing on the consequences of the three crimes canceled the impact of each other on worry about victimization out. On the contrary, an active but abstract engagement with crime information leaves room for psychological proximity, which might be boosted by perceptions of victimization as likely, resulting in a joint impact that increases average reported levels of worry about victimization. Finally, for those who only read about the real crime events, the absence of further engagement with the information might rendered perceptions of likelihood of victimization irrelevant to worry about victimization.

#### *Crime information processing, worry about victimization and social categorization biases*

The second question of the current study was whether crime information processing and worry about victimization are related to social categorization biases, namely in-

group identification, out-group derogation and racist attitudes. The assumption is that intense worry about victimization instantiates damaged individual wellbeing, and impacts on social categorization, which instantiates collective wellbeing.

What might be the role of crime information processing in this context? The current study found that inactive engagement with crime information is more likely to be related to lower levels of worry about victimization compared to active engagement with such information, regardless of the type of engagement, i.e., abstract or concrete. Following on from this, it is explored whether the level of crime information processing is related to social categorization bias directly, whether worry about victimization is related to social categorization bias directly, and whether the level of crime information processing is related to social categorization bias indirectly via worry about victimization. The analytical strategy to test these associations involved a stepwise procedure of fitting simple and multiple linear regression models, where the three social categorization processes were regressed on worry about victimization and the level of crime information processing (*see* Table 4).

Starting with in-group identification, it was found that the more intense the worry about falling victim of crime, the higher the levels of in-group identification ( $b = -0.3$ ,  $p < .001$ ), (*hypothesis 7a*). The level of crime information processing was not statistically significantly related to in-group identification, after controlling for worry about victimization ( $b = 0.1$ ,  $p = .46$  control group vs. consequences condition;  $b = -0.02$ ;  $p = .86$  causes condition vs. consequences condition), (*hypothesis 8a*). Regarding out-group derogation, it was found that the more intense the worry about victimization, the higher the levels of out-group hostility ( $b = -0.3$ ,  $p = .001$ ), (*hypothesis 7b*). Once again, whether the level of engagement with crime information was inactive or active was not statistically significantly related to out-group derogation after controlling for worry about victimization ( $b = -0.6$ ,  $p = .64$  control group vs. consequences condition;  $b = -0.01$ ,  $p = .99$  causes condition vs. consequences condition), (*hypothesis 8b*). Finally, participants who tended to worry more intensely about falling victim of crime were more likely to express racist attitudes ( $b = -0.4$ ,  $p < .001$ ), (*hypothesis 7c*). The level of engagement with information about real crimes was not significantly related to racist attitudes after controlling for worry about victimization ( $b = -0.05$ ,  $p = .66$  control group vs. consequences condition;  $b = -0.08$ ,  $p = .47$  causes condition vs. consequences condition), (*hypothesis 8c*).

Overall, these results suggest that a deteriorating wellbeing at the individual level reflected in high-intensity worrying about victimization is likely to be related to social categorization biases that erode collective wellbeing (Gaertner & Dovidio, 2005; Hewstone et al., 2002; Hogg, 2000; Lee & Kim, 2015; Suh & Sung, 2009; Zick et al., 2011). On the contrary, the level of engagement with crime information processing (inactive vs. active) was not significantly related to none of the processes of social categorization that were tested.

Although more research is needed in this area, it is assumed that the difference in the nature of the information processing and the social categorization attitudes might explain the absence of significant associations. Information processing is a cognitive process, involving automatic functions that might be influenced by contextual

parameters (Lachman, Lachman, & Butterfield, 2015). Expressing reactions to the distal event of crime is an attitudinal process which involves consideration of different parameters, such as the self, others, one's position in the world, and thus it contributes to forming rather stable worldviews. Therefore, engaging, actively or inactively, with information about crime events, that is a situational process, might not impact on rather stable worldviews, which involve less dynamic and context-bound processes.

**Table 4: Worry about victimization and social categorization biases**

	(1)	(2)	(1)	(2)	(1)	(2)
	In-group identification		Out-group derogation		Racism	
Worry about crime	-0.32*** (0.06)	-0.32*** (0.06)	-0.28*** (0.082)	-0.28*** (0.084)	-0.35*** (0.07)	-0.35*** (0.07)
Causes condition		-0.02 (0.1)		-0.001 (0.13)		-0.08 (0.11)
Control condition		0.07 (0.1)		-0.06 (0.13)		-0.05 (0.11)
Constant	2.8*** (0.12)	2.8*** (0.14)	4.03*** (0.15)	4.06*** (0.18)	4.22*** (0.13)	4.27*** (0.16)
N	312	312	312	312	312	312
R-squared	0.08	0.08	0.04	0.04	0.07	0.07

Standard errors in parentheses,  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## Conclusion

The primary question of the current study was whether different *levels* of crime information processing (inactive vs. active) explain variation in worry about victimization. First, it was found that the *level* of engagement with information about real crimes (rather than the *type* of engagement) was strongly related to worry about victimization. Participants who engaged with crime information in a non-active way, by reading about crime events without further engagement with the information, were less likely to worry about victimization compared to those who engaged with crime information actively; this was regardless of whether they focused on the causes or the consequences of the crime events.

Second, except for perceived likelihood of victimization, no other variable that was tested altered the observed association between worry about victimization and level

of information processing, suggesting that it is fairly strong, at least in the current study. The statistically significant moderating effect of the perceived likelihood of victimization on the aforementioned association suggests that the higher the perception of the likelihood of victimization, the more intense the worry about falling victim of crime, especially for participants who engaged with crime information actively in an abstract manner, by focusing on the causes of crime events.

The second question of the study was whether crime information processing and worry about victimization are related to social categorization biases. The assumption was that worry about victimization instantiates damaged individual wellbeing; it might thus be related to processes that damage social interaction, and collective wellbeing, such as social categorization biases. The findings suggest that worry about victimization was a significant ‘predictor’ of in-group identification, out-group derogation and racist attitudes. However, different levels of crime information processing were not significantly related to social categorization biases.

This study aims to expand the fear of crime literature by testing interdisciplinary assumptions, drawing on CLT and UIT. It also employs an alternative methodology to the dominant in this area survey, namely online experiment. This ultimate goal of this work is to open up a criminological discussion about policymaking in relation to individual and collective wellbeing. Academic research and policymaking are often worlds apart, with the latter relying often less on the former and more on political and populist demands (Hough, 2002, 2007). To develop research into fear of crime that helps bring the ‘two worlds’ together, new research questions, interdisciplinary perspectives and integrated methodologies are considered to be important.

From a policy perspective, the results of the current study are considered to speak to the public communication of the crime-risk. They suggest that communication strategies in relation to crime and justice should take into account the *nature* of the crime information (*real* vs. *hypothetical*) that they disseminate. This will help build narratives that inform people about crime without damaging individual wellbeing. For example, information about real crimes, such as crime news and crime statistics, that is presented in a manner that promotes *inactive* engagement with it, by e.g., sticking to the facts without focusing on causes and consequences, might be an effective way to inform the public about crime without raising their worry about victimization. On the contrary, information about hypothetical crime events, such as crime awareness campaigns and ads might require more focus on the narratives that they use (e.g., abstract vs. detailed) in order to sensitize the public in a way that does not increase their worry about victimization.

This research area is considered to be important in that the public rhetoric about crime has real consequences at the individual, community and societal levels. For example, the unprecedented expansion of criminal justice infrastructure in many parts of the world, with the US leading, in the last decades has not resulted from spikes in crime (Hough, 2002, 2007; Tonry, 2014). Rather, the criminal justice reforms have come about largely through legislative and policy initiatives that drew heavily on the ‘tough on crime’ political rhetoric (Greene, 2002; Newburn, 2007). To find ‘antidotes’ to populist and inaccurate public framings of the crime problem, this body of work

seeks to develop a criminological inquiry into ways to communicate about the challenges facing criminal justice systems and the reforms necessary to make them more just and equitable.

Such challenges involve moving public perceptions and policymaking away from ineffective ‘tough on crime’ discourses that over-emphasize policing, prosecution, and prisons. Importantly, they also involve identifying communication strategies and social marketing techniques that increase public support for greater investments in programs that address the underlying social and economic issues of crime that fuel cycles of incarceration, damages to individual and collective well-being, and injustice.

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**APPENDIX I:**  
**Information about real crime events and manipulation of *level* of information processing by experimental condition**

**Crime event 1**

Please read the following text CAREFULLY.

The September 11 attacks were a series of four coordinated terrorist attacks by the Islamic terrorist group Al-Qaeda on the United States in New York City and the Washington, D.C. metropolitan area on Tuesday, September 11, 2001. The attacks killed 2,996 people, including 19 hijackers, and caused at least \$10 billion in property and infrastructure damage. It was also the deadliest incident for firefighters and law enforcement personnel in the history of the United States, with 343 and 72 killed respectively.

**Crime event 2**

Please read the following text CAREFULLY.

On August 9, 2014, Michael Brown, an 18-year-old African-American, was fatally shot by Darren Wilson, 28, a white police officer in Ferguson, Missouri, a northern suburb of St. Louis. The circumstances of the shooting of the unarmed Brown sparked tensions in the city, and protests and civil unrest erupted. The events received considerable attention in the U.S. and elsewhere, attracted protesters from outside the region, and generated a vigorous debate about the police use of force doctrine in Missouri and nationwide.

**Crime event 3**

Please read the following text CAREFULLY.

Amanda Blackburn, 28, was 12 weeks pregnant when she was shot in a home invasion, as she tried to protect herself and her one-year-old son, in Indianapolis on November 10, 2015. Amanda was found mortally wounded by her husband, pastor Davey Blackburn, after he returned home from the gym. She died later in hospital. Larry Taylor, 18 and Jalen Watson, 21, have been arrested and charged with her murder. A third suspect, Diano Gordon, 24, has been arrested in connection with burglary.

***Active engagement – Consequences condition***

What do you think are the main CONSEQUENCES of .....? Please generate at least three CONSEQUENCES that you can naturally come up with without being repetitious.

***Active engagement – Causes condition***

What do you think are the main CAUSES of .....? Please generate at least three CAUSES that you can naturally come up with without being repetitious.

***Inactive engagement - Control group***

In this section you will be presented with information about true crime stories. Your task is to read the information CAREFULLY.

## CHAPTER 4: CONCLUSION

The overarching question that this thesis sought to address was: *How do people transcend their ‘crime-free’ ‘here and now’ in order to be able to experience and express fear of crime reactions?* The question is based on the premise that for most of us crime as a direct risk is distal, i.e., not present, in our daily lives most of the time. People, however, are capable of expressing reactions to crime, such as fear of crime, even in the absence of an immediate encounter with crime. What are the cognitive processes that helps transcend one’s ‘crime-free’ here, and thus render such reactions plausible?

To explore the overarching question, two paths were followed, one theoretical and one empirical. The theoretical aim of the current work was to expand the theorization of the fear of crime by testing *interdisciplinary insights* to develop theory-driven (vs. data-driven) perspective, (Colquitt & Zapata-Phelan, 2007; Eisenhardt & Graebner, 2007). This resulted in the development of a *construal-level approach to the fear of crime*. The current theoretical perspective also opened up new methodological avenues for research. In particular, the methodological aim of this thesis was to employ an *integrated approach* to fear of crime research, combining *observational and experimental* studies.

The last chapter of the current thesis constitutes an overview of its key conclusions and empirical findings, the main limitations of its theoretical and methodological features, and the avenues for future research that it helps open up.

### 4.1 Summary of CLT-driven research hypotheses and key conclusions

Going back to the three general hypotheses that were stated in the introduction of this thesis, a discussion is provided here around the extent to which they are supported by its empirical findings. It is stated from the outset that the discussion of findings is grounded on the CLT approach that has been developed in this work.

#### *Hypothesis 1*

*Experiencing and expressing fear of crime reactions in ‘crime-free’ contexts is enabled by psychological distance from crime and crime construal.*

A CLT (Trope & Liberman, 2010) approach to the fear of crime explores the cognitive processes that explain associations between fear of crime reactions and fear of crime explanatory factors as well as fear of crime consequences. According to the CLT perspective, these processes are psychological distance from the distal event of crime in relation to one’s ‘here and now’ and crime representations, which can be either abstract or concrete. The general principle is that psychological distance from crime is

related to abstract mental representations of crime, and vice versa, whereas psychological proximity to crime is related to concrete crime representations, and vice versa.

The first empirical paper of the current thesis does not test CLT-driven hypotheses directly. Rather it serves as the starting point in the process of developing a theory testing CLT-based perspective on the fear of crime, which is one of the two key objectives of the current thesis. It does so by exploring associations between affective and cognitive reactions to crime, and explanatory parameters that have been tested before in the criminological literature. The main objective is to initiate the development of the CLT approach to the fear of crime in subsequent papers, based on the current research findings. In particular, it was found that previous victimization experience is an important explanatory factor of the variation in the affective and cognitive components of the fear of crime, along with the need for cognitive closure. Moreover, a moderating effect of the need for cognitive closure was found on the association between indirect (but not direct) victimization and worry about victimization.

Although the key hypotheses of the study are not CLT-driven, it is worth interpreting them through this lens. The psychological proximity to crime that the event of victimization creates can be used to explain the strength of its association with worry about victimization and risk perception. Moreover, the moderating effect of the need for cognitive closure on the association between indirect victimization (but not direct victimization) and worry about crime can be interpreted lens as follows<sup>26</sup>. As a personality trait the need for cognitive closure (Kruglanski & Webster, 1996; Webster & Kruglanski, 1994) is assumed to involve abstract construal of the self (Nussbaum, Liberman, & Trope, 2006; Wakslak, Nussbaum, Liberman, & Trope, 2008). Therefore, its impact on worry about victimization is ‘boosted’ by acting jointly with indirect victimization, which also involves some level of psychological distance from crime compared with direct victimization. This is because the former concerns people that the research participants know, while the latter concerns participants themselves.

In the second empirical paper, the CLT approach to the fear of crime was used to explore whether elements of its affective component, namely, worry about victimization, are differentially associated with factors that have been put forward in criminological literature as important ‘predictors’ of the fear of crime (*see inter alia* Box & Hale, 1988; Farrall, Jackson, & Gray, 2009; Hale, 1996). It was found that previous victimization, the need for cognitive closure and societal attitudes were more strongly related to the frequency of worry about victimization rather than its intensity. On the contrary, perceived likelihood of victimization was about equally related to both elements of the affective component of the fear of crime.

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<sup>26</sup> This inductive approach to the theoretical interpretation of the research findings might seem to be incompatible with the current aim of a theory testing approach to the fear of crime. However, as has already been mentioned, the first empirical paper of this thesis does not aim to test the applicability of CLT on fear of crime, but rather to serve as the starting point in this process. This is done by testing associations that have been explored extensively in the criminological literature, looking at them through CLT lens, and using this new perspective to develop research hypotheses that test the applicability of CLT in fear of crime (see papers 2, 3, and 4).

From a CLT point of view, it is suggested that previous victimization is past-oriented, and thus it involves psychological distance from the ‘here and now’ and abstract mental construal of the self and crime. As a general personality characteristic, need for cognitive closure also involves abstract mental construal of the self, which in turn creates a psychologically distant perspective on the ‘here and now’. Finally, societal attitudes, as measured in the current study, involve psychological distance and abstract mental construal in that they refer to general social matters rather than concrete contexts. These properties of the explanatory parameters of worry about victimization are used to explain the differences in the magnitude of their associations with past-oriented worry about victimization, which also involves psychological distance from the ‘here and now’ and abstract mental construal of crime as opposed to present/future worry about victimization, which involves psychological proximity to the ‘here and now’ and concrete mental construal.

Regarding the finding that perceived likelihood of victimization explained about the same variation in the two elements of the affective component of the fear of crime, a CLT perspective suggests the following. Conceptualizing perceived likelihood of victimization as the ‘hypotheticality’ dimension of psychological distance (Todorov, Goren, & Trope, 2007; Wakslak & Trope, 2009), it is assumed that the higher the perceived likelihood of victimization, the more psychological proximity to the risk of crime is engendered in one’s current context, which in turn increases reported levels of negative affect, regardless of whether it is past-oriented or present/future-oriented.

The third and fourth empirical papers of the current thesis explored CLT-driven hypotheses more directly by looking at the impact of different crime construals and psychological distance from crime on worry about victimization through experimental studies. In the third empirical paper, abstract crime construal was operationalized as thinking about hypothetical crime events by focusing on their *causes*, whereas concrete crime construal was operationalized as thinking about hypothetical crime events by focusing on their *consequences*. According to CLT, consequences depend on causes, but causes do not depend on consequences (Rim, Hansen, & Trope, 2013); the former thus constitutes low-level, detailed and incidental features of distal events, while the latter constitutes high-level, abstract and schematic such features (*ibid.*). It was found that abstract crime construal was related to lower levels of worry about victimization on average compared with concrete crime construal.

Moreover, it was demonstrated that experiencing crime as psychologically proximal in time, space, social distance, and ‘hypotheticality’ was more strongly related to worry about victimization in the case of those participants, who were prompted to think about hypothetical crime events by focusing on their causes rather than their consequences. CLT findings have shown that abstract mental construal is related to affective reactions by increasing the valence of positive affect and decreasing the valence of negative affect; psychological distance, however, is related to affective reactions by lowering the intensity of both negative and positive affect (Williams, Stein, & Galguera, 2014). Considering that crime is inherently negative, it is suggested that the observed interaction effect indicates that thinking about crime abstractly eliminates the negative valence of crime, and is thus related to lower levels of worry about crime.

When it interacts, however, with psychological proximity to crime, its ‘diminishing effect’ decreases because psychological proximity increases the intensity of felt affect.

In the fourth empirical paper of the current thesis, it was found that the *level* of engagement with crime information processing was related to worry about victimization. Three levels of engagement with crime information were tested. An *inactive* engagement with information about real crimes, which involved reading about them without further engaging with the information explicitly; a *high-level active* engagement with the same information, which involved thinking about the causes of real crime events; and a *low-level active* engagement with the crime information, which involved thinking about the consequences of real crime.

It was found that *inactive* engagement with information about real crimes was more likely to be associated with lower levels of worry about victimization compared to high-level active engagement with the same information or low-level active engagement with the crime information. The two *types* of active engagement were not significantly related to worry about victimization.

At first glance, the results from papers 3 and 4 might seem contradictory. This is because the former suggest that high-level crime construal is related to lower levels of worry about victimization compared with low-level crime construal, whereas the latter indicate that it is the absence of crime construal rather than its abstractness that is related to worry about victimization. Rather than seeing these results as contradictory and/or as evidence against the applicability of CLT in fear of crime, it is suggested that they highlight the importance of the nature of the crime information in question, in the process of testing CLT-hypotheses in fear of crime research.

In the study of paper 3, the crime information that was used in the experimental manipulation of crime construal involved *hypothetical* crime events, whereas in the study of paper 4, the crime information was about *real* crime events. It is thus assumed that stories about actual crimes include a proximity to reality that renders the *type* of engagement (high-level vs. low-level) less salient a feature of crime information processing in ‘cooling off’ worry about crime compared with the *level* of crime information processing. When it comes to hypothetical crime events it might be that there is more room for speculation, and thus the abstractness or concreteness of crime representations shapes at large their impact on affective reactions to the personal risk of crime.

Finally, perceived likelihood of victimization was more strongly related to worry about victimization in the case of those who engaged with crime information in a high-level active way, by focusing on causes of real crime events. Once again, perceived likelihood of victimization appears to moderate the association between high-level crime construal (but not low-level crime construal) and worry about victimization. It is suggested that this is because the simultaneous presence of a low-level crime construal, that focuses on consequences of crime events, and psychological proximity, when the likelihood of victimization is perceived to be high, cancel each other out in their joint effect on worry about victimization. On the contrary, the ‘cooling off effect’ of a high-level crime construal, which focuses on causes of crime events, on

worry about victimization is minimized when one experiences crime as psychologically proximal, i.e., as highly likely to occur in the near future.

## ***Hypothesis 2***

*The closer the psychological proximity to crime, the higher the levels of reported fear of crime reactions.*

The first paper of the current thesis explores an association that has been widely studied in the criminological literature, i.e., between previous experiences of victimization and fear of crime (Arnold, 1991; Garofalo, 1979; Shippee, 2013; Skogan, 1987; Tyler, 1984; Winkel, 1998). Drawing on observational data, the findings suggest that having fallen victim of violent crime in the past five years and/or knowing someone who has fallen victim were strongly related to affective and cognitive reactions to crime, with the impact of the former type of victimization being stronger in magnitude on both fear of crime components.

Although CLT was not tested directly in the first empirical paper of this work, as has already been mentioned, its key premises help develop useful ‘ad hoc’ interpretations of the results. These are used to inform the CLT testing perspective of the remaining three empirical papers. Therefore, from a CLT perspective, it is suggested that compared to not having been violently victimized and/or not knowing someone who had fallen victim of violence, previous direct and/or indirect victimization bring crime psychologically closer to one’s ‘here and now’, and this proximity in turn is associated with higher levels of affective and cognitive reactions to victimization, namely, more frequent worry and higher risk perception, respectively.

In the second study of the current thesis, the concept of psychological proximity to crime is used to theorize associations between perceived likelihood of victimization and temporal elements of the affective component of the fear of crime. Based on the CLT premise that the likelihood of a distal event constitutes the ‘hypotheticality’ dimension of psychological distance (Todorov et al., 2007; Wakslak & Trope, 2009), higher perceived likelihood of victimization was considered to instantiate psychological proximity to crime, whereas lower perceived likelihood of victimization was considered to instantiate psychological distance from crime.

Drawing from the same observational data as in paper 1, the study examined whether the same factors explain different proportions of variation in elements of the affective component of the fear of crime. Drawing on criminological literature, the explanatory factors that were tested were: perceived likelihood of victimization, past victimization, need for cognitive closure, and societal attitudes. Only perceived likelihood of victimization was found to be about equally related to past worry and present/future worry about victimization. It was assumed that this is because perceived likelihood of victimization instantiates psychological distance from/proximity to crime, and is thus strongly related to fear of crime reactions, regardless of their own levels of psychological distance and abstractness of construal.

In the third and fourth empirical papers that are included in this thesis, psychological proximity to crime is used to explain variation in the affective component

of the fear of crime, and explore potential moderating effects on the association between crime construal and worry about victimization. In study 3, psychological distance is measured via a semantic differential scale with pairs of statements that represent the four dimensions of psychological distance, namely temporal, spatial, social and hypothetical. In study 4, the focus is on the ‘hypotheticality’ dimension of psychological distance, which is operationalized as perceived likelihood of victimization.

Drawing on experimental data, significant direct associations were found in both studies between psychological distance and worry about victimization. Psychologically experiencing crime as proximal in time, space, social distance and ‘hypotheticality’ (Paper 3) and perceiving the likelihood of victimization to be high (Paper 4) were more likely to be related to higher levels of worry about falling victim of crime.

### ***Hypothesis 3***

*The more abstract the mental construal of crime, the lower the level of reported fear of crime reactions.*

In the first paper of the current thesis, it was found that the need for cognitive closure was significantly related to worry about victimization, but not perceived likelihood of victimization. Worry about victimization was measured through frequency-related items that refer to the recent past (Farrall & Gadd, 2004; Gray, Jackson, & Farrall, 2008), whereas the items of perceived likelihood of victimization referred to the near future. Drawing on CLT, this can be interpreted through the assumption that personality traits, such as the need for cognitive closure (Webster & Kruglanski, 1994), constitute high-level representations of one’s personality. They are thus considered to be salient explanatory parameters of reactions to distal events that involve psychological distance from one’s ‘here and now’ rather than events that are close to one’s immediate context, thus involving psychological proximity (Nussbaum et al., 2006; Wakslak et al., 2008).

In the current study, the fear of crime component that involved psychological distance from one’s ‘here and now’, due to its past-oriented nature, was the frequency of worry about victimization (rather than the perceived likelihood of victimization), and thus the former was related to need for cognitive closer, whereas the latter was not. Although the CLT was not directly examined in the first paper of the current thesis, their CLT-driven interpretation is used to inform the CLT approach to the fear of crime that is directly tested in papers 2, 3, and 4.

In the second empirical paper of this thesis, mental construal is used to explain associations between two elements of the affective component of the fear of crime and past experience of victimization, need for cognitive closure and societal attitudes. These elements are differentiated on the basis of the psychological distance from the ‘here and now’ and the abstractness of mental construal that they involve. One of them is past-oriented, namely past worry about victimization, and is thus considered to involve psychological distance and abstract mental construal; the other is present/future-oriented, namely present/future worry about victimization, and is thus considered to

involve psychological proximity to the ‘here and now’ and concrete mental construal, as has already been mentioned.

It was found that previous victimization, need for cognitive closure, and societal views were more strongly related to past worry about victimization than present/future worry about victimization. From a CLT perspective, this finding is considered to result from the fact that all of the explanatory factors tested and past worry about victimization (vs. present/future worry about victimization) involve psychological distance from the ‘here and now’ and abstract mental construal. Previous victimization is, by definition, past-oriented, and thus is considered to involve abstract mental construal of the self and crime. The need for cognitive closure as a personality trait, i.e., a general characteristic of the self, is also considered to involve generic representations of the self or abstract mental construal. Finally, societal views are assumed to involve abstract construal of society in that, as measured in the current study, they capture attitudes to features of society in general rather than particular contexts.

In the third paper of the current thesis, mental construal was operationalized through the CLT assumption that a causes-focused mindset constitutes high-level construal, whereas a consequences-focused mindset constitutes low-level construal. This is because consequences depend on causes, and are thus secondary and incidental features of distal events, while causes do not depend on consequences, which makes them primary and universal features of distal events (Rim et al., 2013). It was found that participants who were primed to think about hypothetical crime events in a high-level, abstract manner were more likely to report lower levels of worry about victimization compared to those who were primed to think about hypothetical crime events in a low-level, concrete manner.

In the fourth paper of this thesis, mental construal was operationalized through the causal vs. consequential mindset distinction again, but a third level was added to the experimental manipulation. Depending on the experimental condition to which they were randomly assigned, research participants were asked to read about real crime events and either actively engage with the information in a low-level manner, by focusing on potential consequences of the real crimes or actively engage with the information in a high-level manner, by focusing on potential causes of the same crime crimes or inactively engage with the information, by just reading about the crime events without any further engagement with it.

It was found that those who only read the information about the real crime events without further engaging with it were less likely on average to worry about victimization compared to those who, after reading the crime information, focused on either the causes or the consequences of the real crimes. Overall, the level of engagement with the crime information (inactive vs. active) was found to be important in explaining variation in worry about victimization, but the type of active engagement (low-level vs. high-level) was not.

As discussed previously, these findings could be seen as incompatible with the direct association between causal/consequential thinking about crime and worry about victimization that was found in the third empirical paper of this thesis. If one looks, however, at the type of the crime information that the two studies used in the

experimental manipulations, their different findings might be less perplexing. In the empirical study that is included in paper 3, the crime information involves *hypothetical* crime events, whereas in the empirical study of paper 4, the crime information involves *real* crime events. The latter is assumed to involve more psychological proximity to the ‘here and now’ compared to the former, because of its actual (vs. hypothetical) nature. This might in turn explain the observed differences of the impact of crime construal on worry about victimization in the two studies.

Overall, it is argued that the CLT provides fear of crime literature with a useful theoretical framework. This is because it can be used to theorize two cognitive processes that enable people to experience and express of reactions to crime in their ‘crime free’ contexts. It is suggested that this is rendered feasible by transcending the crime-free ‘here and now’ via psychological distance from crime and crime mental construal. This work provides empirical evidence which showed that psychological proximity to the distal event of crime was related to higher levels of fear of crime reactions across the board. Also, perceived likelihood of victimization appears to be a key parameter in relation to psychological distance from the ‘here and now’ in the case of fear of crime. Echoing CLT assumptions that probability judgments capture the ‘hypotheticality’ dimension of psychological distance (Todorov et al., 2007; Wakslak, Trope, Liberman, & Alony, 2006), perceived likelihood of victimization was found to be a strong explanatory variable of different elements of the affective component of the fear of crime.

Regarding mental construal, the current findings echo the CLT assumption that abstract mental representations are related to lower levels of (negative) affective reactions compared to concrete mental representations that are related to higher levels of (negative) affective reactions (Trope, Liberman, & Wakslak, 2007). Interestingly, however, when it comes to fear of crime reactions, the association appears to depend on the nature of the reaction in question. It was found that factors involving high-level construal were not always related to lower levels of fear of crime reactions. They were instead *less strongly* related to particular such reactions compared to others, i.e., reactions that involved psychological proximity to the ‘here and now’ rather than psychological distance, such as present/future worry about victimization and past worry, respectively.

The impact of mental construal on the affective component of the fear of crime was also found to depend on the nature of its object, i.e., crime. When the crime information that was used included psychological proximity to the ‘here and now’ by being real, the impact of the crime construal on worry about victimization was different compared to when the crime information included psychological distance from the ‘here and now’ by being hypothetical.

The next section summarizes the main findings from the research that comprises the empirical part of this thesis, providing answers to the specific research questions that were included in the introduction.

## 4.2 Key research findings

Utilizing CLT in the criminological study of the fear of crime, the current thesis theorizes associations first, between fear of crime reactions and explanatory parameters of the fear of crime that have been studied before in criminological literature, and second, between fear of crime reactions, explanatory parameters of the fear of crime, and fear of crime consequences that are tested for the first time in this area. The former is based on analysis of secondary, observational data from a large-scale survey (Hough & Sato, 2011). The latter employs a less frequently used methodology on fear of crime research, namely online experiments, drawing on primary data from two experimental studies that were conducted on Amazon Mechanical Turk.

The first analytical strategy was employed in the empirical papers 1 and 2 of the current thesis, and the second analytical strategy was employed in papers 3 and 4. As clarified in the introduction and many other parts of this document, the first empirical paper of the thesis does not test CLT directly. Instead, it served as the starting point for the development of the CLT approach to the fear of crime that is directly tested in the rest of the empirical papers of the current thesis. Despite the fact that CLT is not directly tested in the first empirical paper of the current work, it has been chosen to present its key findings here through CLT lens. This is to illustrate how its findings relate to the general reasoning that drives the current thesis, and to make one of the core points of the current work, namely taking a theory-driven perspective can enrich the theorization of the fear of crime.

This section provides an overview of the research findings, and their CLT-driven explanations based on the research questions that were presented in the introduction.

### *Study 1*

*Q1. Are direct and indirect experiences of victimization related to the affective and cognitive components of the fear of crime?*

Direct and indirect victims of crime were more likely on average to report that they worried frequently about victimization in the past year, that they perceived the likelihood of victimization to be high, and its potential consequences to be serious; in the case of direct victims (but not indirect victims), the uncontrollability of such an event occurring was perceived as high compared to non-victims. It was also found that the magnitude of these associations were different based on the type of the victimization and the fear of crime component. The strongest observed association was found between direct victimization and worry about victimization, followed by the association between direct victimization and perceived likelihood of victimization, and the associations between indirect victimization and worry about victimization, and indirect victimization and perceived likelihood of victimization.

Using the CLT approach to the fear of crime to provide an ‘ad hoc’ interpretation of these findings, it is argued that previous victimization involves more psychological proximity to crime compared to the absence of such experiences, and

thus it is positively related to fear of crime reactions. However, direct experiences of victimization that involve the research participants themselves were found to be stronger ‘predictors’ of fear of crime compared to indirect experiences of victimization, i.e., victimization of people who participants know. It is suggested that this is because the former refers to oneself, and thus involves more psychological proximity compared with the latter, which refers to other people.

Finally, the affective and cognitive components of the fear of crime were found to be differentially related to both types of victimization in terms of magnitude. In particular, stronger associations were observed between worry about victimization, and both direct and indirect victimization than between the perceived likelihood of victimization and previous victimization. From a CLT point of view, it is suggested that this is because previous victimization and worry about victimization, as measured in the current study, are both past-oriented, and thus involve psychological distance from one’s ‘here and now’. On the contrary, perceived likelihood of victimization refers to the near future, and is thus considered to involve more psychological proximity to the ‘here and now’; this might render the past-oriented experiences of victimization less salient a factor in explaining variation the present/future-oriented perceived likelihood of victimization.

*Q2. Does the need for cognitive closure moderate the association between direct and indirect victimization experiences and the affective and cognitive components of the fear of crime?*

The need for cognitive closure was explored in relation to its moderating role in the associations between fear of crime reactions and previous victimization experience. It was found that only in the case of indirect victims the interaction effect was statistically significant. People in high need for cognitive closure were more likely on average to worry frequently in the past year, when they knew someone who had fallen victim of crime compared to not knowing other victims. The same pattern was not found, however, in the case of those who had fallen victim themselves in the past.

The CLT suggests that personality traits, such as the need for cognitive closure, constitute high-level abstract personality features; they thus involve psychological distance and abstract mental construal (Eyal, Sagristanob, Tropec, Liberman, & Chaikene, 2009; Wakslak, Nussbaum, Liberman, & Trope, 2008). Based on this assumption, the observed interaction could be explained as follows: the need for cognitive closure, which involves psychological distance and abstract mental construal as a general personality trait, interacts with previous victimization to predict fear of crime reactions, when the victimization is indirect rather than direct. This is because indirect victimization also involves higher levels of psychological distance from the crime-risk and abstract mental construal compared to direct victimization in that the former does not concern the participants themselves but people who they know.

## **Study 2**

*Q3. Do fear of crime reactions differ based on the psychological distance that they involve?*

The key objective of the second empirical study of the current thesis was to explore whether the same explanatory factors of the fear of crime are differentially associated with elements of the same fear of crime component. The results demonstrated that two elements of the affective component of the fear of crime, namely the frequency of worry about falling victim in the recent past and the intensity of worry about falling victim currently (Gray et al., 2008), were differentially associated with past victimization, the need for cognitive closure and societal attitudes. On the contrary, perceived likelihood of victimization was found to explain about the same proportion of variation in both elements.

According to the CLT-driven hypotheses of the study, the two elements of the affective component of the fear of crime involve a different temporal orientation. The frequency of worry refers to the recent past, and thus constitutes past worry about victimization; the intensity of worry refers to the present time or the near future, and thus constitutes present/future worry about victimization. It follows that the ‘temporality’ of the two elements of the affective component of fear of crime captures different levels of psychological distance from one’s here and now, and different levels of abstractness of mental construal (Wakslak et al., 2008). Past worry about victimization involves psychological distance and high-level mental construal; present/future worry about victimization involves psychological proximity and low-level mental construal.

*Q4. How does the temporality of different fear of crime reactions affect the magnitude of their associations with previous victimization, need for cognitive closure and societal attitudes?*

The strength of associations between fear of crime reactions of different temporal orientation, namely past-oriented and present/future-oriented, and fear of crime explanatory factors was found to differ. The research findings suggested that previous victimization, need for cognitive closure and societal attitudes were more strongly related to past worry about victimization than present/future worry about victimization. It is argued that the differences in the magnitude of these associations stem from the level of psychological distance and mental construal that are involved in the elements of the affective component of fear of crime and the three factors that were used to explain variation in them.

To express past (vs. present/future) worry about victimization that is more psychologically distant from their ‘here and now’, people might rely more on experiences, personality characteristics and general views that also involve psychological distance from their here and now and/or abstract mental construal.

*Q5. How does the perceived likelihood of victimization impact on the association between past and present worry about victimization and previous victimization experience, need for cognitive closure and societal attitudes?*

The perceived likelihood of victimization was treated in the current study as the ‘hypotheticality’ dimension of psychological distance. This is based on the CLT assumption that higher perceived likelihood of occurrence of a distal event indicates psychological proximity to it, whereas lower perceived likelihood of occurrence of a distal event indicates psychological distance from it (Todorov et al., 2007; Wakslak, Trope, Liberman, & Alony, 2006). This has been used to explain the current finding that perceived likelihood of victimization explained about equal proportion of variation in the two elements of the affective component of the fear of crime, regardless of whether they were past-oriented (frequency of worry in the recent past) or present/future-oriented (intensity of worry currently).

The moderating effect of psychological distance on the associations between the two elements of the affective component of fear of crime and past victimization, need for cognitive closure and societal views was also examined. The statistically significant associations that were found involved past worry about victimization, but not present/future worry about victimization. From a CLT point of view, the observed interactions might relate to the fact that the three explanatory parameters that were tested involve more psychological distance (than proximity) from oneself in the ‘here and now’, and higher level of mental construal. This might make them more important predictors of past worry, which also involves more psychological distance and abstract mental construal compared with present/future worry about victimization.

### **Study 3**

*Q6. Do different types of mental representation of hypothetical crime events impact differently on fear of crime, depending on the level of their abstractness or concreteness?*

Drawing on experimental data, it was found that when research participants were primed to think about hypothetical crimes by focusing on their causes, they were more likely to report lower levels of worry about victimization on average compared to those focusing on their consequences. According to CLT, causal thinking about distal events constitutes abstract mental representation, whereas consequential thinking constitutes detailed mental representation (Rim et al., 2013). This is because consequences dependent on causes, but causes do not depend on consequences; the former are thus secondary features of distal events, while the latter are primary features of such events (*ibid.*).

These findings suggest that an abstract way of thinking about crimes that are not present in one’s immediate context, by focusing on their causes, enabled participants to see the ‘big picture’ of the situation; in turn this appeared to ‘cool off’ worry about falling victim of crime. On the contrary, a detailed way of thinking about distal crime events, by focusing on their consequences, drew participants’ attention to

the events' details or 'trees'; this in turn intensified their worry about falling victim of crime.

*Q7. Does psychological distance from crime impact on fear of crime?*

Psychological distance was measured in this study via a semantic differential scale that comprised pairs of items, which represent the four psychological distance dimensions, namely temporal, spatial, social and hypothetical (Spence, Poortinga, & Pidgeon, 2012; Trope & Liberman, 2010). Higher scores in the scale indicated higher levels of psychological distance. It was found that participants who tended to psychologically experience crime as distant in time, space, social distance and 'hypotheticality' were more likely to report lower levels of worry about victimization compared to those who experienced crime as a psychologically proximal risk.

These results echo the general finding that has emerged from the empirical work of this thesis so far, suggesting that experiencing the distal event of crime as a proximal (vs. distant) risk is more likely to raise the intensity of worry about falling victim of crime.

*Q8. Does the level of psychological distance from crime impact on the association between type of thinking about hypothetical crime events and fear of crime?*

To answer this research question, the moderating effect of psychological distance from crime was explored on the association between worry about victimization and the experimental manipulation, i.e., whether participants thought about the same hypothetical crime events either causally or consequentially. It was found that those who were experiencing crime as psychologically proximal in their 'here and now' were more likely on average to worry about falling victim of crime, especially when they were primed to think about crime events by focusing on their causes rather than their consequences.

CLT research has shown that the two cognitive processes of transcending the 'here and now', namely psychological distance and mental construal, exert their influences on affective evaluations of distal objects via distinct paths (Williams et al., 2014). Psychological distance, it is argued, is related to affect by shifting its *intensity*; mental construal is related to affect by shifting its *valence* (*ibid.*). Psychological distance thus hurts evaluations of positive experiences by decreasing the intensity of positive affect, but improves evaluations of negative experiences by decreasing the intensity of negative affect. Conversely, abstract construal shifts the valence of experiences, improving affective evaluations of both positive and negative experiences (*ibid.*). Psychological distance from a distal event results in less intense affect, regardless of the nature of the event in question; mental construal is influenced by the nature of the event, shifting its valence towards aversion if it is negative and towards attractiveness if it is positive.

From a CLT perspective, it is thus suggested that psychological distance from crime impacts on the association between crime construal and worry about victimization, only in the case of the high-level, causal thinking about hypothetical

crime events (as opposed to low-level, consequential thinking about such events). This is because crime is not conceptually neutral, but inherently negative. Experiencing crime psychologically as a proximal event increases on average worry about victimization by increasing its intensity; when it comes to its interaction with the other process of transcending the ‘here and now’, namely mental construal, it might involve the one that also relates directly to *negative* affect, and this is abstract (rather than concrete) mental construal.

Concrete and vivid features of crime construals, such as when people ruminate about the consequences of crime, involve psychological closeness to crime in one’s ‘here and now’. Therefore, experiencing crime as psychologically proximal in such cases might not make a difference in the intensity of worry about victimization; since the crime-risk is already experienced as proximal via the low-level mental construal. When the crime construals are abstract and schematic, such as when people think about the causes of crime, crime is expected to be psychologically distant, in turn ‘cooling off’ worry about victimization. However, the ‘cooling effect’ of abstract crime construal might be eliminated, when psychological proximity to crime kicks in by experiencing the crime-risk as proximal in time, space, social distance and reality.

#### **Study 4**

*Q9. Do different levels of crime information processing explain variation in fear of crime?*

In this study the experimental manipulation of crime construal drew again on the distinction between causal and consequential thinking about crime (Rim et al., 2013). In this case, however, participants were presented with real crime events, instead of hypothetical crimes (*see* study 3). An additional layer of crime information was also used. Crime construal was operationalized through three *levels* of crime information processing, namely *inactive engagement* with crime information, *high-level active engagement*, and *low-level active engagement*. The first involved participants reading about real crime events without any further engagement with the information. The second involved participants reading about real crime events and then coming up with a specific number of possible causes of the events. The third experimental condition involved participants reading about the same real crime events, and then coming up with a specific number of possible consequences of them.

It was found that as the level of engagement with the crime information decreased, worry about victimization decreased on average as well. However, the statistically significant difference concerned *inactive engagement* with crime information vs. *active engagement* with crime information, regardless of whether the latter was high-level or low-level (whether it involved focusing on causes of real crimes or their consequences, respectively). Interestingly, contrary to the results of study 3, the current findings did not observe a differential impact of a causes-focused mindset about crime vs. a consequences-focused mindset about crime on worry about victimization. Instead, it was the *level* of engagement, i.e., whether one was involved in further

engagement with the crime information or not, that explained variation in worry about victimization.

Drawing on the CLT approach to fear of crime, it is suggested that this highlights the importance of the nature of the crime information in question. The real nature of the crime events that were used in the experimental manipulation of study 4 involves psychological proximity and low-level crime construal, which render the type of an active engagement less salient a feature of crime information processing in ‘cooling off’ worry about crime. On the contrary, a crime information processing that involves inactive engagement with the information about the real crimes helps ‘cool off’ its real and vivid nature, and in turn its impact on worry about victimization.

When it comes to hypothetical crime events (*see* study 3), however, that involve more psychological distance from reality and high-level representations due to their hypothetical nature, the different *types* of active information processing can exert its influence on worry about falling victim of crime, by decreasing it when one’s active engagement is ‘causal’ and by intensifying affect when one’s active engagement is ‘consequential’.

*Q10. Does psychological distance from crime impact on the relationship between crime information processing and fear of crime?*

CLT suggests, as mentioned above, that psychological distance from crime and crime construal are related to affective reactions to distal events via distinct paths; decreasing their intensity and shifting their valence, respectively (Williams et al., 2014). Therefore, psychological distance hurts evaluations of positive experiences by decreasing the intensity of positive affect, but improves evaluations of negative experiences by decreasing the intensity of negative affect. Abstract construal shifts the valence of experiences, improving thus affective evaluations of both positive and negative experiences (*ibid.*).

Due to the inherently negative nature of crime, it is suggested that the two mechanisms of transcending the ‘here and now’ might impact on affective reactions to crime not only separately, but also jointly. The interaction effect that was found in the current study supports this idea. Perceiving the likelihood of victimization to be high was more likely to be related to higher levels of worry about victimization in the case of participants who were asked to process crime information abstractly (vs. concretely), by focusing on their causes (vs. consequences). In accord with the interaction effect that was found in study 3, it appears that perceived likelihood of victimization moderates the association between crime construal and worry about victimization when the crime construal is abstract rather than concrete. It is assumed that when low-level crime construal and psychological proximity to crime are simultaneously present, they might cancel each other out. Conversely, when the crime construal is abstract, there might be more room for the psychological proximity to kick in, and increase the level of worry about victimization.

*Q11. Does the affective component of the fear of crime affect collective wellbeing negatively?*

The second objective of the fourth empirical study of the current thesis was to look at the impact of crime information processing and worry about victimization on social categorization. Drawing on psychological literature on social interaction and collective wellbeing (Gaertner, Dovidio, & Houlette, 2010; Hogg, 2000; Suh & Sung, 2009), it was examined whether crime information processing and worry about victimization motivate social categorization biases, namely in-group identification, out-group derogation and racist attitudes (Flecker et al., 2006; Hong et al., 2004; Zick, Küpper, & Hövermann, 2011) as a means to manage the uncertainty elicited by crime (*see* Hogg, 2000, 2009a, 2009b; Yzerbyt, Dumont, Wigboldus, & Gordijn, 2003).

It was found that the higher the level of worry about victimization, the higher the level of social categorization biases. Participants who tended to worry about falling victim of crime were more likely on average to report favourable attitudes to ethnically similar ‘others’, hostile attitudes towards ethnically different ‘others’ in general, and racist attitudes towards specific ethnic minorities. On the contrary, the level of crime information processing, i.e., whether one was inactively or actively engaged with information about real crimes, did not explain variation in social categorization biases.

On the one hand, the strong direct association between worry about victimization and social categorization biases is perceived as a ‘continuum’ of deteriorating wellbeing that is linked to the risk of crime. At the one end of the continuum, worry about victimization instantiates deteriorating wellbeing at the *individual* level (Jackson & Stafford, 2009; Stafford, Chandola, & Marmot, 2007); at the other end, social categorization biases instantiate erosion of social interaction, and thus a deteriorating *collective* wellbeing (Hong et al., 2004; Lee & Kim, 2015; Suh & Sung, 2009).

On the other hand, it is suggested that the absence of a statistically significant association between crime information processing and social categorization is related to the nature of the two processes. The former is cognitive and highly context-bound (Lachman, Lachman, & Butterfield, 2015), whereas the latter is attitudinal and abstract. It thus seems reasonable that a ‘soft’ activity like the engagement with secondary information about crime events does not impact on rather ‘strong’ views on one’s position in the world and in relation to others.

An overall comment to be made on the findings of the empirical part of this thesis, and the CLT approach to the fear of crime that is developed and tested, is that both cognitive processes of transcending the ‘here and now’, namely psychological distance from crime and crime construal, are useful in theorizing fear of crime. As shown in this section, the theoretical relevance of the CLT pertains to both ‘old’ associations between explanatory factors and fear of crime reactions in the criminological literature, through new CLT lens, and new research questions, which are tested via integrated methodologies.

Psychological distance from crime appears to be strongly related to affective reactions to victimization by decreasing their intensity. A stable finding throughout the empirical component of the current thesis is that perceiving the risk of victimization to be low, which instantiates psychological distance from crime, was related to lower average levels of worry about victimization. Psychological distance from crime and perceived likelihood of victimization were also important moderators of associations between fear of crime explanatory variables and affective reactions to crime. For example, perceived likelihood of victimization moderated the impact of past victimization experience, need for cognitive closure and societal views on past worry about victimization but not on present/future worry about victimization.

It was suggested that the common element of all of these factors is that they involve psychological distance to the ‘here and now’ and abstract construal. These features might render them better ‘predictors’ of past worry about victimization than present/future worry about victimization. In turn, their salience in explaining variation in past worry about victimization is ‘boosted’ even further when the likelihood of victimization is perceived as high because this brings in more psychological proximity to crime.

Regarding the second process of transcending the ‘here and now’, namely mental construal, the CLT-driven assumption that high-level, abstract construal is related to lower levels of fear of crime reactions and low-level, concrete construal is related to high levels of fear of crime reactions is supported by the current data in general. However, a stable finding throughout the empirical part of this thesis is that the *nature* of the reaction in question impacts on this general pattern. For example, past victimization was found to be more strongly associated (in magnitude) with past worry about crime as opposed to present/future worry about victimization (*see* study 2), and past worry about victimization as opposed to present/future risk perception (*see* study 1).

It is suggested that these differences relate to the high-level representations of the self and crime that previous victimization involves because it is, by definition, far from one’s ‘here and now’. This feature renders it more salient a ‘predictor’ of fear of crime reactions that also involve psychological distance from the ‘here and now’ and abstract mental construal; this is the case of past worry about victimization rather than present/future worry about victimization.

Moreover, the *object* of mental construal also appears to impact on associations between crime representations and fear of crime reactions. It was demonstrated, for instance, that when crime information processing drew on hypothetical crimes (*see* study 3), the type of engagement with crime information (high-level/causes-focused vs. low-level/consequences-focused), explained variation in worry about victimization. On the contrary, when the crime information processing involved real crimes (*see* study 4), it was the *level* (rather than the *type*) of engagement with crime information (inactive vs. active), which explained variation in worry about victimization. It is suggested that the psychological proximity that is involved in information about real crime events as opposed to hypothetical crime events is related to these differences.

The next section discusses the key limitations of this thesis. Considering that such a discussion was also included in the introduction, and to avoid repetition as much as possible, potential ways forward to overcome each of the presented weaknesses are also discussed.

### **4.3 Limitations and ways forward**

This section summarizes the main limitations of the current thesis and discusses possible ways to overcome them in future research. Starting with limitations that pertain to theoretical features of this work, the focus is on the conceptualization of the main constructs of interest. These are fear of crime, psychological distance and mental construal. The conceptual choices that were made in each of the four studies of this thesis were the following. In the first empirical study, which draws on observational data from a large-scale survey (Hough & Sato, 2011), fear of crime was conceptualized through its affective component, and in particular its frequency element, i.e., the frequency of worry about victimization in the last year (Farrall & Gadd, 2004; Gray et al., 2008). The cognitive component of the fear of crime was also explored, involving perceptions of the likelihood of victimization in the next year, its controllability in the next year, and its consequences if it were to occur in general (Jackson, 2011; Warr, 1987).

In the second empirical study, which draws on the same secondary data (Hough & Sato, 2011), the fear of crime was conceptualized by focusing on its affective component, including in this case two elements, namely the frequency of worry about victimization in the recent past and the present/future-oriented intensity of worry about victimization (Gray et al., 2008). The conceptual distinction in this case was between past worry and present/future worry about victimization. Psychological distance was conceptualized through the perceived likelihood of victimization (Jackson, 2009, 2011; Warr, 1987), based on the CLT assumption that likelihood judgments instantiate the ‘hypotheticality’ dimension of psychological distance (Todorov et al., 2007; Wakslak & Trope, 2009).

In the third empirical paper of this thesis, which draws on experimental data, the conceptualization and measurement of the fear of crime focused on its affective component, and in particular, its intensity-related element, i.e., the intensity of worry about victimization (Gray et al., 2008). The conceptualization of psychological distance from crime was twofold in this study. First, psychological distance was conceptualized through its four dimensions, which according to CLT are temporal, spatial, social and hypothetical (Trope & Liberman, 2010), and measured using a semantic differential scale that comprised statements related to each of these dimensions. Second, it was included in the experimental manipulation, along with crime construal, by focusing on the spatial distance of crime events from one’s ‘here and now’.

Mental construal was also directly conceptualized in this study through its experimental manipulation, based on the CLT distinction between high-level, abstract construal of distal events and low-level, concrete construal of distal events (Trope et al., 2007). More specifically, the conceptualization of crime construal drew on the CLT

assumption that a causes-focused thinking about distal events constitutes high-level, abstract mental representation, while a consequences-focused thinking constitutes low-level, detailed mental representation (Rim et al., 2013). This is because consequences dependent on causes, while causes do not depend on consequences, which renders the former secondary features of distal events, and the latter primary features of such events (*ibid.*). Applied in crime, high-level crime construal was conceptualized through a causes-focused crime mindset, and low-level crime construal was conceptualized through a consequences-focused crime mindset.

In the fourth empirical work of this thesis, the conceptualization of the fear of crime was the same as in study 3, i.e., based on its affective component, and in particular the intensity of worry about victimization. Psychological distance from crime was conceptualized in two ways. On the one hand, using the four dimensions of the construct, a semantic differential scale was used with statements that represented whether one psychologically experiences crime as likely to occur (vs. unlikely), in a nearby (vs. remote) location, sometime soon (vs. far from now), and in oneself or ‘similar others’ (vs. different people). On the other hand, perceptions of the likelihood of falling victim of crime were used to operationalize the ‘hypotheticality’ dimension of psychological distance (Todorov et al., 2007; Wakslak et al., 2006).

Finally, crime construal was conceptualized and manipulated through the causal – consequential distinction in this case too (Rim et al., 2013). However, one more layer of construal was added, resulting in following three *levels* of crime information processing. In the *inactive engagement* with crime information condition, participants read about real crime events without any further explicit engagement with the information. In the *high-level active engagement* with crime information condition, participants read about real crime events, and were then asked to provide possible causes of the events. Finally, in the *low-level active engagement* with crime information condition, participants read about the same real crime events, and were asked to provide possible consequences of them.

Starting with the conceptualization of the fear of crime in the current study, this overview shows that its key limitation concerns the focus on the affective component of the phenomenon, and the absence of the behavioural component (Gabriel & Greve, 2003; Jackson & Gray, 2010; Kappes, Greve, & Hellmers, 2013; Liska, Sancirico, & Reed, 1988) from the analysis. This focus is partly explained by the fact that the research questions of the empirical studies of the current thesis were novel in criminological literature on fear of crime in most cases, and thus the intention was to keep other parts of the research, including the conceptualization of key variables, as parsimonious as possible.

As the CLT approach to the fear of crime has shown, however, the nature of the fear of crime reaction in question is a crucial parameter in the patterns of the associations that it develops with other phenomena (*see study 2*). This means that some of the conclusions that were drawn in the current studies in relation to the affective component of the fear of crime might not hold, when one looks at other components of the phenomenon. It is thus suggested that future research tries to replicate the current studies using as response variables other components of the fear of crime.

In particular, the behavioural component is considered to be a very interesting way forward in the exploration of associations between psychological distance, crime construal and fear of crime. This is because psychological distance and mental construal are related to reactions to distal events via distinct paths; decreasing their intensity and shifting their valence, respectively (Williams et al., 2014). This feature of the two cognitive processes of transcending the ‘here and now’ was influenced, the current studies showed, by the fact that affective evaluations of the crime risk are inherently negative. The nature of the behavioural component of the fear of crime, however, can also be positive, functioning as a problem-solving process that does not damage people’s quality of life, as criminological research has shown (Jackson & Gray, 2010). It would thus be interesting to see whether the impact of psychological distance and crime construal on inherently negative fear of crime reactions is altered when the fear of crime reaction in question is less or not negative in nature.

Moving on to psychological distance, the key limitations are considered to be the types of measurement used and the narrow scope of the conceptualization. In particular, when psychological distance was conceptualized directly (*see* studies 2, 3, and 4), it was through a general psychological distance scale that comprised the four dimensions of the construct (*see* studies 3, and 4) and/or through the perceived likelihood of victimization (*see* studies 2, 3, and 4). This practice can be seen as advantageous in that it renders the results of different studies comparable. However, increasing comparability does not prevent the narrowness of the conceptual scope.

When new concepts are used in a research area, one of the main challenges is to find rigorous ways to conceptualize, operationalize and measure them. This was definitely a challenge that was faced in the current thesis. When the empirical approach is quantitative and the concept of interest is attitudinal in nature, one option is to create ‘ad hoc’ scales, based on interdisciplinary insights (Furr, 2011). The ad hoc character of such conceptualizations and measures is not ideal in terms of their psychometric quality, but one needs to start from somewhere. This was the case, for example, of the semantic differential scale of psychological distance that was developed and used in the third and fourth empirical studies of the current thesis. In this regard, an interesting way forward is the empirical evaluation of the psychometric properties of scales that measure the psychological distance from crime; the aim would be to create ‘standardized’ such measures.

As regards the conceptualization of psychological distance through the perceived likelihood of victimization, it was motivated by a concrete CLT assumption, suggesting that likelihood judgments instantiate the ‘hypotheticality’ dimension of psychological distance (Todorov et al., 2007; Wakslak & Trope, 2009). One might see this choice as ‘arbitrary’, and thus as a limitation of the current conceptualization of psychological distance. The counterargument is twofold. On the one hand, the perceived likelihood of victimization is treated in criminological research as an element of the cognitive component of the fear of crime, along with perceived controllability of victimization and perceived consequences of victimization (Jackson, 2011, 2013; Warr, 1987). Despite its operationalization as a fear of crime component, it is very often the case that the perceived likelihood of victimization is used as an explanatory variable of

other components of the fear of crime (*ibid.*), especially its affective component. However, this directionality is not backed up by either theory or the research design in many cases. On the contrary, in the current studies, the directionality is theorized in advance or based on concrete assumptions of the CLT approach to the fear of crime.

On the other hand, conceptualizing psychological distance through the perceived likelihood of victimization provided one of the most consistent results in the different studies of the current thesis, namely that psychological proximity is an important factor of explaining variation in different fear of crime reactions. This finding can be seen as an important means to improve the theorization of the fear of crime, as will be discussed in detail at the end of this conclusion.

The conceptualization of mental construal in the current thesis faced the same challenges as those of psychological distance in that it was a new concept in criminological research. In the case of the empirical studies of the current thesis that measured crime construal directly (*see* studies 3 and 4), its conceptualization drew on the CLT distinction between a high-level, causes-focused thinking about distal events and a low-level, consequences-focused thinking about distal events (Rim et al., 2013). Applied in crime, this suggests that thinking about crime by focusing on its causes constitutes high-level crime construal, and is thus more likely to be related to lower levels of fear of crime reactions. Conversely, thinking about crime by focusing on its consequences constitutes low-level crime construal, and is thus more likely to be related to higher levels of fear of crime reactions.

In general, the observed associations between crime construal and the affective component of the fear of crime that was tested in the experimental studies of this thesis, namely the intensity of worry about victimization, were of the expected direction. Therefore, one way forward is to explore whether a high-level, causal crime mindset vs. a low-level, consequential crime mindset is associated with different fear of crime components (e.g., behavioural) in the same way as with its affective component.

A second, important avenue for future research is considered to be the development and empirical evaluation of different conceptualizations of crime construal, based on existing CLT work. Such an endeavour would try to answer questions about what constitutes a low-level, concrete, vivid and contextualized representation of crime as opposed to a high-level, abstract, schematic and de-contextualized representation of crime. According to the empirical findings of this thesis, the *causes* of crime fall into the latter category, and the *consequences* of crime fall into the former category, echoing CLT results (*ibid.*). The way forward is thus to add more definitions to each of these categories, and test their association with fear of crime reactions.

Moving on to the key methodological limitations of the current thesis, the focus is on issues of research design, analysis, and evaluation of results. Starting with the observational studies of the empirical part of this thesis (*see* study 1 and 2), they draw on secondary data from a large-scale, cross-sectional survey that was conducted in 2010 in three European countries (Hough & Sato, 2011). The characteristics of the study in terms of design, sampling procedures, measures used, are discussed in detail in the corresponding empirical papers of this thesis. The important point to raise here is that

the study itself, and consequently the analyses that draw from its data, represents the dominant methodological ‘paradigm’ in the criminological literature on fear of crime, i.e., the survey. This comprises large-scale or meso-scale surveys, which are cross-sectional, use representative samples that are drawn from research population(s) through formal methods of probability sampling, are conducted either face-to-face or over the phone or via mail, and use structured questionnaires or interviews to collect data (Farrall et al., 1997). At the analysis stage, some type of statistical analysis is used to provide answers to the research questions, which is decided based on the nature of the data, the research objectives and the type of response variable(s) that are used in the analysis (*ibid.*).

The general methodological limitations of this type of quantitative research apply also to studies that analyze secondary data from them, such as the first and the second empirical studies of the current thesis. Common such limitations that are discussed in methodological literature pertain to response rates, the impact of the researcher on the research participant, the closed-ended nature of the questions asked, the representativeness of the sample and the impact of all of the above on the quality of the data that are collected (Bryman, 1984; Neuman, 2005). However, here, the emphasis is put on issues of ‘causality’ in relation to the advanced analytical strategies that are employed in fear of crime research in recent years (*see* Hirtenlehner & Farrall, 2013; Jackson, 2013), namely factor analysis and in particular structural equation modeling (SEM).

One of the most prominent features of SEM is its capability to deal with unobservable quantities, such as factors underlying observed variables, which are called latent variables. Latent variables are connected to observable variables via a measurement model, and the relationships between the latent variables of interest comprise a structural model. The measurement model and the structural model are the constituent elements of the structural equation model (Bagozzi & Yi, 2012; Bartholomew, Knott, & Moustaki, 2011).

The next step, after building a structural equation model, is to compare it to the empirical data; the comparison leads to ‘fit-statistics’ that evaluate the matching of data and model. If the assumed relationships are supported by the data, then the fit of the model is evaluated as acceptable or is not rejected (*ibid.*). The other key advantage of SEM over other methods of multivariate analysis of quantitative data is that it enables the analysis of the dependencies between latent variables and other variables without measurement errors (Bagozzi & Yi, 2012; Nachtigall, Kroehne, Funke, & Steyer, 2003).

A feature of SEM, which is considered to be an important factor of its popularity, is the visualization of the associations that a structural equation model assumes via path diagrams. Path diagrams use arrows to illustrate direct, indirect and interactive associations between the variables, latent and observable, that are included in the model. Such path diagrams have been included, for example, in the first and second empirical papers of the current thesis, which employ SEM as the main analytical strategy to answer their research questions.

The first methodological caveat that is stressed here relates to the *directionality* and the *causality* that are often implied in cross-sectional studies that use SEM as a

statistical technique of data analysis, and path diagrams to visualize the associations tested in their models. What does an arrow in a path diagram that is directed from perceived likelihood of victimization to worry about victimization imply in terms of the directionality of the association of the two variables, for example? One way to avoid strong claims about directionality and causality is to justify the associations that are assumed in a structural equation model based on theory (Bagozzi & Yi, 2012). As a matter of fact, questions of directionality of paths are not statistical but theoretical questions (Jackson & Kuha, 2015). This, however, does not prevent bad research practices, where the maximization of the model fit is based on statistical rather than theoretical criteria, resulting in models with no chance to be reproduced in other populations. A common related misunderstanding is that a good fit suggests a strong effect on the response variable(s). The truth, however, is that a high proportion of explained variance does not prove causality at all.

To prevent such limitations, the current thesis used a theory testing (vs. theory building) approach to explore its key hypotheses (Colquitt & Zapata-Phelan, 2007; Eisenhardt & Graebner, 2007). In its empirical studies, where SEM was used as the main analytical strategy (*see* studies 1 & 2), the CLT approach to the fear of crime was used to theorize the assumed associations in the structural equation models that were tested, and interpret the research results. In the case of the first empirical study, as has already been explained, the CLT is not directly tested. It is, however, used indirectly, to interpret research results *a posteriori*, and help develop the CLT approach to the fear of crime that is tested directly in the subsequent empirical studies of the current thesis.

Another way forward to prevent unwarranted claims about the directionality of empirical associations and causality is to adopt integrated approaches to the empirical exploration of the fear of crime. A particularly promising type of research towards this direction pertains to longitudinal studies (Bartholomew, Steele, Galbraith, & Moustaki, 2008; Steele, 2008). Such designs in the case of the fear of crime would allow for more accurate conclusions about developmental trends of the phenomenon, by excluding time-invariant unobserved individual differences, and observing the temporal order of related events.

Turning to the second and last methodological caveat that is discussed in this section, the current thesis aimed to overcome to an extent the drawbacks that stem from the survey as the dominant methodology in criminological research into the fear of crime by adopting an integrated approach to the empirical exploration of the phenomenon. This involved a combination of observational studies (*see* papers 1 & 2) and experimental studies (*see* papers 3 & 4). The use of experiments in the exploration of the fear of crime is scarce (for notable exceptions, *see* Sutton & Farrall, 2005; Sutton et al., 2011). This is partly because the research questions that criminological studies on fear of crime ask, are not amenable to experimental manipulation. Employing experimental methods was rendered plausible in the empirical work of the current thesis via the theory testing perspective that was employed. The development of the construal-level approach to the fear of crime enabled the formulation of new research questions that were amenable to experimental exploration.

No research methodology, however, is without limitations. The main weaknesses of the experimental research that was conducted for the purposes of the current thesis pertain to the on-line character of the experiments, which were carried out on the web-based platform MTurk (Buhrmester, Kwang, & Gosling, 2011). MTurk is considered to have democratized research in that it has allowed the rapid recruitment of a diverse sample of subjects at a much lower cost than professional online panels (Berinsky, Huber, & Lenz, 2012); this also explains its ever increasing popularity as a means to recruit research participants for surveys and experiments in different disciplines in recent years (Paolacci & Chandler, 2014).

However, the first limitation to be mentioned in relation to the use of MTurk to recruit participants and conduct research is the lack of representativeness of the samples (Berinsky et al., 2012; Buhrmester et al., 2011). Meta-analytical research that evaluates the quality of MTurk samples has shown that, in general, they are more diverse than student samples, which are often used in experimental research (Berinsky et al., 2012; Buhrmester et al., 2011). MTurk samples comprise younger, overeducated, underemployed, less religious, and more liberal people compared to the general population of the US, where most MTurk ‘workers’ come from (Berinsky et al., 2012). In general, it has been shown that the differences between other convenience samples and the MTurk ‘workforce’ reflect the differences between Internet and non-Internet users (Berinsky et al., 2012; Buhrmester et al., 2011).

Another drawback of MTurk studies relates to the uncontrollability of the participants’ level of engagement with the content and the tasks of a study (Huff & Tingley, 2015; Peer et al., 2014). This is particularly important in experimental studies that involve manipulations; in these cases, participants, who are distracted by external stimuli and/or do not follow the instructions properly can undermine significantly the quality of the collected data.

To prevent some of these caveats, the two experimental studies of the current thesis that used MTurk to recruit participants and conduct the research (*see* studies 3 & 4), employed MTurk functions that allow researchers to set particular criteria for the inclusion/exclusion of participants in/from the sample in order to improve data quality. First, the current studies drew from US MTurk workers. The choice of the location was based on the overrepresentation of Americans among MTurk workers (Berinsky et al., 2012), which might minimize to some degree their unrepresentativeness. Second, in both experiments, another prerequisite for participation was an approval rate not lower than 95%. Meta-analytical research has shown that MTurk workers with high approval rates of their completed surveys produce higher-quality data (Peer et al., 2014). Third, the participants of the first experiment were excluded from the sample that was used in the second experiment to prevent familiarity effects, which could have distorted the collected data.

To enhance the use of experimental methodologies in fear of crime research, interesting avenues for future empirical work include conducting experiments in other settings as well as employing different experimental designs. For example, it would be particularly interesting to explore whether the results from the third and fourth studies of the current thesis are replicated in experiments that take place in more controlled

contexts, such as laboratories. Furthermore, the two experimental studies of the current thesis manipulated crime construal and examined its impact on fear of crime reactions through between-subject designs (Brown, Cherrington, & Cohen, 1975; Brown & Melamed, 1990). It would be interesting to explore such associations by employing within-subject designs and longitudinal experiments. This integrated approach to the experimental study of the fear of crime could then be used to assess the external validity of the results (*ibid.*).

The list of limitations of a thesis, and of any piece of academic work for that matter, can be endless. This section provided an overview of those limitations of the current thesis that are considered to be the most important ones at the theoretical and empirical levels. The final words that follow summarize the key points that can be derived from the current study of the fear of crime.

#### **4.4 Concluding remarks**

The idea of adding these final thoughts in a rather long conclusion was born out of a question that I asked myself a while ago, namely: *What does this thesis tell us about the fear of crime that we did not know before or that we did know in a similar way?* Here is an answer.

##### *1. The components of the fear of crime and their elements require distinct theorization*

Criminological research has shown that fear of crime is multi-faceted and multi-dimensional (Farrall et al., 2009; Gabriel & Greve, 2003; Hale, 1996; Hirtenlehner & Farrall, 2013; Jackson & Gray, 2010; Jackson, 2004). Existing research has suggested that the fear of crime comprises affective, behavioural, and cognitive reactions to crime and victimization; that its multi-dimensional nature requires the use of multiple indicators and measures in fear of crime surveys; and that the analysis of the survey data should take into account the multi-dimensionality of the phenomenon by employing appropriate analytical strategies, such as factors analysis (Farrall et al., 1997; Ferraro & LaGrange, 1987; Jackson, Gray, & Farrall, 2009).

Based on the findings of the empirical part of the current thesis, I would add to the list of ‘dos’ that the different components of the fear of crime and their elements should also be *theorized* in a distinct manner. For instance, in one of the empirical studies of this thesis (*see* study 2), the factors that were employed to explain variation in elements of the *same* component of the fear of crime, namely its affective component, yielded different results in terms of the magnitude of the associations in question. Seen through a specific theoretical framework, namely, the CLT approach (Liberian & Trope, 2008; Trope & Liberman, 2010) to the fear of crime, it was suggested that these differences stem from the psychological distance and the mental construal that are involved in the explanatory factors, and in the different elements of the affective component of the fear of crime.

This suggests that without powerful theoretical frameworks, interesting research findings can be undermined. It might thus be useful to develop distinct theoretical approaches to the affective, behavioural and cognitive components of the

fear of crime, and their elements as opposed to assuming similarities that are not empirically evaluated (Jackson & Kuha, 2015).

## *II. Psychological distance from crime and crime construal are important explanatory parameters of the affective component of the fear of crime.*

Studying the impact of psychological distance and mental construal on fear of crime is one of the contributions of the current thesis in that these associations are studied for the first time in criminological research. Psychological distance from crime was operationalized in two ways. First, through its four distance dimensions, namely temporal, spatial, social and hypothetical (Liberian & Trope, 2008), using a semantic differential scale that was developed for the current purposes. Second, through the perceived likelihood of victimization, with higher perceived likelihood of falling victim indicating psychological proximity to crime and lower perceived likelihood of victimization indicating psychological distance from crime.

A constant finding was that psychologically experiencing crime as distant in time, space, social distance and ‘hypotheticality’, and perceiving the likelihood of victimization to be high are related to higher levels of worry about victimization. The latter echoes previous research into the impact of the cognitive component of the fear of crime on its affective component (Ferraro, 1995; Jackson, 2009, 2011; Warr, 1987). The CLT approach to the fear of crime, however, provides an analytical framework for the theorization of the association.

Perceiving the likelihood of falling victim of crime as high is seen here as a cognitive process that renders crime psychologically proximal in ‘crime-free’ contexts (*see* Todorov et al., 2007; Wakslak & Trope, 2009). Perceived likelihood of victimization thus in particular, and psychological distance from crime in general, are not treated conceptually as *attitudinal* reactions to crime (Gabriel & Greve, 2003; Jackson, 2009, 2011; Warr, 1987), but as *cognitive experiences*. Such experiences make plausible the transcending of the ‘crime-free’ ‘here and now’ in order to express affect in relation to an event, namely crime, which is not encountered directly, yet it can be *experienced* in the ‘here and now’ as looming.

Crime construal is also important in explaining variation in worry about crime. The current research has shown that developing abstract mental representations of crime is related to lower levels of worry about victimization compared to developing concrete mental representations of crime. This body of work, if developed further, can be used to inform communication strategies in relation to crime, which inform the public about it without damaging their wellbeing.

The current results are also telling in relation to the impact of cognitive factors on affective reactions to crime. The representational nature of the crime construal suggests that the process functions at the cognitive level. Indeed, its impact on worry about victimization was found to be of the expected strength and direction, according to the research hypotheses. However, when psychological distance was included in the tested associations, e.g., as a moderating factor, things changed. This suggests that cognitive parameters (e.g., crime construal) are important in explaining affective

reactions to crime (e.g., worry about victimization), but when experiential parameters are at play (e.g., psychological proximity to crime), they might take over.

Most importantly, the CLT approach to the fear of crime shows that an experiential parameter does not have to involve *direct* encounters with crime. As a matter of fact, direct encounters with crime might not fulfill this experiential criterion as defined here, if they are, for instance, far from one's immediate context, such as past victimization. *Experiential* in this sense means *psychologically*, not *actually*, proximal.

### *III. Powerful theoretical frameworks expand the empirical scope of the fear of crime literature.*

The empirical work of the current thesis has shown that adopting a theory testing perspective (Colquitt & Zapata-Phelan, 2007) in the study of the fear of crime does not only allow for the exploration of 'old' associations through new theoretical lens, but also associations that are tested for the first time in fear of crime research. It also enables one to employ different methodological approaches from the dominant ones. For example, the CLT approach to the fear of crime, rendered particular associations amenable to experimental exploration, such as the association between crime construal and worry about victimization. This in turn enabled the design and conduct of experimental studies, which are rarely used (but see Sutton and Farrall, 2005; Sutton et al., 2011), in fear of crime research, where the dominant approach is the survey (Farrall et al., 1997).

In a nutshell, developing powerful theoretical frameworks does not only enhance the theorization of the fear of crime, but it also expands the scope of the methodologies that can be used to provide more and better quality data.

### *IV. Worry about victimization as an indicator of deteriorating wellbeing is related to social categorization biases that erode social interaction, and thus collective wellbeing.*

Worry about victimization was found to explain significant proportions of variation in processes of social categorization, namely in-group identification, out-group derogation and racist attitudes. The incentive to test these associations emerged from speculative arguments in existing criminological literature that fear of crime damages collective wellbeing (Garofalo, 1981). To evaluate them empirically, psychological literature was employed (Gaertner et al., 2010; Hogg, 2009), which suggests that the uncertainty elicited by the risk of crime and affective reactions to it motivates action. Social categorization biases are types of such action, which damage, however, social interaction, and thus collective wellbeing (Suh & Sung, 2009).

According to the current empirical work, there is a link between fear of crime reactions and processes that are considered to damage social interaction and collective wellbeing. Higher levels of worry about victimization were related to higher levels of in-group identification, out-group derogation and racist attitudes. The role of future research is to provide more and better empirical evidence of the implications of the fear of crime for communities, and society as a whole.

In conclusion, the current thesis aimed to shed more and new light on the fear of crime. Fear of crime comprises affective, behavioural and cognitive reactions of the public to crime and victimization. The first objective of this work was to develop an interdisciplinary theoretical approach, namely the CLT approach to the fear of crime. The theoretical framework was used to explore 'classic' questions in criminological literature through CLT lens as well as new research questions. The second objective was to develop an integrated approach to the empirical exploration of the fear of crime, by analyzing both observational and experimental data.

The ultimate goal of this thesis is to enhance the theorization of the fear of crime and to expand the scope of its criminological study in order to produce research that improves the understanding of a phenomenon that affects the ways, in which individuals, communities and societies think about, feel about and act on crime.

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## APPENDIX A

### RESEARCH ETHICS REVIEW CHECKLIST

This checklist should be completed for every research project that involves human participants, personal, medical or otherwise sensitive data or methodologically controversial approaches. It is used to identify whether a full application for ethics approval needs to be submitted. The research ethics review process is not designed to assess the merits of the research in question, but is merely a device to ensure that external risks have been fully considered and that an acceptable research methodology has been applied. This checklist applies to research undertaken by *both* staff and students, but it should be noted that the way the checklist is processed differs between these two groups.

**For staff:** if a full application is required please ensure that you complete the Ethics Review Questionnaire for Researchers and send the completed form to David Coombe in the Research Division (RD).

Please accompany the questionnaire with a copy of this checklist and a copy of the research proposal.

**For MSc/PhD students:** if a full application is required please ensure that you complete the Ethics Review Questionnaire for Researchers and discuss the issues raised with your student supervisor in the first instance. You should ensure that the completed forms are accompanied with a copy of the research proposal to ensure that your supervisor can make a fully informed decision on the ethical implications of the research. Where the supervisor is satisfied that all ethical concerns have been addressed s/he must sign the checklist and ensure that a copy is retained within the department as a record of the decision reached. It is appreciated that in certain cases the student supervisor may not be able to reach a decision on the ethical concerns raised. In such instances the matter should be referred to the Research Ethics Committee (please send all relevant forms and a copy of the proposal to David Coombe in RD). *Only where an informed decision cannot be reached by the supervisor should paperwork be submitted to the Research Ethics Committee.*

**For undergraduate students:** After completing the checklist, undergraduate students should discuss any issues raised with their supervisor in the first instance. If fully satisfied with the research proposal, the supervisor can sign the checklist on behalf of the department. A copy of the signed form should be retained by the department as a record of the decision reached. It is appreciated that in certain instances the student supervisor may not be able to reach a decision on the ethical concerns raised. In such instances the application for ethics approval should be referred to the Research Ethics Committee (please send all relevant forms and a copy of the proposal to David Coombe in RD). *Only where an informed decision cannot be reached by the supervisor should paperwork be submitted to the Research Ethics Committee.*

**Before completing this form, please refer to the LSE Research Ethics Policy.** The principal investigator or, where the principal investigator is a student, the supervisor, is responsible for exercising appropriate professional judgement in this review. For students, your supervisor should be able to provide you with guidance on the ethical implications of the research project. If members of staff have any queries regarding the completion of the checklist they should address these to David Coombe (RD) in the first instance.

This checklist must be completed before potential participants are approached to take part in any research.

### Section I: Applicant Details

Name of researcher:	Ioanna Gouseti
Status(delete as appropriate):	PhD Student
Email address:	I.Gouseti1@lse.ac.uk
Contact address:	Columbia House, 7 <sup>th</sup> Floor, London School of Economics, Houghton Street, London WC2A 2AE
Telephone number:	

### Section II: Project Details

<p>Title of the proposal and brief abstract:</p> <p><i>Fear of crime as a way of thinking, feeling and acting: An integrated approach to measurement and a theoretical examination of psychological distance and risk construal</i></p> <p>The main objective of my PhD research is to examine potential causes and consequences of the ‘fear of crime’ (i.e., lay reactions – affective, behavioural, and cognitive – towards the risk of criminal victimization), building on the most updated criminological literature and introducing interdisciplinary insights to this research area. On the one hand, I’m interested in the effect of psychological distance from crime and crime construal on people’s fear of crime. On the other hand, I intent to examine empirically the speculative criminological argument that the fear of crime impacts on collective well-being through its association with social categorization biases, such as in-group favoritism, out-group derogation, and racism.</p>
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### Section III: Student Details:

Details of study:	<i>Fear of crime as a way of thinking, feeling and acting: An integrated approach to measurement and a theoretical examination of psychological distance and risk construal</i>
Supervisor’s name:	Dr Jonathan Jackson
Email address:	j.p.jackson@lse.ac.uk
Contact address:	Columbia House, 7 <sup>th</sup> Floor, London School of Economics, Houghton Street, London WC2A 2AE

### Section IV: Research Checklist

#### Consent

	Yes	No	Not certain
Does the study involve participants who are in any way vulnerable or may have any difficulty giving consent? <i>If you have answered yes or are not certain about this please complete Section 1 of the Research Questionnaire.</i>  <i>As general guidance, the Research Ethics Committee feels that research participants under the age of 18 may be vulnerable.</i>		X	
Will it be necessary for participants to take part in the study without their knowledge and consent at the time? (e.g. covert observation of people in public places) <i>If you have answered yes or are not certain about this please complete Section 1 of the Research Questionnaire.</i>		X	

### Research Design/Methodology

Does the research methodology use deception? <i>If you have answered yes or are not certain about this please complete Section 2 of the Research Questionnaire.</i>		X	
Are there any significant concerns regarding the design of the research project?  a) If the proposed research relates to the provision of social or human services is it feasible and/or appropriate that service users or service user representatives should be in some way involved in or consulted upon the development of the project?  b) Does the project involve the handling of any sensitive information?  <i>If you have answered yes or not certain to these questions please complete Section 3 of the Research Questionnaire.</i>		X	

### Financial Incentives/Sponsorship

Will the independence of the research be affected by the source of the funding? <i>If you have answered yes or not certain about this please complete Section 4 of the Research Questionnaire.</i>		X	
Are there payments to researchers/participants that may have an impact on the objectivity of the research? <i>If you have answered yes or not certain about this please complete Section 4 of the Research Questionnaire.</i>		X	
Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants? <i>If you have answered yes or not certain about this please complete Section 4 of the Research Questionnaire.</i>		X	

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**Research Subjects**

Is pain or more than mild discomfort likely to result from the study? <i>If you have answered yes or not certain about this please complete Section 5 of the Research Questionnaire.</i>		<b>X</b>	
Could the study induce unacceptable psychological stress or anxiety or cause harm or negative consequences beyond the risks encountered in normal life? Will the study involve prolonged or repetitive testing? <i>If you have answered yes or not certain about this please complete Section 5 of the Research Questionnaire.</i>		<b>X</b>	
Are drugs, placebos or other substances to be administered to the study participants or will the study involve invasive, intrusive or potentially harmful procedures of any kind? <i>If you have answered yes or not certain about this please complete Section 5 of the Research Questionnaire.</i>		<b>X</b>	

**Risk to Researchers**

Do you have any doubts or concerns regarding your (or your colleagues) physical or psychological wellbeing during the research period? <i>If you have answered yes or not certain about this please complete Section 6 of the Research Questionnaire.</i>		<b>X</b>	
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**Confidentiality**

Do you or your supervisor have any concerns regarding confidentiality, privacy or data protection? <i>If you have answered yes or not certain about this please complete Section 7 of the Research Questionnaire.</i>		<b>X</b>	
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**Dissemination**

Are there any particular groups who are likely to be harmed by dissemination of the results of this project? <i>If you have answered yes or not certain about this please complete Section 8 of the Research Questionnaire.</i>		<b>X</b>	
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If you have answered **no** to all the questions, staff members should file the completed form for their records. Students should retain a copy of the form and submit it with their research report or dissertation.

If you have answered **yes** or **not certain** to any of the questions you will need to describe more fully how you plan to deal with the ethical issues raised by your research. You will need to answer the **relevant** questions in the Ethics Review Questionnaire for Researchers form addressing the ethical issues raised by your proposal. Staff should ensure that the completed questionnaire is sent to David Coombe in RD. Students should submit their completed

questionnaire to their supervisor in the first instance. It will be at the discretion of the supervisor whether they feel that the research should be considered by the Research Ethics Committee.

Please note that it is your responsibility to follow the School's Research Ethics Policy and any relevant academic or professional guidelines in the conduct of your study. This includes providing details of your proposal and completed questionnaire, and ensuring confidentiality in the storage and use of data.


Any significant change in the question, design or conduct over the course of the research should be notified to David Coombe in RD.

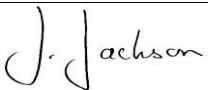
I have read and understood the LSE Research Ethics Policy and the questions contained in the Research Checklist above.

#### Academic Research Staff

Principal Investigator Signature:
Date:

#### Undergraduate/MSc Student/PhD Student

Student Signature: 
Student Name (Please print): Ioanna Gouseti
Department: Methodology
Date: 18/12/2013
Date of Research Ethics Seminar attended:

Summary of any ethical issues identified: N/A
Supervisor Signature*: 
Supervisor Name (Please print): Jonathan Jackson
Department: Methodology
Date: 18/12/2013

\* By signing this document the student supervisor attests to the fact that any ethical issues raised have been dealt with adequately.