
**Knowledge and Power Asymmetries in Dyadic Negotiations:
Whose Knowledge Matters?**

Ricky Siu Kuen Wong

Doctor of Philosophy

of the

University of London

London School of Economics and Political Science

May 2007

UMI Number: U508728

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI U508728

Published by ProQuest LLC 2014. Copyright in the Dissertation held by the Author.
Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against
unauthorized copying under Title 17, United States Code.



ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

THESES

F8761

B.6. 1128261



I, *Ricky Siu Kuen Wong*, confirm that the work presented in this thesis is my own.
Where information has been derived from other sources, I confirm that this has been
indicated in the thesis.

Abstract

Previous research has revealed that negotiators with *asymmetric* best alternatives to the negotiated agreement (BATNAs) reach more efficient agreements than those with equal BATNAs. Conflicting hypotheses have been proposed to explain the relationship between BATNA-asymmetry and efficiency, and research exploring various possibilities has been relatively inconclusive. This thesis sets out to contribute to this domain, arguing that it is important to consider parties' knowledge states of BATNA-asymmetries. In addition, relationships among knowledge, aspiration and distributive outcomes are explored.

A simulated job contract negotiation between an employer and employee was used. The data used in the investigation is the product of three experiments in which 112, 114, and 96 dyads participated respectively. Study 1 examines *whether* knowledge given to different negotiators affects agreement efficiency, aspiration levels and the nature of distributive outcomes. Study 2 investigates *how* this knowledge affects efficiency by exploring the relationship between knowledge and communications between parties. Finally, Study 3 focuses on *why* knowledge affects efficiency, examining its impact on negotiators' motivation, approach and mind-set.

With the 5% significance level adopted, the key findings are that (a) aspiration levels of strong (weak) negotiators increase (decrease) with levels of knowledge; (b) knowledge increases the piece of resource pie that strong negotiators receive; (c) strong negotiators' knowledge of BATNA-asymmetries increases focus on dominance and judgement errors about opponents' interests, hindering information-exchange and the search for efficient outcomes; (d) weak negotiators' knowledge increases motivation

and fosters communications, leading to more efficient agreements; and (e) the detrimental impact of strong negotiators' knowledge on efficiency is more powerful than the benefit of weak negotiators' knowledge. The findings suggest that knowledge of BATNA-asymmetries shapes negotiators' behaviour, and ultimately the structure and quality of outcomes. More importantly, the impact of knowledge on efficiency differs, relying on which party (strong and/or weak) has access to it.

Acknowledgements

I would like to thank my supervisor, Dr. Matthew Mulford, for his patience guidance throughout the PhD process. I could not have imagined a better supervisor and mentor for my PhD. Without his support, knowledge, inspiration, outstanding experience, and encouragement, I would never have finished. His supervision was indispensable for the completion of this PhD. I am also very grateful to Dr. Jouni Kuha for invaluable comments on my work.

I would like to say a big 'thank you' to all the people who took part in my research. I would like to acknowledge my friend from UCL, Magda, who helped me out a lot when running the experiments. And, I would like to thank Simon (Dr. Li), Philip, Danielle, Heiman and Sai for always being supportive. I am extremely grateful that I have met Sue and Sally whose friendship and support will never be forgotten. I have enjoyed intellectual conversations, music, support and alcohol consumptions with them. You girls are amazing! Thanks to Sue again for putting up with me for almost three years and for editing my thesis.

I would also like to thank my best mates in Hong Kong: Alfred (supermodel), Kenneth (Fatty), Gilbert, Mr. and Mrs. IP for being great friends and being so supportive. You guys always believe in me even when I don't believe in myself. You guys are AWESOME!

Finally, I would like to thank my Dad, Mum, and my little brother who always provide unconditional love and support. Dad, thank you for giving me so much and for supporting my studies all these years.

Table of Contents

Abstract	3
Acknowledgements	5
Table of Contents	6
List of Tables	13
List of Figures	15
Chapter One – Introduction	18
1.1 Concepts of the Thesis and Definitions	18
<i>1.1.1 BATNA vs. Outside Option</i>	18
<i>1.1.2 Distributive and Integrative Negotiations</i>	20
<i>1.1.3 Agreement Efficiency</i>	22
<i>1.1.4 Nash Bargaining Solutions</i>	22
1.2 Substance of the Thesis	25
1.3 Structure of the Thesis	27
Part I – Literature Review	29
Chapter Two – Literature Review of Research on BATNA-Asymmetric Negotiations	30
<i>Structured Negotiation</i>	31
<i>Unstructured Negotiation</i>	33
2.1 Formation of Negotiators’ Perceptions about Opponents	37
2.2 BATNA-Asymmetries and Aspiration	40
2.3 BATNA-Asymmetries and Bargaining Strength	42
<i>2.3.1 Defining Power and BATNA vs. Bargaining Strength</i>	42
2.4 BATNA-Asymmetries and Negotiation Efficiency	46
<i>Roloff and Dailey</i>	47
<i>Pinkley</i>	48
<i>2.4.1 Roloff & Dailey’s Design and Limitations</i>	49

2.4.2 <i>Pinkley's Design and Limitations</i>	50
<i>Level of Strong Negotiators' Attractive BATNAs</i>	53
<i>Manipulations of Opponents' Knowledge</i>	54
2.4.3 <i>Implications of Pinkley's (1995) Limitations</i>	56
2.4.4 <i>Importance of Interpersonal BATNA Comparisons</i>	58
2.5 Summary of Literature Review	60
Part II – Empirical Studies	62
Chapter Three – Importance of Knowledge of BATNA-Asymmetries (Study 1) ... 63	
3.1 Negotiators' Perceptions of Others' BATNAs Prior to Negotiations	65
3.1.1 <i>Effect of Range of Possible BATNAs on Negotiators' Perceptions</i>	67
3.2 Knowledge of BATNA-Asymmetries and Aspiration	69
3.2.1 <i>Defining Negotiators' Initial Aspirations and Influence of BATNA-Knowledge</i>	70
3.3 Knowledge of BATNA-Asymmetries and Bargaining Strength	72
3.4 Knowledge of BATNA-Asymmetries and Agreement Efficiency	74
3.5 Overview of Study 1	77
3.6 Method	78
<i>Subjects</i>	78
<i>Procedure</i>	78
<i>Negotiation Task</i>	80
<i>BATNAs and Magnitude of BATNA-Asymmetries</i>	84
<i>Information and Common Knowledge States</i>	85
<i>Independent Variables</i>	86
<i>Dependent Measures</i>	89
3.7 Results	93
3.7.1 <i>Manipulation Checks</i>	93
3.7.2 <i>Negotiators' Perceptions about Others' BATNAs</i>	94
<i>Strong Negotiators' Perceptions (Employers)</i>	94
<i>Weak Negotiators' Perceptions (Employees)</i>	96
<i>Effect of Range of Possible BATNAs on Weak Negotiators' Perceptions</i>	98
3.7.3 <i>Knowledge of BATNA-Asymmetries and Aspiration Levels</i>	99
<i>Effect of Knowledge of BATNA-Asymmetries on Strong Negotiators' Aspirations</i>	100

<i>Effect of Knowledge of BATNA-Asymmetries on Weak Negotiators' Aspirations</i>	101
3.7.4 <i>Knowledge of BATNA-Asymmetries and Bargaining Strength</i>	102
3.7.5 <i>Knowledge of BATNA-Asymmetries and Agreement Efficiency</i>	105
<i>Pinkley's Explanation (Strong Negotiators' Knowledge)</i>	109
<i>Roloff & Dailey's Explanation (Weak Negotiators' Knowledge)</i>	110
<i>Alternative Hypothesis (Complete Knowledge)</i>	112
3.8 General Discussion	114
3.8.1 <i>Negotiators' Perceptions of Opponents' BATNAs</i>	114
3.8.2 <i>Knowledge of BATNA-Asymmetries and Aspiration</i>	117
3.8.3 <i>Knowledge of BATNA-Asymmetries and Bargaining Strength</i>	119
<i>A Bigger Slice of a Smaller Pie or a Smaller Slice of a Bigger Pie</i>	121
3.8.4 <i>Knowledge of BATNA-Asymmetries and Agreement Efficiency</i>	123
3.8.5 <i>Equal Power versus Unequal Power and Agreement Efficiency</i>	128
3.8.6 <i>Trade-off between Integrative and Distributive Bargaining</i>	131
3.8.7 <i>Potential Limitations and Future Directions</i>	135
Chapter Four – How Knowledge of BATNA-Asymmetries Affects Agreement	
Efficiency (Study 2)	139
4.1 Key to Successful Agreements	140
4.1.1 <i>Commonness of Inefficient Agreements</i>	141
4.1.2 <i>Relationship between Information-Exchange and Efficiency</i>	142
4.2 Effect of Negotiators' Knowledge of BATNA-Asymmetries on Information-Sharing Behaviour	145
4.2.1 <i>Relationship between Strong Negotiators' Knowledge of BATNA-Asymmetries and Information-Exchange</i>	145
4.2.2 <i>Relationship between Weak Negotiators' Knowledge and Information-Exchange</i>	147
<i>Initiation of Information-Exchange</i>	147
4.2.3 <i>Relationship between Complete Knowledge of BATNA-Asymmetries and Information-Exchange</i>	149
4.3 Exploring How Complete Knowledge Reduces Agreement Efficiency	151
4.3.1 <i>Strong Negotiators' Willingness to Reveal Their Preferences</i>	152
4.3.2 <i>Effect of Strong Negotiators' Knowledge on Counterparts' Information-Sharing Behaviour</i>	153

4.4 Overview of Study 2	155
4.5 Method	156
<i>Participants</i>	156
<i>Procedure</i>	156
<i>Negotiation Task and Independent Variables</i>	156
<i>Dependent Measures</i>	157
4.6 Data Collection	160
4.6.1 <i>Qualifying the Use of Retrospective Reporting</i>	162
4.6.2 <i>Distributions of Valid Cases</i>	164
4.7 Results	166
4.7.1 <i>Replication of Findings in Study 1</i>	166
4.7.2 <i>Knowledge of BATNA-Asymmetries vs. Information-Exchange</i>	171
<i>Effect of Strong Negotiators' BATNA Knowledge on Information-Exchange</i>	171
<i>Effect of Weak Negotiators' BATNA Knowledge on Information-Exchange</i>	173
<i>Effect of Complete Knowledge of BATNA-Asymmetries on</i> <i>Information-Exchange</i>	174
4.8 Discussion	178
4.8.1 <i>Effect of Strong Negotiators' Knowledge on Efficiency and</i> <i>Information-Exchange</i>	179
4.8.2 <i>Effect of Weak Negotiators' Knowledge on Efficiency and</i> <i>Information-Exchange</i>	180
4.8.3 <i>Effect of Complete Knowledge on Efficiency and Information-Exchange</i> ..	181
4.9 Conclusion	184
4.9.1 <i>Limitations and Motivation for Study 3</i>	185
Chapter Five – Why Knowledge of BATNA-Asymmetries Affects Agreement	
Efficiency (Study 3)	190
5.1 Relationship between Strong Negotiators' Knowledge and Agreement	
Efficiency	192
5.1.1 <i>Alternative Explanation</i>	197

5.2 Relationship between Weak Negotiators' Knowledge and Agreement Efficiency	199
5.2.1 <i>Motivational Influence on Creative Performance</i>	200
5.2.2 <i>Different Types of Motivation</i>	201
5.2.3 <i>Effect of Knowledge of BATNA-Asymmetries on Motivational States</i>	202
<i>Perceived Challenge</i>	202
<i>Pressure</i>	204
5.3 Relationship between Complete Knowledge and Agreement Efficiency	207
5.3.1 <i>Strong Negotiators' Willingness to Reveal Preferences</i>	208
5.3.2 <i>Effect of Strong Negotiators' Knowledge on Informed Weak Negotiators' Information-Sharing Behaviour</i>	209
5.4 Overview of Study 3	212
5.5 Method	213
<i>Participants</i>	213
<i>Procedure</i>	213
<i>Negotiation Task & Independent Variables</i>	213
<i>Dependent Measures</i>	214
5.6 Results	222
5.6.1 <i>Replication of Findings in Study 1 and Study 2</i>	223
5.6.2 <i>Examination of Why Strong Negotiators' Knowledge Affects Agreement Efficiency</i>	226
<i>Focus on Distributive Element</i>	226
<i>Judgement Errors about Others' Interests</i>	229
<i>Mediating Role of Focus Score and Judgement Accuracy</i>	231
<i>Perceived Usefulness of Information-Exchange</i>	234
5.6.3 <i>Examination of Why Weak Negotiators' Knowledge Affects Agreement Efficiency</i>	236
<i>Influence of Weak Negotiators' Knowledge on Motivation</i>	236
<i>Mediating Role of Weak Negotiators' Motivation</i>	240
5.6.4 <i>Complete Knowledge of BATNA-Asymmetries</i>	242
<i>Focus on Distributive Element</i>	242
<i>Judgement Errors (Logrolling Accuracy)</i>	244
<i>Motivation</i>	245
<i>Procedural Remarks</i>	246

5.7 Discussion	249
5.7.1 <i>Strong Negotiators' Knowledge of BATNA-Asymmetries</i>	249
5.7.2 <i>Weak Negotiators' Knowledge of BATNA-Asymmetries</i>	253
5.7.3 <i>Explanations of Asymmetric Data Collection</i>	256
5.7.4 <i>Complete Knowledge of BATNA-Asymmetries</i>	258
Part III – Conclusions, Implications of Findings, Contribution to Knowledge, and Suggestion for Future Research	261
Chapter Six – Conclusions and Suggestions for Future Research	262
6.1 Summary of the Thesis	262
6.1.1 <i>Perceptions of Opponents' BATNAs</i>	263
6.1.2 <i>Aspiration Levels</i>	265
6.1.3 <i>Strong Negotiators' Bargaining Strength</i>	265
6.1.4 <i>Knowledge of BATNA-Asymmetries and Agreement Efficiency</i>	267
<i>Knowledge of Being the Stronger Party</i>	267
<i>Knowledge of Being the Weaker Party</i>	268
<i>Powerful Detrimental Impact of Strong Negotiators' Knowledge</i>	269
6.1.5 <i>The Whole Picture</i>	273
6.2 Limitations and Suggestions for Future Research	275
6.2.1 <i>Methodological Limitations and Their Possible Solution</i>	275
6.2.2 <i>New Areas of Theoretical Interest</i>	277
6.3 Practical Implications	279
Appendix A (I)	281
Informed Consent Form.....	281
Appendix A (II)	282
General Negotiation Information.....	282
Appendix A (III)	283
Confidential Information (Employers).....	283
Confidential Information (Employees).....	291
Appendix A (IV)	299
Pre-Negotiation Questionnaire 1.....	299
Pre-Negotiation Questionnaire 2.....	301
Post-Negotiation Questionnaires.....	302
<i>Judgement Error Measures</i>	304

<i>Focus on Distributive Element & Perception of Information-Exchange</i>	
<i>Measures</i>	305
<i>Motivation Measures</i>	306
Appendix B Experimental Protocol	308
<i>All Experimental Conditions</i>	308
<i>Strong Negotiators (Employers)</i>	308
<i>Weak Negotiators (Employees)</i>	309
<i>Experimental Condition 1 (Control)</i>	310
<i>Strong and Weak Negotiators (Employers and Employees)</i>	310
<i>Experimental Condition 2 (Strong Negotiators Informed)</i>	310
<i>Strong Negotiators (Employers)</i>	310
<i>Weak Negotiators (Employees)</i>	311
<i>Experimental Condition 3 (Weak Negotiators Informed)</i>	311
<i>Strong Negotiators (Employers)</i>	311
<i>Weak Negotiators (Employees)</i>	311
<i>Experimental Condition 4 (Complete Knowledge)</i>	312
<i>Strong Negotiators (Employers)</i>	312
<i>Weak Negotiators (Employees)</i>	313
Appendix C Pattern of Reasons for Excluded Cases	314
Appendix D (I) Subjects' Full Responses to Items (Study 3)	316
Strong Negotiators' Focus on Distributive Element	316
Weak Negotiators' Motivation	319
Appendix D (II) A Summary of Pilot Study Results	324
References	325

List of Tables

TABLE 2.1 EXPERIMENTAL RESULTS FROM PINKLEY’S (1995) STUDY 52

TABLE 2.2 MAIN FINDINGS IN PINKLEY’S (1995) STUDY (OPPONENTS’ KNOWLEDGE
CONDITIONS REMOVED) 57

TABLE 3.1 PAY-OFF SCHEDULES FOR JOB NEGOTIATION TASK..... 82

TABLE 3.2 MEANS (STANDARD DEVIATIONS) FOR NEGOTIATORS’ ESTIMATES OF OTHERS’
BATNAS AS A FUNCTION OF BATNA 95

TABLE 3.3 NEGOTIATORS’ KNOWLEDGE STATUS IN DIFFERENT CONDITIONS 99

TABLE 3.4 MEANS (STANDARD DEVIATIONS) FOR NEGOTIATORS’ ASPIRATION LEVELS AS A
FUNCTION OF EXPERIMENTAL CONDITION 101

TABLE 3.5 STRONG NEGOTIATORS’ KNOWLEDGE STATUS IN DIFFERENT CONDITIONS .. 102

TABLE 3.6 MEANS (STANDARD DEVIATIONS) FOR JOINT GAINS, INTEGRATIVENESS SCORE,
AND NUMBER OF SUPERIOR AGREEMENTS BY EXPERIMENTAL CONDITIONS (STUDY 1)
..... 108

TABLE 4.1 NEGOTIATORS’ KNOWLEDGE STATUS IN DIFFERENT CONDITIONS 157

TABLE 4.2 A SUMMARY OF THE CASE VALIDITY 164

TABLE 4.3 MEANS (STANDARD DEVIATIONS) FOR JOINT GAINS, INTEGRATIVENESS SCORE,
AND NUMBER OF SUPERIOR AGREEMENTS BY EXPERIMENTAL CONDITIONS (STUDY 2)
..... 167

TABLE 4.4 STRONG NEGOTIATORS’ INFORMATION-SHARING BEHAVIOUR BY
EXPERIMENTAL CONDITIONS..... 172

TABLE 4.5 WEAK NEGOTIATORS’ INFORMATION-SHARING BEHAVIOUR BY EXPERIMENTAL
CONDITIONS 173

TABLE 4.6 WEAK NEGOTIATORS’ INFORMATION-SHARING BEHAVIOUR AND STRONG
NEGOTIATORS’ WILLINGNESS TO REVEAL PREFERENCES (CONDITION 3 AND 4) ... 176

TABLE 4.7 A SUMMARY OF RESULTS IN STUDY 2.....	178
TABLE 5.1 FOUR BASIC EXPERIMENTAL CONDITIONS IN THIS STUDY.....	214
TABLE 5.2 ITEMS FOR STRONG NEGOTIATORS' FOCUS ON DISTRIBUTIVE ELEMENT	215
TABLE 5.3 ITEMS FOR STRONG NEGOTIATORS' PERCEPTION OF INFORMATION-EXCHANGE	217
TABLE 5.4 NEGOTIATORS' MOTIVATION INVENTORY ITEMS AND SCALE PLACEMENT....	219
TABLE 5.5 MEANS FOR JOINT GAINS, STRONG EXCHANGE, AND WEAK EXCHANGE BY EXPERIMENTAL CONDITIONS.....	223
TABLE 5.6 STRONG NEGOTIATORS' FOCUS SCORE IN DIFFERENT CONDITIONS	227
TABLE 5.7 STRONG NEGOTIATORS' LOGROLLING ACCURACY AND COMPATIBILITY ACCURACY IN DIFFERENT CONDITIONS	230
TABLE 5.8 MOTIVATION SCORES IN DIFFERENT CONDITIONS	237
TABLE 5.9 STRONG NEGOTIATORS' FOCUS SCORE IN CONDITION 3 AND 4	242
TABLE 5.10 STRONG NEGOTIATORS' LOGROLLING ACCURACY IN CONDITION 3 AND 4.	244
TABLE 5.11 MOTIVATION SCORES IN CONDITION 3 AND 4	245
TABLE 5.12 CODING SCHEMES	246

List of Figures

FIGURE 1.1 THE NASH BARGAINING SOLUTION IN THE SIMPLEST CASE.....	23
FIGURE 3.1 DISTRIBUTION OF STRONG NEGOTIATORS' PERCEPTIONS ABOUT OTHERS' BATNAs.....	95
FIGURE 3.2 DISTRIBUTION OF WEAK NEGOTIATORS' PERCEPTIONS ABOUT OTHERS' BATNAs.....	97
FIGURE 3.3 DISTRIBUTION OF STRONG NEGOTIATORS' BARGAINING STRENGTH (CONTROL VS. CONDITION 2).....	104
FIGURE 3.4 FEASIBLE AGREEMENTS	107
FIGURE 3.5 DISTRIBUTION OF JOINT GAINS (CONTROL VS. CONDITION 2)	110
FIGURE 3.6 DISTRIBUTION OF JOINT GAINS (CONTROL VS. CONDITION 3)	111
FIGURE 3.7 DISTRIBUTION OF JOINT GAINS (CONTROL VS. CONDITION 4)	113
FIGURE 3.8 NEGOTIATORS' ASPIRATIONS AS A FUNCTION OF BATNA KNOWLEDGE	118
FIGURE 3.9 AGREEMENT EFFICIENCY ACROSS EXPERIMENTAL CONDITIONS	123
FIGURE 3.10 A SUMMARY OF FINDINGS IN AGREEMENT EFFICIENCY (STUDY 1).....	130
FIGURE 3.11 A TRADE-OFF INTRODUCED BY STRONG NEGOTIATORS' KNOWLEDGE	132
FIGURE 3.12 A TRADE-OFF INTRODUCED BY WEAK NEGOTIATORS' KNOWLEDGE	133
FIGURE 4.1 A POSSIBLE MEDIATOR OF THE IMPACT OF KNOWLEDGE ON EFFICIENCY ...	140
FIGURE 4.2 AGREEMENT EFFICIENCY AS A FUNCTION OF NEGOTIATORS' KNOWLEDGE.	151
FIGURE 4.3 JOINT OUTCOMES AS A FUNCTION OF STRONG NEGOTIATORS' KNOWLEDGE	168
FIGURE 4.4 JOINT OUTCOMES AS A FUNCTION OF WEAK NEGOTIATORS' KNOWLEDGE .	169
FIGURE 4.5 JOINT OUTCOMES AS A FUNCTION OF COMPLETE KNOWLEDGE	170
FIGURE 5.1 A PROPOSED THEORETICAL MODEL OF STRONG NEGOTIATORS' KNOWLEDGE OF BATNA-ASYMMETRIES AND AGREEMENT EFFICIENCY	194

FIGURE 5.2 A PROPOSED THEORETICAL MODEL OF WEAK NEGOTIATORS' KNOWLEDGE OF
 BATNA-ASYMMETRIES AND AGREEMENT EFFICIENCY 199

FIGURE 5.3 STRONG NEGOTIATORS' RESPONSES TO ITEM 1 – “I WAS VERY CONCERNED IF I
 COULD OUTPERFORM THE EMPLOYEE” (CONTROL VS. CONDITION 2) 228

FIGURE 5.4 A PROPOSED THEORETICAL MODEL OF STRONG NEGOTIATORS' KNOWLEDGE
 OF BATNA-ASYMMETRIES AND INFORMATION-EXCHANGE 231

FIGURE 5.5 STRUCTURAL EQUATION OF MODEL OF THE RELATIONSHIPS AMONG STRONG
 NEGOTIATORS' KNOWLEDGE, FOCUS SCORE, JUDGEMENT ERRORS, AND
 INFORMATION-EXCHANGE. * $P < .05$ 232

FIGURE 5.6 WEAK NEGOTIATORS' RESPONSES TO 'PERCEIVED CHALLENGE' ITEM (ITEM 1)
 (CONTROL VS. CONDITION 3) 238

FIGURE 5.7 WEAK NEGOTIATORS' RESPONSE TO 'PRESSURE' ITEM (ITEM 6) (CONTROL VS.
 CONDITION 3) 239

FIGURE 5.8 A PROPOSED THEORETICAL MODEL OF WEAK NEGOTIATORS' KNOWLEDGE OF
 BATNA-ASYMMETRIES AND INFORMATION-EXCHANGE * $P < .05$ 240

FIGURE 5.9 PROPORTIONS OF STRONG NEGOTIATORS MAKING PROCEDURAL REMARKS
 247

FIGURE 5.10 PROPORTIONS OF WEAK NEGOTIATORS MAKING PROCEDURAL REMARKS
 248

Chapter One

Introduction

Chapter One – Introduction

1.1 Concepts of the Thesis and Definitions

Negotiations begin when we see that others have something that we want and that we are prepared to give up something in exchange for it. In other words, people negotiate when they think there is something to be gained. It is, in essence, an inter-dependence process by which two (or more) people decide how to allocate resources. Negotiation can be about anything – how much we get paid, who will do what, when it will be done – and can be with anyone – business partners, friends, colleagues, spouses, families and customers. For example, co-workers decide who pays for the next round of drinks in the pub; couples decide who baby-sits this evening; or employees and companies negotiate over wages, working hours and opportunities for training. It is, therefore, common that negotiations occur on a day-to-day, hour-by-hour basis.

Negotiation is a subject that has been addressed in fields as diverse as economics, social psychology, the study of business management, of organisations and of communications. Many of the terms used in this thesis are specialist terms from these fields. It is best to begin by giving some definitions of relevant terms.

1.1.1 BATNA vs. Outside Option

Economists and social psychologists sometimes use very different language, although they mean the same thing. Here is an example. Fisher and Ury (1981) introduced the

term BATNA to describe Best Alternative to a Negotiated Agreement. A BATNA indicates what a negotiator could get if s/he failed to reach an agreement, and thus the value of the BATNA determines the point at which a negotiator should walk away from a negotiation (Fisher and Ury, 1981, Neale and Northcraft, 1991). In practice, this means that negotiators should be willing to accept any set of terms that is superior to their BATNAs and reject any outcomes that are worse than their BATNAs. For instance, in a negotiation over the sale price of a flat, assuming that the price is the only issue to be negotiated, the best offer that the seller has received prior to the negotiation with another buyer might be his BATNA. Alternatively, if the seller is optimistic about the property market; letting the property is also a possible BATNA.

Economists have used the term ‘Outside Option’ which refers to the payoff that a negotiator would obtain by quitting the negotiation permanently (Shaken and Sutton, 1984). Both BATNA and outside option refer to the payoff that a negotiator would receive in case of a disagreement. Also, once taking up the BATNA or outside option, the opportunity for going back to the negotiation is forfeited¹. In this thesis the term BATNA, has been used since it has been widely used in social psychology literature (see, for example, Mannix & Neale, 1993; Pinkley, 1995; Roloff & Dailey, 1987).

¹ Note that they are different from ‘threat point’ which refers to the pay-off that a negotiator receives when the negotiation goes on forever and no agreement is reached. Also, adopting a threat point action does not rule out co-operation in the future.

1.1.2 Distributive and Integrative Negotiations

Negotiations can be divided into two fundamental types: *distributive* and *integrative*. Distributive negotiation centres on how negotiators divide the bargaining surplus among themselves (slicing the resource pie). Some people believe that distributive negotiation involves only one issue. Negotiations that involve more than one issue are still distributive as long as the intensity of preferences across issues is the same for both negotiators. In distributive negotiations, one's gain in payoffs represents a loss to another². Using the same example, a higher selling price of the flat represents a gain for the seller but a loss for the buyer.

However, purely distributive negotiations are relatively rare. Most negotiations contain both distributive and integrative elements (Bazerman and Neale, 1983, Pinkley, Griffith and Northcraft, 1995, Raiffa, 1982, Thompson, 1991, Thompson, 2001, Thompson and Hastie, 1990). The integrative element regards how negotiators expand the resource pie to be divided. Integrative negotiations involve multiple issues where negotiators have different priorities across the issues. Trade-offs can be made across issues (sometimes known as log-rolling) to increase the bargaining surplus to be divided.

Returning to the example of flat-sale negotiation, an assumption is made that there are two issues to be negotiated: sale price and contract-exchange date. If the seller is more concerned with the price than the buyer is, whereas the buyer is more concerned with the contract-exchange date than the seller is, integrative potential exists. Instead of

² Note that these values do not necessarily sum to zero, and so these distributive negotiations are not necessarily zero-sum games.

compromising on a middle position on each issue, a concession on the contract-exchange date by the seller in exchange for a reciprocal concession on the price by the buyer can make both parties better off than a compromise solution.

1.1.3 Agreement Efficiency

An agreement is said to be efficient when the agreement leaves no portion of the total amount of resources unallocated. Simply put, an efficient agreement is one that is impossible to improve upon from the perspective of at least one party without hurting the other (Nash, 1950, Nash, 1953, Thompson, 2001). In case of a purely distributive bargaining situation, any mutually beneficial agreements reached are efficient. However, in negotiations where integrative potential exists³, some feasible agreements are inefficient – there are other agreements that can at least make one of the parties better off. For instance, in the flat-sale example described above one inefficient agreement is that the buyer and seller settle on the mid-points on both issues (price and contract-exchange date). Making trade-offs across these issues could result in an increase in agreement efficiency.

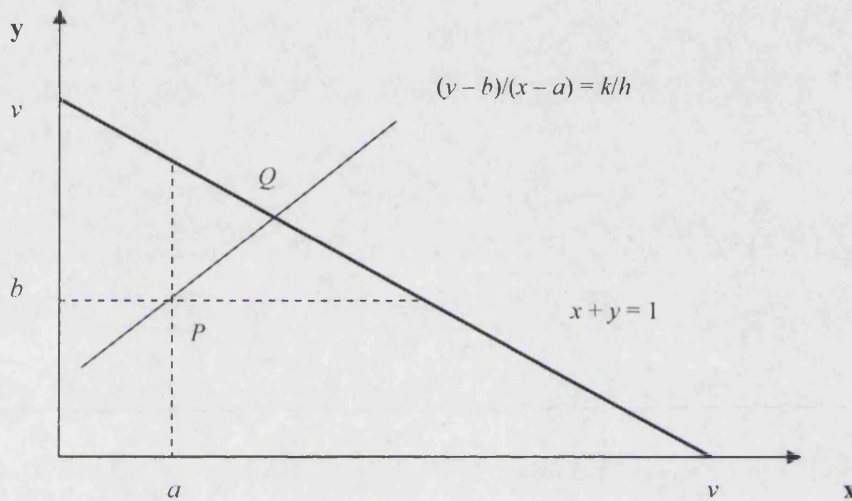
1.1.4 Nash Bargaining Solutions

The final definition covered in this chapter is the Nash bargaining solution and it specifies the outcome of resource allocation (Dixit and Skeath, 2004, Nash, 1950). Imagine two negotiators, A and B, seek to divide the resource pie of a total value v . Negotiators A and B have BATNAs of a and b respectively. Each player is to be given his BATNA plus a share of the surplus, a fraction h of the surplus for A and a fraction k for B, such that $h + k = 1$. Suppose A and B obtain x and y and the surplus ($v - a - b$) gets divided between the two negotiators in the proportions of $h : k$. Also, for all the

³ Unless a negotiation involves only one compatible issue (in which one's interests are perfectly compatible with the other party's), there are no purely integrative negotiations. Even in negotiations with integrative potential, the resource pie created by negotiators eventually has to be sliced.

bargaining surplus to be claimed, x and y must also satisfy $x + y = v$.

Figure 1.1 The Nash Bargaining Solution in the Simplest Case



Source: Figure 1.1 is obtained from Dixit and Skeath (2004), Chapter 16, pg. 525.

Figure 1.1 illustrates an example of the Nash bargaining solution. Point P represents negotiators' BATNAs, with coordinates (a, b) . All points (x, y) that divide the pie in proportions $h : k$ between negotiators lie along the straight line passing through P with gradient k/h . All points (x, y) that use up the entire surplus lie along the straight line joining $(v, 0)$ and $(0, v)$. The intersection point, Q , of these lines is the Nash bargaining solution.

Note that Nash (1950) does not suggest how or why such a solution is obtained. Instead, it is thought of a description of a unique outcome of bargaining process. Also, the theory requires bargains to meet the following four conditions (Morrow, 1994):

- 1) Joint efficiency: The solution must be located on the Pareto-frontier $x + y = 1$.
- 2) Symmetry: If two negotiators have the same utility function, they divide the difference between their BATNAs equally.
- 3) Linear invariance: The solution should be invariant under linear transformations of each negotiator's utility function.
- 4) Independence of irrelevant alternatives: If we remove possible bargains while retaining the solution and the conflict point, the solution should remain unchanged.

Unfortunately, some of these assumptions may be unrealistic. For instance, research on negotiations and decision-making shows that individuals behave irrationally (as opposed to Nash's theory) under experimental conditions as well as in real-life situations (Ariely and Wallsten, 1995, Colman, Pulford and Bolger, in press, Doyle, O'Connor, Reynolds and Bottomley, 1999, Roth and Murnighan, 1982, Straub and Murnighan, 1995). Also, implicit in the Nash bargaining solution's assumptions is that negotiators' utility functions, BATNAs and the amount of surplus to be divided are common knowledge to both players. However, others' BATNAs are not commonly available to negotiators and individual utility is not directly observable (Thompson, 2001, Thompson and Hastie, 1990, von Neumann and Morgenstern, 1947). In real-life negotiations, negotiators may never be certain what the opponent's real interests or BATNAs are and they must count on indirect evidence such as statements and opponents' behaviour. Moreover, the Nash bargaining solution focuses on purely distributive bargaining and the potential of integrative bargaining is neglected.

The simulated negotiation adopted in this thesis is different from the game-theoretic situation in a number of ways. First, along with other research on negotiation (see, for

example, Pinkley *et al.* (1994), Pinkley (1995), and Thompson (1990)), negotiators' preference functions are not made available to opponents. Second, the negotiation task approximates the main characteristics of real-life negotiation, involves multiple issues and contains integrative potential. And, negotiators have different interests across these issues; their preference functions, as opposed to Nash's (1950) assumption, are different from each other's. As a result, negotiators are uncertain of the size of bargaining surplus to be divided. Finally, negotiators under certain experimental conditions do not know their opponents' BATNAs (details to follow in Chapter 3).

1.2 Substance of the Thesis

As stated in the title, this thesis is related to power-asymmetric negotiations. Power can derive from different sources, such as status, position of authority (French and Raven, 1959, Pfeffer, 1992), dependence on others for scarce resources (Emerson, 1962), and/or the quality of BATNA (Fisher and Ury, 1981, Pinkley, Neale and Bennett, 1994). The particular form of negotiators' power considered in this thesis is the quality of BATNA. It is commonly held that the relative quality of one's BATNA reflects the relative power of the negotiator (Nash, 1950, Nash, 1953, Pinkley *et al.*, 1994, Raiffa, 1982). It is, therefore, not surprising that studies on negotiation are replete with theoretical suggestions and prescriptions for ways to realise and improve one's own BATNA prior to negotiations (Lewicki and Litterer, 1985, Thompson, 2001).

In the thesis, I have looked at the specific context of dyadic negotiations where negotiators have asymmetrical BATNAs. Even more specifically, I have focussed on the role of knowledge of BATNA-asymmetries made available to negotiators, when

negotiations involve multiple to-be-negotiated issues and contain integrative potential. To study the role of this knowledge, the current thesis, like many studies on negotiation behaviour (e.g. Pinkley *et al.*, 1994; Pinkley, 1995; Thompson & Hastie, 1990; Thompson, 1991), uses a controlled experimental setting. The rationale for this methodological approach is that it allows for the isolation of identified variables (i.e. knowledge of BATNA-asymmetries) while the influence of other variables “in the wild” can be controlled.

This thesis contains three empirical studies. Study 1 considers how the quality of negotiators’ BATNAs affects their perceptions about the quality of others’ BATNAs. Also, Study 1 examines *whether* knowledge of BATNA-asymmetries changes aspiration levels, the structure of agreements, and the efficiency of outcomes. To anticipate, I find that knowledge of BATNA-asymmetries can have an impact on negotiators’ aspiration, and that it is effective in shaping negotiated outcomes from the perspective of distributive and integrative negotiations (i.e. slicing the pie and expanding the pie). However, this knowledge does not uniformly influence these variables; it depends on the quality of one’s own BATNA relative to the opponent’s.

The second study examines *how* this knowledge affects negotiation dyads’ ability to reach efficient solutions. In particular, I consider communications that take place between negotiation parties, and focus on how the communication mediates the relationship between knowledge of BATNA-asymmetries and agreement efficiency.

Extending the findings from the first two empirical studies, Study 3 focuses on *why* knowledge influences dyads’ ability to reach efficient solutions. Given that the impact

of knowledge of BATNA-asymmetries, when given to negotiators with a relatively attractive BATNA and those with an unattractive BATNA, is very different, I argue that the mechanisms involve different routes to result in agreements with different degrees of efficiency.

1.3 Structure of the Thesis

The thesis can be divided into three main parts.

Part I explores the literature concerned with the substantive and conceptual topics of the thesis (Chapter 2). Four areas have been covered. In the first of these, **Perceptions of Opponents' Positions**, I review the literature on negotiators' perceptions about their opponents. The second section, **Aspiration Levels**, describes the importance of negotiators' aspiration to the structure of final outcomes. Specifically, empirical studies considering the association between BATNAs and aspiration levels in the context of BATNA-asymmetric negotiations are discussed. In the third section, **Bargaining Strength**, I review some of the major research on the relationship between the quality of BATNAs and negotiators' bargaining strength (i.e. slicing the resource pie). In the final section, **Agreement Efficiency**, I consider the diverse literature around agreement efficiency in the context of BATNA-asymmetric negotiations, discussing both empirical findings and limitations in the existing studies.

In Part II, the three experimental studies in the thesis are presented (in Chapter 3 – 5 respectively). For each study, I first state my research questions and discuss the set-up of testing hypotheses. Then, I detail and justify the research design, including the

choice of data type and explain the analytic approach. At the end of each experimental study, a detailed discussion is presented, including a brief summary of results and their meanings, answers to the research questions addressed, and questions that remain unanswered.

Part III: Conclusions, Implications of Findings, Contribution to Knowledge, Limitations, and Suggestions for Future Research: summaries the results and then presents them as an integrated whole; considers what the results might imply for scholars and practitioners; discusses contribution to knowledge of the current thesis and limitations of findings, and suggests possible further studies building on the empirical findings from the thesis.

Part I – Literature Review

Chapter Two

Literature Review of Research on BATNA-Asymmetric Negotiations

Chapter Two – Literature Review of Research on BATNA-Asymmetric Negotiations

The use of BATNA is among the most fundamental aspect of negotiations. It is seldom the case that both parties in a negotiation have equal BATNAs other than in the laboratory. In most bargaining situations, negotiators' BATNAs are different in terms of quality and attractiveness. Also, it is common that negotiators do not have knowledge of their opponents' position. Assumptions that negotiators have equal BATNAs and that they have complete knowledge about negotiation situations entail a significant loss of generality. It is not surprising, therefore, that the study of negotiation behaviour has begun to examine the effects of BATNA-asymmetries on negotiated outcomes (Brett, Pinkley and Jackofsky, 1996, Mannix and Neale, 1993, Pinkley, 1995, Pinkley *et al.*, 1994, Roloff and Dailey, 1987) and how knowledge of opponents' situation shapes negotiations (Roth and Malouf, 1979, Roth, Malouf and Murnighan, 1981, Roth and Murnighan, 1982, Thompson, 1990b, Thompson and Hastie, 1990, Thompson, 1991). What is surprising is that research on BATNA-asymmetries and knowledge about opponents' positions has seemed to proceed independently.

The next section will give a quick review of prior research on BATNA-asymmetric bargaining situations. Although the research discussed is one step removed from the specific research questions that will be later discussed in the thesis, it is still worth considering what has been investigated in the existing negotiation literatures and how research on BATNA-asymmetric negotiations has developed, in order to provide

context. The review is divided into two parts: (1) *structured* negotiation and (2) *unstructured* negotiation.

In structured negotiation, the details of how the negotiation proceeds (i.e. the type of messages negotiators can send, the order in which they make offers, and so forth) are specified by the experimenter. In unstructured negotiation, the details of the procedure are left up to the negotiators. Structured experiments have the advantage of enabling an observer to predict what bargaining outcomes might occur from theories of non-cooperative equilibrium behaviour. Unstructured negotiation tells us what results when negotiators are free to invent their own rules, and is arguably a better model of naturally occurring bargaining (Camerer, 2003).

Structured Negotiation

In two Rubinstein-Stahl alternating-offer bargaining games, a fixed amount of surplus is to be divided between two players, players 1 and 2: one player makes an offer which the other decides to either accept or reject (Rubinstein, 1982). In both games, player 2 is given an opportunity of quitting the game permanently; in this event he will obtain a fixed BATNA payoff (or outside option payoff) (less than the amount of the surplus to be divided), while player 1 will receive a zero payoff (Binmore, Rubinstein and Wolinsky, 1986, Binmore, Shaked and Sutton, 1989, Camerer, 2003, Osborne and Rubinstein, 1990). Note that both players are given complete information about the amount of surplus and player 2's BATNA and all the information is common knowledge.

These two games differ in the times at which player 2 is allowed to quit. In the first model, player 2 can take up his BATNA only after he has rejected an offer, whereas he can opt out only after player 1 has rejected an offer in the second model. Binmore *et al.* (1989) show that when the BATNA is binding (the BATNA payoff is greater than what the player could otherwise acquire in the absence of the BATNA), player 2 in the first game accepts an offer that simply matches his BATNA. When the BATNA is not binding, the presence of the BATNA does not affect player 2's payoff and it coincides with the subgame perfect equilibrium of the game in which player 2 has no BATNA. In the second model, when the BATNA is not binding, it has no effect on the outcomes. If the BATNA is binding, the result obtained is quite different from that in the first model (Osborne and Rubinstein, 1990). There are equilibria in which player 2 receives a payoff that exceeds the value of his BATNA.

Osborne and Rubinstein (1990) argue that in the first model player 2 may not make take-it-or-leave-it offers, but in the second model he may make credible threat and that player 2 is in a stronger position in the second model than in the first. In light of the different results from these two models, it is construed that the assumption that only the responder can opt out loses generality.

As we have so far discussed, the focus is on the competitive aspect of negotiations – distributive bargaining. An integrative agreement is made impossible to achieve in these studies, although most real-life negotiation contains both distributive and integrative elements (Bazerman and Neale, 1983, Pinkley *et al.*, 1995, Raiffa, 1982, Thompson, 2001). Bargaining games of alternating offers may not capture the main

characteristics of real-life negotiation. Also, common knowledge is assumed in the research mentioned above. For instance, the size of the resource pie to be divided, which player has a BATNA, and the BATNA payoffs are known to both players. Next, the discussion will consider research on unstructured negotiations in which some of these assumptions are relaxed.

Unstructured Negotiation

A large body of psychological research on negotiation has begun to consider situations where negotiators have different power or BATNAs (Anderson and Thompson, 2004, Giebels, De Dreu and Van De Vliert, 2000, Kim and Fragale, 2005, Kray, Reb, Galinsky and Thompson, 2004, Magee, Galinsky and Gruenfeld, 2007, Pinkley, 1995, Pinkley *et al.*, 1994, Roloff and Dailey, 1987, Van Kleef, De Dreu, Pietroni and Manstead, 2006, Wolfe and McGinn, 2005). The researchers adopt simulated negotiation games in which negotiators can freely communicate with their opponents and how the negotiation proceeds is left up to negotiators. This freer setting allows for examinations of how the factor(s) considered (i.e. different operationalisations of power, negotiators' emotion and social motive) affects negotiators' behaviour and outcomes in power-asymmetric negotiations. Below is a brief review of issues addressed in psychological experimental literatures.

Kim and Fragale (2005) consider different forms of power – one's BATNA and contribution (i.e. contributing more to the relationship than one's counterpart) – and examine which has an impact on negotiators' value-claiming power in purely

distributive negotiations. Their impacts on resource allocations vary, depending on the size of the resource pie (small or large). When the resource pie is small, BATNAs exert a stronger effect on resource allocations than contributions. In contrast, when the pie is large a benefit in contributions exerts a stronger impact on resource allocations than BATNAs.

Apart from the effect of one's power advantage on negotiated outcomes, work has been conducted to consider the importance of powerful negotiators' emotion or affect in power-asymmetric negotiations. Van Kleef *et al.* (2006) focus on distributive negotiations and examine the relationship between negotiators' emotion and concession making. They find that low-power negotiators concede more to their powerful *angry* counterparts than to happy ones, but high-power negotiators are not affected by counterparts' emotion. Moreover, the findings show that different forms of power (i.e. BATNA and number of alternatives) yield the same pattern of results. Anderson and Thompson (2004) investigate how the positive affect of powerful negotiators shapes the development of efficient agreements in settings other than distributive negotiations. They suggest that powerful individuals' positive affect is a better predictor of whether dyads search for and reach efficient outcomes than the positive affect of less powerful negotiators. Further, the results suggest that the relationship between powerful negotiators' positive affect and integrative outcomes was partly due to the mutual trust it fostered. These studies have provided a fuller understanding of how negotiators' affect shapes distributive and integrative outcomes.

Most of the studies discussed consider situations where one of the negotiation parties

has an existing power advantage. Giebels *et al.* (2000) create *phantom* power-asymmetries between negotiators by giving only one of them an opportunity to negotiate with someone else. They address the importance of a social motive that negotiators bring to the bargaining table in power-asymmetric negotiations. With an egoistic (maximising own outcomes) rather than prosocial (considering both own and the other's outcomes) motive, dyads with a one-sided exit option engaged in more distributive and less integrative behaviour and as a result reached less efficient outcomes than those having either two-sided or no exit options.

An assumption of complete knowledge about others' power status was also made in the majority of the studies discussed (Binmore *et al.*, 1989, Giebels *et al.*, 2000, Kim and Fragale, 2005, Magee *et al.*, 2007, Osborne and Rubinstein, 1990, Van Kleef *et al.*, 2006); only Anderson and Thompson (2004) did not make knowledge of power-asymmetries available to negotiators. As a result, it is difficult for us to predict whether the pattern of results remains the same if this assumption is relaxed. More importantly, the assumption of complete knowledge may entail a significant loss of generality. In this thesis, it is argued that knowledge of BATNA-asymmetries may be an important focus in research on negotiations.

The research presented in this thesis will examine the importance of knowledge of BATNA-asymmetries to the structure of negotiated outcomes in BATNA-asymmetric negotiations. Specifically, it will consider whether this knowledge, when given to different members of the dyad, affects both distributive and integrative negotiations. In this thesis, negotiators with a more attractive BATNA will be referred as to **strong**

negotiators, and those with a less attractive BATNA will be referred as to **weak** negotiators.

Before proceeding to the research questions, this chapter will provide a review of prior work that addressed knowledge of opponents' situations and BATNA-asymmetries. This will help us recognise gaps in the existing research on BATNA-asymmetric negotiations. This chapter will cover four different areas. The first two regard pre-negotiation parameters that have been shown to have substantial impact on negotiated outcomes: (1) negotiators' perceptions about opponents' positions and (2) negotiators' aspiration levels. The other two areas covered are (3) distributive negotiation and (4) integrative negotiation.

2.1 Formation of Negotiators' Perceptions about Opponents

It is common that information regarding opponents' positions is not available to negotiators. Negotiators often have their own expectations about opponents before beginning negotiations, for example, opponents' payoff structure, interests, BATNA, etc. Given this lack of common knowledge we are left to wonder how negotiators' expectations of the other's position are formed. Experimental psychological and economic literature addressing the importance of information about opponents may be helpful in shedding light on this issue (Roth and Malouf, 1979, Roth *et al.*, 1981, Thompson and Hastie, 1990).

Roth and Malouf (1979) use a class of 'binary lottery games' in which players bargain over the distribution of lottery tickets that determine the probability of each player winning his personal lottery, to investigate negotiators' perceptions. For example, two players, who agree to a 35-65 division of 100 tickets, would have a 35% and 65% chance, respectively, of winning their personal lotteries. In some cases, both players stand to receive \$1 while in other cases some players stand to receive \$3.75 and others only \$1.25. When prizes vary, information significantly affects the division of tickets. Players with partial information (knowledge of their own prize only) generally split the tickets equally, although they have different prizes. In contrast, players with full information (knowledge of both prizes) tend to make an agreement that gives equal expected value for both players. Roth and Malouf (1979) suggest that when no information about opponents' prize is available to players, they tend to assume that their opponents have the same prize.

Another stream of research considers how negotiators' expectations about opponents are formed when negotiations involve multiple issues and contain potential for integrative agreements (Raiffa, 1982, Thompson, 1990b, Thompson and Hastie, 1990, Thompson, 1991). Essentially, Thompson (1990) and Thompson & Hastie (1990) have examined negotiators' perceptions of their opponents' preferences. These studies show that when no information about opponents is available, negotiators often assume that the other party's intensity of preferences across issues is the same as their own and that others' interests within issues are completely opposed to their own within issues.

Together, these findings are consistent with Thompson & Hastie's (1990) 'projection hypothesis' – negotiators tend to base their perceptions of others on their own situations. In other words, when negotiators are in different situations to their opponents (i.e. different preferences or different prizes), their estimations about opponents tend to be inaccurate. Knowledge of opponents' positions is therefore of great importance. On the other hand, when negotiators have the same preferences or prizes as their opponents, knowledge about others may matter little.

Knowledge of opponents' BATNAs is probably the most important information negotiators can have in a negotiation, but it is rare that opponents will reveal their BATNAs. In order to reach advantageous outcomes, negotiators should spend a lot of time and effort to find out about others' BATNAs prior to negotiations. For example, when purchasing houses, they should obtain information about the nature of the market, which can be used to determine the sellers' BATNAs. However, most negotiators underresearch their opponents' BATNAs (Thompson, 2001). And, we know very little

about how negotiators' perceptions about others' BATNAs are formed in BATNA-imbalanced negotiations. Does the quality of negotiators' BATNAs affect their perceptions of the quality of opponents' BATNAs? More research is necessary to address this issue, and this will be examined in Study 1 (Chapter Three).

2.2 BATNA-Asymmetries and Aspiration

Apart from estimating opponents' BATNAs, negotiators usually identify their *aspiration levels* prior to negotiations. A number of studies have emphasised the importance of negotiators' aspirations and they have been shown to have an impact on initial offers and rates of concession, thus affecting the structure of negotiation outcomes. In particular, negotiators with high aspirations generally make higher demands from their opponents and tend to be less willing to concede (Brodt, 1994, Cummings and Harnett, 1969, Hamner and Harnett, 1975). As a result, they end up with more of the pie and greater profits than those with low aspirations (Hamner and Harnett, 1975, Thompson, 1995).

Given the importance of aspiration to the structure of negotiated outcomes, research on BATNA-asymmetric negotiations has examined the impact of the quality of negotiators' BATNAs on their aspiration levels (Pinkley *et al.*, 1994). Three different levels of BATNAs (High, Low and No BATNA) were considered. Pinkley *et al.* (1994) showed that negotiators with high BATNAs (i.e. worth more than a compromise solution) reported higher aspirations than those with low (i.e. worth less than a compromise solution) or no BATNAs, but there was no difference between negotiators with low BATNAs and those with no BATNAs. Note that these findings indicate that a 'strong BATNA' increases aspiration levels. In other words, it assumes that a strong BATNA is defined in absolute terms. However, when BATNAs are in the low level, they have no impact on negotiators' aspiration levels.

It is widely held that the relative quality of the BATNA available to a negotiator reflects the relative power of the negotiator (Lewicki and Litterer, 1985, Raiffa, 1982). It is, however, unclear as to why the relative strength of a BATNA does not affect negotiators' aspiration. As suggested, we are uncertain in BATNA-imbalanced negotiations how negotiators' perceptions of the other's BATNA are formed, and whether their perceptions follow Thompson & Hastie's (1990) projection hypothesis. It is worth considering whether knowledge of BATNA-asymmetries influences negotiators' aspiration levels. Such a relationship has not been explored in past research and will be addressed in this thesis.

2.3 BATNA-Asymmetries and Bargaining Strength

Central to the discussion below is an explanation of why, in the context of BATNA-asymmetric negotiations, possessing a relatively attractive BATNA has been thought of as a source of power. Also, the discussion focuses on literatures that address how negotiators' BATNAs affect their bargaining strength and individual outcomes they attain. Then, I will show that the impact of BATNA-asymmetries on bargaining strength may be associated with other mediating factors.

2.3.1 Defining Power and BATNA vs. Bargaining Strength

In accordance with most theorists, I view power as an interactive function of the forces mobilised by the negotiating parties (Anderson and Thompson, 2004, Emerson, 1962, Mannix, 1993). Simply put, power is a relational variable, in that negotiators' power can be understood only in relation to their opponents'. Mannix (1993) shows that power in social exchange relationships may be broadly defined as the inverse of dependence. Specifically, the more dependent negotiators are on opponents for their outcomes and the more negotiators value those outcomes, the more power their opponents have over them.

Fisher & Ury (1981) contend that the value of a negotiator's BATNA is a source of power, from which theoretical and empirical attention has been drawn. The possession of an attractive BATNA not only protects one from a poor agreement but also helps generate a good agreement (Fisher and Ury, 1981). As a result, when negotiators have

different BATNAs, strong negotiators are often considered to have greater bargaining strength over their weaker counterparts, given that reaching a deal requires a mutual agreement and that weak negotiators have a greater reliance on the existing negotiation to obtain favourable profits (Fisher and Ury, 1981, Lewicki and Litterer, 1985, Pinkley, 1995, Pinkley *et al.*, 1994, Raiffa, 1982). This is because their better quality of BATNA is converted into a higher portion of the bargaining surplus (Komorita and Leung, 1985, Pinkley *et al.*, 1994). Magee *et al.* (2007) focus on how the possession of a better BATNA changes negotiators' intention to make the first offer in BATNA-asymmetric negotiations. In particular, it was found that strong negotiators are more likely than weak negotiators to make the first offer and making the first offer produced a bargaining advantage.

Other than the existing psychological literatures, economic theory has also looked into this problem by specifying how negotiators should divide the resource pie (Nash, 1950, Nash, 1953). As discussed in section 1.1.4, Nash's bargaining theory makes a specific point prediction of the outcome of negotiation, the **Nash solution**, which specifies the outcome of a negotiation provided that negotiators are rational. This theory suggests that if negotiators have unequal BATNAs (or outside options), the proportion of surplus they receive is predicted to be the ratio of their BATNA to the sum of both parties' BATNAs (Camerer, 2003).

However, it is suspected that possessing a relatively attractive BATNA is necessary but not sufficient for improvements in claiming negotiation surplus, and there are broader questions that concern the generality of the greater bargaining strength of strong

negotiators. Strong negotiators may not always do better, as defined by payoffs, than their weaker counterparts.

Evidence can be found in a study that examines the impact of an attractive BATNA on negotiators' bargaining strength (Pinkley, 1995). The author adopted a job contract negotiation between a recruiter and candidate. Recruiters were randomly assigned to one of the two BATNA conditions – BATNA or no BATNA. Candidates did not have a BATNA under any conditions. Bargaining strength of recruiters was measured by individual payoffs that they received. The author compared the difference in recruiters' bargaining strength between 'BATNA' and 'no BATNA' conditions. However, the effect of an attractive BATNA on recruiters' payoff was found to be insignificant. The results indicated that possessing a good BATNA does not seem to give recruiters the advantage to obtain higher individual outcomes.

This could mean that an attractive BATNA does not increase negotiators' bargaining strength, but this may be due to the fact that absolute payoffs may not truly reflect negotiators' actual bargaining strength – the ability to claim bargaining surplus. For instance, if the size of the resource pie is different across conditions, the same amount of individual payoffs may not represent the same bargaining strength.

Instead, I looked at Pinkley's (1995) empirical data with a different perspective. I have calculated the distribution of the resource pie to negotiators (in percentages) for different experimental conditions as a measurement of their bargaining strength. The empirical data indicated that when recruiters were assigned an attractive BATNA, they

did not appear to claim a significantly higher proportion of bargaining surplus than when they lacked an attractive BATNA. This suggests that the possession of an attractive BATNA alone is not sufficient to increase negotiators' bargaining strength *vis-à-vis* their opponents.

In short, previous empirical research has provided mixed results on whether an attractive BATNA leads to greater bargaining strength, garnering a larger size of the resource pie. These findings beg the question: under what circumstances would strong negotiators outperform their weaker opponents? It may be that strong negotiators' bargaining strength is mediated by other factors. This question will be addressed in Study 1 (Chapter Three).

2.4 BATNA-Asymmetries and Negotiation Efficiency

Previously, this chapter has centred on studies that addressed the relationship between BATNA-asymmetries and distributive negotiation – claiming values. Here the focus is on the research that addressed the impact of BATNA-asymmetries on negotiation efficiency – creating values. The following section: (1) examines past findings regarding the relationship between BATNA-asymmetries and efficiency; (2) describes past attempts that considered the process by which this occurs; (3) discusses limitations in these studies; and finally (4) suggests questions that remain unanswered.

Studies have shown that BATNA-asymmetries can have an impact on agreement efficiency (Pinkley, 1995, Pinkley *et al.*, 1994, Roloff and Dailey, 1987). Specifically, Pinkley *et al.* (1994) and Roloff & Dailey (1987) have found that negotiation dyads with unequal BATNAs reach more efficient agreements than those with equal BATNAs.

When studies find that settlements between negotiators with unequal BATNAs are more efficient – they compare them to negotiations where BATNAs are equal. Thus, one place to begin to explain the finding would be to speculate as to why equal BATNAs create relatively inefficient outcomes. Negotiators with attractive BATNAs more often walk away from negotiations than those with less attractive BATNAs. This is because the amount of surplus available through a negotiation is likely to be relatively small for negotiators with very good outside alternatives. In the case of both negotiators having very attractive BATNAs, impasses should be even more common.

On the other hand, when both parties have equally poor or mid-level BATNAs, they are likely to settle quickly on a sub-optimal outcome that provides a ‘fair’ share to each party. As neither negotiator has any objective basis for demanding a larger share, there is no external incentive to look for better and more efficient solutions.

In addition to reasons why equal BATNAs create relatively inefficient agreements, we need to explore reasons why efficiency is found to be greater in situations of unequal BATNAs and define the conditions under which the increased efficiency occurs. Two experimental psychological studies – one by Pinkley (1995) and the other by Roloff and Dailey (1987) – have attempted to address these research questions, and they are in direct contradiction with each other. Specifically, both of these studies explain why there is an increase in agreement efficiency in BATNA-imbalanced negotiations by reference to which party (weak or strong negotiator) is ‘responsible’ for this. The assignation of responsibility to one party can be questioned. It is unclear whether responsibility can be assigned to only *one* negotiator. In negotiations, parties make mutual decisions rather than acting unilaterally to determine outcomes. Despite the debateable use of ‘responsibility’, Pinkley’s (1995) and Roloff & Dailey’s (1987) work is still useful and gives some insight. I will attempt to clarify what they mean by responsibility and each of these explanations is described below.

Roloff and Dailey

Roloff and Dailey (1987) argue that weak negotiators are under pressure and must develop creative solutions in order to make the negotiated settlement more appealing

than their opponents' already attractive BATNAs and, yet, not transfer the entire bargaining surplus to their opponents. As a result, this can improve dyads' ability to find and make integrative trade-offs, which will in turn increase the efficiency of agreements (Roloff and Dailey, 1987).

Pinkley

In contrast, Pinkley (1995) argues that the existence of an attractive BATNA may give strong negotiators more freedom to find creative ways to expand the resource pie (Pinkley, 1995). This leads to an improvement in dyads' ability to create joint benefit for both parties. Each approach is backed by some experimental findings of the respective authors, but due to the limitations in their experimental designs, the explanations remain confounded.

2.4.1 Roloff & Dailey's Design and Limitations

Roloff & Dailey (1987) provide a first look at whether relative BATNA-asymmetries affect negotiation efficiency and why dyads with asymmetric BATNAs reached more efficient agreements. However, this study is not free from limitations. There are two main problems in Roloff and Dailey's (1987) design that makes the findings problematic. The first problem is embedded in their operationalisation of BATNA. Participants assigned to the 'No BATNA' condition were given no alternative to the current negotiation, so they would receive zero points in the case of an impasse. In contrast, those in the 'BATNA' condition were given a BATNA worth 2,150 points. However, negotiators in both conditions were instructed to obtain a minimum of 2,200 points from the negotiation for them to agree to a settlement. The authors failed to separate negotiators' BATNAs from their reservation point – a point where negotiators are indifferent between reaching a deal and walking away from the negotiation (Thompson, 2001).

This can be problematic. The manipulated BATNA was a very poor alternative, since it generated points below the minimum number subjects were required to reach an agreement in the current negotiation. Moreover, the result of a pure compromise strategy (i.e. settling at mid-point for each issue) was only worth 2,000 points to each negotiator, thus excluding compromise solution as a viable outcome if the subjects were to meet their assigned minimally acceptable profit figure. As a result, this study did not allow negotiators freedom to use the whole gamut of negotiation strategies.

The second issue regards the generalisation of their explanation about why outcomes with greater efficiency were reached by dyads with asymmetric BATNAs. The explanation was based on the finding that in BATNA-imbalanced negotiations, weak negotiators were more willing to settle for an agreement than strong negotiators. Unfortunately, this finding does not necessarily mean that weak negotiators were under pressure to find efficient agreements. Also, the authors failed to specify the condition under which weak negotiators' increased pressure would occur. These limitations in Roloff & Dailey's (1987) research undermine the plausibility of their explanation and it remains conjecture at this stage.

2.4.2 Pinkley's Design and Limitations

Pinkley (1995) tested both explanations of why BATNA-asymmetries lead to agreement efficiency: (1) Strong Negotiators' Freedom and (2) Weak Negotiators' Pressure. In essence, the author suggested that possessing a relatively attractive BATNA provides strong negotiators with freedom and that knowledge of opponents' BATNA fosters weak negotiators' incentive to find creative solutions. This allowed for examination of which of these factors contributes to producing documented patterns regarding dyads' ability to find efficient agreements. Again, the design of this study is not limit free. Before understanding the limits of Pinkley's (1995) experimental results, it is necessary to first discuss the experimental design and some of the major findings in some details.

Pinkley (1995) focused on dyadic bargaining situations where negotiators may have

very different BATNAs. Strong negotiators' BATNAs were worth 4,500 points whereas those assigned to the role of weak negotiators would receive 0 points in the case of an impasse. The maximum possible surplus was 13,200 points. A compromise solution (settling at the midpoint for each issue) was worth 2,400 points. To provide tests of both Pinkley's (1995) and Roloff & Dailey's (1987) explanations, information regarding strong negotiators' BATNAs was manipulated in two ways. First, strong negotiators were either informed (**strong negotiators' knowledge**) or not informed (**no strong negotiators' knowledge**) of their own BATNAs. Note that strong negotiators in the latter condition were unaware of the existence of an attractive BATNA and they would behave as if they did not have one (i.e. accepting any deals that were worth more than 0 points). This resulted in an equal-BATNA situation and allowed for examination of the impact of strong negotiators' attractive BATNA on efficiency. Secondly, weak negotiators were either informed (**opponents' knowledge**) or not informed (**no opponents' knowledge**) of strong negotiators' BATNAs. The combination of these manipulations resulted in a 2x2 factorial design⁴.

⁴ When assessing the effect of strong negotiators' knowledge about their own BATNAs, both 'no strong negotiators' knowledge' conditions were combined as a control group. When examining the impact of opponents' knowledge, both 'no opponents' knowledge' conditions were combined as a control group.

Table 2.1 Experimental Results from Pinkley’s (1995) study

Outcome Measure	Strong Negotiators’ Knowledge (Strong negotiators know their actual BATNAs)		No Strong Negotiators’ knowledge (Strong negotiators did not know their actual BATNAs)	
	Opponents’ knowledge	No Opponents’ knowledge	Opponents’ knowledge	No Opponents’ knowledge
	Joint gain	11,134	10,989	9,508

Note. This table is obtained from Pinkley’s (1995) paper, pg. 409. Joint profits were used to measure agreement efficiency – higher joint profits indicated higher agreement efficiency.

Table 2.1 reports some of the major findings: A significant main effect for strong negotiators’ knowledge was found on negotiators’ joint gain. Joint gain was found to be greater when strong negotiators were informed of their actual BATNA than when they were not ($M = 11,063$ vs. $M = 10,010$). In contrast, no impact of opponents’ knowledge about strong negotiators’ BATNAs on joint outcomes was found.

As a result, Pinkley (1995) concluded that strong negotiators’ recognition of their own BATNAs is necessary and sufficient to produce an increase in agreement efficiency. This is consistent with the explanation that the existence of an attractive BATNA may give strong negotiators the freedom to signal relevant information and find creative ways to expand the resource pie. On the other hand, the author ruled out Roloff & Dailey’s (1987) explanation that weak negotiators were under pressure to create efficient solutions, since providing them with information about their stronger counterparts’ BATNAs did not appear to substantially improve dyads’ ability to seek efficient agreements.

However, Pinkley's (1995) design has two general problems that render these findings questionable. The first problem is that the findings may be due to an experimental artefact. The second problem concerns the manipulation of opponents' knowledge about strong negotiators' attractive BATNAs. I will now describe these two problems in some details.

Level of Strong Negotiators' Attractive BATNAs

As stated before, the value of strong negotiators' BATNAs was worth 4,500 points to them whereas a compromise solution only generated 2,400 points. This means that the compromise solution was excluded as a viable outcome in Pinkley's (1995) study. This may be problematic. A large body of research on negotiations shows that negotiators often settle for sub-optimal agreements (e.g. settling at the mid-point for each issue) because they are apparent to negotiators, even when there are other agreements that make both parties better off (Pinkley *et al.*, 1995, Thompson, 1990a, Thompson and Hastie, 1990, Thompson, 1991). Central to Pinkley's (1995) study was an exploration of why dyads with unequal BATNAs were more capable of reaching efficient agreements than those with equal BATNAs, even though the compromise solution was a feasible outcome. Therefore, the compromise solution should be considered a possible outcome in Pinkley's (1995) study.

The finding that strong negotiators' recognition of their own BATNAs leads to efficient agreements may be an experimental artefact. This observed increase in efficiency may not be due to their higher freedom to find creative ways to expand the resource pie.

Rather, it may be that strong negotiators could not accept the compromise solution and that they had to make trade-off across issues to some degree in order to provide them with sufficient surplus that was more appealing than their own BATNAs.

Manipulations of Opponents' Knowledge

Weak negotiators were provided with information about strong negotiators' BATNA in two of the experimental conditions – 'no strong negotiators' knowledge and opponents' knowledge' condition and 'strong negotiators' knowledge and opponents' knowledge' condition. However, manipulations of opponents' knowledge in these conditions were problematic. First, under 'no strong negotiators' knowledge and opponents' knowledge' condition (see Table 2.1) strong negotiators did not know that they had an attractive BATNA whereas weak negotiators were informed that their stronger counterparts had an attractive BATNA. Note that weak negotiators under this condition were clearly instructed not to disclose any information about strong negotiators' BATNAs and were told that the individual with whom they were about to negotiate did not know that s/he had an attractive BATNA. This instruction suggested that strong negotiators would be willing to accept any agreement that gave them positive surplus. Given the fact that strong negotiators did not even know their actual BATNAs, weak negotiators could then easily and freely disguise themselves as a high-BATNA member of the dyad. The effect of BATNA-asymmetries would therefore be severely reduced. In addition, the freedom given to weak negotiators to misrepresent their BATNAs (position) could lead to a more competitive situation and more inefficient agreements.

On a more important point, weak negotiators under this condition may have been under little or no pressure to find or create efficient agreements, in order to keep their stronger counterparts at the table – that is, to avoid a failure to reach agreements. Therefore, it is likely that the manipulation of opponents' knowledge would not be effective as intended. It is speculated that weak negotiators' certainty about strong negotiators not knowing their own BATNAs accounts for the low agreement efficiency in 'no strong negotiators' knowledge and opponents' knowledge' condition (see Table 2.1).

This logic can be extended and generalised. When it is common knowledge that strong negotiators do not know both BATNAs, then weak negotiators are free to make any assertion about their own BATNAs without fear of contradiction. That is, *weak negotiators, when knowing that strong negotiators only know their own BATNAs, are free to behave in precisely the same way (or any other way) as their stronger counterparts.*

Second, in the 'strong negotiators' knowledge and opponents' knowledge' condition, both strong and weak negotiators knew that strong negotiators had an attractive BATNA. This information available to weak negotiators was not given directly by the experimenter. Rather, strong negotiators were instructed by the experimenter to tell opponents the value of their own BATNAs. The credibility of this information may therefore be rendered doubtful and weak negotiators may regard this information as invalid, which may in turn affect their incentive to search for efficient agreements. In other words, when this information was provided by strong negotiators themselves, it may not be as powerful as when it was given directly by an impartial third party such as

the experimenter. As a result, in both ‘opponent knowledge’ conditions this manipulation may be less effective in creating pressure on weak negotiators than intended.

2.4.3 Implications of Pinkley’s (1995) Limitations

There are two main implications of the limitations in Pinkley’s (1995) experimental design. First, we are unable to conclude that Roloff & Dailey’s (1987) explanation – weak negotiators’ knowledge of BATNA-asymmetries leads to more efficient outcomes – was incorrect, because the findings were confounded. As argued above, the confounding variables were: (1) their uncertainty about whether their BATNAs have been revealed to strong negotiators, and (2) the source of information of BATNA-asymmetries. To test Roloff & Dailey’s (1987) explanation, the confounding variables need to be addressed.

The second implication is that strong negotiators’ realisation of their attractive BATNAs might not lead to efficient agreements as Pinkley (1995) suggested due to the possible experimental artefact and problematic manipulations of opponents’ knowledge. Since the manipulations of opponents’ knowledge in Pinkley’s (1995) study are contentious, it is necessary to re-examine the impact of the existence of an attractive BATNA on agreement efficiency with ‘opponent knowledge’ conditions removed. That is, the attention is confined only to ‘strong negotiators’ knowledge and no opponents’ knowledge’ condition and ‘no strong negotiators’ knowledge and no opponents’

knowledge’ condition (see Table 2.2)⁵. If Pinkley (1995) was correct that possessing an attractive BATNA alone gives strong negotiators the freedom to find creative ways to expand the resource pie, then joint gains in both conditions should be significantly different.

Table 2.2 Main Findings in Pinkley’s (1995) study (Opponents’ Knowledge Conditions Removed)

Outcome Measure	Strong Negotiators’ Knowledge (Strong negotiators know their actual BATNA)	No Strong Negotiators’ knowledge (Strong negotiators did not know their actual BATNA)
Joint gain	10,989	10,468

Note. This data is obtained from Pinkley (1995) paper, pg. 409

Table 2.2 illustrates the effect of strong negotiators’ knowledge about their own BATNAs on agreement efficiency. The difference in joint gains between these two groups was about 500 points; however, when ‘opponent knowledge’ conditions were included the difference in joint gains was over 1,000 points (see Table 2.1). Clearly, the effect size of strong negotiators’ possession of an attractive BATNA was reduced when dropping both ‘opponent knowledge’ conditions. It is uncertain whether this effect would have been statistically significant. This indicates that strong negotiators’ knowledge of their own BATNAs alone may not improve dyads’ ability to search for efficient outcomes.

⁵ Under ‘no strong negotiators’ knowledge’ condition, strong negotiators did not know that they had an attractive BATNA. As a result, negotiation dyads in this condition should be considered to have equal BATNAs.

Evidence of this conjecture can be found in another study considering the impact of BATNA-asymmetries on integrative negotiations (Brett *et al.*, 1996). They adopted Pinkley's (1995) negotiation simulation in their study. In the control group, neither party was provided with a BATNA, whereas in another condition, one member of the dyad was given an attractive BATNA. This results in a comparison between dyads with unequal BATNAs and those with equal BATNAs. In support of the assertion above, it was found that when negotiators know only their own BATNAs, dyads with unequal BATNAs were not able to reach agreement with greater efficiency than those with equal BATNAs.

2.4.4 Importance of Interpersonal BATNA Comparisons

Both Pinkley (1995) and Brett *et al.* (1996) showed that only providing one member of the dyad with an attractive BATNA could not improve the dyads' ability to reach efficient agreements. This could mean that Pinkley's (1995) explanation that possessing an attractive BATNA gives strong negotiators enough freedom to find creative ways to expand the resource pie was incorrect. One possibility is that the possession of an attractive BATNA is necessary but not sufficient to grant strong negotiators this freedom, and more may be needed.

Note that negotiators were asked not to reveal their BATNAs to opponents and that knowledge of BATNA-asymmetries was never revealed to strong negotiators under any conditions in Pinkley's (1995) and Brett *et al.*'s (1996) experimental design. It is expected that weak negotiators would often make no mention of their BATNA status,

particularly when they knew that their BATNAs were less attractive than strong negotiators'. On the other hand, other studies that suggest BATNA-asymmetries improve agreement efficiency did not make such a restriction (Pinkley *et al.*, 1994, Roloff and Dailey, 1987). So, not informing strong negotiators of BATNA-asymmetries, they were unable to make any interpersonal BATNA comparisons. In order to further explore the effect of knowledge of BATNA-asymmetries, Pinkley's (1995) hypothesis about the development of efficient agreements needs refining. It is possible that knowledge of BATNA-asymmetries is essential to provide strong negotiators with the freedom required for reaching efficient agreements, because it allows for interpersonal BATNA comparisons.

At this stage, it is still uncertain as to why dyads with asymmetric BATNAs reach more efficient agreements. As described above, it would be useful to know whose knowledge of BATNA-asymmetries can have an impact on agreement efficiency. This will allow for examination of Roloff & Dailey's (1987) hypothesis and Pinkley's (1995) refined hypothesis, addressed in Study 1 (Chapter Three).

2.5 Summary of Literature Review

The existing literature review on BATNA-asymmetric negotiations has focused on four different aspects: (1) negotiators' perceptions about others, (2) aspiration levels, (3) bargaining strength, and (4) agreement efficiency. First, it is known that negotiators tend to base their perceptions about opponents' situations on their own (Thompson and Hastie, 1990). Also, it is clear that negotiators' aspiration can have an impact on the structure of outcomes (Thompson, 1995) and the quality of BATNAs sometimes affects negotiators' aspiration levels: high levels of negotiators' BATNAs increase aspiration but mid-level BATNAs do not (Pinkley *et al.*, 1994). In terms of bargaining strength, we also know that strong negotiators tend to outperform their weaker opponents (Komorita and Hamilton, 1984, Pinkley *et al.*, 1994); however, this is not always the case (Pinkley, 1995). Finally, we know that BATNA-asymmetries can have an impact on agreement efficiency. In essence, when negotiators have unequal BATNAs, they tend to reach more efficient outcomes than when they have equal BATNAs.

Unfortunately, there are a number of issues that remain unclear. Regarding negotiators' perceptions, it is unclear as to whether negotiators' perceptions about their opponents' BATNAs follow the prediction of Thompson & Hastie's (1990) projection hypothesis. Also, we do not know why strong and weak negotiators show the same aspiration levels when the strength of their BATNAs is defined relative to the other's. The answer may lie in negotiators' perceptions about others' BATNAs. Whether knowledge of BATNA-asymmetries may influence their aspiration levels has not been explored. Regarding distributive negotiation, we are uncertain under what circumstances strong

negotiators will express their superiority to garner a larger section of the resource pie. Finally, it is unclear why BATNA-asymmetries improve agreement efficiency. As discussed, past research attempted to answer this issue, but it has been suggested that Roloff & Dailey's (1987) hypothesis needs to be re-examined and Pinkley's (1995) hypothesis needs to be refined. In order to address this question, it is necessary to find out whether and whose knowledge of BATNA-asymmetries leads to greater agreement efficiency.

The answers to these questions will be sought in the next chapter.

Part II – Empirical Studies

Chapter Three

Importance of Knowledge of BATNA-Asymmetries (Study 1)

Chapter Three – Importance of Knowledge of BATNA-Asymmetries (Study 1)

Chapter Three describes the structure of a series of experiments that will form the core of this thesis. The thesis will focus on BATNA-imbalanced negotiations and explore the effects of knowledge and BATNA-asymmetries on negotiators' perceptions and the structure of negotiation outcomes. Specifically, the experiments have been designed to address the following questions: (i) how does the perceived quality of one's own BATNA affect one's perception of the quality of the other's BATNA?; (ii) how does information regarding one's BATNA being made available to an opponent affect aspiration levels?; (iii) under what circumstances would negotiators with a more attractive BATNA have greater bargaining strength over their opponents?; and (iv) whose knowledge of BATNA-asymmetries can improve the efficiency of agreements?

During the course of the implementation of this design, it might become necessary to simplify the experiment. To guard against any limits this might impose, the study was designed so that one of the experimental conditions could be dropped without affecting the quality and practicality of the remaining parts. I did not anticipate that this would be necessary, but recognised the possibility and incorporated this into the overall design. No simplification of the experiment was carried out and it remained the same as originally designed.

This chapter contains three different sections that include both theoretical and empirical aspects of the first study in this thesis. It first gives an overview of the hypotheses set

up in relation to the research questions raised above. The second part covers the methodology and empirical results of Study 1. Finally, the discussion section considers the meaning of the findings in relation to the existing literature. Links to other literatures relevant to the same theme will be explored. Finally, I will consider potential limitations and future directions of the current research.

3.1 Negotiators' Perceptions of Others' BATNAs Prior to Negotiations

It is not clear as to whether negotiators assume that their opponents' BATNAs are similar to their own BATNAs. Pinkley, Neale and Bennett (1994) authored the first study in an attempt to test this contention. Specifically, it was hypothesised that negotiators' perceptions of others' BATNAs are anchored to some extent on their own BATNAs, because negotiators would be inclined to make insufficient adjustments from their own BATNAs when making assumptions about their opponents'. While this *a priori* sounds plausible, Pinkley *et al.* (1994) reject it. Yet, it is unclear whether projection hypothesis is false or design flaws in the study led to the wrong conclusion.

Measurement of negotiators' perceptions of the other's BATNA was taken at the end of the Pinkley *et al.* (1994) experiment. In effect, subjects were asked to retrospectively recall what they estimated the other's BATNA to. This may have been difficult given that the subjects might have learnt about the other party's BATNA in the course of negotiations. This is because people have predictable biases in their responses to many questions when reconstructing the past, such as hindsight bias. Hindsight bias leads people to be retrospectively adept at inferring a process once the outcome is known, but unable to predict outcomes before the event (Fischhoff, 1975, Fischhoff, 1982, Huber and Power, 1985, Thompson, 2001). The hindsight bias makes BATNA-asymmetric situations appear obvious when negotiators see them in retrospect, although the characteristic of the bargaining situations might appear to be BATNA-symmetric before negotiating. Acting as if they did not know this information, they would therefore more accurately report the other's BATNA, regardless of the pre-negotiation information

level.

The current research will test the basic projection hypothesis and remove this possible confounding explanation by measuring negotiators' perceptions before negotiations begin. The speculation is that in the context of BATNA-asymmetric negotiations, strong and weak negotiators are likely to anchor to the quality of their own BATNAs when making judgements about their opponents' BATNAs. Thus, the first hypothesis is as follows:

Hypothesis 1a: Negotiators' perceptions of their opponents' BATNA would NOT significantly differ from their own when no other information about their opponents' is given.

3.1.1 Effect of Range of Possible BATNAs on Negotiators' Perceptions

In real-life negotiations, although it is often the case that negotiators would not know precisely about the value of others' BATNAs, at most times they have at least some information about others' position (i.e. range of possible BATNAs). For example, most people, when purchasing cars, can access information about dealers' costs and selling prices of other cars in the same model. This valuable information helps them to determine the range of sellers' possible BATNAs to some degree. To tighten external validity, here I will consider the effect of a *range* of possible BATNAs on negotiators' perception about others' BATNAs.

Being given the range of possible BATNAs provides negotiators with knowledge of 'where they are', for instance, where their BATNAs are within the range. Accordingly, it allows them to identify to a certain extent, whether their BATNAs are relatively attractive or not. Whether this range affects negotiators' perceptions about opponents' BATNAs depends on where their BATNAs are.

Assuming that negotiators' possible BATNAs are normally distributed, the best estimate of opponents' BATNAs would be the range median. When negotiators' BATNAs are in the extremes of the range (i.e. weak negotiators in this study), they would know that their opponents' BATNAs are likely to be better than their own. It is speculated that this range median can alleviate the anchoring effect of their own BATNAs on perceptions about the others'. In effect, it is likely that they are more inclined to adjust their estimates from their own BATNAs to the range median, than

those without knowledge about the range of possible BATNAs. On the other hand, when negotiators' BATNAs are close to the range median, the range of possible BATNAs will have no impact on their perception about the others'. To test the effect of BATNA-range on weak negotiators' perceptions of others' BATNAs, I propose the following hypothesis:

Hypothesis 1b: Weak negotiators adjust their estimates about others' BATNAs farther away from their own BATNAs, when the range of possible BATNAs is given than when it is not.

3.2 Knowledge of BATNA-Asymmetries and Aspiration

In Chapter two, I explored literature concerned with the importance of aspiration on the structure of negotiated outcomes. Recall that when the strength of a BATNA is defined in relative terms in BATNA-imbalanced negotiations, this strength was found not to affect negotiators' aspiration levels (Pinkley *et al.*, 1994). If negotiators assume their opponents have a similar BATNA (Hypothesis 1a), then this may explain why this is the case. It is possible that knowledge of BATNA-asymmetries is necessary for them to alter aspiration levels.

In other words, when negotiators have different BATNAs, the effect of this knowledge may differ depending on the quality of one's BATNA in relation to another's. Specifically, the direction of how this information influences aspirations depends on who is given access to this knowledge and whether it identifies negotiators as expecting too much or too little relative to established social norms (Brodt, 1994, Roth and Murnighan, 1982). This identification is required to determine whether negotiators' initial aspiration levels are high or low. For instance, some may suggest that in fixed-sum negotiations, negotiators' initial aspiration level is low when their expected profit is less than half of the maximum joint profit, while their aspiration level is high if expected profit is more than half of the maximum joint profit. However, it becomes more difficult to define whether one's initial aspiration is (arguably unrealistically) high or low in variable-sum and BATNA-asymmetric negotiations. To accomplish this, I will next attempt to define strong and weak negotiators' initial aspirations when no knowledge of BATNA-asymmetries is available. Also, I will consider impacts of

information about BATNA-asymmetries on aspiration levels of strong and weak negotiators respectively.

3.2.1 Defining Negotiators' Initial Aspirations and Influence of BATNA-Knowledge

According to Hypothesis 1a, strong negotiators, who cannot compare their BATNAs with their opponents', will tend to overestimate their counterparts' BATNAs. Consequently, they may not set their aspiration as high as those who can learn BATNA-imbalances between parties. For example, when strong negotiators lack information about BATNA-asymmetries, they may be prepared to accept an offer that does not even give them a large surplus. However, providing strong negotiators with information of others' BATNAs could help them identify whether this offer is unreasonable. Hence, when this information is not made available to strong negotiators, their initial aspiration is expected to be low. Because knowledge of BATNA-asymmetries gives strong negotiators an acceptable justification for their demand of a higher share of the resources, it is suggested that this knowledge increases their aspiration level. To test this possibility, the hypothesis is proposed as follows:

Hypothesis 2a: The aspiration level of strong negotiators increases with knowledge of their weaker counterparts' BATNAs.

On the other hand, it is plausible to predict that when weak negotiators have no information about opponents' BATNAs, their aspiration is said to be unrealistically high. Again, this is because they tend to assume that their opponents are in a similar

situation as they are, and this assumption deflates their estimations about counterparts' BATNAs. So, it is speculated that when informed of another's BATNA weak negotiators expect less from the existing negotiation than when they lack information about another's BATNA. This is due to the fact that this information shows that they are the weaker member of negotiation dyads. The influence of knowledge about BATNA-imbalance is hypothesised in the following:

Hypothesis 2b: The aspiration level of weak negotiators decreases with the knowledge of her opponent's BATNA.

In the next sections, this chapter considers the hypotheses set-up regarding the effect of knowledge of BATNA-asymmetries on distributive and integrative *outcomes*.

3.3 Knowledge of BATNA-Asymmetries and Bargaining Strength

Recall that strong negotiators in general are considered to have greater bargaining strength than weak negotiators (Kim and Fragale, 2005, Komorita and Leung, 1985, Magee *et al.*, 2007, Pinkley *et al.*, 1994). However, Pinkley (1995) found that possessing a relatively attractive BATNA does not help negotiators to attain better outcomes (Pinkley, 1995). Under what circumstances strong negotiators show their BATNA advantage in their bargaining strength is still undetermined. To address this issue, a helpful starting point is to look at the difference across these studies.

One substantial difference across these studies is the level of knowledge about BATNA-asymmetries that negotiators hold. Note that information about opponents' BATNAs was never revealed to strong negotiators in Pinkley's (1995) study. Given this lack of common knowledge, interpersonal BATNA comparisons were not easily made. In contrast, in other studies suggesting that strong negotiators have greater bargaining strength, either it is not clear from the descriptions of the experimental design to what extent subjects shared information about each other's BATNA during negotiations, or complete information about BATNA-differences is assumed (Kim and Fragale, 2005, Komorita and Leung, 1985, Magee *et al.*, 2007, Pinkley *et al.*, 1994).

The roots of the answer to the question above may exist in the level of strong negotiators' knowledge about BATNA-asymmetries. Support for this reasoning can be found in real-life situations. For example, in a contract renewal negotiation between an employer and employee, suppose the employee has received an attractive job offer

from another organisation prior to the negotiation. On the other hand, the employer has interviewed a number of applicants to replace the existing employee's position, but none of them has the qualification and experience required. The employee would demand more and feel increased bargaining strength relative to the employer when knowing the incompetence of other job applicants. The employee may become less willing to concede and receive better counter-offers from the employer than when s/he knows little about the opponent's undesirable alternatives. As a result, s/he will garner a larger share of the bargaining surplus than when s/he lacks knowledge about the employer's BATNA.

The speculation is that in order for strong negotiators' better quality of BATNA to convert into a higher proportion of the bargaining surplus, an opportunity for interpersonal BATNA comparisons is important. As Hypothesis 1a and 'projection hypothesis' predict, negotiators tend to assume their opponents possess a similar BATNA. Providing strong negotiators with knowledge of BATNA-asymmetries will justify their demand of a larger share of the resources. In other words, knowledge of BATNA-asymmetries being made available to strong negotiators may mediate their bargaining strength in a predictable way. To consider the possibility that knowledge of BATNA-imbalances increases strong negotiators' bargaining strength, the hypothesis tested is:

Hypothesis 3: Strong negotiators when informed of both BATNAs will receive a higher proportion of the bargaining surplus than when they are not informed about others' BATNAs.

3.4 Knowledge of BATNA-Asymmetries and Agreement Efficiency

Chapter Two described past attempts to answer why BATNA-asymmetries improves dyads' ability to reach efficient agreements. Recall that two plausible but competing explanations have been proposed in the existing literature. The first explanation is that in BATNA-imbalanced negotiations strong negotiators have freedom to share relevant information so that they are more likely to find creative ways to expand the resource pie (Kim, Pinkley and Fragale, 2005, Pinkley, 1995). But, we know that possessing an attractive BATNA alone is not sufficient to endow strong negotiators with freedom to find efficient agreements (Brett *et al.*, 1996). As discussed in Chapter Two, Pinkley's (1995) explanation will be refined and re-tested in Study 1. A major refinement is that knowledge of BATNA-asymmetries, rather than the existence of an attractive BATNA alone, gives strong negotiators more freedom and incentive to find efficient solutions.

On the other hand, Roloff & Dailey (1987) hypothesised that weak negotiators are motivated and under pressure to develop creative solutions, so that the negotiated settlement will be more appealing than their opponents' already attractive BATNA. Specifically, Pinkley (1995) suggested that weak negotiators' pressure stems from their knowledge of BATNA-asymmetries. However, as argued in Chapter Two, an ineffective manipulation of weak negotiators' knowledge in Pinkley's (1995) design means that Roloff & Dailey's (1987) hypothesis could not be rejected.

Study 1 attempts to re-examine Roloff & Dailey's (1987) explanation, removing two confounding variables in Pinkley's (1995) design. First, in order for knowledge of

BATNA-asymmetries to generate pressure on weak negotiators, they must be uncertain about whether strong negotiators are informed of both BATNAs. So, non-common knowledge of negotiators' knowledge state (i.e. negotiators do not know what information the others hold) will be assumed. Also, to sustain the credibility of knowledge of BATNA-asymmetries, this knowledge will be provided directly by an impartial third party.

In addition to the existing explanations, both members' recognitions of BATNA-asymmetries may be essential to the process by which efficient agreements develop. In order to reach efficient agreements, the co-existence of weak negotiators' motivation and strong negotiators' freedom may be required. Specifically, it is possible that complete knowledge of BATNA-asymmetries has an impact on negotiation efficiency as both parties have the opportunity of interpersonal BATNA comparisons.

In short, Study 1 will seek answers to the main question as to whose knowledge of BATNA-asymmetries (strong, weak negotiators', or both negotiators') impacts on dyads' ability to find efficient agreements. The baseline model is that negotiators know only their own BATNAs. The rationale for this consideration is that studies have shown that simply the existence of BATNA-asymmetries is not sufficient to improve dyads' ability to seek efficient outcomes (Brett *et al.*, 1996, Pinkley, 1995). In the experimental designs presented in this thesis (details to follow), information regarding another's BATNA will be made available in relevant conditions so as to provide full examinations of the explanations described. To answer the main question, I propose three specific hypotheses.

If Pinkley's (1995) explanation is correct:

Hypothesis 4a: When strong negotiators are informed of both BATNAs, agreement with greater efficiency will be reached than when they have no information about another's BATNA.

If Roloff & Dailey's (1987) explanation is correct:

Hypothesis 4b: When weak negotiators are informed of both BATNAs, agreement with greater efficiency will be reached than when they have no information about another's BATNA.

If knowledge of BATNA-asymmetries needs to be commonly held to increase agreement efficiency:

Hypothesis 4c: Settlement with greater efficiency will be obtained when both parties are informed of each other's BATNA than when they know only their own BATNAs.

3.5 Overview of Study 1

Study 1 considers BATNA-asymmetric negotiations and covers four different areas. Firstly, I will examine negotiators' perceptions of their counterparts in terms of the others' BATNAs. I will attempt to show that negotiators' perceptions about opponents' position is anchored to their own status (value of the BATNA)⁶. Secondly, I will examine negotiators' aspiration levels and the relationship between aspirations and knowledge of BATNA-imbances. Thirdly, I will examine the effect of variability in the quality of the BATNAs on the negotiators' bargaining strength. I will attempt to show that this is mediated in predictable ways by other factors. The experiment described below is designed to enable me to define the condition under which knowledge of BATNA-asymmetries increases strong negotiators' bargaining strength.

Finally, Study 1 examines the effect of knowledge of BATNA-asymmetries on negotiation efficiency. Specifically, one member of a dyad will be given different levels of information about another's BATNA in different experimental conditions. The data from this experiment give insight into the question of whose knowledge of BATNA-asymmetries improves dyads' ability to find efficient agreements. I will also be able to address whether it is sufficient for one party to know the other's BATNA in order to increase agreement efficiency.

⁶ Unlike in Pinkley, Neale, & Bennett's (1994) studies, this will be measured prior to a negotiation in this study.

3.6 Method

This section will detail and justify the methodology employed in Study 1. First, the procedure and structure of the negotiation simulation and manipulations of negotiators' BATNAs that produce BATNA-imbalances between parties are described. Next, how knowledge of BATNA-asymmetries is manipulated to result in the four basic experimental conditions in this study is covered. Finally, I consider dependent measures that are required to provide critical tests of hypotheses.

Subjects

Two hundred and twenty-four undergraduate and master students at London School of Economics and University College London participated in this study. They volunteered to take part in what was described as a “negotiation experiment”. The sample included 122 men and 102 women, with ages ranging from 18 to 41 years and a mean of 24.54 ($SD = 3.50$) years.

Procedure

Participants were randomly assigned to experimental conditions and received the following instructions on a paper handout before the exercise began:

“The purpose of this study is to examine negotiation behaviour. There will be a negotiation between an employer and employee about a job contract for the post of

Assistant Manager. You will be randomly assigned as either an employer or employee. There are six issues of concern in the negotiation: salary, annual leave, bonus, starting date, medical coverage and company car. You will negotiate for points. Before you negotiate, you will be given a chart that describes all the possible ways you can settle this negotiation and how many points you can get for each alternative settlement. Your goal in this negotiation is to maximise the number of points you gain for yourself. You will be given thirty minutes to negotiate and if you are unable to reach an agreement during that time, a disagreement will be declared.”

As an incentive, subjects were informed that the money that they received at the end of the experiment was related to the number of points they earned: they received 10p for every 100 points they earned. The maximum possible payment to subjects was £12.80 and the minimum was £0.00⁷. The experimenter provided subjects with specific negotiation instructions, a “payoff” chart, details about their role and own BATNAs, information about opponents’ BATNAs (if applicable), and a short quiz to ensure that subjects understood their BATNAs and payoff chart (see Appendix A (III)). All of these instructions, information, and quiz were given in writing on paper. Subjects were tested individually before being paired with another subject to negotiate. The quiz showed subjects some sample agreements and asked them to indicate which agreement was better and which agreement was worse than their BATNAs. The experimenter checked answers to every question; subjects in error were told to attempt the question

⁷ In fact, the minimum payment to participants was £5.00 for their time to take part in the exercise. However, in order to maintain the effectiveness of experimental manipulations, participants were not informed until the experimental session finished.

again. Most subjects were correct on their first attempt; all were correct on their second attempts. Subjects negotiated for a maximum of 30 minutes; they negotiated face-to-face in private rooms, out of earshot of other groups; their interaction was unrestricted except that materials informed participants that the payoff schedule was confidential and should not be shared with the other party⁸.

Also, questionnaires were used for some of the dependent measures. All participants were asked to complete a questionnaire at three different points in the experiment. The first questionnaire included a number of demographic questions and elicited the participants' perceptions of other parties' BATNAs, which was given after reading initial role materials and receiving details about their own BATNAs. The second questionnaire elicited participants' aspiration levels, which was distributed after participants were given information about others' BATNAs (only applies to some experimental conditions). And, the final questionnaire given after completing the exercise included a number of questions concerning the strategies that participants adopted and the outcomes obtained⁹. After participants completed the final questionnaire, they were debriefed about the purpose of the experiment.

Negotiation Task

The negotiation simulation used in this study was a variable-sum task. The negotiation situation involved an employer and an employee resolving six issues in a job contract.

⁸ Pilot study had found that 30 minutes were more than ample.

⁹ All questionnaires used are in Appendix A (IV). For more details about how experiments were run, the experimental protocol is available in Appendix B.

As shown, all pairs negotiated a job contract that included different options on the following issues: salary, annual leave, bonus, starting date, medical coverage and company car. Table 3.1 describes all the possible ways participants could settle this negotiation. There were several alternatives for each issue (e.g., the bonus varies between 2% and 10%). Each party had different preferences for the different alternatives defined by the points he or she would receive if that alternative was agreed upon.

Table 3.1 Pay-off Schedules for Job Negotiation Task

Salary	Annual Leave	Bonus	Starting Date	Medical Coverage	Company Car
Employer Pay-off Schedule					
£24,000 (0)	25 days (0)	10% (0)	1 st July (1200)	Plan A (3200)	BMW 330i (0)
£23,000 (500)	20 days (1000)	8% (400)	15 th July (900)	Plan B (2400)	VW Golf (200)
£22,000 (1000)	15 days (2000)	6% (800)	1 st Aug (600)	Plan C (1600)	Honda (400)
£21,000 (1500)	10 days (3000)	4% (1200)	15 th Aug (300)	Plan D (800)	Ford Focus (600)
£20,000 (2000)	5 days (4000)	2% (1600)	1 st Sept (0)	Plan E (0)	No Company Car (800)
Employee Pay-off Schedule					
£24,000 (2000)	25 days (1600)	10% (4000)	1 st July (1200)	Plan A (0)	BMW 330i (3200)
£23,000 (1500)	20 days (1200)	8% (3000)	15 th July (900)	Plan B (200)	VW Golf (2400)
£22,000 (1000)	15 days (800)	6% (2000)	1 st Aug (600)	Plan C (400)	Honda (1600)
£21,000 (500)	10 days (400)	4% (1000)	15 th Aug (300)	Plan D (600)	Ford Focus (800)
£20,000 (0)	5 days (0)	2% (0)	1 st Sept (0)	Plan E (800)	No Company Car (0)

Note. Negotiators are instructed that the number of points they get is in parentheses.

The task contained six issues to be resolved and it included three types of issues: distributive, compatible and integrative (see Table 3.1). The salary was a purely

distributive issue; when one party gains, the other party loses in a direct, fixed-sum fashion. The starting date was one in which both parties have perfectly compatible interests. In this negotiation task, there were two fully integrative trade-offs possible, in which preferences are inverse so that one party places a higher value on one issue and a lower value on another issue. Negotiators had different priorities for the annual leave and bonus issues and may logroll these to maximise joint gain (employer giving employee more bonus for less annual leave). In addition, they had different priorities for medical coverage and company car issues and could trade-off these issues in the most profit-maximising way (employer giving employee the best company car for the least medical coverage plan). Therefore, this negotiation simulation typically allowed for greater variation in integrative outcomes.

Negotiators could earn a maximum of 12,800 points or a minimum of 0 points. According to Table 3.1 an obvious compromise solution (settling at the mid-point for each issue) would be £22,000 salary, 15-day annual leave, 6% bonus, starting on the 1st August, Plan C medical coverage, and a Honda company car, yielding each negotiator 6400 points for a joint total of 12,800 points. A more mutually beneficial agreement was possible if negotiators made trade-offs between issues and realised the same preference for one of the issues. Specifically, bonus was most important to the employee whereas annual leave was most important to the employer. Medical coverage was the second important issue to the employer and company car was the second important issue to the employee. An integrative solution required negotiators to logroll these 4 issues (e.g. 5-day annual leave and 10% bonus, and Plan A medical coverage and BMW as the company car). Negotiators were also required to comprehend the

same preferences for the starting date (e.g. agreeing on 1st July maximise joint gain). In this example each party earned 9,400 points from these six issues and the joint outcome was increased to 18,800 points. Of course, there were several other possible solutions that negotiators could reach.

BATNAs and Magnitude of BATNA-Asymmetries

Strong negotiators were represented by the role of employer; while weak negotiators were in the employee role. Participants were randomly assigned to the role of employer and employee. To create BATNA-imbalances between parties, each employer was randomly assigned to an employee so that each dyad was constituted of one employer and one employee. One might argue that employers (employees) always being strong (weak) negotiators may have created more than just BATNA differences. In other words, any observed significant differences between strong and weak negotiators may be attributable to their roles rather than their BATNAs. However, past research suggests that this is unlikely to be an issue: Pinkley (1995) considers the potential effect of role in job contract negotiation but no significant impact of role was found on pre-negotiation parameters (i.e. reservation price, aspiration levels) and negotiated outcomes. In addition, the current study concerns the absolute difference *across* experimental condition. As a result, any difference in role (between employer and employee) should not interfere with the validity of hypotheses. Therefore, the role effect was not considered in this study.

Employers would receive 6,000 points if no agreement was reached, and employees

would receive 1,200 points. Why did I set the value of strong and weak negotiators' BATNAs to be 6,000 and 1,200 points respectively? According to Table 3.1, a compromise on all six issues provides each negotiator with 6,400 points. The 6,000 points make the BATNA an attractive one because it is just slightly less than what the compromise solution is worth.

There are two underlying reasons why this is necessary. First, it is artificial to exclude the compromise solution (sub-optimal agreement) as a viable solution, and as a result, the change in agreement efficiency that will be seen may be due to an experimental artefact. Second, Pinkley *et al.* (1994) suggest that dyads, consisting of one party with no specified BATNA and another with an attractive BATNA but less attractive than the compromise solution, generate a sufficient imbalance in BATNAs in order to improve negotiation efficiency. In most cases, negotiators at least have an alternative (which may not be attractive) prior to negotiations. To improve external validity of the current study, a weak BATNA was assigned to weak negotiators (employees). Considering that the maximum joint outcome was 18,800 points and employers' BATNA was 6,000 points, 1,200 points made employees' BATNA relatively weak.

Information and Common Knowledge States

Strong and weak negotiators always knew:

- their own BATNAs (6,000 points for employer and 1,200 points for employee)
- that there were six issues to be resolved

- their own pay-off schedules.

Strong and weak negotiators were not told by the experimenter:

- whether information about their own BATNAs had been revealed to their opponents or not.
- if their opponents were informed of their BATNAs even when they were informed of their opponents' BATNAs (in the relevant conditions).
- their opponents' payoff schedule

It is important to note that in this study non-common knowledge of others' knowledge state (i.e. players do not know what information the others hold) is assumed. As argued before, this assumption removes the confounding variable in Pinkley's (1995) study. This is because even if Roloff & Dailey's (1987) hypothesis is correct, the incentive of weak negotiators (employees) to find efficient agreements may disappear when they are certain that their stronger counterparts (employers) do not know both BATNAs.

Independent Variables

Knowledge of BATNA-asymmetries was manipulated. First, employers were either informed of employees' BATNAs or not (strong negotiators' knowledge). Second, employees were either informed of employers' BATNAs or not (weak negotiators' knowledge). All possible combinations of these two types of information levels resulted in a fully crossed 2x2 factorial design (strong negotiators' knowledge vs. no

knowledge and weak negotiators' knowledge vs. no knowledge).

To summarise the design, I would identify four basic conditions, to which negotiation pairs were randomly assigned. They were:

- (1) Neither player knew the opponent's BATNA;
- (2) Strong negotiators knew weak negotiators' BATNAs, but weak negotiators knew only their own BATNAs;
- (3) Weak negotiators knew strong negotiators' BATNAs, but strong negotiators knew only their own BATNAs; and
- (4) Both strong and weak negotiators knew each other's BATNA.

As mentioned, subjects were allowed to freely communicate with opponents. It is important to consider if negotiators revealed their own BATNAs to others. Weak negotiators were not expected to disclose their BATNAs often, particularly when they knew that they were in a weaker position than their opponents. However, strong negotiators in Condition 2 knew that their BATNAs were better than their counterparts' and may have had an incentive to reveal their BATNA advantage to weak negotiators. As a result, this could contaminate (or at least weaken) the manipulation of knowledge of BATNA-asymmetries.

To check this potential design-limitation, subjects were asked whether they revealed their BATNAs to their opponents during the negotiation. Only four (of 228) negotiators reported that they revealed their BATNAs to others. Two of the four were strong

negotiators in Condition 3. Note that weak negotiators in Condition 3 were given information of others' BATNAs. So, strong negotiators' revelation of their own BATNAs merely confirmed the information given to weak negotiators. There is evidence to suggest that the manipulation of knowledge of BATNA-asymmetries was robust as intended. Although the percentage of negotiators revealing their BATNAs is small, it is important to check that the data does not change by excluding them. To address this issue, all the major analyses were performed twice: once using the full data set and once using only those cases that no contamination of the manipulation occurred. The two set of analyses yielded very similar results.

Dependent Measures

Perceptions Negotiators' perceptions of others' BATNAs were assessed *prior* to negotiations. Their perceptions were surveyed after reading materials about their role, payoff schedules and BATNA manipulation but before receiving information about another's BATNA (if applicable).

Two conditions were considered: (1) range of possible BATNAs not given and (2) range given. When the range of possible BATNAs was not given, negotiators were asked: "What is your estimate of the opponent's BATNA?" When the range was given, they were asked to indicate what they believed the probability of the range(s) which their opponents' BATNAs would fall within. A number of questions were asked for each interval, for example: "What is the probability that the opponent's BATNA is greater than 0?"; "What is the probability that the opponent's BATNA is greater than 1,000?" (see Appendix A (IV) for details). Given the probability distributions of participants' perceptions, we would be able to compute an 'expected estimate of another's BATNA' for each participant.

Aspiration Levels Negotiators' aspiration levels were assessed by asking participants to indicate what constituted an ideal situation for them prior to negotiations. Specifically, following the provision of role material, pay-off schedules, BATNA manipulation and information of others' BATNAs (if available), the experimenter provided participants with a questionnaire (see Appendix A (IV)) with the following instructions:

“Below is a pay-off chart similar to the one that has been given to you. Now, we would like you to fill in the boxes in this to indicate what your ideal settlement would be on each issue. Please note that only one alternative can be ticked for each issue.”

A measure of aspiration was computed by transforming negotiators’ predictions into number of points they would receive if that settlement was obtained.

Bargaining Strength Strong negotiators’ bargaining strength was measured by the proportion of bargaining surplus they received. The distribution of resources within negotiation pairs is examined to determine whether informed strong negotiators are able to claim a larger share of the resources than those without knowledge. There are two features for this measurement. First, this would reflect *how* well strong negotiators claim bargaining surplus in comparison with their opponents. With this measure, the higher the proportion strong negotiators received, the lower the proportion weak negotiators received. Second, this measurement would not lead to any misleading results that the absolute strong negotiators’ gain might do. For instance, the large surplus attained by strong negotiators could be due to an overall increase in the resource pie, rather than their increased bargaining strength. Therefore, distributive and integrative outcomes were not confounded.

Negotiation Efficiency There were three primary measures of negotiation efficiency for each negotiation dyad: (1) joint profit, (2) number of superior agreements and (3) integrativeness score. Joint profit has been widely used to measure agreement

efficiency in negotiation studies (Anderson and Thompson, 2004, Brett *et al.*, 1996, Pinkley, 1995, Pinkley *et al.*, 1994, Thompson, 1990b, Thompson, 1991). It is simply the total number of points that negotiation dyads earn. Higher joint profit indicates more efficient agreements.

However, Tripp and Sondak (1992) have suggested that joint gains do not necessarily reflect agreement efficiency. An agreement can be Pareto-efficient (i.e. neither negotiator can do better without hurting the other party) without maximising joint gains. Therefore, using joint outcomes as a tool to assess negotiation efficiency may underestimate the Pareto-efficiency of some negotiated agreements (Tripp and Sondak, 1992). To address this concern, an additional analysis was undertaken, specifically focussing on the Pareto-efficiency of agreements. A new dependent measure of agreement efficiency was generated by comparing the agreement reached for each dyad against all possible agreements. This new dependent measure, known as ‘Number of Superior Agreements’, indicates the number of agreements for which at least one of the negotiators would have done better and neither would have done worse. So, fewer numbers of superior agreements indicate higher efficiency of the agreement reached.

Finally, an integrativeness score was constructed to reflect the degree to which negotiation dyads traded-off the issues for which they had different priorities (e.g., annual leave and bonus, medical coverage and company car. see Table 3.1). Dyads who traded-off issues in the most profit-maximising way (one giving another party the most important issue in exchange for his most important issue), received higher integrativeness scores than those who compromised or traded-off to a lesser extent on

these issues. As mentioned earlier, there were two possible integrative trade-offs in this negotiation (see Table 3.1). When dyads successfully found a fully integrative trade-off, they would receive one point. If both available trade-offs were found, they would be awarded an integrativeness score of two points. However, when dyads did not trade-off issues to the full extent or no trade-off was found, dyads would be assigned a score of zero.

In the following section, the empirical results will be presented and discussed.

3.7 Results

In this section, analyses of four areas will be covered: (1) negotiators' perceptions about others' BATNAs, (2) negotiation efficiency, (3) bargaining strength, and (4) aspiration levels. In each area, a brief summary of research questions and hypotheses will be given. Then, experimental results and critical tests of hypotheses will be included. Before detailing the findings in Study 1, it is important to examine the validity of manipulations.

3.7.1 Manipulation Checks

After receiving the experimental material containing BATNA manipulations, subjects were asked to specify the numbers of points they would receive in case of an impasse. In order to create BATNA-asymmetries between parties, it is necessary to check the number of points that subjects believed they would receive for different roles (6,000 and 1,200 points for strong and weak negotiators respectively). Only a few numbers of participants (less than 2%) gave the wrong answers in the first trial. All of them were correct on their second attempts. In addition, manipulations of knowledge of BATNA-asymmetries should be considered. All negotiators who were given knowledge of BATNA-asymmetries correctly reported their opponents' BATNAs. Thus, the BATNA and knowledge of BATNA-asymmetries manipulations worked as intended.

3.7.2 Negotiators' Perceptions about Others' BATNAs

It is unclear as to how negotiators' expectations of others' BATNAs are formed, when no information about their opponents is given. Study 1 was designed to answer the first research question: how does the perceived quality of negotiators' BATNAs affect their perceptions of the quality of opponents' BATNAs? Specifically, Hypothesis 1a predicted that negotiators are likely to anchor to their own BATNAs, when estimating about others' BATNAs. This was tested for both **strong** negotiators (employers) and **weak** negotiators (employees) respectively¹⁰. First, consider strong negotiators' perceptions of opponents' BATNA and then weak negotiators' perceptions.

Strong Negotiators' Perceptions (Employers)

A 'one sample t-test' was performed to examine whether strong negotiators tend to anchor their perceptions of the other's BATNA to their own BATNAs. If Hypothesis 1a is correct, strong negotiators' estimates of others' BATNAs will not differ from their own BATNAs. The finding supports this hypothesis. As can be seen in Table 3.2, strong negotiators' estimate ($M_{strong} = 5,690$) was not significantly different from their own BATNAs ($BATNA = 6,000$), $t = -1.40$, $p > .05$. Thus, the result suggests that strong negotiators tended to anchor to their own BATNAs and failed to make sufficient adjustments when making judgements about their opponents' positions.

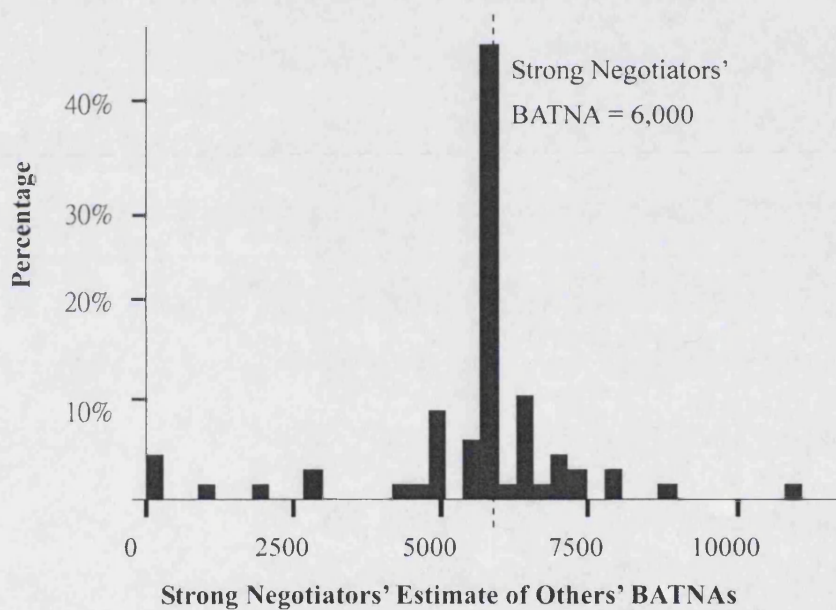
¹⁰ Strong negotiators are those with a relatively attractive BATNA in negotiation dyads, and weak negotiators are those with a relatively poor BATNA.

Table 3.2 Means (Standard Deviations) for Negotiators’ Estimates of Others’ BATNAs as a Function of BATNA

	Strong Negotiators (BATNA = 6,000)	Weak Negotiators (BATNA = 1,200)
Estimate of opponents’ BATNA	5,690 (1,816)	1,375 (834)

Note. N = 68 (strong negotiators) and 67 (weak negotiators).

Figure 3.1 Distribution of Strong Negotiators’ Perceptions about Others’ BATNAs



Illustrated in Figure 3.1 is the distribution of strong negotiators’ perceptions of their counterparts’ BATNAs, which will allow for further analysis and support of the hypothesis. For instance, looking at the proportion above and below strong negotiators’ BATNAs (6,000 points): 27.9% of strong negotiators reported the perceptions about the other’s BATNA that were below their BATNAs; whereas 26.5% of them showed that their perceptions were above their BATNAs. More interestingly, a substantial number of strong negotiators (45.6%) estimated their opponents’ BATNAs to be exactly the

same as their own BATNAs. Also, as illustrated in Figure 3.1, strong negotiators' estimations were mainly clustered around their own BATNAs. This has clearly demonstrated that they projected their estimations about the others on their own situation when no information about opponents is available.

Weak Negotiators' Perceptions (Employees)

A similar analysis was performed to investigate whether weak negotiators based their perceptions of the opponent's BATNA on their own, as strong negotiators did. According to Hypothesis 1a, weak negotiators' perceptions about their opponents' BATNA should also anchor to their own BATNAs. The findings lend support to this hypothesis. As illustrated in Table 3.2, when no information about others' BATNAs is given (i.e. range of possible BATNAs), weak negotiators' estimation of their counterparts' BATNAs was not significantly different from their own BATNAs ($M_{weak} = 1,375$ vs. $BATNA = 1,200$), $t = 1.71$, $p > .05$.

Figure 3.2 Distribution of Weak Negotiators' Perceptions about Others' BATNAs

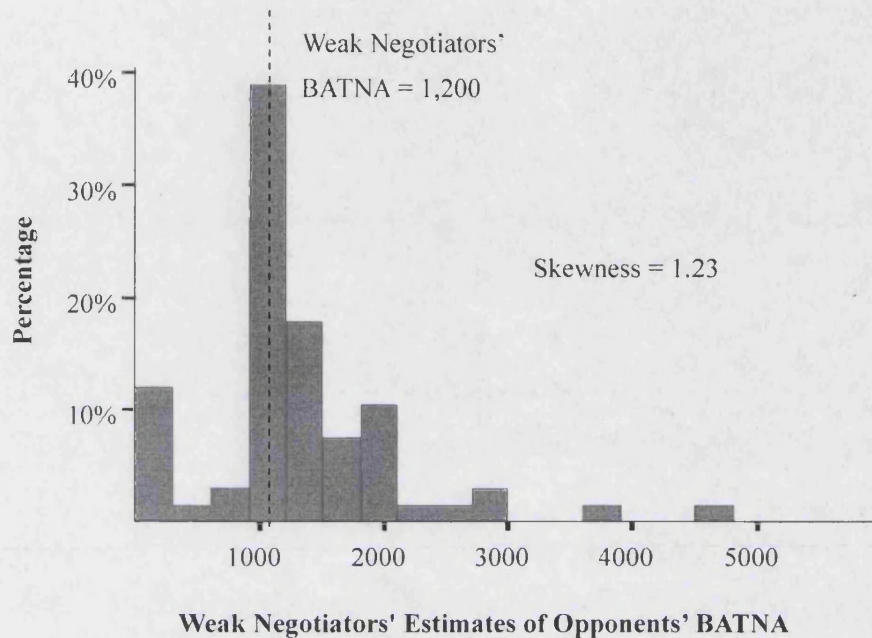


Figure 3.2 displays the distribution of weak negotiators' perceptions about others' BATNAs. Again, it is worth considering how their perceptions are formed and the distribution above and below their own BATNAs, 1,200 points. About 27% of weak negotiators reported that their estimations were below their BATNAs and about 45% of their estimates were above it. About 28% of weak negotiators believed that their opponents' BATNAs were exactly the same as their own BATNAs. As can be seen in Figure 3.2, the distribution of their perceptions was slightly positively skewed due to a few cases with estimations that were much higher than others'. In general, most weak negotiators' perceptions were clustered around their BATNAs, 1,200 points. The result provides further support that weak negotiators tended to use their own BATNAs as a tool when perceiving others' positions.

Effect of Range of Possible BATNAs on Weak Negotiators' Perceptions

Study 1 also considers the effect of the range of possible BATNAs on weak negotiators' perceptions about others' BATNAs. Providing this range may influence negotiators' perceptions about their opponents' BATNA if their BATNAs are in the extremes (in this case weak negotiators)¹¹. In particular, Hypothesis 1b suggested that the range of possible BATNAs would reduce the anchoring effect of weak negotiators' BATNAs (*in the lower- or upper-end*) on their perceptions about others' BATNAs.

To test this hypothesis, I compared the difference in weak negotiators' perceptions between two groups, one without being given the range and another with the range given. The finding supports Hypothesis 1b. When weak negotiators were given the range of possible BATNAs, their perceptions about their counterparts' BATNAs ($M_{range} = 3,323$) were higher than those without knowledge of the range ($M_{no\ range} = 1,375$), $t = 7.26$, $p < .0005$. Considering that the size of the range was 12,800 points, the 2,000-difference in perceptions between these two groups is not trivial. This suggests that the range of possible BATNAs lessens the anchoring effect of BATNAs on weak negotiators' perceptions. However, the impact of weak negotiators' own BATNAs (1,200 points) remains strong enough to pull their perceptions away from the best guess – the range median.

¹¹ The effect of range on strong negotiators' perceptions was not tested in this case, because their BATNAs (6,000 points) were very close to the range median (6,400 points).

3.7.3 Knowledge of BATNA-Asymmetries and Aspiration Levels

Study 1 was designed to explore the possibility that knowledge of BATNA-asymmetries may affect negotiators' aspirations in BATNA-imbalanced negotiations. Specifically, in BATNA-imbalanced negotiations knowledge of BATNA-asymmetries is expected to affect negotiators in *different* positions *differently*.

Table 3.3 Negotiators' Knowledge Status in Different Conditions

Experimental Conditions	Information Levels
Control	Neither player knows his or her opponent's BATNA
Condition 2	Only strong negotiators know both BATNAs
Condition 3	Only weak negotiators know both BATNAs
Condition 4	Both know each other's BATNAs

Table 3.3 describes the four basic experimental conditions and negotiators' knowledge status in each condition. Negotiators' aspirations were assessed *prior* to negotiations, and their aspirations should be independent of their counterparts' knowledge status. Therefore, the effect of strong negotiators' knowledge on aspirations was examined by comparing their aspirations in control condition and condition 3 to those in condition 2 and 4. Similarly, the effect of weak negotiators' knowledge on aspirations was examined by comparing their aspirations in control group and condition 2 to those in condition 3 and 4.

Effect of Knowledge of BATNA-Asymmetries on Strong Negotiators' Aspirations

Does knowledge of BATNA-asymmetries affect negotiators' aspiration levels? Yes. First consider the impact of negotiators' knowledge of BATNA-asymmetries on their aspiration levels. An analysis of variance, ANOVA, with *a priori* contrasts requested was performed to examine the impact of experimental conditions (knowledge of BATNA-asymmetries) on strong negotiators' aspiration levels. A significant main effect for Experimental Condition was found, $F(3,111) = 6.80, p < .0005$.

Hypothesis 2a predicted that this knowledge would have a positive impact on their aspiration levels. The findings support this hypothesis. As can be seen in Table 3.4, a planned comparison was conducted to compare strong negotiators' aspiration in the control group and condition 3 with the pooled mean of the other two groups, condition 2 and 4. Informed strong negotiators reported higher aspirations ($M_{knowledge} = 7,990$) than those without information ($M_{no\ knowledge} = 7,396$), $t = 2.86, p < .01$. The finding suggests that strong negotiators' knowledge of BATNA-asymmetries results in higher goals that they set for themselves.

Table 3.4 Means (Standard Deviations) for Negotiators’ Aspiration Levels as a Function of Experimental Condition

Experimental Condition	Strong Negotiators’ Aspiration Levels
No Strong Negotiators’ Knowledge (Control & Condition 3)	7,396 (1,078)
Strong Negotiators’ Knowledge (Condition 2 & Condition 4)	7,990 (1,127)
	Weak Negotiators’ Aspiration Levels
No Weak Negotiators’ Knowledge (Control & Condition 2)	7,397 (1,727)
Weak Negotiators’ Knowledge (Condition 3 & Condition 4)	6,256 (1,866)

Note. No. of Strong Negotiators = 112 and No. of Weak Negotiators = 108

Effect of Knowledge of BATNA-Asymmetries on Weak Negotiators’ Aspirations

An ANOVA was used to consider the impact of negotiators’ knowledge of BATNA-asymmetries (Experimental Condition) on weak negotiators’ aspiration levels. A significant main effect for Experimental Condition was found, $F(3,107) = 6.50, p < .0005$. Hypothesis 2b suggested that weak negotiators’ aspiration will decrease with their knowledge levels of others’ BATNAs. This hypothesis is supported. As can be seen in Table 3.4, a planned contrast of weak negotiators’ aspiration (control and condition 2 vs. condition 3 and 4) revealed that when weak negotiators were informed, their aspiration levels were significantly lower than when they lacked this knowledge ($M_{knowledge} = 6,256$ compared to $M_{no\ knowledge} = 7,397$), $t = -3.30, p < .01$. The result indicates that when weak negotiators knew both BATNAs, they tended to lower expectations about what constituted an ideal situation for themselves.

3.7.4 Knowledge of BATNA-Asymmetries and Bargaining Strength

The third question addressed in Study 1 is under what circumstances would strong negotiators outperform their opponents? As argued earlier in this chapter, the key to increasing strong negotiators' bargaining strength may be the opportunity of interpersonal BATNA comparison. So, here I examine whether knowledge of BATNA-asymmetries mediates the relationship between an attractive BATNA and strong negotiators' bargaining strength in a predictable way.

Table 3.5 Strong Negotiators' Knowledge Status in Different Conditions

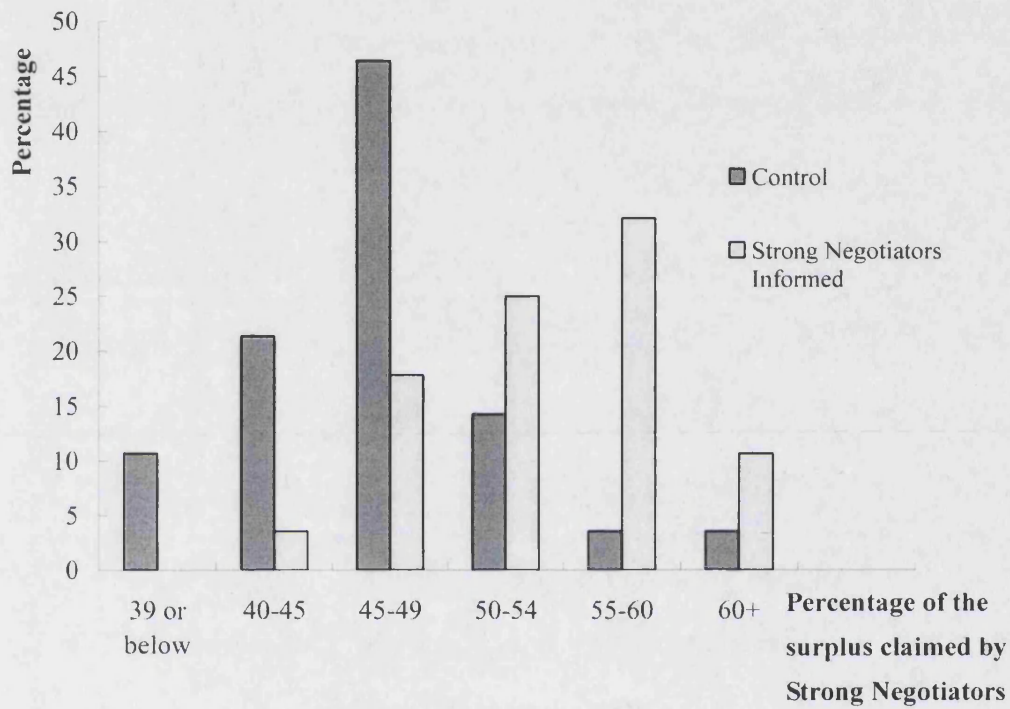
Experimental Conditions	Information Levels
Condition 1 (Control)	Neither player knew his or her opponent's BATNA
Condition 2	Only Strong negotiators knew both BATNAs

Note. This analysis only considered two experimental conditions and weak negotiators' knowledge was held constant, because Pinkley (1995) suggests that this knowledge can have an impact on strong negotiators' bargaining strength.

To examine whether knowledge of BATNA-asymmetries influences strong negotiators' bargaining strength, an independent-samples *t*-test was used. I compared their bargaining strength when only they were informed of both BATNAs, to that when neither party was informed (**control group vs. condition 2**) (see Table 3.5). According to Hypothesis 3, strong negotiators' knowledge of BATNA-asymmetries should increase with bargaining strength. The finding supports its prediction. When only strong negotiators were informed of both BATNAs, they obtained a larger share of the resource pie ($M = 54.0\%$) than when they lacked this knowledge ($M = 47.5\%$), $t = 6.34$,

$p < .0005$. Therefore, this indicates that information of another's BATNA available to strong negotiators had a significant impact on their bargaining strength.

Figure 3.3 Distribution of Strong Negotiators' Bargaining Strength (Control vs. Condition 2)



It might be interesting to describe the distribution of bargaining surplus that informed strong negotiators claimed below and above the mean proportion ($M = 54.0\%$). 52% of informed strong negotiators showed bargaining strength above the mean while 48% received a share of the resource pie that was below the mean. As can be seen in Figure 3.3, it is clear that informed strong negotiators were more capable of claiming bargaining surplus than control strong negotiators were: the percentage of informed strong negotiators claiming more than half of the resource pie was always higher than that of control strong negotiators.

3.7.5 Knowledge of BATNA-Asymmetries and Agreement Efficiency

Study 1 was also designed to identify conditions under which BATNA-asymmetries improves agreement efficiency. The research question addressed is whose knowledge of BATNA-asymmetries (strong, weak or both negotiators') can have an impact on agreement efficiency. Three different hypotheses were examined in this study. Pinkley's (1995) refined hypothesis suggests that knowledge of BATNA-asymmetries gives strong negotiators more freedom to signal information and to find creative ways to expand the resource pie¹². In contrast, according to Roloff & Dailey's (1987) hypothesis, weak negotiators' knowledge can put pressure on them to develop creative solutions. Alternatively, knowledge of BATNA-asymmetries may need to be commonly held by both parties, in order to improve dyads' ability to find efficient agreements. To test these possibilities, Study 1 will explore:

If Pinkley's (1995) explanation is correct:

Hypothesis 4a: When only strong negotiators are informed of both BATNAs, agreements with greater efficiency will be reached than when they have no information about another's BATNA.

¹² It is important to note that Pinkley's (1995) original hypothesis is that the existence of an attractive BATNA alone provides strong negotiators with freedom to signal relevant information. However, as shown in chapter 1, this was not supported. The hypothesis tested in this study is a refined version of Pinkley's (1995) hypothesis.

If Roloff & Dailey's (1987) explanation is correct:

Hypothesis 4b: When only weak negotiators are informed of both BATNAs, agreement with greater efficiency will be reached than she has no information about another's BATNA.

If the Alternative explanation is correct:

Hypothesis 4c: Settlement with greater efficiency will be obtained when both parties are informed of each other's BATNA than when they lack information.

As mentioned, three different measurements used to examine agreement efficiency were:

- (1) Joint outcomes – The sum of bargaining surplus that strong negotiators and weak negotiators received
- (2) Integrativeness score – reflects whether negotiators fully trade-off issues for which they have different priorities. There were two possible integrative trade-offs; therefore, the maximum score was two.
- (3) Number of Superior Agreements – indicates the number of agreements for which at least one of the parties would have done better and neither would have done worse. Higher numbers of superior agreement indicate less efficient agreements. There were 15,625 possible agreements in this simulation and the value of agreements reached for each dyad was compared against them. Illustrated in Figure 3.4 are the

possible agreements.

Figure 3.4 Feasible Agreements

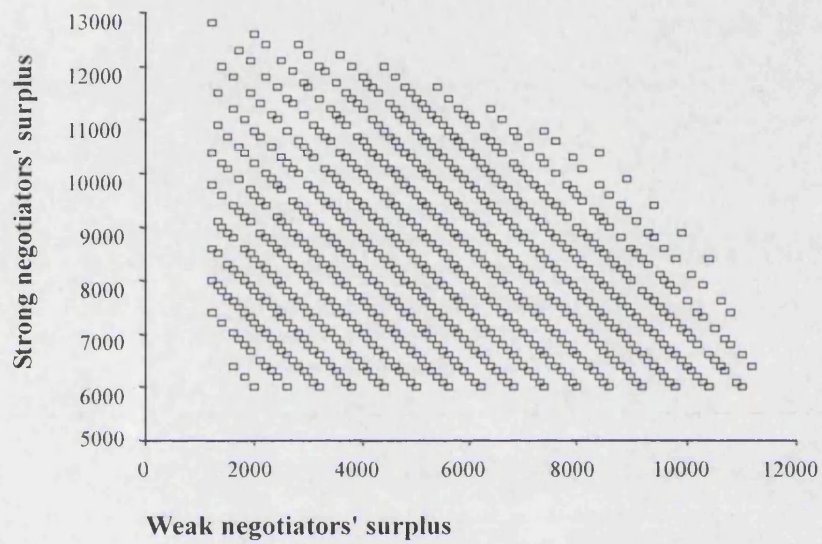


Table 3.6 Means (Standard Deviations) for Joint Gains, Integrativeness Score, and Number of Superior Agreements by Experimental Conditions (Study 1)

	Experimental Condition			
	Neither Informed (Control)	Only Strong Negotiators Informed (Condition 2)	Only Weak Negotiators Informed (Condition 3)	Both Informed (Condition 4)
Joint Gain	16,929 _a (1,401)	16,086 _b (1,985)	17,943 _c (986)	15,789 _b (1,779)
Integrativeness Score	0.68 _a (0.82)	0.54 _a (0.74)	1.29 _b (0.71)	0.39 _a (0.63)
Number of Superior Agreements	133 _a (258)	560 _b (1,005)	18 _c (47)	411 _b (601)

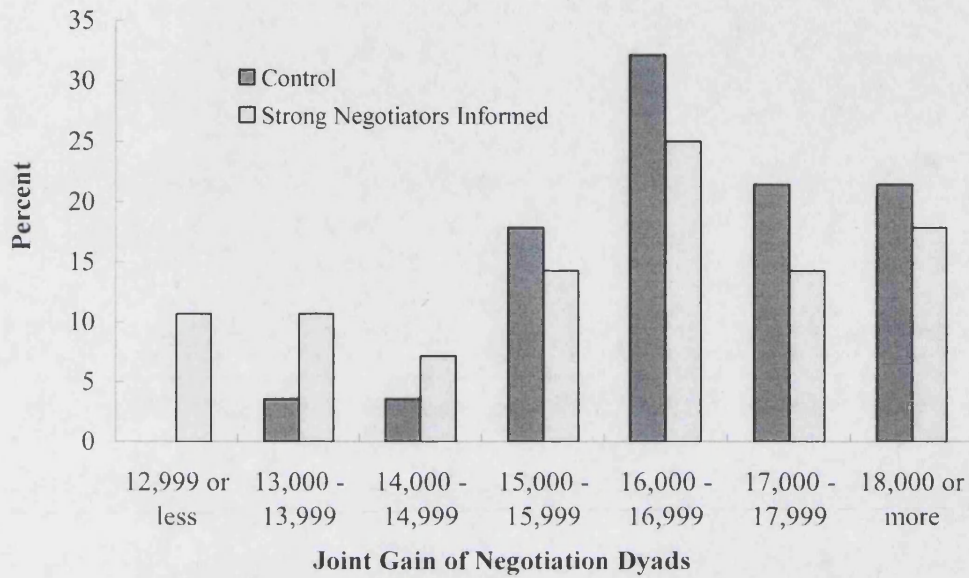
Note. $N = 28$ in each condition. Lower numbers of superior agreement indicate more efficient agreements. Maximum joint gain = 18,800; maximum integrativeness score = 2. Subscripting is based upon comparisons of means within each row using ANOVAs with contrasts; different subscripts indicate means differ at $p < .05$ or less. (e.g. the joint outcome for Control is given the subscript 'a' and it is significantly different to that for Condition 2 given subscript 'b'. However, the joint outcomes for Condition 2 and 4 are not significantly different.)

ANOVAs with contrasts were used to test the relationship between the manipulated levels of knowledge of BATNA-asymmetries (Experimental Condition) and agreement efficiency. Significant main effects were found on joint outcomes, $F(3,111) = 10.27, p < .0005$, integrativeness score, $F(3,111) = 4.81, p < .05$, and number of superior agreements, $F(3,111) = 8.12, p < .0005$. A series of planned comparisons was conducted to clarify these relationships.

Pinkley's Explanation (Strong Negotiators' Knowledge)

Hypothesis 4a predicted that knowledge of BATNA-asymmetries by strong negotiators would have an impact on agreement efficiency. If this is correct, strong negotiators' knowledge should increase with joint outcomes and integrativeness scores, but decrease with number of superior agreements. The findings do not support Hypothesis 4a. Contrary to the prediction of this hypothesis, *a priori* contrasts (control vs. condition 2) revealed that strong negotiators' knowledge of BATNA-asymmetries *destroyed* agreement efficiency. When only strong negotiators were informed of both BATNAs, joint gains were significantly *lower* than when neither party was informed ($M = 16,086_b$ compared to $M = 16,929_a$), $t = 1.98$, $p < .05$ (see Table 3.6). For integrativeness scores, there was no significant difference between two groups. In addition, when only strong negotiators were informed, the number of superior agreement was significantly *higher* than when no party was informed ($M = 560_b$ vs. $M = 133_a$), $t = 2.66$, $p < .01$ (higher numbers of superior agreements indicate less efficient agreements). These findings suggest that strong negotiators' knowledge did not improve, but hinder, dyads' ability to search for efficient solutions.

Figure 3.5 Distribution of Joint Gains (Control vs. Condition 2)



Examining distributions of joint gains in different experimental conditions, as shown in Figure 3.5, when only strong negotiators were informed, higher proportions of dyads reached agreements with low joint outcomes than when neither party was informed. Looking at the region of high joint outcomes, the pattern was reversed: control dyads were more likely to reach efficient agreements. Also, the data shows that when only strong negotiators were informed, only 11% of dyads reached the most efficient agreement but about 21% of dyads did so in the control group.

Roloff & Dailey's Explanation (Weak Negotiators' Knowledge)

Hypothesis 4b suggested that knowledge of BATNA-asymmetries being made available to weak negotiators improves dyads' ability to find efficient outcomes. If this is correct,

joint gains and integrativeness scores will increase with weak negotiators' knowledge, but number of superior agreements will decrease. Planned comparisons of the measures of agreement efficiency between the control group and condition 3 provided evidence to support Hypothesis 4b. As can be seen in Table 3.6, both joint gains and integrativeness scores were significantly higher when only weak negotiators were informed (condition 3) than when no party was informed (control) ($M = 17,943_c$ vs. $M = 16,929_a$ and $M = 1.29_b$ vs. $M = 0.68_a$), $t = 3.13, p < .01, t = 3.11, p < .01$. In addition, when only weak negotiators were informed, numbers of superior agreements were significantly lower than when neither party was informed ($M = 18_c$ vs. $M = 133_a$), $t = -2.32, p < .05$. The results show that weak negotiators' knowledge of BATNA-asymmetries alone facilitates the development of efficient agreements.

Figure 3.6 Distribution of Joint Gains (Control vs. Condition 3)

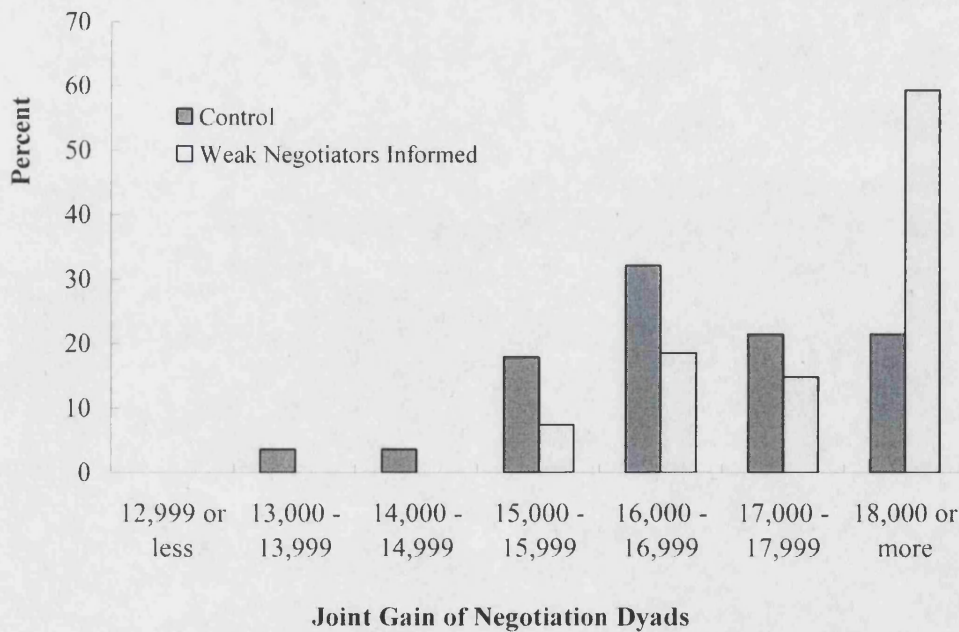
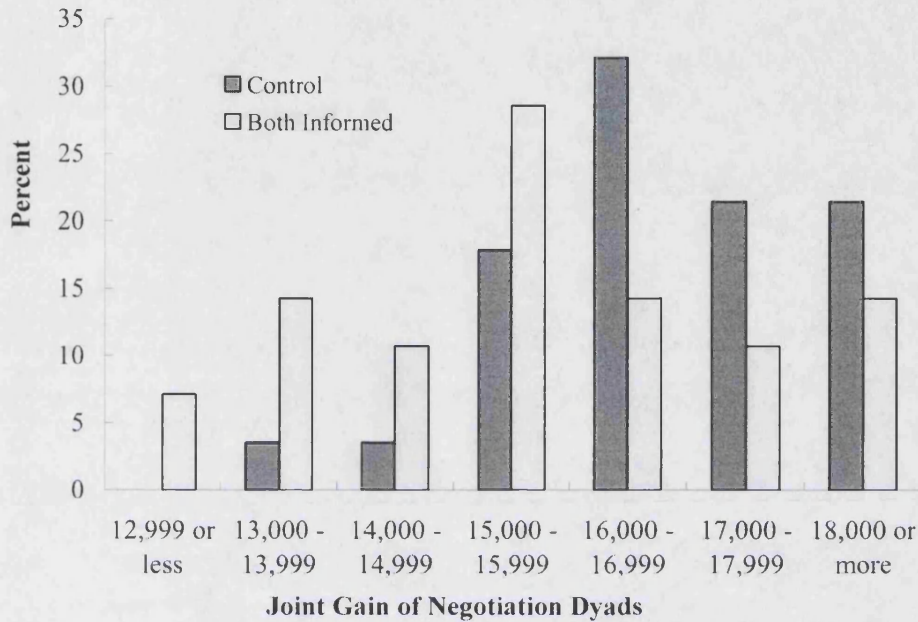


Figure 3.6 shows the impact of weak negotiators' knowledge on joint gains. It is clear that weak negotiators' knowledge improves agreement efficiency: when only weak negotiators were informed, almost 60% of dyads reached agreements with 18,000 points or more but only 21% of control dyads did so. Also, it is important to note that when only weak negotiators were informed, about 45% of dyads found both integrative trade-offs, whereas just 21% in the control group did so.

Alternative Hypothesis (Complete Knowledge)

According to Hypothesis 4c, the prediction was that when both players were aware of BATNA-imbances, agreement efficiency would be greater than when they were not. Planned contrasts (control vs. condition 4) of efficiency were performed to test this relationship. However, the findings contradict this conjecture. As can be seen in Table 3.6, when both negotiators were informed (condition 4), joint gains were significantly *lower* than when they lacked information ($M = 15,789_b$ compared to $M = 16,929_a$), $t = 2.67$, $p < .01$. The integrativeness score in condition 4 ($M = 0.39_a$) was just marginally lower than that in the control group ($M = 0.68_a$), $t = 1.47$, $p = 0.07$. Finally, consistent with joint gains, when both parties had knowledge, numbers of superior agreements were significantly *higher* than when they lacked knowledge ($M = 411_b$ vs. $M = 133_a$), $t = 2.25$, $p < .05$. The results indicate that complete knowledge of BATNA-asymmetries hindered dyads from reaching efficient solutions.

Figure 3.7 Distribution of joint gains (Control vs. Condition 4)



As shown in Figure 3.7, higher percentages of dyads in complete knowledge condition than control dyads reached agreements with low joint outcomes. For instance, 21% of dyads with complete knowledge, compared to less than 4% of control dyads, reached agreements with 14,000 points or less. However, it is more likely that control dyads reached efficient agreements than those in complete knowledge condition. It is also important to note that just 7% of dyads in complete knowledge condition found both integrative trade-offs, compared to 21% of control dyads.

3.8 General Discussion

The following discussion focuses on how the results in Study 1 provide a piece of the puzzle in the existing literature. In particular, four different aspects will be discussed in turn: (1) negotiators' perceptions about opponents' BATNAs, (2) aspiration, (3) bargaining strength, and (4) agreement efficiency. Also, a general discussion will be given at the end of this chapter to bring out the key ideas for analysing what this chapter shows. This will allow for tentative sideways links to other literatures relevant to the same theme. Finally, I will consider potential limitations in Study 1 and future directions.

3.8.1 Negotiators' Perceptions of Opponents' BATNAs

The first research question addressed an apparent lack of supportive empirical evidence for theoretical arguments predicting a relationship between the quality of negotiators' BATNAs and their perceptions about others'. According to Thompson and Hastie's (1990) 'projection hypothesis', negotiators should tend to base their perceptions about opponents on their own position. Given that BATNA-imbalanced negotiations were considered in this study, I examined the impact of strong and weak negotiators' BATNAs on their perceptions about others' BATNAs, prior to negotiations. It was found that the quality of negotiators' BATNAs influenced how expectations about others' BATNAs were formed. A substantial number of strong negotiators (94%) and weak negotiators (90%) reported that they believed their opponents also had a BATNA. They tended to assume that their opponents possessed BATNAs that were very similar

to their own. The results suggest that their estimations about opponents' BATNAs are anchored to their own BATNAs to a great extent, which is consistent with Thompson and Hastie's (1990) 'projection hypothesis'.

Thompson and Anderson (2004) implicitly share a similar view in their study in which they attempted to create a power difference between the negotiation parties by providing one of them with a BATNA. They found that giving a BATNA to negotiators did not have a significant impact on perceptions of their own power status as the authors intended (i.e. negotiators possessing a BATNA did not significantly perceive themselves as more powerful than those without one). They hypothesised that negotiators might be uncertain as to whether their counterparts had a BATNA as well. However, they did not empirically test this hypothesis. The question of *why* the negotiators with a BATNA do not perceive themselves as more powerful remains unanswered in their study. The current research addresses this question and extends their hypothesis that the negotiators might be uncertain as to whether their opponents also have a BATNA. The findings from the present study provide a fuller understanding of the process by which negotiators with a BATNA perceive their counterparts' BATNA status.

In real-life situations, negotiators often do not know the precise value of others' BATNAs, but they may have some information about others' position. Therefore, Study 1 also considered the effect of the range of possible BATNAs on negotiators' perceptions about others' BATNAs, when negotiators' BATNAs were in the extreme of the range (weak negotiators in this case). Given the range, the best guess of others'

BATNAs should be the range median. It was found that when weak negotiators were given the range, their perceptions were farther from their own BATNAs than those who did not know the range. Being given the range lessened the anchoring effect of negotiators' BATNAs but perceptions of weak negotiators were still below the range median.

In situations when no information about others' BATNAs is available, knowledge of BATNA-asymmetries may play an important role in how negotiators approach negotiations and the structure of negotiated outcomes. Next, I will emphasise the importance of an opportunity of interpersonal BATNA comparisons in different aspects of negotiations, such as aspiration levels, bargaining strength, and agreement efficiency.

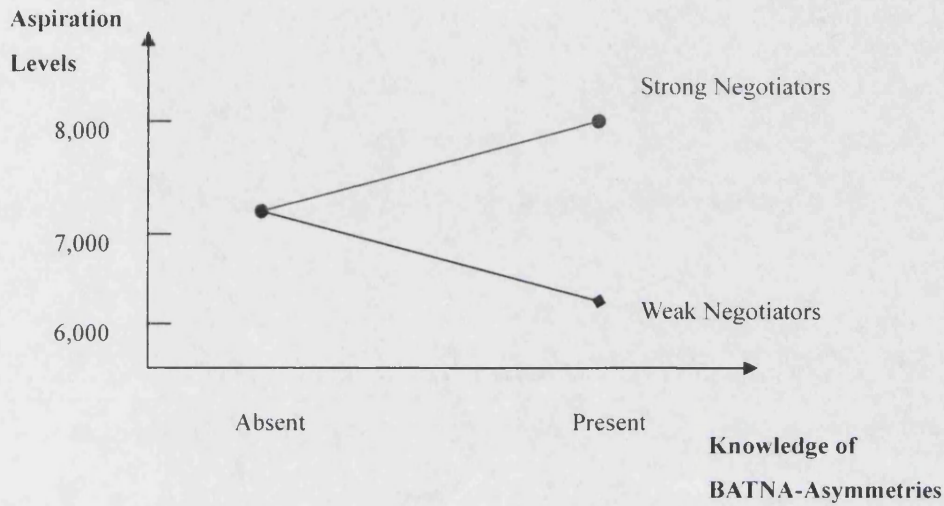
3.8.2 Knowledge of BATNA-Asymmetries and Aspiration

Previous research has shown that the quality of BATNAs does not affect negotiators' aspiration levels when their BATNAs are worth less than what a compromise agreement constitutes (Pinkley *et al.*, 1994). This was replicated in Study 1: when knowledge of BATNA-asymmetries is not available, negotiators with different BATNAs (i.e. strong and weak negotiators) reported very similar aspiration levels¹³. The second issue addressed by Study 1 was that whether knowledge of BATNA-asymmetries influences negotiators' aspirations when they have different BATNAs.

Knowledge of BATNA-asymmetries decreased with weak parties' aspiration levels (see Figure 3.8). This is because an assumption of equal-BATNA situations led to an underestimation of the *wideness* of BATNA-differences between parties. As a result, when weak negotiators lacked information of BATNA-asymmetries, their initial aspiration levels were unrealistically high. Therefore, the role of this information was to help them reasonably identify their position in the negotiation, in comparison with their opponents'. Clearly, weak negotiators would expect less from the existing negotiation when they better understand how a bargaining situation was characterised, than when they lacked this knowledge.

¹³ Note that the values of both strong and weak negotiators' BATNAs were less than compromise solution in this study.

Figure 3.8 Negotiators' Aspirations as a Function of BATNA Knowledge



On the other hand, strong negotiators' aspiration levels increased with their knowledge of BATNA-imbalances (see Figure 3.8). An explanation is that in the absence of this knowledge, strong negotiators' aspiration levels were unrealistically low, since they assumed that their opponents would also have attractive BATNAs. Knowledge of BATNA-asymmetries would help them identify that they were in the position of higher power than their opponents. As a result, informed strong negotiators expected to obtain more from the existing negotiation than uninformed strong negotiators who overestimated their opponents' BATNAs.

As discussed in Chapter Two, many scholars have argued out that negotiators with high aspirations would outperform those with lower aspirations because high aspirations lead to higher demands and fewer concessions (Brodt, 1994, Cummings and Harnett, 1969, Hamner and Harnett, 1975, Thompson, 1995). Coupling theorists' suggestions

with the effect of knowledge on strong negotiators' aspirations, informed strong negotiators were therefore expected able to do better in claiming values than those without knowledge. The relationship between knowledge of BATNA-asymmetries and strong negotiators' bargaining strength will be discussed next.

3.8.3 Knowledge of BATNA-Asymmetries and Bargaining Strength

One of the purposes of Study 1 was to examine whether strong negotiators' knowledge of BATNA-asymmetries improves their bargaining strength. As predicted, the result showed that strong negotiators' bargaining strength was mediated by this knowledge in a predictable way. Clearly, being given this information placed strong negotiators in a position of greater bargaining strength, resulting in a bigger slice of the resource pie than control strong negotiators who lacked this information. It explains why in some studies strong negotiators were able to reflect their BATNA advantage (Kim and Fragale, 2005, Komorita and Leung, 1985, Magee *et al.*, 2007, Pinkley *et al.*, 1994) but in another study, they failed to do so (Pinkley, 1995). The finding that strong negotiators' knowledge of BATNA-asymmetries was a mediator has important implications. Magee *et al.* (2007) examine the relationship between BATNAs and the likelihood and pattern of negotiators making the first offer. They show that strong negotiators, compared to weak negotiators, are more likely to make an advantageous first offer, but this finding was confined to situations where strong negotiators knew both BATNAs. It is possible that the observed effect of BATNA on the first offer made is also mediated by knowledge of BATNA-asymmetries. More research is necessary to address this issue.

Also, Study 1 indicated that those control strong negotiators were outperformed by their weaker counterparts, even though they had a more attractive BATNA than others. The question emerges as to *why* having an attractive BATNA is not sufficient to provide strong negotiators with a larger share of surplus?

One place to begin to address this question would be to speculate about strong parties' mind-set when they did not have knowledge of BATNA-asymmetries. One possible explanation is that uninformed strong negotiators, as shown previously, assumed that their counterparts also had an attractive alternative to the negotiation. As a result, they would act as if they were in equal-BATNA situations. In contrast, knowledge of BATNA-asymmetries provided strong negotiators with a *justification* of a larger share of the resource pie. It signals to them that their counterparts rely on the existing negotiation to a greater extent than they do.

However, the results indicated that the impact of knowledge of BATNA-asymmetries on strong negotiators' bargaining strength was not considerable. The increase in their bargaining strength was only about 6-7%. Why is this? Unlike other studies (Roth and Malouf, 1979, Roth and Murnighan, 1982), opponents' payoff structures were never revealed to strong negotiators in this study. Therefore, they knew little about the exact amount of surplus that their weaker counterparts would receive from any particular agreements. Although the increase in their bargaining strength was not large, effects of knowledge of BATNA-asymmetries on strong negotiators' strategies and how they approach negotiations should not be underestimated. As will be discussed later, knowledge of BATNA-asymmetries, when given to strong negotiators, can have an

impact on dyads' ability to reach efficient agreements. This may be due to the fact that informed strong negotiators approached negotiations very differently from those without knowledge¹⁴.

A Bigger Slice of a Smaller Pie or a Smaller Slice of a Bigger Pie

Bargaining strength – using proportions of surplus that strong negotiators received – might not reveal the entire story, and could be misleading. Although it allows us to make judgements as to whether information about another's BATNA increases their bargaining strength, it fails to examine if strong negotiators are better off when only strong negotiators are informed than when they are not. To illustrate, imagine negotiators A and B bargain over how to divide £100 and negotiator A gets £40, 40% of the total available surplus. When negotiators C and D negotiate how £50 should be split, negotiator C receives £30, 60% of the total surplus. In terms of bargaining strength, negotiator C performs better than negotiator A, but is it right to say that negotiator C, who has £30, *is better off* than negotiator A with £40?

Focussing only on the effect of knowledge of BATNA-asymmetries on bargaining strength might distort the character of the data, since it assumes that the size of the resource does not change. Perhaps it is unwise to draw the conclusion that informed strong negotiators were better off than control strong negotiators. In light of this potential problem, bargaining strength should be interpreted cautiously. To address this problem, an additional analysis of their absolute payoffs is needed. The results show

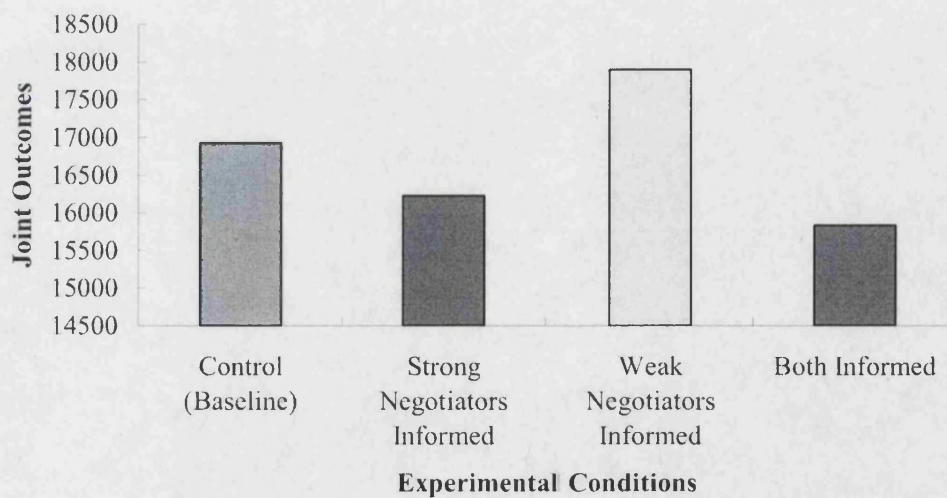
¹⁴ The process by which this occurs will be addressed in Study 2 and Study 3.

that there was a significant main effect of strong negotiators' knowledge on their absolute payoffs. When only strong negotiators were informed of both BATNAs, they obtained higher payoffs than when they lacked information ($M = 8,724$ vs. $M = 8,054$). Therefore, it is evident that strong negotiators' knowledge not only increased greater bargaining power, but also led to higher payoffs.

3.8.4 Knowledge of BATNA-Asymmetries and Agreement Efficiency

The final question addressed in Study 1 was whose knowledge of BATNA-asymmetries results in an improvement of agreement efficiency? This issue was examined by challenging negotiators with a task requiring logrolling skills to reach efficient agreements and by providing them with knowledge of BATNA-asymmetries. As illustrated in Figure 3.9, the effect of knowledge of BATNA-asymmetries on agreement efficiency can differ, depending on the quality of one's BATNA in relation to another's. When only strong negotiators were informed of both BATNAs, dyads were less likely to reach efficient agreements than when they were not. Conversely, weak negotiators' knowledge of BATNA-imbalances alone improved dyads' ability to reach efficient agreements. When both parties had complete knowledge of BATNA-asymmetries, dyads tended to attain less efficient agreements than they both lacked this knowledge.

Figure 3.9 Agreement Efficiency across Experimental Conditions



This pattern of result can shed some light on why dyads with unequal BATNAs reach more efficient outcomes than those with equal BATNAs (Pinkley, 1995, Pinkley *et al.*, 1994, Roloff and Dailey, 1987). There are two existing but competing explanations, one by Pinkley (1995) and another by Roloff and Dailey (1985). Each of these requires knowledge of BATNA-asymmetries being available to one of the parties, either strong or weak negotiators. Therefore, the observed impact of knowledge of BATNA-asymmetries on efficiency allows for preliminary examinations of these explanations. In addition, Study 1 examined whether complete knowledge of BATNA-asymmetries may be required to improve agreement efficiency.

First, the refined version of Pinkley's (1995) hypothesis was that knowledge of BATNA-asymmetries provides strong negotiators with both the freedom and motivation to signal relevant information and find creative ways to expand the resource pie. Contrary to Pinkley's (1995) hypothesis, the findings showed that knowledge of BATNA-asymmetries by strong negotiators did not improve dyads' ability to find efficient agreements. Therefore, Pinkley's (1995) explanation is not supported in this research. Not only did strong negotiators' knowledge of BATNA-imbances fail to facilitate the development of efficient solutions, but it also seemed to hinder this process.

As discussed previously, negotiation efficiency was assessed with the use of three different measurements, (1) joint gains, (2) integrativeness scores, and (3) numbers of superior agreements. Both joint gains and numbers of superior agreements indicated the detrimental effect of strong negotiators' knowledge on efficiency. However, there was

no significant difference in integrativeness scores between control dyads and dyads with informed strong negotiators, although the trend was consistent with the other two measurements. This is because integrativeness scores were used to indicate if negotiators *fully* traded off issues in the most profit-maximising way whereas the others directly examined agreement efficiency. The pattern of results suggests that both control dyads and those with informed strong negotiators were unlikely to fully trade off issues but the former tended to trade off to a greater extent.

Second, according to Roloff and Dailey (1987), weak negotiators' knowledge of BATNA-asymmetries is the key to the development of efficient agreements in BATNA-imbalanced negotiations. The relationship between weak negotiators' knowledge and agreement efficiency was tested in Pinkley's (1995) study, but it received weak support. This is because it was common knowledge that strong negotiators did not know both BATNAs in Pinkley's (1995) design. As mentioned in Chapter Two, the argument was that if weak negotiators knew that their opponents were not informed, they would be free to behave in the same way as strong negotiators (or any other way), and consequently, the impact of weak negotiators' knowledge on efficiency would be greatly reduced. Therefore, the current study explored the possibility of this confounding variable, and non-common knowledge of whether strong negotiators knew both BATNAs was shown to be important. When this confounding variable was removed, weak negotiators' knowledge alone was found to improve the development of efficient agreements. The pattern of results generally supports Roloff and Dailey's (1987) explanation in this study.

Apart from existing hypotheses proposed by Pinkley (1995) and Roloff & Dailey (1987), the study explored the possibility that commonly held knowledge of BATNA-imbalances may be necessary to increase agreement efficiency. As illustrated in Figure 3.9, when both parties had complete knowledge about BATNA-asymmetries, they tended to reach less efficient agreements than when they had no knowledge. The pattern of results contradicted the prediction of the alternative explanation. Instead, it suggests that complete knowledge hinders negotiators from reaching efficient outcomes.

Of all the results, this finding is probably most intriguing. While weak negotiators' knowledge alone improved the quality of agreements, dyads' ability to reach efficient agreements was hindered when strong negotiators' knowledge was also introduced. The pattern of results suggests that the detrimental impact of strong negotiators' knowledge of BATNA-asymmetries on agreement efficiency is powerful enough to 'wash out' the benefit of weak negotiators' knowledge of BATNA-asymmetries. More research is necessary to identify how this occurs.

Thus far, we have discussed the four main research questions raised in this chapter. The following discussion focuses on how the results provide a piece of the puzzle in the existing literature that has not yet been directly addressed in Study 1. First, an attempt will be made to untangle the inconsistencies of mixed results regarding the relationship between power and agreement efficiency in previous studies. Also, Study 1 has examined the effects of negotiators' knowledge of BATNA-asymmetries on both distributive and integrative outcomes separately. The second part combines and

Chapter Three – Importance of Knowledge of BATNA-Asymmetries (Study 1)

generalises these findings to evaluate whether negotiators' knowledge introduces a trade-off between integrative and distributive outcomes. Finally, this chapter will consider the potential limitations and future directions of the current research.

3.8.5 Equal Power versus Unequal Power and Agreement Efficiency

Along with other theorists, the current research used the BATNA manipulation to create a power difference between parties (Brett *et al.*, 1996, Pinkley, 1995, Pinkley *et al.*, 1994, Roloff and Dailey, 1987). Strong negotiators had a better quality of BATNA than weak negotiators did. Power has also been operationalised in different ways in other negotiation studies. For instance, Mannix and Neale (1983) adopted a market setting and power difference was created by giving negotiators asymmetric numbers of alternative negotiation partners that existed in the market. Lawler and Yoon (1993) manipulated power by varying the probabilities of various profits from the alternative negotiator. In case of an impasse, power-advantaged negotiators had a higher expected value of the alternative outcome than power-disadvantaged negotiators did.

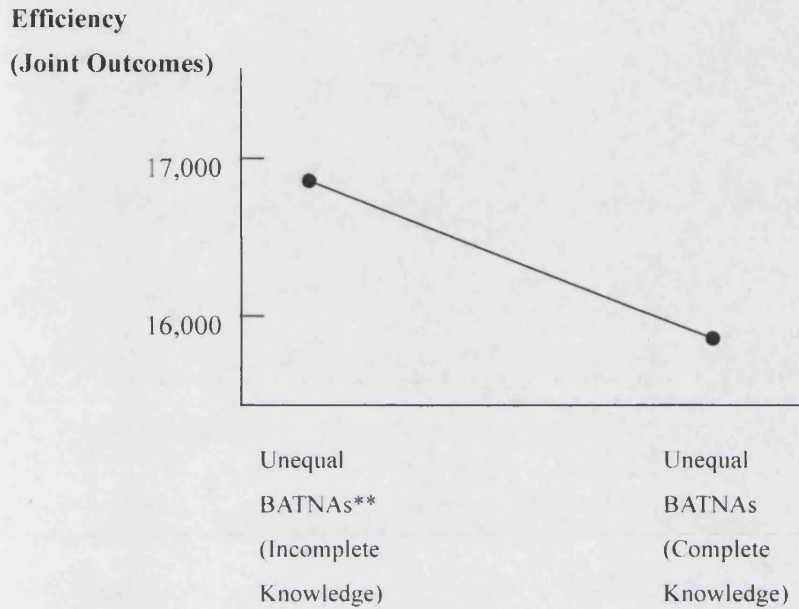
Previous empirical research has provided mixed results on whether equal or unequal power (or BATNA) among dyad members results in agreements of higher efficiency. Past research that employed BATNA manipulation suggests that dyads with asymmetric BATNAs reach agreements of higher efficiency than those with equal BATNAs (Pinkley *et al.*, 1994, Roloff and Dailey, 1987). In contrast, the stream of research using different power manipulations has shown that dyads with an equal balance of power are more likely to reach solutions of higher efficiency than those with an unequal balance of power (Lawler and Yoon, 1993, Mannix and Neale, 1993).

Clearly, there are contradictions within this set of findings. Why do dyads with unequal BATNAs sometimes outperform dyads with equal BATNAs and sometimes vice versa?

Perhaps the power manipulation used is relevant. Alternatively, the amount of knowledge about BATNA-asymmetries that negotiators hold may be important. Although the difference in efficiency between equal and unequal power was not directly addressed in the current study, the relationship between negotiators' knowledge and agreement efficiency explored may help untangle the inconsistencies in the literature.

Before addressing this issue, it is necessary to first examine the difference in negotiators' knowledge among these studies. An assumption of complete knowledge was made in studies suggesting that dyads with equal power reached agreements of higher efficiency (Lawler and Yoon, 1993, Mannix and Neale, 1993). That is, negotiators knew their own and the others' power status or BATNAs. However, Pinkley *et al.* (1994) and Roloff & Dailey (1987), who found that dyads with unequal BATNAs reached more efficient agreements, did not make such an assumption. In fact, it is unclear from the descriptions of their experimental design to what extent negotiators shared information about their BATNAs.

Figure 3.10 A Summary of Findings in Agreement Efficiency (Study 1)



Note. ** This is the baseline model (control group) in the current study.

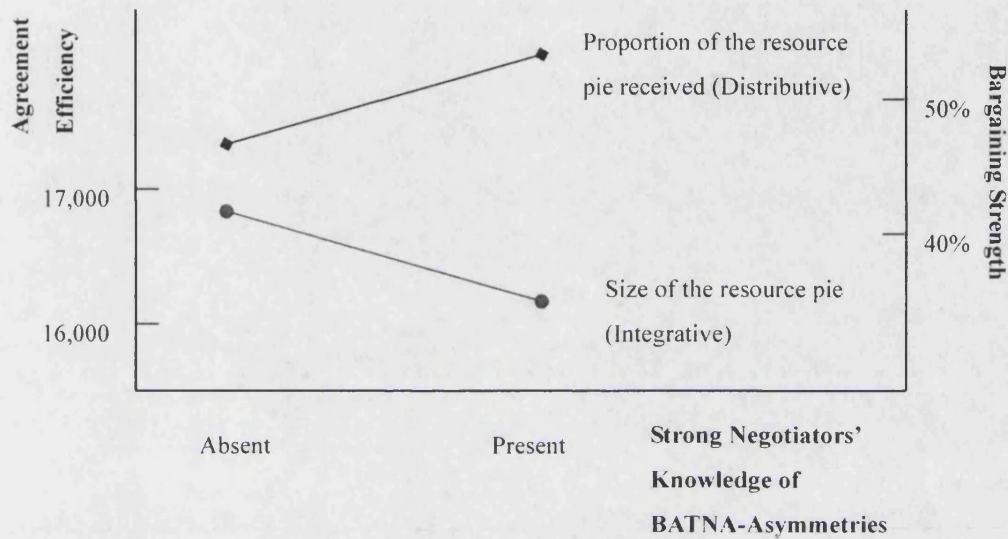
Brett *et al.* (1996) and Pinkley (1995) found that when negotiators only knew their own BATNAs and were told not to reveal their BATNAs to opponents, there was no difference in agreement efficiency between dyads with unequal BATNAs and those with equal BATNAs. Note that in the control group in Study 1, dyads with asymmetric BATNAs had incomplete information about others' BATNAs. In other words, based on the past findings, the control group is equivalent to dyads with equal BATNAs in terms of agreement efficiency. Also, the current study showed that complete knowledge of BATNA-asymmetries (i.e. both parties knew both BATNAs) had an adverse effect on dyads' ability to reach efficient solutions (see Figure 3.10). This implies that when both strong and weak negotiators had complete knowledge, they tended to reach less efficient agreements than dyads having equal BATNAs.

Together, these results explain the contradiction in findings from those studies considering the difference in efficiency between dyads with equal power and those with unequal power. As shown earlier in this chapter, strong negotiators' knowledge and weak negotiators' knowledge have opposite impacts on agreement efficiency. However, the detrimental effect of strong negotiators' knowledge is sufficiently powerful to override the benefit of weak negotiators' knowledge on efficiency.

3.8.6 Trade-off between Integrative and Distributive Bargaining

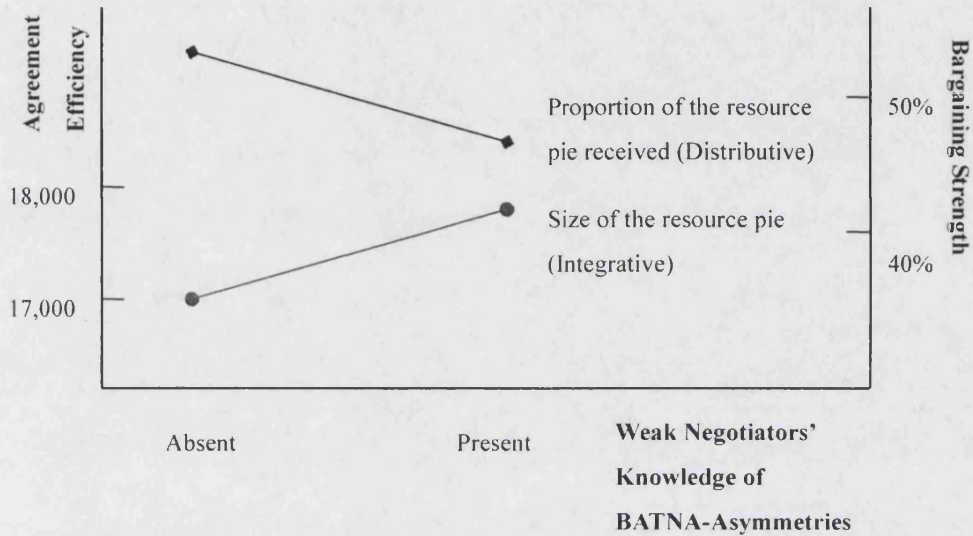
The patterns of results from Study 1 suggest that information about another's BATNA introduces a trade-off between distributive and integrative bargaining for both strong and weak negotiators. Both advantages and disadvantages of possessing this information were observed. For example, knowledge of BATNA-asymmetries might lead negotiators to be more effective at distributive bargaining, but at the same time ineffective at integrative bargaining, or vice versa.

Figure 3.11 A Trade-off Introduced by Strong Negotiators' Knowledge



As can be seen in Figure 3.11, when only strong negotiators were informed of both BATNAs, their bargaining strength was found to be greater than when they were not informed. That is, this information seems to propel strong negotiators to taking a larger share of the resource pie. On the other hand, this knowledge was also found to influence agreement efficiency. When strong negotiators were aware of BATNA-asymmetries, negotiation dyads tended to be less likely to attain efficient outcomes than when they were not. In other words, strong negotiators' knowledge of BATNA-asymmetries seems to reduce the size of the resource pie to be divided between negotiators. In light of opposing effects of strong negotiators' knowledge on the distributive and integrative elements, a trade-off was therefore introduced.

Figure 3.12 A Trade-off Introduced by Weak Negotiators' Knowledge



Directions of the impact of weak negotiators' knowledge on bargaining strength and agreement efficiency are the reverse. There was a significant effect for weak negotiators' knowledge on their bargaining strength. When only weak negotiators knew both BATNAs, they tended to garner a small share of the bargaining surplus than when they did not know both BATNAs (see Figure 3.12). Why is this? Recall that weak negotiators' aspiration levels decreased with knowledge of BATNA-asymmetries. Considering how aspirations affect the way negotiators approach negotiations (Brodtt, 1994, Cummings and Harnett, 1969, Hamner and Harnett, 1975, Thompson, 1995), an explanation is that informed weak negotiators with lower aspirations make less aggressive opening offers and concede more quickly than control weak negotiators, resulting in a smaller share of the resource pie.

On the other hand, it was shown that weak negotiators' knowledge of

BATNA-asymmetries had a considerable impact on the quality of negotiated agreements. When only weak negotiators were informed of both BATNAs, dyads were more capable of reaching efficient agreements than when they were not. Although knowledge of BATNA-asymmetries led them to be less effective at distributive elements, at the same time it increased the size of the resource pie to be divided. Similar to strong negotiators' knowledge, it introduces a trade-off between distributive and integrative outcomes but in the opposing direction.

3.8.7 Potential Limitations and Future Directions

The current study, like much of the research on negotiations, adopted a job offer negotiation simulation (Anderson and Thompson, 2004, Brett *et al.*, 1996, Pinkley, 1995, Pinkley *et al.*, 1994). One might argue that the job offer negotiation might have created more than just BATNA differences between parties. Being designated as recruiters might have placed individuals in a position of higher power, and it could also have activated social norms unrelated to BATNAs; for instance, employers are commonly considered to have ‘legitimate’ and ‘reward’ power over candidates, therefore outperform their counterparts. Thus, the ‘role’ effect could be a potential confounding factor.

Yet, the findings from Study 1 showed that when negotiators had no knowledge about others’ BATNAs, strong negotiators did not outperform than weak negotiators in terms of distributive outcome. In fact, they attained a slightly smaller share of the resource pie ($M_{strong} = 47.5\%$) than did weak negotiators ($M_{weak} = 52.5\%$). This implies that there is little effect of ‘role’ to start with. In support of this assertion, Pinkley (1995) tested the effect of ‘role’ and there was no difference in the results in terms of distributive and integrative outcomes. Finally, it is important to note that the potential confounding factor of ‘role’ in the current research (if any) will be eliminated, because the *absolute difference* in negotiated outcomes across different experimental conditions was of interest. As a result, any observed changes in negotiated outcomes speak only to the effect of negotiators’ knowledge about BATNA-asymmetries.

The second potential limitation concerns the setting of the negotiation simulation. The present research, like most of the research on negotiations, used university students and the stakes were lower than they would be in real-life situations. This may limit the generalisability of the findings because individuals may behave differently if the stakes involved are higher, or they may use information about others' BATNAs in a different way. Thus, it is important to conduct complementary research in real-world negotiation settings to verify the external validity of the findings.

At the beginning of this chapter, the impact of negotiators' BATNAs on perceptions about others' positions were considered. Only two values of BATNAs (1,200 and 6,000 points) were considered in this study. This could be problematic. One might argue that negotiators with *different* levels of BATNAs may be anchored to their own BATNAs to *different* degrees, when estimating their opponents' positions. For example, negotiators with a BATNA of 1,200 points may perceive that their opponents' BATNAs are similar to their own. However, negotiators with a BATNA of 3,000 points may not do so. An assumption – that the impact of negotiators' BATNA on their perceptions is independent of the quality of BATNAs – entails a significant loss of generality and comprehensiveness. Therefore, the findings have limited us to examining negotiators' perceptions about others' positions at two certain points. To test this hypothesis fully, different values of BATNAs over the range of possible BATNAs should be included in the analysis.

Finally, I have explored the relationship between negotiators' knowledge of BATNA-asymmetries and agreement efficiency. The impact of knowledge on

efficiency can differ, depending on which party (strong or weak negotiators) have access to this information. However, the main limitation of the current research is that it leaves relatively open the question of *how* knowledge of BATNA-asymmetries leads to agreements with different efficiency. Specifically, we do not yet know how strong negotiators' knowledge hinders and weak negotiators' knowledge facilitates dyads' ability to search for efficient agreements. These open questions motivated the design of Study 2.

Chapter Four

How Knowledge of BATNA-Asymmetries Affects Agreement

Efficiency (Study 2)

Chapter Four – How Knowledge of BATNA-Asymmetries Affects Agreement Efficiency (Study 2)

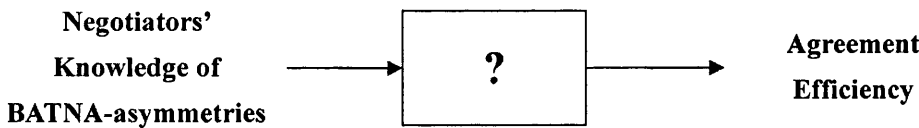
The main focus of Study 1 was on *whether* negotiators' knowledge of BATNA-asymmetries can have an impact on agreement efficiency. Yet, Study 1 leaves relatively open questions as to *how* negotiators' knowledge results in agreements with different efficiency. Study 2 is designed to examine *how* this occurs. Considering that effects of this knowledge on efficiency are various when given to different negotiators, the research questions that will be addressed in Study 2 are: (1) *how* does information about another's BATNA, when given to strong negotiators, hinder dyads from reaching efficient outcomes?; (2) *how* does weak negotiators' awareness improve dyads' ability to reach integrative agreements?; (3) *how* do negotiators seem to be less capable of reaching efficient agreements, when information about others' BATNAs is commonly held by both parties?; and (4) *why* does complete knowledge not improve dyads' ability to find efficient outcomes, although solo weak negotiators' knowledge does?

To address these research questions, it is important to discuss the mediating factor that can aid dyads' ability to reach efficient agreements. The link between knowledge of BATNA-asymmetries and this mediator will be explored in this study to help shed light on the already-seen effects of knowledge on the quality of negotiated agreements in Study 1. Therefore, the first half of this chapter will generate a number of testable hypotheses relating to the questions posed. The second half describes the methodology employed and reports the empirical findings. Finally, a discussion section describes theoretical implications of the findings.

4.1 Key to Successful Agreements

As mentioned before, the primary objective of Study 2 is to explain how negotiators' knowledge of BATNA-asymmetries affects agreement efficiency. Before addressing this research question, it is important to understand dyads' ability to reach efficient agreements (see Figure 4.1). Identifying underlying factors can help shed light on the research question by showing how negotiators' knowledge affects efficiency. To anticipate, information-exchange between negotiators is the key. Study 2 explores whether negotiators' knowledge of BATNA-asymmetries encourages or hinders the process by which negotiators share information about preferences.

Figure 4.1 A Possible Mediator of the Impact of Knowledge on Efficiency



Before exploring the relationship between knowledge and information-exchange, the following section aims to examine the relationship between information-exchange and agreement efficiency. Firstly, how negotiators generally approach negotiations is discussed. Secondly, a brief review of past research about information-exchange and a fuller understanding of how it leads to efficient agreements are included. Finally, the discussion centres on how negotiators' information-sharing behaviour affects their opponents' behaviour.

4.1.1 Commonness of Inefficient Agreements

A large body of research demonstrates that negotiators often settle for sub-optimal outcomes even when there are other agreements that can make at least one of them better off without hurting another (Neale and Northcraft, 1986, Pruitt and Rubin, 1986, Raiffa, 1982). According to the cognitive approach to negotiation, negotiators' inaccurate perceptions of their opponents' interests accounts for this inefficiency (Bazerman and Carroll, 1987, Thompson, 1990c). At the outset of a negotiation, negotiators often perceive that their counterparts' interests are completely opposed to their own and that they have the same preferences across to-be-negotiated issues. This perception is known as *fixed-pie bias*. This bias is considered a judgement error because in many negotiation situations negotiators' interests are not completely opposed and potential for integrative agreements exists (Raiffa, 1982, Walton and McKersie, 1965).

Further, the fixed-pie bias is likely to persist throughout the course of negotiations (Thompson and Hastie, 1990, Thompson, 1991). Negotiators who suffer from this bias are unlikely to appreciate the opportunity for learning their opponents' preferences across issues. After all, they might contend that there is no use telling their opponents something they already know; or it is pointless for them to learn something about their counterparts that merely confirms their expectations. As a result, negotiators commonly fail to make trade-offs across issues that differ in importance and instead settle for inefficient agreements.

4.1.2 Relationship between Information-Exchange and Efficiency

Many researchers have suggested that information-exchange about preferences across issues between parties leads to greater judgement accuracy about the other's interests in negotiations (Murnighan, Babcock, Thompson and Pillutla, 1999, Thompson and Hastie, 1990, Thompson, 1991, Walton and McKersie, 1965). With a better understanding of opponents' interests and priorities, negotiators are then more capable of making trade-offs among issues that differ in importance, resulting in efficient agreements (Thompson, 1991).

Evidence of this contention can be found in Thompson's (1991) study. Thompson (1991) examined the importance of 'actual' information-exchange to the quality of negotiated agreements. Information-exchange was manipulated by explicitly instructing both members of the dyad to either seek or provide information about interests to their opponents. It was found that negotiators who either sought or provided information made more accurate judgements about their opponents' interests and reached more efficient agreements than did those who were not instructed to share information.

Thompson (1991) also examined whether benefits of information-exchange are limited to situations where both negotiators are instructed to seek or to provide information. Agreement efficiency was found to be greater when only one of them was instructed to share information (either providing or seeking information about others' interests), than when neither was. This finding suggests that only one member of the dyad sharing information may reap the same benefits as both members doing so.

Given that information-exchange is a major factor considered in this study, it is worth providing a fuller understanding of this process by explaining why the effort of one party is sufficient to improve agreement efficiency. It may be due to the fact that information-exchange is a reciprocal process. Thompson & Hastie (1990) provided evidence suggesting that the information-sharing behaviour of negotiators influenced the behaviour of their opponents¹⁵. Specifically, seeking and providing information was found to be positively reciprocated, so that negotiators who sought information from their opponents were likely to be asked for information in return; negotiators who provided information to others were likely to receive information about others' interests as well.

Study 1 showed that in BATNA-imbalanced negotiations knowledge of others' BATNAs can affect agreement efficiency. In light of the importance of information-sharing tactics, the relationship between knowledge and negotiators' information-sharing behaviour can therefore help explain *how* changes in efficiency occurred in Study 1.

It is important to note that the present study is different from past research that considered information-exchange as an independent variable (Thompson, 1991, Thompson and Hastie, 1990). For example, Thompson (1991) *manipulated* the information-exchange process by instructing negotiators to share information, whereas the current study treats negotiators' information-sharing behaviour as a dependent

¹⁵ Thompson (1991) found that seeking information followed reciprocity, but providing information received weak support. Nevertheless, whether providing information is reciprocal is beyond the scope of this study, and mixed empirical results should not interfere with the following hypotheses in the present study. This is because what is important is that providing information improves negotiators' judgements and agreement efficiency.

variable. This is in order to explore whether knowledge of BATNA-asymmetries, when given to negotiators, would *naturally* encourage or hinder information-exchange.

The remainder of this chapter focuses on the set-up of hypotheses regarding the relationship between knowledge and information-exchange. I will consider whether knowledge of BATNA-asymmetries when given to strong and/or weak negotiators would hinder or encourage the parties' information sharing behaviours.

4.2 Effect of Negotiators' Knowledge of BATNA-Asymmetries on Information-Sharing Behaviour

This section will briefly discuss how the pattern of results from Study 1 will be used as a guide to predict the association between negotiators' knowledge of BATNA-asymmetries and information-exchange about interests. It is divided into three subsections: (1) strong negotiators' knowledge, (2) weak negotiators' knowledge, and (3) complete knowledge. Before proceeding to the hypotheses, each subsection will give a quick review of relevant findings in Study 1.

4.2.1 Relationship between Strong Negotiators' Knowledge of BATNA-Asymmetries and Information-Exchange

Study 1 produced evidence suggesting that knowledge of BATNA-asymmetries, when being made available to strong negotiators, does not improve dyads' ability to search for efficient solutions. More importantly, to the extent that negotiations have integrative potentials, the finding suggests that this knowledge actually hinders dyads' ability to find efficient solutions. In other words, strong negotiators' knowledge is likely to undercut joint profits. It remains unclear as to how this knowledge hinders the development of efficient solutions.

As discussed previously, it is clear that the degree to which negotiators communicate with others about their preferences helps determine the quality of negotiated outcomes. Implicit in the finding from Study 1 is that when strong negotiators are aware of BATNA-asymmetries, they are unlikely to appreciate the opportunity to freely

communicate with their weaker counterparts about their interests. It is postulated that information about another's BATNA will affect the likelihood of strong negotiators sharing information with their counterparts. In essence, when strong negotiators are informed of both BATNAs, they will be less likely to either seek or provide information about interests to their weaker counterparts. This lack of information-exchange may explain how strong negotiators' knowledge was a handicap to the development of efficient solutions. To explore this possibility, the following hypothesis is tested:

Hypothesis 1: When strong negotiators are aware of BATNA-asymmetries, they will be less likely to share information about interests with others, than when they are not.

4.2.2 Relationship between Weak Negotiators' Knowledge and Information-Exchange

Findings from Study 1 show that dyads are capable of reaching agreements with greater efficiency when only weak negotiators are informed of both BATNAs than when they are not. Study 1 does not tell us how this happens. To address this issue, it is important to examine what mediates the relationship between weak negotiators' knowledge and agreement efficiency. Again, research that emphasises the importance of information-exchange about preferences may be helpful.

It may be that solo weak negotiators' knowledge plays an important role in fostering communications between parties about their interests. Specifically, this knowledge increases the likelihood of weak negotiators sharing information, thus improving the quality of agreements attained. To explore this possible explanation, the hypothesis tested is proposed as follows:

Hypothesis 2a: When weak negotiators are informed of both BATNAs, they will be more likely to share information about interests with opponents, than when they are not informed.

Initiation of Information-Exchange

Apart from the likelihood of sharing information, weak negotiators' knowledge of BATNA-asymmetries may also influence initiations of the information-exchange process. Explicit in Roloff & Dailey's (1987) hypothesis is the suggestion that knowledge of BATNA-asymmetries should lead to higher incentives of weak

negotiators to create alternate settlements. It is worth considering whether informed weak negotiators are more likely to initiate information-exchange about interests than uninformed ones. It is important to note that this is *not* a test of the impact of weak negotiators' knowledge on motivation.

According to the speculation above and the prediction of hypothesis 2a, knowledge of BATNA-imbalances not only facilitates weak negotiators' information-sharing behaviours but also increases the chance of them initiating this process. If correct, it will explain how this knowledge alone leads to an increase in agreement efficiency.

Hypothesis 2b: When only weak negotiators are informed of BATNA-asymmetries, they will be more likely to initiate information-exchange than when they are not.

4.2.3 Relationship between Complete Knowledge of BATNA-Asymmetries and Information-Exchange

Apart from strong negotiators' and weak negotiators' knowledge of BATNA-asymmetries, the impact of complete knowledge on agreement efficiency was examined in Study 1. Study 1 examined whether information about another's BATNA needs to be commonly held to facilitate the development of efficient agreements. The results show that when negotiators have complete knowledge, they tend to reach less efficient agreements than when they lack this knowledge.

How does complete knowledge hinder dyads' ability to reach efficient solutions? The focus of Study 2 is on whether complete knowledge affects information-sharing behaviours of negotiators. It is possible that when both parties have complete knowledge about BATNA-imbalances, they will be less likely to share information about interests than when they both lack this knowledge. This reduction in the overall information-exchange could explain the adverse impact of complete knowledge on agreement efficiency that was shown in Study 1.

It is important to note that in the examination of the impact of complete knowledge, the measurement of information-exchange is slightly different from that in examinations of main effects of strong and weak negotiators' knowledge, discussed previously. The former is measured at the dyadic level whereas the latter is measured at the individual level. The rationale is that there is no predicted, clear relationship between complete knowledge and negotiators' individual information-sharing behaviour. Therefore, the negotiation dyad is considered as a unit. Which member of the dyad shares information

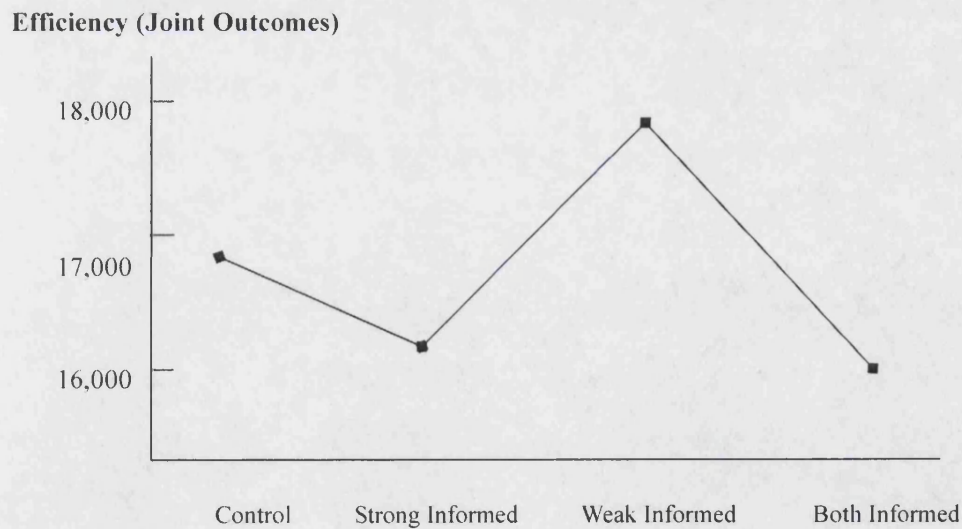
is not *yet* of interest here. To explore the possibility that complete knowledge hinders information-exchange between parties, the following hypothesis will be tested:

Hypothesis 3: When both parties have knowledge of BATNA-asymmetries, dyads will be less likely to share information, than when they lack this knowledge.

4.3 Exploring How Complete Knowledge Reduces Agreement Efficiency

Since weak negotiators' awareness of BATNA-asymmetries alone improves dyads' ability to reach efficient agreements, it is curious that complete knowledge of BATNA-imbalances does not reflect the same benefit (see Figure 4.2). The pattern of results suggests that the benefit incurred from weak negotiators' knowledge is eliminated, once strong negotiators' knowledge is also introduced: strong negotiators' knowledge alone hinders dyads from reaching efficient agreements. The detrimental effect of strong negotiators' knowledge is so powerful that it overrides the advantage of weak negotiators' knowledge on agreement efficiency.

Figure 4.2 Agreement Efficiency as a Function of Negotiators' Knowledge



Given this unexpected finding, some further questions need to be addressed. Why does complete knowledge not improve agreement efficiency as weak negotiators' knowledge

alone does? How does strong negotiators' knowledge wash away the advantage of weak negotiators' knowledge? To address these questions, the following section focuses on the difference in negotiators' behaviour between when only weak negotiators are informed of BATNA-asymmetries and when both parties are informed. In other words, the baseline model is that weak negotiators know of both BATNAs and the only difference between these two groups is that strong negotiators are also informed in complete knowledge condition.

In the following, two plausible explanations will be tested of how strong negotiators' knowledge overrides the benefit of weak negotiators' knowledge to agreement efficiency. It considers first whether strong negotiators' knowledge affects their willingness to reveal their interests and second, whether strong negotiators' knowledge affects informed weak negotiators' information-sharing behaviour.

4.3.1 Strong Negotiators' Willingness to Reveal Their Preferences

As mentioned, Thompson (1991) suggests that seeking information about interests from others leads to agreements with greater efficiency. This contention is based on the assumption that negotiators are willing to take advantage of the opportunity to expand the resource pie. It is worth considering whether this is the case when strong negotiators are aware of BATNA-asymmetries. It may be that when opponents (informed weak negotiators) ask for information about interests, informed strong negotiators are less willing to reveal this information than uninformed strong negotiators¹⁶. As a result, it will be difficult for their opponents to trade-off issues in

¹⁶ It is important to note that here I am not suggesting that strong negotiators' knowledge reduces their

which strong and weak negotiators have different priorities, and instead they settle for suboptimal agreements.

This is *one* of the possible reasons that complete knowledge of BATNA-asymmetries does not improve agreement efficiency as solo weak negotiators' knowledge does. To test this possible explanation, the following hypothesis is proposed:

Hypothesis 4a: When both parties are informed of both BATNAs, strong negotiators are less likely to provide that information, if asked, than when only weak negotiators are informed.

4.3.2 Effect of Strong Negotiators' Knowledge on Counterparts' Information-Sharing Behaviour

Solo weak negotiators' knowledge of BATNA-asymmetries is predicted to facilitate weak negotiators' information-sharing behaviour in Study 2, thus improving agreement efficiency. However, given that the detrimental effect of strong negotiators' knowledge is powerful, strong negotiators' knowledge may alter weak negotiators' behaviour: it may be powerful enough to constrain informed weak negotiators from sharing information about interests. In other words, it is possible that when strong negotiators are informed of BATNA-asymmetries, informed weak negotiators are less likely to share information about interests than when strong negotiators lack this knowledge. If correct, it helps shed some light on how strong negotiators' knowledge eliminates the

willingness to reveal preference only when weak negotiators are informed of both BATNAs. It will also be likely that strong negotiators' knowledge will work in a similar way even when weak negotiators are not informed. The baseline model chosen is when weak negotiators are informed, because I am interested in how strong negotiators' knowledge washes away the advantage of weak negotiators' knowledge.

advantage of weak negotiators' knowledge. To explore this possibility, the final hypothesis tested in Study 2 is as follows:

Hypothesis 4b: When both parties are aware of BATNA-differences, weak negotiators will be less likely to share information about interests, than when only weak negotiators know both BATNAs.

Study 2 does not examine why strong negotiators' knowledge adversely affects weak negotiators' information-sharing behaviour. If the above contention is proved to be correct, why this occurs will be addressed in Study 3. It is also important to note that Hypotheses 4a and 4b are not mutually exclusive. This is because both informed strong negotiators' reluctance to reveal preferences and the impact of strong negotiators' knowledge on their weaker counterparts' behaviour can, at the same time, remove the advantage of weak negotiators' knowledge.

4.4 Overview of Study 2

Study 1 produced evidence suggesting that knowledge of BATNA-asymmetries can have very different impacts on negotiation efficiency, depending on which party has access to this knowledge. Study 2 will seek to replicate these findings. However, it is still unclear as to *how* negotiators' knowledge leads to agreements with different efficiency. Study 2 examines how this occurs. Specifically, it has been suggested that effects of knowledge of BATNA-asymmetries on agreement efficiency may be mediated by information-exchange about preferences. Study 2 examines the beneficial and potentially deleterious effects of negotiators' knowledge on information-exchange.

In summary, four research questions will be addressed in Study 2. The first question concerns whether strong negotiators' knowledge alone hinders them from sharing information about interests. Secondly, since solo weak negotiators' knowledge improves agreement efficiency, whether this knowledge encourages weak negotiators to share information and to initiate the information-exchange process will also be examined. Thirdly, it is to demonstrate how complete knowledge of BATNA-asymmetries destroys dyads' ability to reach efficient solutions. In particular, this study will test whether the overall reduction in communications between parties accounts for this inefficiency. Finally, an attempt is made to explore why complete knowledge of BATNA-imbalances does not improve agreement efficiency as weak negotiators' knowledge alone can.

4.5 Method

Participants

A total of 228 master students at London School of Economics and University College London, 120 male and 108 female, aged from 18 to 38 years ($M = 24.03$, $SD = 3.19$). Subjects participated in the experiment as volunteers.

Procedure

The instructions and procedures were the same as those used in Study 1 except that an additional post-negotiation questionnaire was used. It elicited the participants' information-sharing behaviour (see Dependent Measures for details of questions).

Negotiation Task and Independent Variables

The negotiation task, levels of negotiators' BATNAs, and independent variables were the same as those adopted in Study 1 (see Chapter Three, section 3.6 for details). As in Study 1, four basic experimental conditions were formed, as shown in the following table:

Table 4.1 Negotiators’ Knowledge Status in Different Conditions

Experimental Conditions	Information Levels
Control	Neither player knows his or her opponent’s BATNA
Condition 2	Only strong negotiators know both BATNAs
Condition 3	Only weak negotiators know both BATNAs
Condition 4	Both know each other’s BATNAs

Note. Unless otherwise stated, the baseline model (reference) is the control group.

Dependent Measures

There were three new dependent measures required in Study 2. Each of these is discussed below:

(1) Negotiators’ Information-Sharing Behaviour

Subjects were asked two questions regarding their information-sharing behaviour after completing the exercise: “Did you ask any questions in relation to the preferences of the negotiated issues?”; “Did you provide your opponent with information about your preferences across issues without being prompted?” This measurement indicated whether or not negotiators exchanged information about interests (either by seeking or providing information) in negotiations¹⁷. This allowed for examinations of negotiators’ information-sharing behaviours in different experimental conditions. The higher proportion of the variable indicated that negotiators were more likely to share

¹⁷ Both information-seeking and information-providing have been found to be equally effective to improve dyads’ ability to reach efficient solutions (Thompson, 1991). The main concern in Study 2 is to examine whether negotiators’ knowledge of BATNA-asymmetries affects information-sharing behaviours. However, whether this knowledge results in different strategies of information-exchange is beyond the scope of this study. Therefore, they are not differentiated in the current research.

information. Information-sharing behaviours of both strong and weak negotiators were examined so that comparisons of negotiators' behaviours in the same role across different conditions were possible. As a result, two different variables were computed, and they were: (1) strong negotiators' information-exchange (**strong exchange**), and (2) weak negotiators' information-exchange (**weak exchange**).

(2) Weak Negotiators' Initiation of Information-Exchange

Apart from information-exchange about preferences, it is also necessary to examine the likelihood of weak negotiators initiating this process. 'Weak Negotiators' Initiation Score' was computed for each weak negotiator¹⁸. The coding was dichotomous, and the score was either '0' or '1'. If information-exchange occurred and it was initiated by the weak party, he or she would receive a score of 1. If there was no information-exchange or the opponent initiated this process, then he or she would receive '0' points instead. This would therefore generate different proportions of weak negotiators initiating information-exchange (**weak initiation**) in different experimental conditions. The higher this proportion in one condition relative to another, the more likely weak negotiators in that condition initiated information-exchange.

(3) Strong Negotiators' Willingness to Reveal Their Preferences

The final measurement required in Study 2 was strong negotiators' willingness to reveal information when asked, i.e. their responses to their weaker counterparts' requests for

¹⁸ Initiation score for strong negotiators was not computed because strong negotiators' knowledge was found not to improve efficiency and is not predicted to facilitate information-exchange.

information about their preferences across issues. Again, these responses produced proportions of strong negotiators who were willing to reveal preferences for different conditions. This variable is denoted as **strong willingness**.

4.6 Data Collection

The data required to test the hypotheses is the content of negotiators' interactions in terms of information-exchange about interests. This section describes different choices of data collection available and the advantages and disadvantages of the method chosen.

Negotiators' information-exchange about interests can be measured in two different ways, concurrently or retrospectively. Concurrent methodology has been widely used in studies examining communications between negotiators (Murnighan *et al.*, 1999, Thompson, 1991, Tinsley, O'Connor and Sullivan, 2002). Data are collected by recording the negotiations, and transcribing and coding the contents. Generally, the coding process is carried out by a number of independent raters in order to maintain the reliability of the data set and avoid subjective biases. Retrospective methodology refers to data being collected after having completed all tasks. Information-exchange is measured by asking negotiators to 'retrospectively' recall if any information about preferences has been shared.

Retrospective methodology has a number of advantages over concurrent methodology. The collection of data only at the end of experiments conserves valuable instruction time since it requires less complicated data management than recording the entire process of experiments. Although concurrent data collection is the norm and probably the best method, it requires special equipments (e.g. video camera or voice recorder) and is expensive. Therefore, it is beyond the possible scope of the thesis given that over 200 subjects participated in this study. But, the disadvantages of retrospective

methodology, while potentially problematic, may be overstated and can be mitigated by careful data checks. Two potential disadvantages of retrospective methodology are demand characteristics and memory-related problems (de Vaus, 1996, de Vaus, 2001, Pratt, McGuigan and Katzev, 2000). Each of these problems is described below.

Demand characteristics, such as wanting to please experimenters, may affect subjects' level of recall accuracy. It may be specifically problematic when subjects have a subjective motivation to make the experiments look good (Conway and Ross, 1984). For instance, it may be that negotiators attempt to predict what sort of behaviour that experimenters look for and they think that information about preferences *should* have been shared. In addition, knowledge of what constitutes a good agreement (i.e., information-exchange is the key to efficient agreements) may colour negotiators' recall of earlier behaviour through hindsight bias (Fischhoff, 1982, Hawkins and Hastie, 1990). For example, subjects might use a strategy to maintain their self-esteem, as they might not want the researcher to know that they have failed to realise that their opponents have different priorities across issues. As a result, these biases may inflate the reported level of information-exchange between parties.

The second potential shortcoming of retrospective methodology regards individuals' memory. The most salient memory-related problems are the length and specificity of the time period that is being recalled (de Vaus, 1996, Pratt *et al.*, 2000). It seems that the longer the time period that is being recalled and the gap between the task and the recall-prompt, the more likely subjects' recollections may be distorted. For example, they may simply forget what has been discussed with others during experiments, thus lowering the reliability of retrospective data. Alternatively, it is open to the possibility

that subjects' recollections of past experiences are interpreted in the light of subsequent events and experiences.

4.6.1 Qualifying the Use of Retrospective Reporting

These potential caveats are not grounds to condemn retrospective reporting in this study. To avoid the potential biases resulting from demand characteristics, a screening process of data has been established. In post-negotiation questionnaires, negotiators are asked to recall whether they and their opponents have shared information about interests in the course of negotiations. To maintain the accuracy and generality of data, data is considered valid *only* if both members of the dyad give an identical response. For example, a negotiator indicates that s/he has sought information about interests from the opponent, and the opponent also reports that s/he has been asked for information about interests. But, when one participant's response is not in agreement with the opponent's, the case will be considered invalid and therefore excluded from the analyses.

Memory recalls are particularly problematic when data is collected after a prolonged period of time of an intervention (de Vaus, 1996, de Vaus, 2001). Yet, past research provides empirical evidence suggesting that there are no differences in the majority of comments made concurrently and those made retrospectively, when valid data is collected up to twenty-four hours after an intervention (Bailey, 2003). To maintain the accuracy of negotiators' recollections, all data will be collected immediately following completions of an experiment. Since the negotiation simulation in this study only lasted thirty minutes, it is unlikely that subjects' recollections of information-exchange

process would be greatly distorted by time.

In addition, Pratt *et al.* (2000) contend that clarifying a defined period, such as “during the experiment”, may facilitate subjects’ recollections. Also, specific behaviours are easier to recall and assess than those that are more global (de Vaus, 2001, Pratt *et al.*, 2000). Given this prescriptive advice, questionnaires are formulated in a manner that enhances the recall of information-exchange. For example, it is likely that negotiators will recall their information-sharing behaviour when prompted by the cues ‘information-seeking’ or ‘information-providing’, than when asked ‘what has been said during negotiations’. Questions that negotiators are asked to answer are, for example, “Did you ask your opponent any questions in relation to preferences across issues during the negotiation?”, “Did you provide your opponent with information about your preferences across issues without being prompted during the negotiation?” etc.

Together, both the screening procedure and the design of questionnaires should be sufficient to reduce biases resulting from demand characteristics and memory recall. Still, it is important to consider whether negotiators’ responses are consistent with their opponents’ before discussing empirical findings in Study 2, and this will be covered next.

4.6.2 Distributions of Valid Cases

Table 4.2 A Summary of the Case Validity

	Excluded Cases	
	Number of cases	Percent
Did strong parties provide or seek information from another?	6	5%
Did weak parties provide or seek information from another?	6	5%
Weak negotiators' initiation of the information-exchange process	12	10%
Did strong negotiators reveal their preferences requested?	0	0%

In spite of potential problems with retrospective reporting, recall across dyads was consistent. As can be seen in Table 4.2, 95% of strong negotiators and weak negotiators provided reports about their own information-sharing behaviour which matched reports from the other member of the dyad. In terms of initiations of information-exchange process, 90% of weak negotiators' responses were consistent with their stronger counterparts'. Also, strong negotiators' willingness to reveal their preferences received perfect match with reports from their opponents¹⁹. In general, only about 5-10% of subjects were excluded in the analyses²⁰.

¹⁹ There was an uneven pattern of reasons for exclusion in each group (see Appendix C for details).

²⁰ Although the amount of excluded data is not considerable, it is important to check that the data does not change by excluding them. To address this issue, all of the major analyses were performed twice: once using the full data set and once using only those dyads that provided consistent reports. The two sets of analyses yielded very similar results with the primary difference being that analyses based on the partial data set were statistically stronger. Results of analyses based on the full data set are not reported

Finally, the effect of knowledge of BATNA-asymmetries is considered in this study, and it is hypothesised that negotiators in the ‘knowledge’ condition should be more (or less) likely to share information *relative* to those in the ‘no knowledge’ condition. Hence, any difference in overall levels of information-exchange (between retrospective and concurrent methodologies) should not interfere with the validity of hypotheses. Next, the results of the critical tests of hypotheses will be given.

4.7 Results

Study 1 considered *whether* negotiators' knowledge of BATNA-asymmetries influences the efficiency of negotiated agreements. Study 2 re-examines the effect of negotiators' knowledge on agreement efficiency and will be reported in the next section. Study 2 was also designed to seek an explanation for *how* negotiators' knowledge of BATNA-asymmetries affects agreement efficiency. As suggested, information-exchange about interests is considered as a possible explanation for the pattern of impacts of knowledge on efficiency. The second part of the result sections includes critical tests of hypotheses regarding information-exchange about negotiators' settlement preferences. The analyses of the experimental data will shed light on the four main concepts first introduced in this chapter. They are (1) the impact of strong negotiators' BATNA knowledge on their information-sharing behaviour, (2) the effect of weak negotiators' BATNA knowledge on their information-sharing behaviour, (3) the impact of weak negotiators' knowledge on the initiation of information-exchange, and (4) the influence of strong negotiators' knowledge on their willingness to reveal their preferences.

4.7.1 Replication of Findings in Study 1

It has been shown in Study 1 that effects of negotiators' knowledge on agreement efficiency can be very different for strong negotiators and weak negotiators, depending on the quality of one's BATNA in relation to another's. Specifically, solo weak negotiators' knowledge was found to improve agreement efficiency but both solo strong negotiators' knowledge and complete knowledge were found to destroy dyads'

ability to reach efficient outcomes.

The same dependent measure of agreement efficiency as adopted in Study 1, joint outcome, was used to examine if Study 2 replicated the same pattern. Higher joint outcomes indicate more efficient agreements (see Chapter 3 for details). Table 4.3 describes experimental conditions and reports the findings.

Table 4.3 Means (Standard Deviations) for Joint Gains, Integrativeness Score, and Number of Superior Agreements by Experimental Conditions (Study 2)

	Experimental Condition			
	Neither Informed (Control)	Only Strong Negotiators Informed (Condition 2)	Only Weak Negotiators Informed (Condition 3)	Both Informed (Condition 4)
Joint Gain	16,975 _a (1,318)	16,131 _b (1,886)	17,993 _c (979)	15,790 _b (1,754)

Note. $N = 26$ in each condition. Maximum joint gain = 18,800. Subscripting is based upon comparisons of means using an ANOVA with contrasts; different subscripts indicate means differ at $p < .05$ or less. (e.g. the joint outcome for Control is given the subscript ‘a’ and it is significantly different to that for Condition 2 given subscript ‘b’. However, the joint outcomes for Condition 2 and 4 are not significantly different.)

An ANOVA with contrasts was performed to investigate the effect of Experimental Condition (Control, Strong Negotiators Informed, Weak Negotiators Informed, and Both Informed) on agreement efficiency. There was a significant main effect for negotiators’ knowledge of BATNA-asymmetries on joint outcomes, $F(3,103) = 12.1, p$

< .0005.

Do the data in Study 2 replicate the same patterns of results suggested in Study 1? Yes. First, consider the impact of strong negotiators' knowledge on agreement efficiency. A contrast of joint outcomes between control and condition 2 was conducted. As can be seen in Table 4.3, when only strong negotiators were informed of both BATNAs, the mean of joint outcomes was 16,131 points, which was significantly lower than the control mean, 16,975 points, $t = 2.16, p < .05$. According to Figure 4.3, it is clear that when only strong negotiators were informed, dyads were less likely to reach agreements with great efficiency than when they were not.

Figure 4.3 Joint Outcomes as a Function of Strong Negotiators' Knowledge

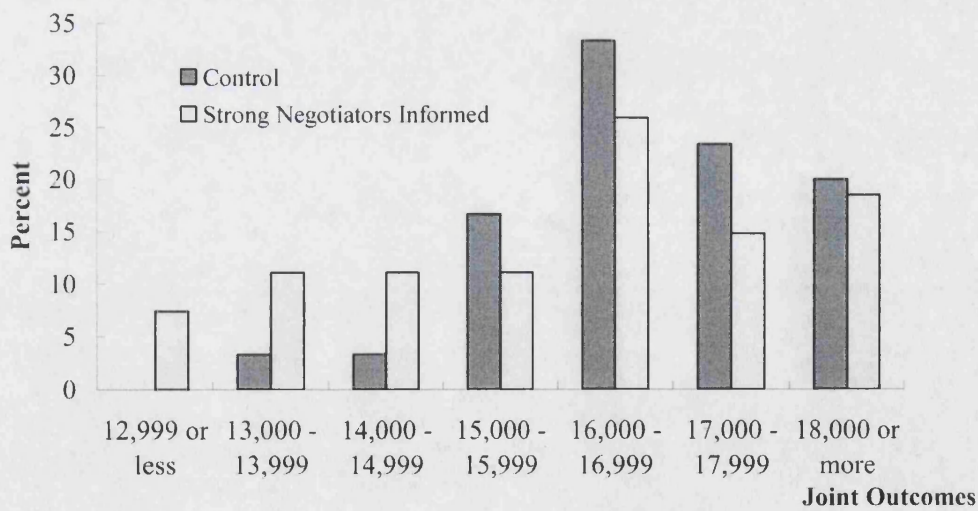
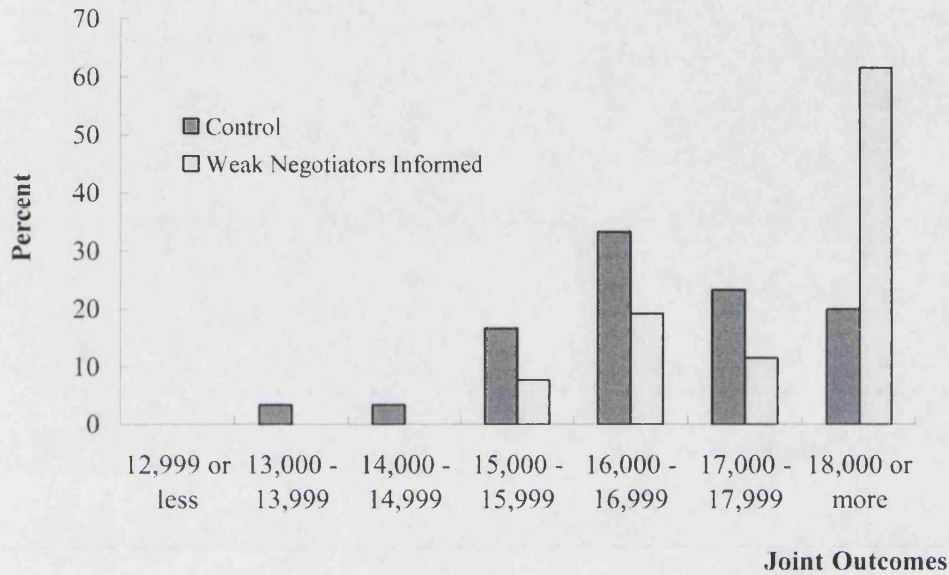
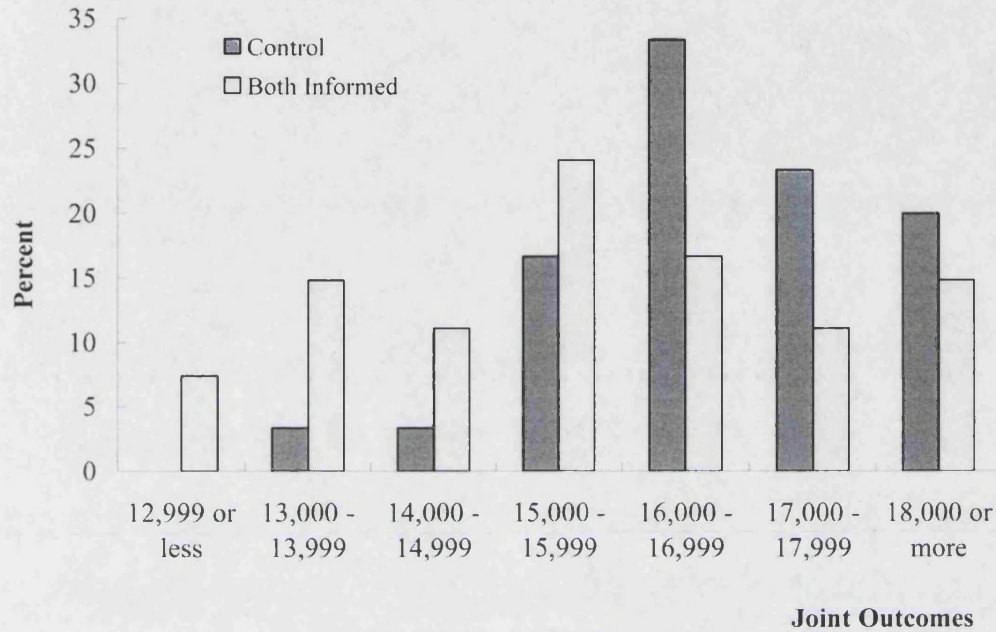


Figure 4.4 Joint Outcomes as a Function of Weak Negotiators' Knowledge



Now consider the effect of weak negotiators' knowledge on agreement efficiency. Based on the findings in Study 1, when only weak negotiators are aware of BATNA-imbalances, agreement efficiency should be improved. Again, the findings were in agreements with those in Study 1. As seen in Table 4.3, a planned comparison of the control group vs. condition 3 revealed that joint gains were significantly higher when only weak negotiators were informed than when neither was informed ($M = 17,993_c$ vs. $M = 16,975_a$), $t = 2.61$, $p < .01$. Figure 4.4 shows the distribution of joint outcomes in the control group and condition 3 (only weak negotiators informed). When only weak negotiators were informed, 62% of dyads reached agreements with 18,000 points or more (maximum joint outcome = 18,800), compared to just 20% of control dyads did so.

Figure 4.5 Joint Outcomes as a Function of Complete Knowledge



Finally the influence of complete knowledge on agreement efficiency is considered. The findings will replicate if complete knowledge adversely affects agreement efficiency. As can be seen in Table 4.3, when both parties were informed of BATNA-asymmetries joint gains were significantly lower than when they lacked information ($M = 15,790_b$ compared to $M = 16,975_a$), $t = 3.04$, $p < .01$. According to Figure 4.5, in the lower end of joint outcomes proportions of dyads with complete knowledge were greater than those of control dyads. About 7% of dyads with complete knowledge, compared to none of the control dyads, reached agreements with 12,999 points or less.

4.7.2 Knowledge of BATNA-Asymmetries vs. Information-Exchange

Here the relationship between knowledge of BATNA-asymmetries and information-exchange about interests is tested to explain how this knowledge, as illustrated previously, leads to agreements with different efficiency. The primary argument is that knowledge of BATNA-asymmetries impacts negotiators' information-sharing behaviours. The following section is subdivided into three parts and examines the effect of each negotiator's knowledge in turn: (1) strong negotiators' knowledge, (2) weak negotiators' knowledge, and (3) complete knowledge.

Effect of Strong Negotiators' BATNA Knowledge on Information-Exchange

Given that solo strong negotiators' knowledge destroys agreement efficiency, it is expected that this relationship is mediated by information-exchange about interests in a predictable way. Specifically, Hypothesis 1 predicts that knowledge of BATNA-asymmetries hinders strong negotiators' information-sharing behaviour (**strong exchange**).

Table 4.4 Strong Negotiators’ Information-Sharing Behaviour by Experimental Conditions

	Experimental Condition			
	Neither Informed (Control)	Only Strong Negotiators Informed (Condition 2)	Only Weak Negotiators Informed (Condition 3)	Both Informed (Condition 4)
Strong Exchange	0.56 _a	0.26 _b	0.77 _c	0.21 _b

Note. Higher numbers in strong exchange indicate greater information-exchange. Subscripting is based upon comparisons of proportions using *a priori* contrasts; proportions with different subscripts differ at $p < 0.05$ or less. $N = 27$ in each condition.

An ANOVA with contrasts was performed to examine the effect of Experimental Condition on strong negotiators’ information-sharing behaviour. There was a significant effect of negotiators’ knowledge on strong exchange, $F(3,107) = 9.29, p < .0005$. A planned comparison was conducted to test the hypothesised differences in strong negotiators’ information-sharing behaviour between the control group and condition 2.

Does knowledge of BATNA-asymmetries reduce the likelihood of strong negotiators sharing information? Yes. Hypothesis 1 is supported by the data. As can be seen in Table 4.4, when only strong negotiators were informed of both BATNAs, they were less likely to seek or to provide information about preferences to their opponents ($M = 0.26_b$) than when neither party was informed ($M = 0.56_a$), $t = 2.41, p < .01$.

Effect of Weak Negotiators' BATNA Knowledge on Information-Exchange

Recall that weak negotiators' knowledge alone improves dyads' ability to search for efficient agreements. To test how this occurs, the following analyses consider impacts of weak negotiators' knowledge on their information-sharing behaviour (**weak exchange**) and on the initiation of this process (**weak initiation**). In essence, it is to seek answers to two questions: 1) Does weak negotiators' knowledge facilitate their information-sharing behaviour? 2) Does this knowledge also increase the likelihood that weak negotiators initiate the information-exchange process?

Table 4.5 Weak Negotiators' Information-Sharing Behaviour by Experimental Conditions

	Experimental Condition			
	Neither Informed (Control)	Only Strong Negotiators Informed (Condition 2)	Only Weak Negotiators Informed (Condition 3)	Both Informed (Condition 4)
Weak Exchange	0.52 _a	0.30 _b	0.87 _c	0.29 _b
Weak Initiation	0.25 _a	0.22 _a	0.75 _b	0.25 _a

Note. Higher numbers in weak exchange indicate a higher proportion of weak negotiators sharing information. Subscripting is based upon comparisons of proportions within each row; proportions with different subscripts differ at $p < 0.05$ or less. (e.g. Weak Exchange for Control is given the subscript 'a' and it is significantly different to that for Condition 2 given subscript 'b'. However, Weak Exchange for Condition 2 and 4 are not significantly different.) $N = 27$ in each condition, except for Weak Initiation $N = 24$ in the control and Condition 4.

ANOVAs with planned contrasts were performed to examine effects of negotiators' knowledge (Both, Only Strong, Only Weak, and Control) on weak exchange and weak initiation. There were main effects of negotiators' knowledge on weak exchange, $F(3,107) = 10.3, p < .0005$, and weak initiation, $F(3,101) = 9.27, p < .0005$.

Regarding the first question, Hypothesis 2a predicted that solo weak negotiators' knowledge should facilitate information-exchange. The findings lend support to this hypothesis. A planned contrast of weak exchange between control and condition 3 was used. As can be seen in Table 4.5, when only weak negotiators were informed of both BATNAs, they would be more likely to share information about preferences with their opponents ($M = 0.87_c$) than when they were not ($M = 0.52_a$), $t = 2.94, p < .01$.

Hypothesis 2b proposed that solo weak negotiators' knowledge of BATNA-asymmetries would increase the likelihood of weak negotiators initiating the information-exchange process. This hypothesis is also supported. When only weak negotiators were aware of BATNA-asymmetries, they were more likely to initiate information-exchange ($M = 0.75_b$) than when neither party was ($M = 0.25_a$), $t = 4.11, p < .0005$.

Effect of Complete Knowledge of BATNA-Asymmetries on Information-Exchange

Previous analyses have already addressed impacts of strong negotiators' and weak negotiators' knowledge on their individual information-sharing behaviour. Information exchange was measured at the individual level. Instead, the next analysis focuses on information-exchange at dyadic level, reflecting whether dyads share information about

preferences. Which member of the dyad exchanged information is not of interest here. Recall that complete knowledge of BATNA-asymmetries was found to hinder dyads' ability to reach efficient solutions. To explain how complete knowledge affects agreement efficiency, an independent-samples *t*-test was used to explore the relationship between this knowledge and the overall information-exchange. Hypothesis 3 suggested that complete knowledge reduced the overall information-exchange between parties. The findings support Hypothesis 3. When negotiators had complete knowledge, dyads were less likely to share information about preferences with each other ($M = 0.50$) than when neither party had knowledge ($M = 0.67$), $t = -1.75$, $p < .05$.

As in Study 1, weak negotiators' knowledge of BATNA-imbalance alone was effective to improve agreement efficiency but complete knowledge was detrimental. This unexpected finding begs explanations of why complete knowledge does not reflect the same benefit of solo weak negotiators' knowledge. To address this issue, the baseline model is when only weak negotiators are informed of BATNA-asymmetries. In other words, the only difference between the baseline model and the 'complete knowledge' condition is that strong negotiators are informed in the latter group but they are not in the former.

Next, two explanations are tested of why complete knowledge does not improve agreement efficiency but solo weak negotiators' knowledge does: these explanations concern how strong negotiators' knowledge influences (1) strong negotiators' willingness to reveal their preferences and (2) their weaker counterparts' information-sharing behaviour.

Now, consider the first explanation. Does strong negotiators' knowledge reduce their willingness to reveal their preferences? According to Hypothesis 4a, when both parties had complete knowledge of BATNA-imbalances, strong negotiators should be less likely to reveal their preferences, if asked, than when only weak negotiators had knowledge. Hypothesis 4a receives support. When asked, only 40% of informed strong negotiators revealed their preferences whereas all uninformed strong negotiators did, $t = 2.45, p < .05$ (see Table 4.6).

Table 4.6 Weak Negotiators' Information-Sharing Behaviour and Strong Negotiators' Willingness to Reveal Preferences (Condition 3 and 4)

	Experimental Condition	
	Only Weak Negotiators Informed (Condition 3)	Both Informed (Condition 4)
Strong Willingness	1.00 _a	0.40 _b
Weak Exchange	0.87 _c	0.29 _b

Note. Subscripting is based upon comparisons of proportions within each row; proportions with different subscripts differ at $p < 0.05$ or less. $N = 23$ for Strong Willingness and $N = 54$ for Weak Exchange.

Next, consider the effect of strong negotiators' knowledge on (informed) weak negotiators' information-sharing behaviour. Does strong negotiators' knowledge affect the likelihood of weak negotiators sharing information? Yes. Hypothesis 4b predicted that strong negotiators' knowledge would hinder informed weak negotiators from sharing information. The findings lend support to this contention. As can be seen in

Table 4.6, when both parties had knowledge of BATNA-asymmetries, informed weak negotiators were less likely to share information about interests ($M = 0.29_b$) than when only weak negotiators had knowledge ($M = 0.87_c$), $t = -4.70$, $p < .0005$. The findings suggest that strong negotiators' knowledge of BATNA-asymmetries has an adverse impact on weak negotiators' information-sharing behaviour.

4.8 Discussion

Study 1 underlined the importance of the relationship between negotiators’ knowledge of BATNA-asymmetries and agreement efficiency. It examined whether knowledge of BATNA-asymmetries can have an impact on agreement efficiency. The results indicate that the effect of this knowledge varies and that it is mediated by which member of the dyad (*strong, weak or both* negotiators) has access to this information.

The primary objectives in Study 2 were to replicate these findings and to address unanswered questions concerning the process by which negotiators’ knowledge affects efficiency. The tested explanation is that knowledge of BATNA-asymmetries, when given to different members of the dyad, can have different impacts on information-exchange.

Table 4.7 A Summary of Results in Study 2

Experiment Condition	Negotiation Efficiency (Replication)	Weak Exchange (New Findings)	Strong Exchange
Control	Baseline	Baseline	Baseline
Strong Negotiators Informed	Low*	Low	Low
Weak Negotiators Informed	High*	High	High
Both Informed	Low*	Low	Low

Note. Asterisk (*) indicates that efficiency replicates the same pattern as reported in Study 1.

Weak Exchange and **Strong Exchange** represent the likelihoods of weak negotiators and strong negotiators sharing information respectively.

I will first discuss the results of the effect of *strong* negotiators' knowledge of BATNA-asymmetries, then the impact of *weak* negotiators' knowledge on agreement efficiency and information-exchange process. Finally, I will consider how negotiators' information-sharing behaviours were influenced, when *both* parties were informed of BATNA-imbalances. Illustrated in Table 4.7 are the key findings in the present study, to which the following discussions will refer.

4.8.1 Effect of Strong Negotiators' Knowledge on Efficiency and Information-Exchange

In Study 1, it was found that when only strong negotiators were informed of both BATNAs, negotiation dyads tended to reach less efficient outcomes than when strong negotiators were not informed. As illustrated in Table 4.7, the results in Study 2 replicate this pattern. The first new question addressed by Study 2 concerned *how* strong negotiators' knowledge of BATNA-asymmetries hindered dyads' ability to reach efficient solutions. Given that information-exchange about interests is important to the development of efficient agreements (Murnighan *et al.*, 1999, Raiffa, 1982, Thompson, 1991), the relationship between strong negotiators' knowledge and information-exchange process was of particular interest. Specifically, strong negotiators' knowledge of BATNA-asymmetries could affect their information-sharing behaviour and that this would consequently influence dyads' ability to develop efficient agreements.

In Study 2, a comparison of strong negotiators' information-sharing behaviours, when they were informed of both BATNAs versus when they were not, was carried out. It was found that strong negotiators' knowledge of BATNA-asymmetries was detrimental

to information-exchange process (see Table 4.7). In particular, when only strong negotiators had knowledge of BATNA-asymmetries, they were less likely to provide or to seek information about preferences from their opponents than when they lacked this knowledge. A substantial number of strong negotiators (74%) failed to exchange information about interests with their opponents when they realised that they were the stronger party within the dyad. As a result, this knowledge discourages parties from finding joint benefits. This analysis has provided us with an explanation of how strong negotiators' knowledge of BATNA-asymmetries led to inefficient agreements.

4.8.2 Effect of Weak Negotiators' Knowledge on Efficiency and Information-Exchange

Study 1 showed that weak negotiators' awareness of BATNA-asymmetries alone can have positive impacts on dyads' ability to reach efficient outcomes. As shown in Table 4.7, the same impact of weak negotiators' knowledge on efficiency was replicated in Study 2 from which the conclusion can be drawn that weak negotiators' knowledge of BATNA-asymmetries is beneficial to the development of efficient outcomes. Yet, *how* weak negotiators' knowledge of BATNA-asymmetries improves dyads' ability to find efficient agreements was still unclear.

One of the purposes of Study 2 was to explore whether weak negotiators' knowledge would encourage them to communicate about interests with others, and whether this knowledge would increase the likelihood of weak negotiators initiating this communication process. By addressing these issues, it can shed some light on how solo weak negotiators' knowledge was conducive to efficient agreements.

To examine the impact of solo weak negotiators' knowledge on information-exchange, weak negotiators' information-exchange behaviours when they were informed of both BATNAs were compared to those when they were not. Weak negotiators with knowledge tended to be more likely to share information about preferences with their opponents than those without knowledge. Moreover, the results showed that when only weak negotiators were informed of BATNA-asymmetries, they tended to be more likely to initiate communications about preferences with their opponents.

Together, it is clear that weak negotiators' knowledge of BATNA-imbalances is an important ingredient for fostering communications between parties. We are still uncertain why this knowledge would do this, and this will be discussed in the final section of this chapter.

4.8.3 Effect of Complete Knowledge on Efficiency and Information-Exchange

Study 1 addressed the question as to *whether* knowledge of BATNA-asymmetries needs to be commonly held by both parties to improve agreement efficiency. The effect of complete knowledge on agreement efficiency was found to be significant and considerable but in the opposite direction as predicted. When both strong and weak negotiators had complete knowledge of BATNA-asymmetries, dyads tended to reach less efficient agreements than when they both lacked this knowledge. This finding was replicated in Study 2 (see Table 4.7).

The fourth issue addressed by Study 2 concerned how complete knowledge of BATNA-imbalances hindered dyads' ability to search for efficient solutions. Again,

considering that information-exchange about interests is the key to efficient solutions (Murnighan *et al.*, 1999, Raiffa, 1982, Thompson, 1991), the relationship between complete knowledge and communications between negotiators was explored. It was found that when both parties had complete knowledge, negotiation dyads were less likely to share information about interests than when they did not have knowledge. Clearly, there is enough evidence to suggest that complete knowledge of BATNA-asymmetries is an obstacle to information-exchange between parties, and as a result, dyads with complete knowledge attain relatively inefficient agreements as Study 1 has shown.

The final issue addressed by Study 2 concerned why complete knowledge of BATNA-asymmetries does not improve agreement efficiency as solo weak negotiators' knowledge. Two explanations were proposed and tested. First, the results indicate that when both parties were provided with knowledge of BATNA-asymmetries, strong negotiators were less likely to reveal their priorities if asked, than when only weak negotiators were provided with knowledge. Overall, in complete knowledge condition, refusing to reveal preferences was more common than was revealing preferences when asked. In other words, it was more difficult for weak negotiators to elicit information about interests from their stronger counterparts when both parties had knowledge than when only weak negotiators did.

Secondly, it was found that when both parties had complete knowledge, weak negotiators were less likely to exchange information about interests than when only weak negotiators had knowledge. This finding suggests that strong negotiators' knowledge of BATNA-asymmetries can unfavourably affect weak negotiators'

information-sharing behaviour, even though weak negotiators' knowledge alone has been shown to be conducive to information-exchange.

Given these explanations, it is clear how strong negotiators' knowledge eliminates the benefit of weak negotiators' knowledge on agreement efficiency.

4.9 Conclusion

Many theorists have pointed out that dyads with unequal BATNAs tend to reach more efficient outcomes than those with equal BATNAs. Unfortunately, we know very little about how this increased efficiency is achieved (Pinkley *et al.*, 1994, Roloff and Dailey, 1987). Although researchers have suggested processes by which this occurs, their suggestions are so different and sometimes contradicting that we are left wondering whether BATNA-asymmetries do in fact matter (Brett *et al.*, 1996, Lawler and Yoon, 1993, Pinkley, 1995, Roloff and Dailey, 1987).

The current studies shed some light on this domain in two ways. Firstly, negotiators' knowledge of BATNA-asymmetries has a profound impact on the way negotiators approach negotiations and ultimately on the efficiency of outcomes reached. Secondly, impacts of negotiators' knowledge can be very different, depending on which member (strong or weak negotiators) has access to this information. Knowledge of BATNA-imbalances, when being made available to strong negotiators, deters dyads from searching for efficient outcomes. Conversely, weak negotiators' knowledge of BATNA-asymmetries alone facilitates the development of efficient agreements. These results refine and generalise the theoretical relationship between information about another's BATNA and efficiency of negotiated agreements when negotiators have very different BATNAs.

This research also addresses an apparent lack of relationship between negotiators' knowledge and information-exchange. The current findings provide a fuller understanding of *how* the variability in the information level about the other's BATNA

leads to agreements with different degrees of efficiency. This is because effects of negotiators' knowledge on efficiency are mediated by their information-sharing behaviours in a predictable way.

Knowledge does not uniformly discourage or encourage negotiators to share information about preferences with the other party. At the heart of this chapter is the message that knowledge of BATNA-asymmetries can have *different* impacts on negotiators' information-sharing strategies. Similar to effects of knowledge on efficiency, which member of the dyad has access to the knowledge of BATNA-asymmetries is key. Strong negotiators' awareness of BATNA-differences hinders them from sharing information. Weak negotiators' knowledge of BATNA-asymmetries fosters communication between parties. It also increases the likelihood of weak negotiators initiating the information-exchange process. However, this advantage of weak negotiators' knowledge no longer holds when knowledge of BATNA-asymmetries is also introduced to their stronger counterparts. Informed strong negotiators' unwillingness to reveal preferences and the reduction in weak negotiators' information-sharing behaviour may account for this adverse impact of complete knowledge about BATNA-asymmetries.

4.9.1 Limitations and Motivation for Study 3

The main limitation of Study 2 is that it leaves relatively open the question of *why* negotiators' knowledge of BATNA-asymmetries had a strong effect on information-exchange, thus resulting in agreements with different degrees of efficiency. First, it is necessary to examine *why* strong negotiators' knowledge seemed to deter

them from sharing information, thus leading to inefficient agreements. Research that considers power-asymmetric situations may be helpful. Lawler & Yoon (1992) and Mannix (1993) speculate that in power-imbalanced negotiations power-advantaged negotiators tend to push for agreements which reflect the difference between parties. Unfortunately, the authors do not provide supportive empirical evidence for this contention, or speculate under what circumstances this would occur.

It may be that knowledge of BATNA-asymmetries changes strong negotiators' mind-set and the way they approach negotiations. Recall the finding in Study 1 that negotiators tend to assume an equal-BATNA situation when no information is available. Knowledge of BATNA-asymmetries therefore signals to strong negotiators that their opponents rely on the existing negotiation to a greater extent. This knowledge may induce more value-claiming behaviours and competitive tactics from strong negotiators, which allow them to reflect their BATNA advantage. In doing so, it is likely that informed strong negotiators will overlook the possibility that the resource pie can be expanded. We obtained some supportive evidence for this explanation in Study 1 that strong negotiators' knowledge does increase their bargaining strength. Nevertheless, more work is required to confirm this conjecture and there may be other mechanisms responsible for the adverse effect of this knowledge on information-exchange and efficiency.

The second open question regards *why* solo weak negotiators' knowledge facilitates information-exchange about interests and improves dyads' ability to find efficient solutions. Relevant arguments in past research that bears upon this issue may help answer this question. Roloff and Dailey (1987) suggest that in BATNA-imbalanced

negotiations weak negotiators are under pressure and motivated to be creative, and therefore come up with alternate settlements. No supportive empirical evidence for this suggestion is given.

Implicit in their hypothesis was the assumption that weak negotiators had complete information about another's BATNA. Again, Study 1 showed that when negotiators are not aware of BATNA-imbalances, they assume an equal-BATNA situation. Therefore, information about another's BATNA may make weak negotiators realise that they are more reliant on the existing negotiation than their counterparts. As a result, informed weak negotiators may be motivated to be creative and to search for integrative agreements that generate sufficient surplus, in order to keep strong negotiators at the negotiation table. At the same time, it is not necessarily to transfer the entire pool to their stronger counterparts, and negotiated agreements must provide sufficient benefit for weak negotiators. Hence, informed weak negotiators' higher motivation to create alternate settlements may explain why their knowledge of BATNA-asymmetries is conducive to information-exchange.

Some supportive evidence for this contention has been obtained in Study 2: weak negotiators' knowledge increases the likelihood that they initiate the information-exchange process. However, it still remains conjecture at this stage, and it is necessary to test whether weak negotiators' knowledge is associated with their motivation in Study 3.

Finally, the present study has shown that solo weak negotiators' knowledge of BATNA-asymmetries is conducive to information-exchange but this benefit disappears

Chapter Four –How Knowledge of BATNA-Asymmetries Affects Agreement Efficiency (Study 2)

when both parties have complete knowledge. This is due to the fact that strong negotiators' knowledge deters informed weak negotiators from exchanging information. However, it is still unclear as to why this occurs and this will also be addressed in Study 3.

Chapter Five

Why Knowledge of BATNA-Asymmetries Affects Agreement

Efficiency (Study 3)

Chapter Five – Why Knowledge of BATNA-Asymmetries Affects Agreement Efficiency (Study 3)

The primary focus of Study 1 was on *whether* information of another's BATNA has an impact on the quality of agreements when negotiators have very different BATNAs. It has been found that knowledge of BATNA-asymmetries can have a significant impact on agreement efficiency and that the effect on agreement efficiency can differ, depending on the quality of one's BATNA in relation to another's. Given the importance of information-exchange about preferences across issues to the development of efficient agreements (Thompson, 1991, Murnighan *et al.*, 1999), Study 2 was designed to examine negotiators' information-exchange behaviour in order to explain *how* knowledge of BATNA-asymmetries affects agreement efficiency. Study 1 and 2 produced evidence suggesting that weak negotiators' knowledge of BATNA-asymmetries *alone* is conducive to information-exchange about interests, thus improving dyads' ability to search for efficient agreements. In contrast, strong negotiators' knowledge *alone* is detrimental to the development of efficient outcomes, by discouraging negotiators from sharing information. In addition, the disadvantage of strong negotiators' knowledge is more powerful than the benefit of weak negotiators' knowledge. When both negotiators have complete knowledge of BATNA-asymmetries, negotiation dyads tend to be less likely to share information and result in less efficient outcomes than when they both lack this knowledge.

Considering that weak negotiators' knowledge alone is beneficial to agreement efficiency, Study 2 also examined why complete knowledge hinders dyads' ability to search for efficient solutions, finding that strong negotiators' knowledge reduced their willingness to reveal their preferences and deterred their weaker counterparts' information-sharing behaviour. Both of these accounted for the observed decline in agreement efficiency in 'complete knowledge' condition.

Study 3 is designed to explore the causes of negotiators' behaviours. Specifically, the mechanisms by which strong and weak negotiators' knowledge affects information-exchange and results in agreements with different efficiency are considered. The study will attempt to provide critical tests of possible mechanisms (that will be proposed later in this chapter). Since knowledge of BATNA-asymmetries, when given to strong and weak negotiators, can have opposing impacts on agreement efficiency and information-exchange, the mechanisms (that Study 3 will propose) will follow very different paths. The research questions that will be addressed are: (1) *why* does strong negotiators' knowledge of BATNA-asymmetries deter information-exchange and lead to inefficient outcomes?; (2) *why* does weak negotiators' knowledge encourage them to share information, resulting in efficient agreements?; (3) *why* does strong negotiators' knowledge reduce their willingness to reveal priorities across issues?; and (4) *why* does strong negotiators' knowledge hinder informed weak negotiators' information-sharing behaviour, even though weak negotiators' knowledge alone is shown to be beneficial?

5.1 Relationship between Strong Negotiators' Knowledge and Agreement Efficiency

In this chapter, an explanation will be sought for the findings that solo strong negotiators' knowledge of BATNA-asymmetries destroys agreement efficiency and hinders information-exchange about interests. Two different hypotheses will be proposed in an attempt to help shed some light on this issue. The first hypothesis concerns the relationship between strong negotiators' knowledge and their focus on the distributive side of negotiations. The second considers the effect of strong negotiators' knowledge on the perceived usefulness of information-exchange.

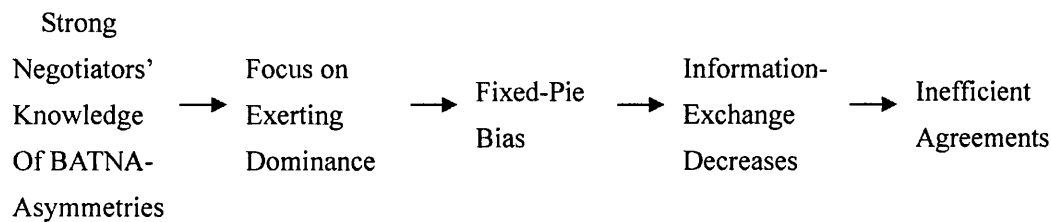
Recall the finding in Study 1 that when negotiators have no information about others' BATNAs, they tend to assume an equal-BATNA situation. Knowledge of BATNA-imbalances may signal to strong negotiators that their opponents rely on the negotiation to a relatively greater extent. Therefore, knowledge of BATNA-asymmetries may play an important role in strong negotiators' negotiation style and mind-set, thus leading to different information-sharing behaviour and efficiency of outcomes reached. Study 3 will determine whether strong negotiators' style and mind-set can differ as a function of knowledge of BATNA-asymmetries, in order to explain the findings in Study 1 and 2. Specifically, the following mechanism involves two steps: first, knowledge of BATNA-asymmetries affects strong negotiators' negotiation style and second, it affects their judgement accuracy about opponents' interests across issues.

Before discussing how this knowledge changes strong negotiators' style, a brief review of relevant research is useful. Studies concerning negotiators with unequal power have found that negotiators in positions of higher power are likely to expect a resource distribution based on equity rather than equality²¹ (Bacharach and Lawler, 1981, Komorita, 1984, Komorita and Hamilton, 1984, Lawler and Yoon, 1993, Mannix, 1993, Shaw, 1981). Their predictions were based on the assumption that powerful negotiators recognise differences in power.

Extending these predictions, knowledge of BATNA-asymmetries by strong negotiators may change their expectations of resource distribution. It may be that strong negotiators, when informed of both BATNAs, express their superiority *distributively* and exert their dominance in order to push for agreements that reflect the difference in their BATNAs. In other words, informed strong negotiators are likely to focus on the distributive element of the negotiation (see Figure 5.1). The impact of strong negotiators' knowledge on bargaining strength shown in Study 1 attests to this contention – Informed strong negotiators garnered a larger share of the resource pie than those who lacked information.

²¹ Note that these studies defined power differently from my studies. For example, power was represented by number of alternatives that negotiators have. Or, difference in power was manipulated by varying the probabilities of various profits of the alternatives.

Figure 5.1 A Proposed Theoretical Model of Strong Negotiators' Knowledge of BATNA-Asymmetries and Agreement Efficiency



The second step of the mechanism is that focusing on exerting dominance may affect how strong negotiators perceive the structure of the task, which in turn reduces information-exchange about interests. A large body of research has shown that negotiators often suffer from the fixed-pie bias at the outset of negotiations (Thompson and Hastie, 1990, Thompson, 1991, Bazerman and Neale, 1983). In light of the pervasiveness of fixed-pie perception, strong negotiators' knowledge of BATNA-asymmetries may make this powerful bias even harder to diffuse²². This is because focusing on the distributive side of the negotiation may pull their available cognitive energy away from the creation of values (Lax and Sebenius, 1986) and towards on claiming values (Mannix and Neale, 1993). Informed strong negotiators may find it difficult to focus *simultaneously* on the integrative and distributive aspects of the negotiation. As a result, informed strong negotiators will be more likely to make judgement errors about their opponents' interests.

²² It is important to note that I am not suggesting only informed strong negotiators suffer from the fixed-pie bias. Instead, it is speculated that informed strong negotiators are more likely to suffer from this bias than those who lacked information of BATNA-asymmetries.

With greater judgement errors, strong negotiators with knowledge rarely conduct an active search for information which would go against their existing idea and attitudes, for instance, their opponents having different preferences across issues. After all, what is the use of learning something about weak negotiators that merely confirms their expectation? In short, strong negotiators' knowledge of BATNA-asymmetries triggers a two-step communication-blocking mechanism: first, it puts them in a competitive mode and second, their expression of superiority makes the fixed-pie bias more salient. If true, this helps explain why strong negotiators' knowledge of BATNA-asymmetries hinders dyads' ability to reach efficient agreements.

To examine strong negotiators' single-mindedness, I will consider the extent to which they focus on the distributive side of negotiations. To assess their fixed-pie perception, two aspects will be considered, (i) their judgement accuracy of opponents' preferences across issues; and (ii) whether they are able to identify the compatible issues in which both parties have identical interests. It is also important to examine if strong negotiators' focus on exerting their dominance and fixed-pie perception mediate the relationship between strong negotiators' knowledge on information-exchange (see Figure 5.1). This is because, for example, one might argue that the decline in information-exchange leads to judgement errors than vice versa. To test these possibilities, Study 3 will explore:

Hypothesis 1a: When strong negotiators are informed of both BATNAs, they will focus on how to split the resources to a greater degree than those without the information.

Hypothesis 1b: When strong negotiators are informed of both BATNAs, they will show lower judgement accuracy about their weaker counterparts' preferences, than uninformed strong negotiators.

Hypothesis 1c: Informed strong negotiators will be less likely to identify the compatible issue than those who lack information of others' BATNAs.

5.1.1 Alternative Explanation

Here an alternative, but equally plausible, explanation is presented of why strong negotiators' knowledge of BATNA-asymmetries is a handicap to information-exchange and agreement efficiency. It may be that this knowledge impedes strong negotiators' incentive to share information about interests and result in inefficient agreements. Informed strong negotiators may construe that they are in a relatively harder position to improve their profits through negotiation than their weaker counterparts by sharing information and making trade-offs. Given that uninformed strong negotiators assume their opponents possess a similar BATNA, it is unlikely that they share the same view as informed strong negotiators. Informed strong negotiators may perceive information-exchange about interests as a way to improve their weaker counterparts' payoffs rather than their own individual outcomes. This may not be considered as appealing to informed strong negotiators as to uninformed ones, and as a result, they spend little effort on working out the possibility of integrative trade-offs.

Note that this explanation assumes that a 'strong BATNA' renders improvements through negotiations unlikely. In other words, it assumes that a strong BATNA is defined in absolute terms. 'I have a great BATNA that you are unlikely to beat'. In the work presented in this thesis, the 'strength' of a BATNA is defined relative to the other's BATNA. Unlike other studies on asymmetric BATNA situations (Lawler and Yoon, 1993, Pinkley *et al.*, 1994, Roloff and Dailey, 1987, Pinkley, 1995), the quality of strong negotiators' BATNA in my studies is worth less than the compromise solution (their BATNA is worth 6000 points whereas the compromise solution is 6,400 points).

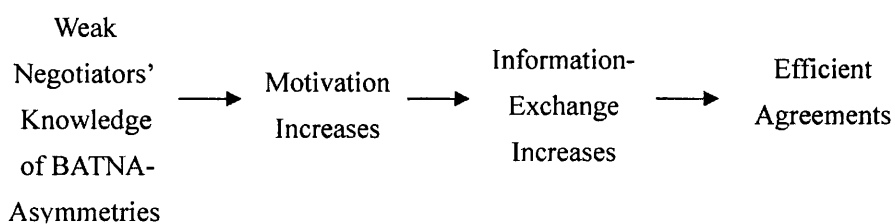
Also, it is far below the maximum possible individual profit (12,800 points). This indicates that there is room for strong negotiators, as well as weak negotiators, to improve their payoffs through negotiation by making trade-offs, although weak negotiators can improve their outcomes through negotiation to a greater extent. In other words, 'I am strong because my BATNA is better than yours'. Because the relative strength of a BATNA is considered, this alternative explanation is less compelling than the first explanation. Nevertheless, it is worth considering whether strong negotiators' knowledge of BATNA-imbalances in fact leads to their belief that information-exchange does not increase their payoffs.

Hypothesis 1d: Informed strong negotiators are more likely to believe that information-sharing about interests will not improve their outcomes than those who are not informed.

5.2 Relationship between Weak Negotiators' Knowledge and Agreement Efficiency

Study 1 and 2 produced evidence suggesting that solo weak negotiators' knowledge of BATNA-asymmetries induces more information-sharing behaviour and results in more efficient agreements. Unfortunately, we know very little *why* this happens. Researchers have speculated that weak negotiators' *motivation* to create alternate settlements is of great importance in the search for efficient agreements (Pinkley, 1995, Roloff and Dailey, 1987, Pinkley *et al.*, 1994, Mannix and Neale, 1993). Essentially, these scholars argue that the position of lower power increases one type of motivation in weak negotiators.

Figure 5.2 A Proposed Theoretical Model of Weak Negotiators' Knowledge of BATNA-Asymmetries and Agreement Efficiency



However, the story may be more complex. The primary argument in Study 3 is that weak negotiators' motivation to create alternate settlements is rooted in their knowledge of BATNA-imbalances and that the increased motivation improves agreement efficiency (see Figure 5.2). Also, in other domains we know that

motivational influence on agreement efficiency is complicated, involving more than one type of motivation. Therefore, Study 3 will examine whether weak negotiators' motivational states can differ as a function of knowledge of BATNA-asymmetries. Specifically, it will consider how weak negotiators' knowledge may influence different forms of motivation in order to explain the previous findings in Study 1 and 2. Before detailing the explanation, a brief review of the relationship between motivation and creativity of solutions is needed.

5.2.1 Motivational Influence on Creative Performance

In variable-sum negotiations, discovering efficient agreements requires divergent and creative thinking because they are not immediately apparent (Anderson and Thompson, 2004, Kurtzberg, 1998). In other words, efficient agreements can be referred as to creative solutions. Social psychological research has emphasised the importance of task motivation to the generation of creative solutions (Amabile, 1983b, Amabile, 1988, Conti, Coon and Amabile, 1996). In particular, Amabile (1988) suggested that task motivation makes the difference between what individuals *can* do and what they *will* do. The former depends on factors such as training, personalities, skills, etc. But it is task motivation that determines the extent to which these factors will be fully and appropriately engaged in the service of creative performance.

To better understand motivational influences on creative performance, an illustrative analogy can help. Note that the following analogy, originally Amabile's (1988), is modified to apply to the negotiation context. A variable-sum negotiation is represented

as a maze. The maze has several exits, any of which represents finding a solution that is at least satisfactory to both parties. The most straightforward and well-practiced path out of the maze is the algorithmic exit – compromise solution (Bazerman and Neale, 1983, Thompson and Hastie, 1990, Thompson, 1991).

There are other exits available to those who are more inclined to investigate. This investigation is more likely in negotiators who have higher levels of task motivation (Amabile, 1988, Amabile, Hill, Hennessey and Tighe, 1994, Ryan and Deci, 2000, Ruscio, Whitney and Amabile, 1998). These negotiators are not simply interested in exiting the maze, because the very exploration of the maze provides them with something extra (e.g., extra payoffs, pleasure, positive challenge in the task etc.). Exploring the maze is the only way to find the less obvious exits – efficient outcomes – which are analogous to end products high in creativity.

In the next sections, a brief discussion of different types of motivation is given and an attempt is made to explain how knowledge of BATNA-asymmetries may enhance weak negotiators' motivational states, thereby improving the search for efficient agreements.

5.2.2 Different Types of Motivation

At the most basic level, to be motivated means *to be moved* to do something. Even brief reflection suggests that motivation is hardly a unitary phenomenon. People vary not only in level of motivation (i.e., how much motivation), but also in the orientation of that motivation (i.e., what type of motivation). Social psychologists distinguish

between different types of motivation based on the different reasons that give rise to an action (Ryan and Deci, 2000, Deci and Ryan, 1985, Amabile *et al.*, 1994). A fundamental distinction is between *intrinsic motivation* and *extrinsic motivation*. Intrinsic motivation is the motivation to engage in a task primarily for its own sake, because the task itself is interesting, engaging, or in some way satisfying (Amabile *et al.*, 1994, Deci and Ryan, 1985). Extrinsic motivation refers to doing something because it leads to a separable outcome, such as competition, restrictions and goals set by others, pressure, etc (Amabile, 1988, Amabile *et al.*, 1994, Ryan and Deci, 2000).

5.2.3 Effect of Knowledge of BATNA-Asymmetries on Motivational States

Negotiation research concerning BATNA-asymmetries primarily considers extrinsic motivation as the only factor to improve agreement efficiency (Mannix and Neale, 1993, Pinkley *et al.*, 1994, Roloff and Dailey, 1987). Intrinsic motivation has been most neglected. Study 3 will argue that weak negotiators' knowledge may alter both intrinsic and extrinsic motivation, which results in improvements in dyads' ability to reach efficient agreements. Two elements, specified in social contexts which produce variability in intrinsic and extrinsic motivation, are considered: (i) perceived challenge and (ii) pressure (Amabile, 1983b, Amabile *et al.*, 1994, Deci and Ryan, 1985, Roloff and Dailey, 1987, Ryan and Deci, 2000).

Perceived Challenge

Deci and Ryan (1985) argue that interpersonal events and structures conducive to

feelings of competence during action can enhance intrinsic motivation for that action, because they allow satisfaction of the basic psychological need for competence (Deci and Ryan, 1985, Amabile, 1988). The optimal challenge is important in itself and can facilitate intrinsic motivation. However, feelings of competence will *not* enhance intrinsic motivation unless they are accompanied by a sense of autonomy (deCharms, 1968). Thus, individuals must experience not only perceived competence, but also their behaviour has to be self-determined, if intrinsic motivation is to be enhanced.

Given the importance of autonomy, it is necessary to investigate the degree to which free choice is allowed in the task employed in this study before discussing the influence of weak negotiators' knowledge on feelings of competence. Negotiators are allowed to communicate freely with their opponents, and also there are no restrictions on strategies that they may adopt. The only restriction is that they are instructed not to share information about their payoff schedules. The negotiation task in the present study should provide sufficient amount of autonomy for intrinsic motivation to occur.

I argue that knowledge of BATNA-asymmetries may enhance weak negotiators' intrinsic motivation by generating feelings of competence. Weak negotiators' knowledge signals that they rely on the existing negotiation to a greater extent, compared to their opponents with a more attractive BATNA. So, their job is more than just reaching an agreement that generates reasonable payoffs to themselves. The agreement also needs to satisfy their stronger counterparts. Informed weak negotiators may consider the negotiation situation as challenging, complex, and difficult. Hence, informed weak negotiators will be attracted by the challenge of the problem and

reaching an agreement that is mutually acceptable will provide them with feelings of competence²³.

Feelings of competence may not emerge when weak negotiators are not aware of BATNA-differences. Study 1 suggests that weak negotiators, when uninformed of both BATNAs, consider their opponents' BATNAs similar to their own. Without knowing the *magnitude* of differences in their BATNAs, uninformed weak negotiators may perceive the negotiation task as less challenging than informed weak negotiators.

Pressure

As suggested before, negotiation research has generally focused on extrinsic motivation to explain why weak negotiators may be driving the efficiency of final outcomes (Mannix and Neale, 1993, Pinkley, 1995, Pinkley *et al.*, 1994, Roloff and Dailey, 1987). In essence, Roloff and Dailey (1987) hypothesised that weak negotiators are motivated by *pressure* to be creative, and thus come up with alternate settlements. However, they did not test this hypothesis.

Although the authors defined power differently²⁴, support for Roloff and Dailey's (1987) hypothesis can be found in Mannix and Neale's (1993) study. In their experiment, they

²³ I do sometimes speak of intrinsically challenging negotiation, but when I do so I am talking about the particular negotiation task that, on average, many individuals find to be intrinsically challenging. There may, in fact, be differences between individuals' motivational orientations.

²⁴ Instead of the different quality of BATNAs, power difference was manipulated by different numbers of alternative negotiation partners existed. The powerful negotiator was given more alternative negotiators than was the less powerful negotiator. Also, a market setting was adopted and negotiators were not allowed to speak to one another. Negotiations involved a back-and-forth sequence of proposals and counter-proposals.

considered the efficiency of final offers that parties of higher power and those of lower power made. It was found that parties of lower power made final offers with greater efficiency: the power disadvantage of weak negotiators may force them to consider more carefully the options available. Nevertheless, it is still unclear as to under what condition weak negotiators are most likely to be extrinsically motivated to be creative. Where does the pressure arise from?

I argue that the answer may lie in weak negotiators' knowledge of BATNA-asymmetries. Implicit in Roloff and Dailey's (1987) hypothesis was the assumption that weak negotiators had complete information about BATNA-differences, and Mannix and Neale's (1993) finding was based on a situation where negotiators knew of each other's power. Therefore, it may not be enough to argue that weak negotiators are motivated to be creative simply because of BATNA-asymmetries. Recall the finding in Study 1 that when weak negotiators are not aware of BATNA-imbalances they tend to assume equal-BATNA situations. This suggests that weak negotiators' motivation toward creating alternate settlements may differ as a function of *knowledge* about BATNA-asymmetries. In essence, this knowledge may induce higher levels of pressure (extrinsic motivation) to expand the resource pie from weak negotiators.

Considering possible impacts of weak negotiators' knowledge on intrinsic and extrinsic motivation derived from the above discussion, Study 3 will attempt to test whether this knowledge enhances the overall level of motivation. No research, to my knowledge, has actually provided such a test of this relationship. Given the strong link between

motivation and creative performance introduced earlier (Amabile, 1983b, Amabile, 1996, Amabile *et al.*, 1994, Conti *et al.*, 1996, Deci and Ryan, 1985, Roloff and Dailey, 1987, Ryan and Deci, 2000), I explore whether informed weak negotiators with higher levels of motivation will be more creative in the task than those without information. Returning to the illustrative analogy where negotiation is a maze, it is suggested that informed weak negotiators may be more likely to explore the maze (the structure of negotiation) by exchanging information about priorities with opponents, and thus find less obvious exits (making integrative trade-offs and reaching efficient agreements). This would explain why weak negotiators' knowledge is conducive to information-exchange and efficient agreements as suggested in Study 1 and 2. To test this possibility, the following hypothesis is proposed:

Hypothesis 2: When weak negotiators are informed of both BATNAs, it is more likely that they will show higher levels of motivation than when they are not informed.

5.3 Relationship between Complete Knowledge and Agreement Efficiency

I have already discussed the mechanisms by which *solo* strong (and weak) knowledge of BATNA-asymmetries alters information-sharing behaviours and agreement efficiency. Here the attention will be confined to the state of complete information about BATNA-imbalances. That is, both strong and weak negotiators know of the *wideness* of BATNA differences between them.

Study 1 and 2 showed that complete knowledge destroys efficiency and that an overall *decrease* in information-exchange about interests accounted for the observed decline in efficiency. Solo weak negotiators' knowledge of BATNA-asymmetries facilitates information-exchange and improves agreement efficiency. However, when strong negotiators' knowledge is introduced, the advantages of weak negotiators' knowledge disappear.

Study 2 attempted to explain *how* strong negotiators' knowledge washed away and overrode the benefit of weak negotiators' knowledge by comparing the differences in negotiators' behaviours between condition 3 (solo weak negotiators' knowledge) and condition 4 (complete knowledge). Two explanations were identified. One is that strong negotiators' knowledge reduces their willingness to reveal preferences when asked. Another one regards strong negotiators' knowledge deterring informed weak negotiators from sharing information about interests. However, Study 2 leaves relatively open questions of *why* these occur, and these questions will be addressed here.

5.3.1 Strong Negotiators' Willingness to Reveal Preferences

First, we need to answer why strong negotiators' knowledge impedes their willingness to reveal preferences. Schema Theory, from studies in social cognition, suggests that information about counterparts invoke schemas that organise negotiators' images of counterparts (Fiske and Taylor, 1991). These schemas help a negotiator in interpreting the opponent's behaviour and endow a negotiator with a set of expectations about the other party's future actions (Fiske and Taylor, 1991, Ross and Nisbett, 1991, Tinsley *et al.*, 2002). For example, Tinsley *et al.* (2002) show that when a negotiator knows that his counterpart has a distributive reputation (i.e. he is known for his ability to extract deep concessions), this information affects negotiators' perceptions of counterparts' intentions as well as their own behavioural response. Perhaps strong negotiators' knowledge of BATNA-asymmetries affects their interpretations of their counterparts' behaviour in a similar way.

As hypothesised before, informed strong negotiators are likely to focus on exerting their dominance, thus leading to greater judgement errors about others' preferences. Their assumption that the task is fixed-sum may evoke schemas that organise images of their weaker counterparts. These schemas endow them with an expectation about certain levels of distributive behaviour from their weaker counterparts. As a result, knowledge of BATNA-asymmetries might make strong negotiators suspect that weak negotiators' attempts to elicit information about their preferences are ways to counter their strength. It explains *why* informed strong negotiators were more reluctant to give out their preferences when asked by their counterparts than uninformed strong

negotiators.

These arguments stem from the effect of strong negotiators' knowledge on their attitude toward the negotiation task and judgement errors about others' preferences. It is important to note that I have proposed the hypotheses for this effect before (see section 5.1), but here the attention is confined to situations where weak negotiators know both BATNAs.

Hypothesis 3a: When both parties are informed of BATNA-asymmetries, strong negotiators will focus more on how to claim more surplus than when only weak negotiators are informed.

Hypothesis 3b: When both parties are informed of both BATNAs, strong negotiators will show greater judgement errors about their opponents' priorities than when only weak negotiators are informed.

5.3.2 Effect of Strong Negotiators' Knowledge on Informed Weak Negotiators' Information-Sharing Behaviour

Study 3 will also examine why strong negotiators' knowledge of BATNA-asymmetries discourages informed weak negotiators' information-sharing behaviours. To address this issue, it is necessary to first consider in what the benefit of solo weak negotiators' knowledge is rooted. According to Hypothesis 2 introduced earlier, solo weak negotiators' knowledge increases their motivation. So, will strong negotiators'

knowledge reduce informed weak negotiators' motivation levels?

The answer is no. This is because informed weak negotiators' motivation (both intrinsic and extrinsic) arises from the nature of the negotiation situation itself. It should be independent of their stronger counterparts' knowledge status about the BATNA-differences. Therefore, the following hypothesis is proposed:

Hypothesis 3c: When strong negotiators are informed of both BATNAs, informed weak negotiators' motivation levels will be the same as when strong negotiators are not informed.

This hypothesis may, at first glance, seem to contradict the suggestion that higher levels of motivation are conducive to creative performance (i.e. searching for efficient outcomes by exchanging information) (Amabile, 1983b, Amabile, 1985, Amabile, 1988, Amabile *et al.*, 1994, Deci and Ryan, 1985). It begs a question: why do high levels of motivation not encourage informed weak negotiators' to share information, when strong negotiators are also informed of both BATNAs?

Recall that research on motivational influence on creative performance suggests that increases in motivation must be accompanied by a sense of autonomy in order for the enhanced motivation to result in increased creative performance (Deci and Ryan, 1985, Ryan and Deci, 2000). Strong negotiators' knowledge may affect the environment of negotiations, thus limiting the perceived autonomy of weak negotiators' strategies. It may be that informed strong negotiators control the scope of their counterparts'

behaviour by restricting the way they approach negotiations. In essence, they tend to be more likely to make procedural remarks to control the negotiation process. As strong negotiators dominate proceedings, weak negotiators' autonomy diminishes. Therefore, weak negotiators may face a more complex situation and need to focus on protecting their own interests. This pulls their available cognitive energy away from increasing or caring about the joint outcome (Mannix and Neale, 1993). In other words, the procedural remarks made by strong negotiators will preclude weak negotiators from using tactics aimed at creating values. This explains why increased motivation does not encourage weak negotiators to exchange information about interests when both parties are informed of BATNA-asymmetries.

To test this possibility, the following hypothesis will be tested:

Hypothesis 3d: When both parties are informed of both BATNAs, it is more likely that strong negotiators will try to control the negotiation process using procedural remarks, than when only weak negotiators are informed.

5.4 Overview of Study 3

Study 1 and 2 produced evidence suggesting that knowledge of BATNA-asymmetries, when given to strong and/or weak negotiators, can have different impacts on agreement efficiency and information-exchange. Study 3 will seek to replicate these findings. Unfortunately, we know very little of *why* knowledge of BATNA-asymmetries affects negotiators' information-sharing behaviour and efficiency of outcomes. Study 3 examines why this happens. Specifically, it considers effects of this knowledge on how negotiators approach negotiations and their mind-set.

In summary, four research questions will be addressed in Study 3. The first issue concerns whether strong negotiators' knowledge affects negotiation style, judgement errors about others' interests and the perceived usefulness of information-exchange. Secondly, to explain improvement in efficiency by weak negotiators' knowledge, whether this knowledge increases motivation will be examined. Thirdly, an explanation is provided for why strong negotiators' knowledge reduces their willingness to reveal their preferences across issues. Finally, an attempt is made to examine why strong negotiators' knowledge hinders weak negotiators' information-sharing behaviour.

5.5 Method

Participants

A total of 192 master students at London School of Economics and University College London participated in this study. The sample included 80 men and 112 women, with ages ranging from 19 to 43 years and a mean of 25.07 ($SD = 3.58$) years. Subjects participated in the experiment as volunteers.

Procedure

The instructions and procedures were the same as those used in Study 1 and 2 except that additional post-negotiation questionnaires were used (see Dependent Measures for details).

Negotiation Task & Independent Variables

The negotiation task, levels of negotiators' BATNAs, and independent variables were identical to those in Study 1 and 2 (see Chapter Three, section 3.6 for details). Again, four basic experimental conditions were formed, as shown in the following table:

Table 5.1 Four Basic Experimental Conditions in this Study

Experimental Conditions	Information Levels
Condition 1 (Control)	Neither player knows his or her opponent's BATNA
Condition 2	Only strong negotiators know both BATNAs
Condition 3	Only weak negotiators know both BATNAs
Condition 4	Both players know each other's BATNA

Dependent Measures

Dependent variables will be presented in the sequence as they appear in the hypotheses previously.

Strong Negotiators' Focus on Distributive Element

To assess whether strong negotiators focussed on exerting dominance, I asked them to state the extent of their agreement with the statements illustrated in Table 5.2. Strong negotiators responded on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*). To avoid response sets, one statement (4) was worded in the reverse direction. Responses to these six items were summed to obtain a strong-negotiators' focus score.

Table 5.2 Items for Strong Negotiators' Focus on Distributive Element

1. I was very concerned if I could outperform the employee.
 2. My primary concern in the negotiation task was whether I could claim more surplus on the table than the opponent did.
 3. I tried so hard to split the resources between us in the task.
 4. As long as I enjoyed the negotiation, I was not very concerned if the other party earned more than I did.
 5. I think a fair agreement would be the one that reflected the quality of my BATNA (outside option).
 6. The main goal I pursued was to do better than the opponent.
-

Judgements of Others' Preferences

Judgement accuracy scores were computed for each strong negotiator, following each negotiation, by examining their perceptions of others' interests for negotiation issues. Specifically, following each negotiation, the experimenter provided each strong negotiator with a blank payoff schedule and the following instructions:

“Below is a blank payoff schedule similar to the one that has been given to you in this negotiation situation. At the time, we would like you to “fill in the numbers” to indicate what you think the other negotiator’s payoff schedule looks like. Your only hint is that the lowest number on their chart is zero and the highest is 4,000.”

From this fill-in-the-blank questionnaire, measures of judgement accuracy were computed by examining deviations between strong negotiators' estimates and the true

values (Thompson, 1990b, Thompson, 1990a).

Two measures of judgement accuracy were used: logrolling accuracy and compatibility accuracy²⁵. Logrolling accuracy measured whether strong negotiators accurately perceived that four of the issues (e.g. annual leave, bonus, medical coverage, and company car, see Appendix A (III)) differed in importance to the other party. Strong negotiators who believe that the other party's evaluation of the importance of the negotiation issues is the same as their own (e.g., they assume weak negotiators value annual leave the most and bonus the least) have a larger error score. Specifically, the accuracy score was computed by summing the absolute deviations of strong negotiators' estimates from weak negotiators' actual values for the four logrolling issues²⁶.

Compatibility accuracy measured whether strong negotiators realised that they had interests on one issue perfectly compatible with those of weak negotiators (e.g., 1st July starting date). For this measure, strong negotiators were assigned a score of 0 if they failed to realise that the other party's interests were the same as their own and a score of 1 if they accurately identified that the other's interests were compatible with their own.

²⁵ A complete analysis of accuracy in negotiation would also entail assessing strong negotiators' perceptions of the distributive issue (e.g., salary, see Appendix A (III)). This is not done because previous analyses indicate little or no variance on this measure (Thompson, 1990a, Thompson, 1990b).

²⁶ Specifically, the formula is $[\text{abs}(1600 - x) + \text{abs}(1200 - x) + \text{abs}(800 - x) + \text{abs}(400 - x) + \text{abs}(0 - x) + \text{abs}(4000 - x) + \text{abs}(3000 - x) + \text{abs}(2000 - x) + \text{abs}(1000 - x) + \text{abs}(0 - x) + \text{abs}(0 - x) + \text{abs}(200 - x) + \text{abs}(400 - x) + \text{abs}(600 - x) + \text{abs}(800 - x) + \text{abs}(3200 - x) + \text{abs}(2400 - x) + \text{abs}(1600 - x) + \text{abs}(800 - x) + \text{abs}(0 - x)]$, in which abs = absolute value and x = strong negotiators' estimate.

Strong Negotiators' Perceptions of Usefulness of Information-Exchange

To examine if strong negotiators considered information-exchange about interests useless in improving their individual outcomes, they were asked to indicate the extent to which each statement in Table 5.3 described their perceptions on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*). Strong negotiators' responses to the three items were summed to produce an overall perception of information-exchange score.

Table 5.3 Items for Strong Negotiators' Perception of Information-Exchange

1. I did not believe that sharing information about preferences with the employee would yield a desired outcome.
 2. I do not think that exchanging information about preferences could improve my payoff.
 3. I felt that there was not much room in the negotiation for me to reach a deal that provided much more surplus than the BATNA I already had.
-

Motivation (Intrinsic and Extrinsic)

The Negotiators' Motivation Inventory (NMI) was designed as a direct, explicit assessment of weak negotiators' differences in the degree to which they perceived themselves to be intrinsically and extrinsically motivated toward the negotiation task. I adapted Work Preference Inventory (WPI) that assessed individuals' motivation in organisations (Amabile *et al.*, 1994) to fit with negotiators' motivation and current hypotheses. Since motivation is a latent variable and cannot be directly measured, manifest variables of negotiators' motivation were examined. Items for the NMI were

written to capture the major elements of both intrinsic and extrinsic motivation as described earlier (Bartholomew, Steele, Moustaki and Galbraith, 2002). For intrinsic motivation, the element includes perceived challenge. For extrinsic motivation, it includes pressure to reach a deal that satisfies strong negotiators.

Items were written in the first person, and I asked respondents to indicate the extent to which each item described them on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*). An attempt was made to include approximately equal numbers of items for each element and to include statements that oppose each motivation, as well as statements that endorse it. This was in an effort to avoid response sets.

Table 5.4 Negotiators’ Motivation Inventory Items and Scale Placement

Item	Intrinsic	Extrinsic
	Challenge	Pressure
1. I felt that the task was a complex problem to solve.	X	
2. I think the task was difficult for me.	X	
3. The task was relatively simple and straightforward.	R	
4. I found the task was something I could do easily, rather than something that stretched my abilities.	R	
5. I found that the negotiation problems tackled were completely new to me.	X	
6. I was concerned about whether the offers I made would satisfy the opponent.		X
7. I seldom thought about whether the opponent was satisfied with the offer(s).		R
8. I was very worried about whether the opponent would claim most of the surplus available on the table.		X
9. I was concerned about how the opponent was going to react to the agreements suggested.		X
10. I was keenly aware of whether I earned something for what I did, while keeping the other party at the negotiation table.		X
11. I felt that I was responsible for coming up with agreements that keep the opponent at the negotiation table.		X

Note. An X indicates that the item falls on that particular scale. An R indicates that it is reverse scored.

The original version of the NMI was written for the pilot study and discussions of items with subjects were carried out, aiming for simplicity and clarity of the questionnaire. On the basis of initial item analyses with trial data not reported here, items were discarded, rewritten, and added in an effort to clearly and adequately capture both

dimensions of weak negotiators' motivation. The NMI used in this study is in its fifth version (see Table 5.4).

Procedural Remarks

The contents of negotiators' interactions were transcribed and coded in terms of procedural remarks that strong negotiators used, to assess whether they exerted control over the negotiation process. "Procedural remark" is defined as a meta-statement about how negotiation should proceed, for instance, which issue should be discussed, in what order, negotiating issue by issue. One rater coded all the transcriptions; a second rater who was blind to conditions and hypotheses coded half of the transcriptions²⁷.

The next sections will provide results of all the critical tests of hypotheses, and a discussion of the results.

²⁷ In case where disagreements occur, the code assigned by the first rater is retained to be consistent with the larger data set. The inter-rater reliability will be reported in the empirical section.

5.6 Results

Study 1 and 2 considered *whether* and *how* negotiators' knowledge of BATNA-asymmetries influences the efficiency of negotiated agreements. Replicating these studies, Study 3 re-examines the effect of negotiators' knowledge on efficiency and information-exchange. Study 3 was also designed to seek an explanation for *why* negotiators' knowledge affects agreement efficiency. I speculated about how negotiators' knowledge of BATNA-asymmetries may affect their mind-set and attitudes toward the negotiation task. Specifically, I considered the possibility that mechanisms by which strong and weak negotiators' knowledge affects agreement efficiency involve very different elements. The analyses of the experimental data will shed light on the four main concepts first introduced in this chapter: (1) the impact of strong negotiators' BATNA knowledge on their negotiation style and judgement errors, (2) the influence of strong negotiators' knowledge on the perceived usefulness of information-exchange; (3) the impact of weak negotiators' knowledge on their motivational state; and (4) the effect of complete knowledge of BATNA-asymmetries on the likelihood of strong negotiators dominating the negotiation process.

Next, a brief summary of findings for the effect of negotiators' knowledge on efficiency and information-exchange is presented. This remainder of this section is subdivided into three parts and examines the effect of each negotiator's knowledge in turn: (1) strong negotiators' knowledge, (2) weak negotiators' knowledge, and (3) complete knowledge.

5.6.1 Replication of Findings in Study 1 and Study 2

As in Study 1, the dependent measures of agreement efficiency and information-exchange were joint outcomes, strong negotiators’ information-sharing behaviour (**strong exchange**), and weak negotiators’ information-sharing behaviour (**weak exchange**). Higher joint outcomes indicate more efficient agreements (see Chapter 3 for details). Weak exchange and strong exchange represent the likelihoods of weak negotiators and strong negotiators sharing information respectively. Table 5.5 describes experimental conditions and reports the findings.

Table 5.5 Means for Joint Gains, Strong Exchange, and Weak Exchange by Experimental Conditions

Experimental Condition	Joint Outcomes	Strong Exchange	Weak Exchange
Control	16,908 _a	0.58 _e	0.50 _h
Strong Negotiators Informed	15,867 _b	0.25 _f	0.21 _i
Weak Negotiators Informed	18,050 _c	0.82 _g	0.82 _j
Both Informed	15,763 _b	0.20 _f	0.27 _i

Note. Subscripting is based upon comparisons of means (or proportions) within each column; means with different subscripts differ at $p < 0.05$ or less. (e.g. Joint outcomes for Control is given the subscript ‘a’ and it is significantly different to that for Condition 2 given subscript ‘b’. However, joint outcomes for Condition 2 and 4 are not significantly different.) $N = 24$ in each condition, except for Strong Exchange and Weak Exchange $N = 22$ in the control and Condition 2.

ANOVAs with contrasts were performed to examine the impact of negotiators’

knowledge of BATNA-asymmetries on joint outcomes, strong exchange and weak exchange. There were significant main effects for Experimental Condition on joint outcomes, $F(3,95) = 24.50, p < .0005$, strong exchange, $F(3,91) = 11.54, p < .0005$, and weak exchange $F(3,91) = 7.36, p < .0005$.

Do the findings from Study 3 replicate the same patterns of results in Study 1 and 2? Yes. First, consider the effect of solo strong negotiators' knowledge on efficiency and strong exchange. Planned contrasts (control vs. condition 2) revealed that both joint outcomes and strong exchange decreased with solo strong negotiators' knowledge (see Table 5.5). When only strong negotiators were informed, dyads reached less efficient agreements ($M = 15,867_b$) than when they were not ($M = 16,908_a$), $t = 2.39, p < .01$. When only strong negotiators were informed, they were less likely to share information ($M = 0.25_f$) than when they were not ($M = 0.58_e$), $t = 2.68, p < .01$.

Now consider the impact of solo weak negotiators' knowledge on efficiency and weak exchange. Again, the findings were in agreements with those in Study 1 and 2. When only weak negotiators were informed of BATNA-asymmetries, joint outcomes were significantly higher ($M = 18,050_c$) than when they were not ($M = 16,908_a$), $t = 2.62, p < .01$. In addition, there was a significant difference in weak exchange between these groups, ($M = 0.82_j$ vs. $M = 0.50_h$), $t = 2.28, p < .05$.

Finally the effect of complete knowledge on efficiency and information-exchange is considered. The findings are replicated if complete knowledge adversely affects efficiency and information-sharing behaviour. As can be seen in Table 5.5, joint

outcomes decreased with complete knowledge ($M = 16,908_a$ compared to $M = 15,763_b$), $t = 2.62, p < .01$. When both parties had complete knowledge, strong negotiators were less likely to share information ($M = 0.20_j$) than when they lacked knowledge ($M = 0.58_e$), $t = 3.16, p < .01$. This was also true for weak negotiators' information-sharing behaviour ($M = 0.27_i$ vs. $M = 0.50_h$), $t = 1.72, p < .05$.

5.6.2 Examination of Why Strong Negotiators' Knowledge Affects Agreement Efficiency

Solo strong negotiators' knowledge impedes dyads' ability to reach efficient solutions. To examine *why* this occurs, two explanations were proposed in Study 3. The first explanation considered impacts of strong negotiators' knowledge on exerting dominance (**focus score**); their judgements about others' preferences (**logrolling accuracy**); and whether they are able to identify the compatible issue (**compatibility accuracy**). These were to answer three questions: 1) Does strong negotiators' knowledge affect their negotiation style? 2) Does this knowledge also lead to higher judgement errors of strong negotiators about their counterparts' interests? 3) Do focus score and judgement errors mediate the relationship between strong negotiators' knowledge and information-exchange?

Focus on Distributive Element

First, consider the first question. As described in section 5.5, a 7-point Likert scale was employed (1 = *strongly disagree*, 7 = *strongly agree*); six items were used to assess the degree to which strong negotiators focused on exerting their dominance. To assess the dimensionality of the scale, I carried out an exploratory factor analysis. An examination of the overall fit measures indicated that the one-factor model fitted the data ($\chi^2_{(9)} = 14.5, p = 0.107$). Also, eigenvalues indicated a single dominant factor with loadings ranged between 0.33 and 0.89. This scale showed an acceptable level of internal reliability (Cronbach's alpha = 0.81). Therefore, strong negotiators' responses to the 6 items were summed to produce an overall focus score.

To examine the influence of the different experimental conditions on focus score, an ANOVA was performed. There was a significant main effect for Experimental Condition on focus score, $F(3,95) = 56.34, p < .0005$. See Table 5.6 for means of focus score in different experimental condition.

Table 5.6 Strong Negotiators’ Focus Score in Different Conditions

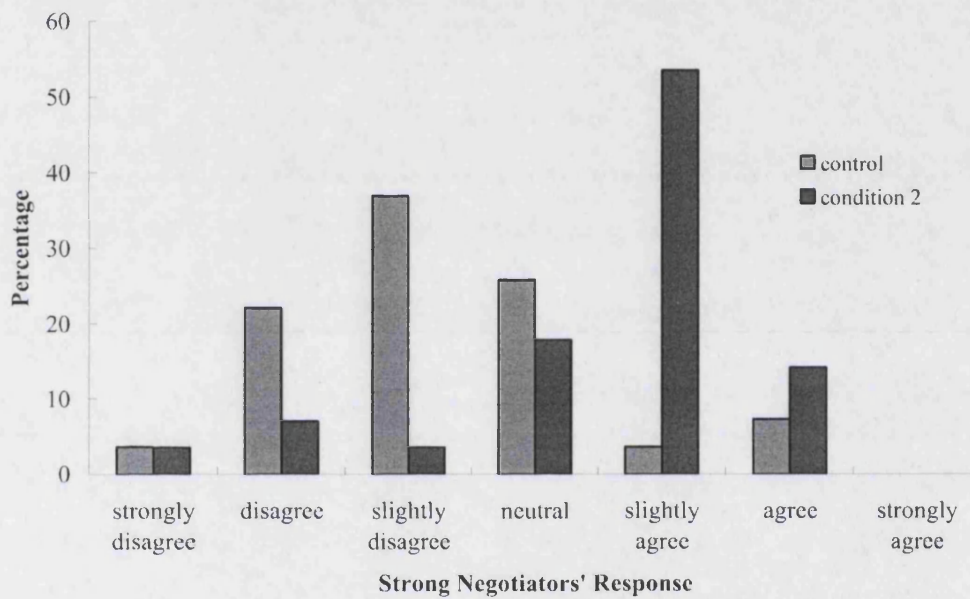
	Experimental Condition			
	Neither Informed (Control)	Strong Negotiators Informed (Condition 2)	Weak Negotiators Informed (Condition 3)	Both Informed (Condition 4)
Mean Focus Score	17.8 _a	27.5 _b	18.1 _a	28.0 _b

Note. $N = 24$ in each condition. Maximum focus score = 42. Higher focus scores indicate a greater degree to which strong negotiators focus on the distributive element. Subscripting is based upon comparisons of means using an ANOVA with contrasts; different subscripts indicate means differ at $p < .05$ or less. (e.g. the focus score for Control is given the subscript ‘a’ and it is significantly different to that for Condition 2 given subscript ‘b’, but the scores for Control and Condition 3 are not significantly different).

Does strong negotiators’ knowledge affect their negotiation style? Yes. Specifically, Hypothesis 1a proposed that informed strong negotiators focused on exerting their dominance to a greater degree, than those without knowledge. A planned contrast of focus score (control vs. condition 2) was conducted to test this relationship. As can be seen in Table 5.6, when strong negotiators were informed of both BATNAs, they focused more on the distributive element of the negotiation ($M = 27.5_b$), than when they

were not ($M = 17.8_d$), $t = 9.11$, $p < .0005$.

Figure 5.3 Strong Negotiators' Responses to Item 1 – “I was very concerned if I could outperform the employee” (Control vs. Condition 2)



Since the Likert Scale is ordinal, I consider the median of the item. For example, the median of item 1 was five (“*slightly agree*”) for informed strong negotiators, while it was three (“*slightly disagree*”) for control strong negotiators. About 68% of informed strong negotiators reported that they slightly agree or agree the statement (“*I was very concerned if I could outperform the employee*”), whereas about 11% control strong negotiators shared the same view²⁸.

²⁸ The patterns of strong negotiators' responses to other items are very similar to those to item 1. If interested, see Appendix D (I).

Judgement Errors about Others' Interests

Here the second question concerning the relationship between strong negotiators' knowledge and judgement errors is considered. To examine strong negotiators' judgement errors about the other party's preferences, I adopted two measures: (1) logrolling accuracy score and (2) compatibility accuracy score. Two ANOVAs with *a priori* contrasts were performed to examine the impact of negotiators' knowledge of BATNA-asymmetries (Control, Strong Negotiators Informed, Weak Negotiators Informed, and Both Informed) on both measures. There were significant main effects on both logrolling accuracy score, $F(3,95) = 3.61, p < .05$, and compatibility accuracy score, $F(3,95) = 2.94, p < .05$.

Does strong negotiators' knowledge of BATNA-asymmetries lead to higher judgement errors about their counterparts' interests? Yes.

First, consider the impact of strong negotiators' knowledge on logrolling accuracy scores. Hypothesis 1b suggested that it is likely that informed strong negotiators failed to realise they have different priorities across issues. If this is correct, informed strong negotiators should report higher logrolling accuracy scores than those without information (higher values indicate greater judgements errors). The findings support Hypothesis 1b. As can be seen in the first row of Table 5.7, when strong negotiators were informed of both BATNAs, they made less accurate judgements about others' preferences ($M = 15,229_b$) than when they were uninformed ($M = 11,900_a$), $t = -1.87, p < .05$.

Table 5.7 Strong Negotiators’ Logrolling Accuracy and Compatibility Accuracy in Different Conditions

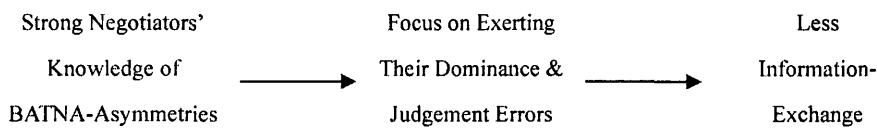
	Experimental Condition			
	Neither Informed (Control)	Strong Negotiators Informed (Condition 2)	Weak Negotiators Informed (Condition 3)	Both Informed (Condition 4)
Logrolling Accuracy	11,900 _a	15,229 _b	10,856 _a	15,763 _b
Compatibility Accuracy	0.67 _a	0.42 _b	0.71 _a	0.38 _b

Note. $N = 24$ in each condition. Lower logrolling accuracy scores indicate more accurate judgements. Compatibility accuracy score is the proportion of strong negotiators that correctly identify the compatible issue (starting date). Subscripting is based upon comparisons of means within each row using ANOVAs with contrasts; different subscripts indicate means differ at $p < .05$ or less.

Now, consider the effect of strong negotiators’ knowledge on compatibility accuracy. According to Hypothesis 1c, strong negotiators’ knowledge should influence the likelihood that they identify the compatible issue. The findings lend support to this hypothesis. As can be seen in the second row of Table 5.7, a planned comparison of compatibility accuracy between control and condition 2 revealed that informed strong negotiators tended to be less likely to identify the compatible issue ($M = 0.42_b$) than those in the control group ($M = 0.67_a$), $t = -1.78$, $p < .05$.

Mediating Role of Focus Score and Judgement Accuracy

Figure 5.4 A Proposed Theoretical Model of Strong Negotiators’ Knowledge of BATNA-Asymmetries and Information-Exchange



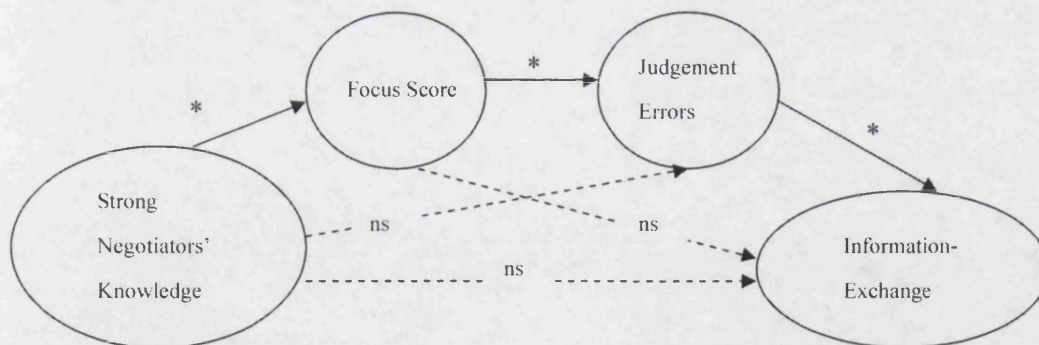
Implicit in the hypotheses is that both strong negotiators’ focus on the distributive element and judgement accuracy mediate the relationship between strong negotiators’ knowledge and information-sharing behaviour (see Figure 5.4). To test whether they were mediators, logistic regressions were performed with four conditions to be satisfied²⁹ (Baron and Kenny, 1986).

The first condition is that strong negotiators’ knowledge of BATNA-asymmetries needed to be related to their information-sharing behaviour, which I have already shown in Study 2. Second, strong negotiators’ knowledge needed to be related to focus score and judgement errors (logrolling accuracy score), which I have also shown in this study. Third, both focus score and judgement errors needed to be related to information-sharing behaviour while controlling for strong negotiators’ knowledge. Fourth, the relationship between strong negotiators’ knowledge and information-exchange needs to be reduced when taking into account the indirect effect of focus score and judgement accuracy.

²⁹ Logistic regressions were used because information-exchange is a dichotomous variable.

Is the relationship between strong negotiators' knowledge and information-exchange mediated by focus score and judgement errors? Yes. As illustrated in Figure 5.5, regressing information-exchange on strong negotiators' knowledge and focus score, I found that the regression coefficient for focus score was -0.282 ($p = 0.017$), whereas the regression coefficient for strong negotiators' knowledge was insignificant ($p = ns$). Also, regressing information-exchange on both strong negotiators' knowledge and judgement accuracy, I found that the regression coefficient for judgement error was -0.001 ($p = 0.012$) whereas the coefficient for strong negotiators' knowledge was insignificant ($p = ns$)³⁰.

Figure 5.5 Structural Equation of Model of the Relationships among Strong Negotiators' Knowledge, Focus Score, Judgement Errors, and Information-Exchange. * $p < .05$



Note. The dotted lines show the relationships between variables when controlling for the mediating variable(s).

Thus, when controlling for focus score and judgement errors, the effect for strong

³⁰ For every 100 point increase in logrolling accuracy score (less accurate judgements), odds of strong negotiators' exchanging information decreased by 9.52%.

negotiators' knowledge on information-sharing disappeared. However, controlling for strong negotiators' knowledge, effects of both focus score and judgement errors were significant. I can conclude that both strong negotiators' focus on exerting their dominance and judgement errors mediated the effect of knowledge on information-exchange.

Further, I tested whether strong negotiators' focus on the distributive element mediated the relationship between knowledge of BATNA-asymmetries and judgement errors. The same four conditions, suggested by Baron and Kenny (1986), needed to be satisfied. The previous findings showed that the first and second conditions – effects of knowledge on focus score and judgement errors – are satisfied. Third, while controlling for strong negotiators' knowledge, the regression coefficient for focus score was 634.9 ($p < .01$). Also, while controlling for focus score, the regression coefficient for strong negotiators' knowledge became insignificant ($p = ns$). These findings suggested that strong negotiators' focus on exerting their dominance mediated the relationship between knowledge of BATNA-asymmetries and judgement errors (logrolling accuracy score).

Finally, I tested whether judgement errors mediated the association between focus on the distributive element and information-exchange (see Figure 5.5). When controlling for focus score, the regression coefficient for judgement errors was -0.001 ($p = 0.018$). However, controlling for judgement errors, the effect of focus score on information-exchange became insignificant ($p = ns$).

Perceived Usefulness of Information-Exchange

An alternative explanation of why strong negotiators' knowledge led to inefficient outcomes was also introduced in Study 3. This regards the impact of this knowledge on the perceived usefulness of information-exchange (**perception score**). Three items were used to assess whether strong negotiators perceived information-exchange as useful to improve their individual outcomes (see Table 5.3 for details). A principle component analyses was performed to examine the dimensionality of the scale³¹. The analysis yielded a single dominant component with eigenvalue of 1.99 that explained 66% of the total variance of the score. For this component, the loadings for three items were all large and positive, ranged from 0.63 to 0.91. Also, the scale measuring strong negotiators' perception about information-exchange gave an acceptable level of internal validity (Cronbach's alpha = 0.75). Therefore, strong negotiators' responses to the three items were summed to produce an overall perception score.

Hypothesis 1d suggested that strong negotiators' knowledge would render improvements in payoffs through information-exchange unlikely. An independent-samples *t*-test was used to test this relationship. If this is correct, informed strong negotiators should show higher perception scores than those without knowledge. However, this hypothesis is not supported. When strong negotiators were informed of both BATNAs, their perceptions of information-exchange did not significantly differ from those without information ($M = 8.50$ vs. $M = 9.07$), $t = 0.64$, $p = ns$. Specifically, both informed and control strong negotiators tended to agree that information-exchange

³¹ Here instead of factor analysis, principle component analysis was employed, because the number of item ($p = 3$) were too small to produce the degree of freedom to be greater than zero.

was useful to yield a desired outcome.

5.6.3 Examination of Why Weak Negotiators' Knowledge Affects Agreement Efficiency

Recall that solo weak negotiators' knowledge of BATNA-asymmetries was found to facilitate information-exchange and therefore improved agreement efficiency in Study 1 and 2. Study 3 was designed to explain these findings. I speculated that the benefits of weak negotiators' knowledge may lie in its impact on their motivational states. Specifically, it was argued that this knowledge may enhance the elements of both intrinsic and extrinsic motivation.

Note that I am not concerned about whether and how these elements are related to one another. Instead, I examined whether weak negotiators' knowledge of BATNA-asymmetries influenced their overall motivational states (**motivation score**). This section is to seek answers to two questions: 1) Does weak negotiators' knowledge increase overall motivation levels? 2) Does weak negotiators' motivation mediate the effect of weak negotiators' knowledge and information-exchange?

Influence of Weak Negotiators' Knowledge on Motivation

As described in section 5.5, the Negotiators' Motivation Inventory contained 11 items to capture two elements of intrinsic and extrinsic motivation – (i) perceived challenge and (ii) pressure – that may be associated with weak negotiators' knowledge. Since the relationship between these elements is not of interest, two separate factor analyses with a single factor were carried out to assess the dimensionality for each element, instead of a two-factor solution.

Eigenvalues indicated a single dominant factor with all loadings greater than 0.48 and 0.452 for perceived challenge and pressure items respectively. The fit measures showed that two one-factor models provided a good fit to the data for perceived challenge items, $\chi^2_{(5)} = 8.07, p = 0.152$, and for pressure items, $\chi^2_{(9)} = 15.56, p = 0.08$. Also, both of these scales showed an acceptable level of internal reliability (Cronbach’s alpha = 0.78 and 0.77 respectively). Since the mixture of motivation of interest, weak negotiators’ responses to the eleven items were thus summed to produce an overall motivation score.

An ANOVA was performed to examine the effect of experimental condition (Control, Strong Negotiators Informed, Weak Negotiators Informed, and Both Informed) on motivation score. There was a significant main effect for negotiators’ knowledge of BATNA-asymmetries on motivational states of weak negotiators, $F(3,79) = 20.42, p < .0005$.

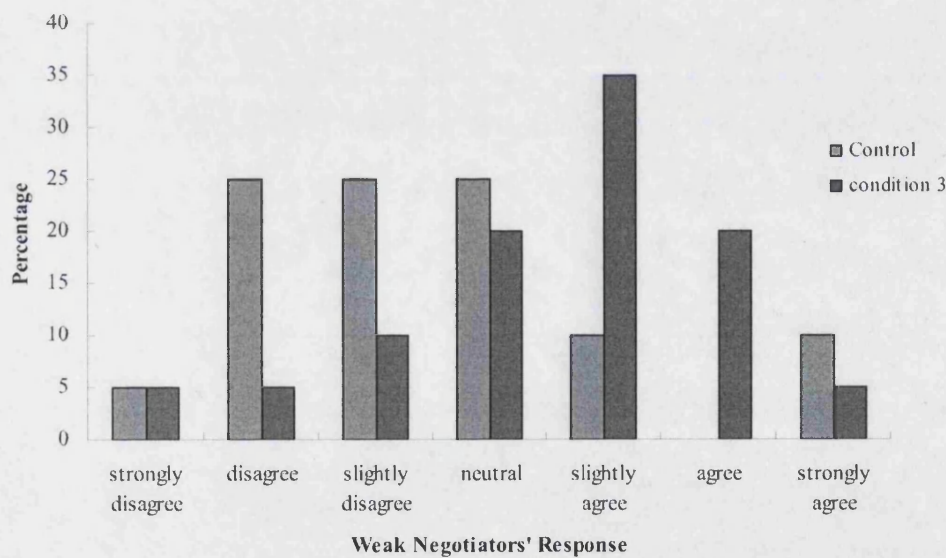
Table 5.8 Motivation Scores in Different Conditions

	Experimental Condition			
	Neither Informed (Control)	Strong Negotiators Informed (Condition 2)	Weak Negotiators Informed (Condition 3)	Both Informed (Condition 4)
Mean Motivation Score	42.0 _a	39.1 _a	52.7 _b	54.0 _b

Note. $N = 20$ in each condition. Maximum motivation score = 77. Subscripting is based upon comparisons of means; different subscripts indicate means differ at $p < .05$ or less.

Regarding the first question, Hypothesis 2 suggested that when only weak negotiators were aware of BATNA-asymmetries their overall motivation would be higher than when they were not. The findings from a planned contrast of motivation score lend support to this hypothesis. As can be seen in Table 5.8, informed weak negotiators reported a higher motivation score ($M = 52.7_b$) than control weak negotiators ($M = 42.0_a$), $t = 4.57, p < .0005$.

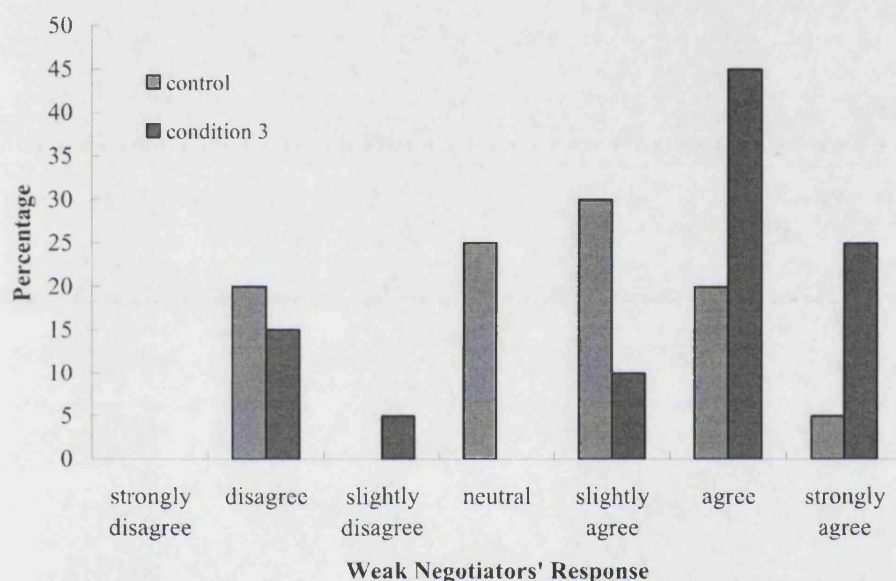
Figure 5.6 Weak Negotiators' Responses to 'Perceived Challenge' Item (Item 1) (Control vs. Condition 3)



The medians for item 1 (“*I felt that the task was a complex problem to solve*”) were three (“*slightly disagree*”) and five (“*slightly agree*”) for control weak negotiators and informed weak negotiators respectively. 60% of informed weak negotiators reported that they at least slightly agree this statement, whereas just 20% of those without

information stated the same extents of their agreement with this statement³².

Figure 5.7 Weak Negotiators' Response to 'Pressure' Item (Item 6) (Control vs. Condition 3)



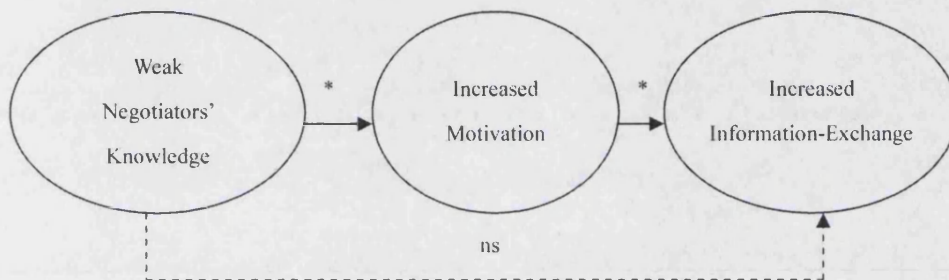
The median responses of weak negotiators to item 6 (“*I was concerned whether the offers I made would satisfy the opponent*”) were six (“*agree*”) for informed weak negotiators and five (“*slightly agree*”) for control weak negotiators. As shown in Figure 5.7, 80% informed weak negotiators reported that they at least slightly agree with this statement whereas just 55% of those in the control group shared the same view³³.

³² The patterns of weak negotiators' responses to other 'perceived challenge' items are very similar. The full data set is available in Appendix D (I).

³³ The patterns of weak negotiators' responses to other 'pressure' items are very similar. The full data set is available in Appendix D (I).

Mediating Role of Weak Negotiators' Motivation

Figure 5.8 A Proposed Theoretical Model of Weak Negotiators' Knowledge of BATNA-Asymmetries and Information-Exchange * $p < .05$



Note. The dotted line shows the relationship between variables when controlling for motivation.

Implicit in Hypothesis 2 is that weak negotiators' motivation to create alternate solutions mediated the effect of their knowledge about BATNA-imbalances on information-exchange about interests. If motivation is the mediator, it will again have to satisfy four conditions that Baron and Kenny (1986) defined (see section 5.6.2 for details). The same analyses were carried out.

Does motivation mediate the effect of weak negotiators' knowledge on information-exchange? Yes. Regressing information-sharing behaviour on both motivation and weak negotiators' knowledge, I found the regression coefficient for motivation was 0.152 ($p < .05$), whereas the coefficient for weak negotiators' knowledge was 1.227 ($p = ns$) but insignificant. This suggests that when controlling for

weak negotiators' motivation, the effect for weak negotiators' knowledge disappeared, and the effect of motivation on information-exchange was significant while controlling for knowledge.

5.6.4 Complete Knowledge of BATNA-Asymmetries

First, I considered why strong negotiators’ knowledge impedes their willingness to reveal preferences when asked. As argued, I speculated that the underlying reason may lie in impacts of strong negotiators’ knowledge on the focus on exerting their dominance (**focus score**) and inaccurate judgements about others’ preferences (**logrolling accuracy**). All the following critical tests of hypotheses are based on comparisons between condition 3 (only weak negotiators informed) and condition 4 (complete information). The central question is why strong negotiators’ knowledge of BATNA-asymmetries overrides the benefit of weak negotiators’ knowledge on information-exchange about interests. So, the baseline is that only weak negotiators are aware of BATNA-asymmetries.

Focus on Distributive Element

Table 5.9 Strong Negotiators’ Focus Score in Condition 3 and 4

	Experimental Condition	
	Only Weak Negotiators Informed (Condition 3)	Both Informed (Condition 4)
Mean Focus Score	18.1 _a	28.0 _b

Note. $N = 24$ in each condition. Maximum focus score = 42. Higher focus scores indicate a greater degree to which strong negotiators focus on the distributive element. Subscripting is based upon comparisons of means within each row; different subscripts indicate means differ at $p < .05$ or less.

Hypothesis 3a suggested that when both parties were informed of both BATNAs, strong negotiators would focus on exerting their dominance to a greater extent, than when only weak negotiators were informed. A planned comparison (complete knowledge vs. weak negotiators' knowledge) was conducted for strong negotiators' focus score. The findings lend support to Hypothesis 3a. As can be seen in Table 5.9, when both parties had complete knowledge, it was more likely that strong negotiators focused on expressing their superiority distributively ($M = 28.0_b$), than when only weak negotiators had knowledge ($M = 18.1_a$), $t = 9.26$, $p < .0005$.

Judgement Errors (Logrolling Accuracy)

Table 5.10 Strong Negotiators’ Logrolling Accuracy in Condition 3 and 4

	Experimental Condition	
	Only Weak Negotiators Informed (Condition 3)	Both Informed (Condition 4)
Logrolling Accuracy	10,856 _a	15,763 _b

Note. $N = 24$ in each condition. Higher logrolling accuracy scores indicate greater judgement errors about others’ preferences across issues. Subscripting is based upon comparisons of means within each row; different subscripts indicate means differ at $p < .05$ or less.

Hypothesis 3b proposed that when both parties were aware of both BATNAs, it is more likely that informed strong negotiators tended to assume that their opponents had the same priorities across issues than when only weak negotiators were. The findings support Hypothesis 3b. As can be seen in Table 5.10, when both parties had complete information, strong negotiators made less accurate judgements about others’ preferences ($M = 15,763_b$) than when only weak negotiators were informed ($M = 10,856_a$), $t = 2.73, p < .01$.

Next, consider the second explanation of why complete knowledge did not reflect the benefit on agreement efficiency as solo weak negotiators’ knowledge did. Study 2 showed that strong negotiators’ knowledge deterred weak negotiators from sharing information about interests. Study 3 considered why this was the case.

As suggested previously, strong negotiators’ knowledge does *not* affect weak negotiators’ motivation to create alternate solutions (**motivation scores**). Instead, it makes strong negotiators dominate the negotiation process by using procedural remark (**procedural remark**). This section will seek answers to two questions: 1) Does strong negotiators’ knowledge affect informed weak negotiators’ motivation? 2) Does strong negotiators’ knowledge increase the likelihood that they dominate the negotiation process?

Motivation

Table 5.11 Motivation Scores in Condition 3 and 4

	Experimental Condition	
	Only Weak Negotiators Informed (Condition 3)	Both Informed (Condition 4)
Mean Motivation Score	52.7 _b	54.0 _b

Note. $N = 20$ in each condition. Maximum motivation score = 77. Subscripting is based upon comparisons of means within each row; different subscripts indicate means differ at $p < .05$ or less.

Regarding the first question, Hypothesis 3c predicted that strong negotiators’ knowledge should have no impacts on informed weak negotiators’ motivation levels. If this is correct, there will be no difference in motivation scores between Condition 3 and Condition 4. The findings support this hypothesis. Effects of strong negotiators’ knowledge were found to be insignificant for motivation scores. The findings suggested

that when both parties had complete information about BATNA-asymmetries, weak negotiators' motivation ($M = 54.0_b$) was as high as when only weak negotiators did ($M = 52.7_b$), $t < 1$.

Procedural Remarks

To examine whether strong negotiators made procedural remarks, the contents of negotiators' interactions were transcribed and coded (see Table 5.12 for definition of 'procedural remark'). The first rater coded all the transcriptions; a second rater coded half of the transcriptions. To assess the reliability of coding, Cohen Kappa was performed. The reliability coefficient was 0.924.

Table 5.12 Coding Schemes

Code	Definition
Procedural Remark	Meta-statement about how the negotiation should proceed. e.g. which issue should be discussed; in what order; we should negotiate issue by issue

Does strong negotiators' knowledge increase the likelihood that they make procedural remarks? Yes. Hypothesis 3d suggested that when both parties were aware of BATNA-asymmetries, it is more likely that strong negotiators would make procedural remarks than when only weak negotiators were informed. This hypothesis receives support. An independent-samples t -test revealed a significant difference in likelihoods of strong negotiators making procedural remarks. As predicted, when both parties had complete information, strong negotiators were more likely to suggest how the

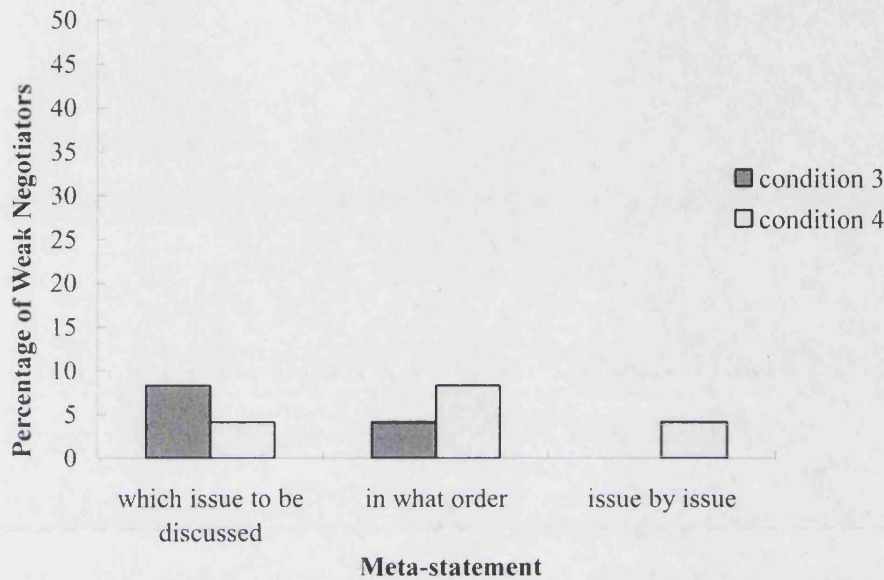
negotiation should proceed ($M = 0.50$) than when only weak negotiators had ($M = 0.17$), $t = 2.56, p < .01$.

Figure 5.9 Proportions of Strong Negotiators Making Procedural Remarks



Figure 5.9 illustrates proportions of strong negotiators that made different meta-statements in Condition 3 (only weak negotiators informed) and Condition 4 (complete information). As can be seen in Figure 5.9, 46% of strong negotiators in Condition 4 suggested that they should negotiate one issue at a time, compared to just 17% of those did in Condition 3. Similar patterns were observed for meta-statements such as “*which issue to be discussed*” and “*in what order*”.

Figure 5.10 Proportions of Weak Negotiators Making Procedural Remarks



Examining whether weak negotiators made procedural remarks in the same experimental conditions ensures that strong negotiators’ knowledge of BATNA-asymmetries accounted for the likelihood of strong negotiators making procedural remarks, rather than weak negotiators. Figure 5.10 reports proportions of weak negotiators that made different meta-statements in Condition 3 (only weak negotiators informed) and Condition 4 (complete information). Looking at Figure 5.9 and 5.10, it is clear that weak negotiators in both experimental conditions were less likely to suggest how the negotiation should proceed than strong negotiators. Also, the pattern of results indicates that strong negotiators’ knowledge had no impact on whether weak negotiators made procedural remarks. For example, 8% of weak negotiators in Condition 4 suggested in what order issues to be discussed, compared to just 4% of those did in Condition 3. However, the pattern was reversed for meta-statement such as “*which issue to be discussed*”.

5.7 Discussion

The findings from the previous section provide answers to the four research questions raised at the beginning of the chapter. These questions regard different levels of negotiators' knowledge of BATNA-asymmetries and each will be discussed in turn.

5.7.1 Strong Negotiators' Knowledge of BATNA-Asymmetries

The first question addressed by Study 3 was to explain *why* solo strong negotiators' knowledge of BATNA-asymmetries was a handicap to the development of efficient agreements and information-exchange about interests in Study 1 and 2. Two explanations have been proposed and examined in this study.

The first explanation considered the impact of strong negotiators' knowledge on their negotiation style and mind-set. This explanation involved a two-step mechanism. The first step was that strong negotiators who learn the difference in their BATNAs would express their superiority distributively in order to push for agreements that reflect their BATNA advantage. Also, we know that negotiators commonly have the fixed-pie bias at the outset of negotiation (Thompson and Hastie, 1990, Thompson, 1991). The second step was that strong negotiators' focus on exerting their dominance would render this tenacious bias more difficult to dislodge, resulting in greater judgements errors about their opponents' preferences. Theorists suggest that negotiators tend to overestimate information that is consistent with their expectations (i.e. fixed-pie perception) and underestimate information that goes against them (Pinklely *et al.*, 1995, Pruitt and

Carnevale, 1993, Thompson and DeHarport, 1994, Thompson and Hastie, 1990, Thompson, 1991). So, strong negotiators with knowledge of BATNA-asymmetries would rarely conduct an active search for information which would go against their existing ideas and suppositions.

There is support for this explanation. Strong negotiators, when informed of both BATNAs, were more likely to focus on claiming a larger share of bargaining surplus and outperforming their weaker counterparts, and they suffered greater judgement errors. Further, mediation analyses suggested that the relationship between strong negotiators' knowledge and information-exchange was partly due to their focus on distributive element and inaccurate judgements it fostered. Strong negotiators' focus on exerting their dominance also mediated the impact of strong negotiators' knowledge on judgement accuracy.

Recall that strong negotiators' knowledge of BATNA-asymmetries was found to hinder dyads' ability to reach efficient agreements and to discourage negotiators from sharing information about preferences. Coupling these findings with the relationship between this knowledge and strong negotiators' mind-set, Pinkley's (1995) hypothesis – that knowledge of BATNA-asymmetries provides strong negotiators with freedom to share information and find creative ways to expand the resource pie – is not supported. Rather, the ineffectiveness of strong negotiators' BATNA knowledge, in terms of the search for efficient agreements, is consistent with prior work that suggests that when negotiators have different power, power-advantaged negotiators tend to push for

agreements that distribute payoffs proportional to their power advantage³⁴ (Bacharach and Lawler, 1981, Komorita, 1984, Lawler and Yoon, 1993, Mannix and Neale, 1993). In other words, knowledge of BATNA-asymmetries can help strong negotiators establish their hierarchy and provide them with an acceptable justification for demand of the majority share of the resources. They will then turn their attention to expressing their superiority distributively.

Study 3 also tested the second explanation about why strong negotiators' knowledge of BATNA-asymmetries suppresses information-exchange and leads to inefficient agreements. It considered the possibility that the relative strength of strong negotiators' BATNA renders improvements in individual payoffs through negotiations unlikely. In particular, when strong negotiators were informed of both BATNAs, they might construe that information-exchange is a way to improve their weaker counterparts' payoffs rather than their own outcomes. However, uninformed strong negotiators may have discordant view because they assume their opponents possess a similar BATNA. As a result, informed strong negotiators may consider information-exchange less appealing than uninformed strong negotiators.

However, knowledge of BATNA-asymmetries did not seem to influence strong negotiators' perceptions about the usefulness of information-exchange; this lack of evidence rules out the second explanation. In fact, the finding showed that both informed and uninformed strong negotiators tended to agree that information-exchange would improve their individual payoffs. This suggests that the first explanation is more

³⁴ These studies concerning unequal power defined power differently from my studies. For example, power was represented by number of alternative partners that negotiators have. Or, difference in power was manipulated by varying the probabilities of various profits of the alternatives.

compelling than the alternative explanation.

5.7.2 Weak Negotiators' Knowledge of BATNA-Asymmetries

The second issue addressed was to examine *why* solo weak negotiators' knowledge of BATNA-asymmetries facilitated information-exchange about interests, thus improving dyads' ability to reach efficient agreements in Study 1 and 2. As argued, this may stem from its impact on weak negotiators' motivational states, because we know that there is a strong link between motivation and creative performance (Amabile, 1982, Amabile, 1983b, Amabile, 1988, Amabile *et al.*, 1994, Deci and Ryan, 1985, Ryan and Deci, 2000, Ruscio *et al.*, 1998). Given that discovering efficient agreements requires divergent and creative thinking (Kurtzberg, 1998), it is possible that weak negotiators' knowledge increases their motivation and that they are more likely to explore the possibility of resource pie expansion by exchanging information about preferences with opponents. To explore this possibility, Study 3 examined the impact of weak negotiators' knowledge on the level of motivation that they brought to negotiations.

The results provided evidence suggesting that weak negotiators' knowledge increases their overall motivation. Further, the findings unravelled the relationships among weak negotiators' knowledge, motivation states and information-sharing behaviours. Mediation analyses suggested that the relationship between weak negotiators' knowledge and information-exchange was due to the motivation it fostered. Therefore, the findings imply that weak negotiators' knowledge had a trickle-down effect in negotiations; knowledge of BATNA-imbances, when being made available to weak negotiators alone, influenced their motivation, which encouraged information-exchange and ultimately shaped the quality of agreements reached.

In my view, the major result of import is ascertaining *why* weak negotiators' knowledge of BATNA-asymmetries facilitates information-exchange about interests and dyads' ability to reach efficient outcomes as seen in Study 1 and Study 2. There is enough evidence to suggest that weak negotiators' knowledge of BATNA-imbalances accounted for this by influencing their motivation. No research, to the author's knowledge, has actually examined these relationships.

Study 3 also examined the impact of weak negotiators' knowledge on the elements of intrinsic and extrinsic motivation, (i) perceived challenge and (ii) pressure, which would provide a fuller understanding of how this knowledge leads to efficient agreements.

The findings indicated that knowledge of BATNA-asymmetries fosters weak negotiators' feeling of competence by changing their perception of the negotiation task. That is, informed weak negotiators perceived the task differently to uninformed weak negotiators who tended to assume their opponents have a similar BATNA. Informed weak negotiators perceived the negotiation as more challenging and complex than those without knowledge, because they not only need to come up with an agreement that provides them with sufficient payoffs, but also to satisfy their stronger counterparts. So, informed weak negotiators were attracted by the challenge of the problem, and the result was an increase of intrinsic motivation.

In addition, I found support for the effect of weak negotiators' knowledge on the extrinsic motivation component: pressure. Specifically, informed weak negotiators,

compared to uninformed ones, tended to be under greater pressure about whether strong negotiators would claim most of the surplus; whether they could keep their stronger opponents at the negotiation table while earning sufficient payoffs for themselves. Conversely, uninformed weak negotiators were not urged to expand the resource pie as vigorously as informed weak negotiators, since uninformed negotiators tended to assume their opponents possess a similar BATNA. The results support Roloff & Dailey's (1987) prediction that in BATNA-imbalanced negotiations weak negotiators are under pressure to create alternate settlements. Unless the size of the resource pie is increased, they will be unable to receive a high quality payoff (Mannix and Neale, 1993, Roloff and Dailey, 1987).

Also, this research result refines and generalises the theoretical relationship between the position of low-BATNA and extrinsic motivation. It clarifies theorists' speculation that when negotiators have different BATNAs, weak negotiators may be driving the integrativeness of the final outcome (Mannix and Neale, 1993, Pinkley, 1995, Roloff and Dailey, 1987). A major refinement is that this study specifies the condition in which weak negotiators are most likely to be extrinsically motivated. In this study, I have shown that it is not enough to argue that weak negotiators are under pressure to be creative simply because of BATNA-asymmetries. Rather, extrinsic motivation has been demonstrated as a function of weak negotiators' knowledge of BATNA-asymmetries.

5.7.3 Explanations of Asymmetric Data Collection

Asymmetric data were collected in Study 3: only weak negotiators' motivation and strong negotiators' focus on distributive elements were considered. However, for example, strong negotiators' motivation was not discussed. Before proceeding to the discussion of complete knowledge, explanations of asymmetric data collection are given here. The rationale is that since strong and weak negotiators' knowledge has different impacts on efficiency the mechanisms by which these occur should involve very different elements. Nevertheless, it is necessary to consider whether strong negotiators' motivation (weak negotiators' focus on distributive elements) varies across different experimental conditions. If so, does it affect the conclusions made in section 5.7.1 and 5.7.2?

First, the level of motivation that strong negotiators bring to negotiations is considered. As mentioned previously, solo weak negotiators' knowledge increases their motivation, thus improving agreement efficiency. One might argue that weak negotiators' knowledge indirectly increases strong negotiators' motivation and that strong negotiators are likely to drive the search for efficient outcomes. However, this conjecture does not hold. This is because Study 2 shows that when only weak negotiators were aware of BATNA-asymmetries, the probability that informed weak negotiators initiated information-exchange about interests was .81. It is clear that weak negotiators, rather than strong negotiators, initiate the search for efficient solutions. Also, based on the elements of motivation defined in Study 3, negotiators' motivation arises from the nature of task and should be independent of others' behaviour.

On the other hand, one might also suggest that strong negotiators' knowledge adversely affects their motivation, explaining why solo strong negotiators' knowledge destroys the development of efficient agreements. To rule out this alternative explanation, a pilot study was carried out to examine this contention³⁵. The pattern of results found in this pilot study indicates that strong negotiators' knowledge has no impact on their motivational states. Therefore, it does not affect the conclusion about why this knowledge deteriorates efficiency made previously in section 5.7.1.

Secondly, weak negotiators' focus on distributive elements is examined. The results of the pilot study show that weak negotiators' knowledge of BATNA-asymmetries has slight impact on focus on distributive elements. Specifically, when only weak negotiators are informed of both BATNAs, they tend to focus on distributive elements to a slightly *lesser* extent than when neither is informed. Although it appears that the relationship between weak negotiators' knowledge and focus on distributive elements exists, it is *not* an alternative explanation of why this knowledge improves dyads' ability to find efficient agreements. Rather, it sheds some light on why this knowledge reduces weak negotiators' bargaining strength, resulting in a relatively smaller slice of the resource pie (see Chapter Three, section 3.8.6 for details).

Next, the discussion will centre on the findings in the complete knowledge condition and the remaining two research questions addressed in Study 3.

³⁵ It was a small-scale study: forty-two subjects participated in the experiment. The whole set of results of the pilot study can be found in Appendix D (II).

5.7.4 Complete Knowledge of BATNA-Asymmetries

Study 1 suggested that although solo weak negotiators' knowledge facilitated the development of efficient agreements, complete knowledge impeded it. Study 2 considered how strong negotiators' knowledge of BATNA-asymmetries overrode the benefit of weak negotiators' knowledge on agreement efficiency. Two explanations were found. The first explanation was that when both parties were aware of BATNA-imbalances, strong negotiators, if asked, were less willing to reveal their priorities than when only weak negotiators were. The third question addressed by Study 3 concerned why this occurred. It was found that when both parties were informed, strong negotiators were more likely to focus on exerting their dominance and to make inaccurate judgements about opponents' preferences, than when only weak negotiators were. Since informed strong negotiators tended to assume that the task is fixed-sum, they would expect certain levels of distributive behaviour from weak negotiators. Weak negotiators' attempt to elicit their preferences may be considered as a way to counter their strength. This explains why strong negotiators' knowledge reduced their willingness to reveal their preferences across issues.

Another explanation of why complete knowledge did not show the same benefit of solo weak negotiators' knowledge on agreement efficiency was also given in Study 2. It suggested that strong negotiators' knowledge deterred informed weak negotiators from sharing information. The final issue addressed by Study 3 was to explain why this was the case. We know that weak negotiators' knowledge alone encouraged them to share information about interests, because this knowledge induced high levels of motivation

to create alternate solutions. Therefore, Study 3 first considered the possibility that strong negotiators' knowledge adversely affects weak negotiators' motivational state.

To examine this issue, when both parties were aware of BATNA-asymmetries, weak negotiators' motivational state was compared with that when only weak negotiators were. There was no significant difference between the two groups in terms of motivation. This suggests that strong negotiators' knowledge of BATNA-asymmetries does not hinder informed weak negotiators' motivation to expand the resource pie. The findings are consistent with the argument that weak negotiators' motivation stems from the nature of the negotiation situation and is independent of their stronger counterparts' knowledge.

Considering that a sense of autonomy in the environment is important for motivation to lead to creative performance (Deci and Ryan, 1985, Ryan and Deci, 2000), whether strong negotiators' knowledge affected the negotiation environment was also examined. It was found that when both parties had complete knowledge, strong negotiators were more likely to dominate the negotiation process than when only weak negotiators were³⁶. In particular, a substantial number of informed strong negotiators (50%) made procedural remarks during negotiations. For example, 'we should negotiate one issue at a time', 'we should negotiate issue A now', etc. These procedural remarks that informed strong negotiators made will reduce the degree of autonomy in the negotiation by restricting the scope of informed weak negotiators' strategies.

³⁶ Note that it was found that strong negotiators' knowledge did not affect the likelihood of informed weak negotiators' making procedural remarks.

This may have placed informed weak negotiators in a more complex situation and may pull their available cognitive energy away from expanding the resource pie. In other words, when strong negotiators were aware of BATNA-asymmetries, informed weak negotiators would be more difficult to find other avenues to settlement. It explains why knowledge of BATNA-asymmetries, when being made available to strong negotiators, hindered informed weak negotiators' information-sharing behaviour, even though their motivation remained high.

This chapter has extended the findings from Study 1 and Study 2 in important ways. It has provided explanations of why knowledge of BATNA-asymmetries leads to agreements with different efficiency. Now we know how this knowledge, when given to strong negotiators, affects the way they approach negotiations and impacts judgement errors about opponents' preferences. Consequently, it impedes communications between parties and dyads' ability to reach efficient solutions. In contrast, solo weak negotiators' knowledge can increase their motivation to create alternate settlements. However, this increased motivation does not improve agreement efficiency when strong negotiators are also aware of BATNA-asymmetries.

The next concluding chapter will discuss the general implications of the findings from all three studies in this thesis.

**Part III – Conclusions, Implications of Findings,
Contribution to Knowledge, and Suggestion for Future
Research**

Chapter Six

Conclusions

Chapter Six – Conclusions and Suggestions for Future Research

In this final chapter, I 1) provide a summary of the thesis and theoretical implications of findings; 2) consider the shortcomings of the empirical research, where they seem incomplete and how they could be extended, and; 3) conclude with a speculative section listing possible practical implications.

6.1 Summary of the Thesis

Most of the theoretical literature employed in this thesis comes from research on BATNA-imbalanced negotiations and information about others. The thesis brings these different extant theoretical accounts together by focusing on negotiators' knowledge of BATNA-asymmetries. To examine the importance of this knowledge, I have first considered how differential BATNAs among negotiators influence their perceptions of opponents' BATNAs and how knowledge of BATNA-asymmetries affects parameters such as negotiators' aspiration levels. This thesis also contributes to the literature concerned with the relationship between negotiators' bargaining strength and their BATNAs by demonstrating that knowledge of BATNA-asymmetries mediates this relationship (Chapter 3).

The other key theoretical contribution of the thesis is the primary focus on the association between knowledge of BATNA-asymmetries and dyads' ability to reach efficient solutions. As discussed, three consecutive experimental studies were

conducted to provide an understanding of this relationship – whether, how, and why knowledge of BATNA-asymmetries impacts agreement efficiency (Chapter 3, 4, and 5, respectively). The empirical results are summarised below.

6.1.1 Perceptions of Opponents' BATNAs

This thesis has provided conditions through which I can explore the effect of knowledge of BATNA-asymmetries on negotiated outcomes. Study 1 shows that negotiators' perceptions of others' BATNAs tend to anchor to their own BATNAs prior to negotiations. This finding is consistent with Thompson and Hastie's (1990) 'projection hypothesis' that predicts that negotiators tend to base their perceptions of others on their own situations. The hypothesis concerning the effect of a range of opponents' possible BATNAs on weak negotiators' perceptions (whose BATNAs were in the extreme of the range given) was also tested out in Study 1. It was found that weak negotiators' perceptions, when being given the range, were still below the best guess – the range median. Interpretation of the findings suggests that merely providing weak negotiators with the range may have been too subtle to diffuse the powerful anchoring effect of their own BATNAs. Taken together, the findings give a strength to the current thesis because they allow for examination of cases where different amounts of knowledge about others' BATNAs are present.

However, the findings that negotiators perceive the situation as BATNA-symmetric when walking into negotiations should be interpreted with caution. This may be an artefact of experimental studies. In real-life situations, negotiators seldom believe that

their BATNAs are of equal quality. For example, car buyers have access to information about dealers' cost available on thousands of websites and/or car magazines. Or, when buying houses, information about the nature of the property market, and the history and current market value of a house that is for sale can be obtained from real estate agents. All of this information can be valuable when trying to find out others' BATNAs. Also, in the real world, whether negotiators assume BATNA-symmetric situation depends on the context. In a job-contract negotiation, employers are often considered as more powerful by negotiators than employees. This is because they occupy a position of authority and have more and better alternatives than employees. However, the current findings suggest that such social norms are not activated in the laboratory set-up.

Together, the anchoring effect of negotiators' BATNAs on perceptions about others' BATNAs may be less profound in real-life situation than in experimental set-up. It also points out a weakness in the current experimental literature on BATNA-asymmetries. With the presence of the anchoring effect, the manipulation of BATNA-asymmetries may be less effective than intended. An example can be found in Anderson & Thompson's (2004) study in which the BATNA manipulation did not have its usual effect of creating a power difference. In other words, knowledge of others' BATNAs is an important focus for research on BATNA-imbalanced negotiations. Next, the focus is on how knowledge of BATNA-asymmetries shapes parameters such as negotiators' aspiration levels and negotiated outcomes.

6.1.2 Aspiration Levels

Study 1 also examines aspiration levels of strong and weak negotiators in BATNA-asymmetric negotiations. Aspiration levels were shown to be more or less the same, across strong and weak negotiators even when their BATNAs were very different. The findings are consistent with the general finding that the value of one's BATNA does not influence aspiration levels when the BATNA is worth less than what a compromise solution promises (Pinkley *et al.*, 1994).

Study 1 also points to the existence of the effect of knowledge about BATNA-asymmetries on aspiration levels and why this influence is not as theoretically expected. Knowledge of BATNA-asymmetries increases with strong parties' aspiration levels because it helps them identify that they are in a position of higher power than weak negotiators. In contrast, this knowledge signals to weak negotiators that they rely on the current negotiation to a greater extent than do their stronger counterparts and reduces their aspiration levels. These findings extend our understanding of the relationship between BATNA-asymmetries and aspiration in that knowledge of BATNA-asymmetries is not only an important factor affecting negotiators' aspiration but also shows that the identity of the party with access to this knowledge determines the direction of its impact.

6.1.3 Strong Negotiators' Bargaining Strength

Results from Study 1 indicate that knowledge of BATNA-asymmetries improves strong

negotiators' bargaining strength, thus attaining a larger share of the resource pie. However, when strong negotiators are not aware of differences in BATNAs they are not able to outperform their weaker counterparts. This is because uninformed strong negotiators act as if they are in symmetric-BATNA situations and knowledge of BATNA-asymmetries provides them with a justification for a larger share of the bargaining surplus.

These research findings have important theoretical implication. Conflicting research reveals that in some cases strong negotiators are able to attain better outcomes than their weaker counterparts, but others fail to replicate the finding (Komorita and Leung, 1985, Pinkley, 1995, Pinkley *et al.*, 1994, Komorita, 1984). The findings reported here begin to untangle these inconsistencies by showing that knowledge of BATNA-asymmetries mediates the relationship between negotiators' attractive BATNAs and bargaining strength.

Previous work on BATNA-asymmetric negotiations has examined how the possession of an attractive BATNA leads to greater bargaining strength in distributive negotiations. Magee *et al.* (2007), assuming complete knowledge of BATNA-asymmetries, show that strong negotiators tend to be more likely than weak negotiators to make the first offer and making the first offer produced a bargaining advantage. Coupling this finding with the relationship between strong negotiators' knowledge and bargaining strength explored in Study 1, it is possible that uninformed strong negotiators, compared to those with information, are *less* likely to make the first offer that provided them with a bargaining advantage. In other words, knowledge of BATNA-asymmetries may also

mediate the relationship between negotiators' attractive BATNAs and the likelihood of negotiators making an advantageous first move.

6.1.4 Knowledge of BATNA-Asymmetries and Agreement Efficiency

Study 1 investigates whether knowledge of BATNA-asymmetries, when given to strong and/or weak negotiators, affects agreement efficiency. Study 2 considers how this occurs. Extending these studies, Study 3 provides a fuller understanding as to the motivational drives which lead to the differentiated outcomes.

Knowledge of Being the Stronger Party

It was found that solo strong negotiators' knowledge affects their negotiation style and mind-set and leads to their expression of their superiority which renders the already tenacious fixed-pie perception more difficult to diffuse (Chapter 5). With greater judgement errors about others' interests, informed strong negotiators therefore rarely conduct an active search for information which goes against their existing perceptions thereby diminishing the likelihood of efficient outcomes (Chapter 3 and 4).

These results have theoretical implications for at least two domains. First, in the study of power-imbalanced negotiations, many theorists have pointed out that power-advantaged negotiators tend to push for agreements with distributive payoffs proportional to their power advantage, focus less on the integrative potential and ultimately, reach inefficient outcomes (Bacharach and Lawler, 1981, Komorita, 1984,

Lawler and Yoon, 1993, Mannix and Neale, 1993). However, it is unclear as to under which circumstances these types of outcomes occur. The findings reported here show that being in a position of higher power alone does not necessarily prompt strong negotiators' focus on the distributive side of the negotiation. Instead, strong negotiators must know they are strong. Without this knowledge, the pattern disappears. Second, neither being designated in a position of higher power nor knowledge of BATNA-asymmetries appears to provide strong negotiators with a motivation to share information and find creative ways to expand the resource pie as claimed by previous research (Pinkley, 1995).

Knowledge of Being the Weaker Party

The empirical investigation of the current thesis suggests that solo weak negotiators' knowledge of BATNA-asymmetries improves the development of efficient agreements (Chapter 3)³⁷. A large body of research shows that task motivation is conducive to creative performance and thinking. These are essential for the discovery of the less obvious, but more efficient solution (Amabile, 1982, Amabile, 1983a, Amabile *et al.*, 1994, Deci and Ryan, 1985, Kurtzberg, 1998). In Chapter 5, it is shown that knowledge increases the level of (intrinsic and extrinsic) motivation that weak negotiators bring to negotiations. Therefore, informed weak negotiators are more inclined to both explore the structure of negotiations and exchange information about interests (Chapter 4). This leads to an increased probability of finding ways to expand the resource pie and keep their stronger counterparts at the negotiation table (as shown in Studies 1 – 3).

³⁷ The findings are also replicated in Study 2 and 3.

By showing that knowledge of BATNA-asymmetries is an important factor provoking motivation, these results extend Roloff & Dailey's (1987) conjecture that weak negotiators are extrinsically motivated (i.e. under pressure) to create alternate settlements. Also, the importance of non-common knowledge to the generation of weak negotiators' motivation is clearly demonstrated: weak negotiators were not told whether their stronger opponents had knowledge of BATNA-asymmetries. Other work assuming common knowledge suggests that weak negotiators' knowledge does not lead to efficient outcomes (Pinkley, 1995). As mentioned in Chapter 2, this is because when weak negotiators are certain that their opponents are not informed they can freely behave in precisely the same way as strong negotiators, which could greatly reduce the effect of knowledge on extrinsic motivation. The findings reported here provide the first attempt to link two research areas together: motivation and BATNA-imbalanced negotiations by exploring the previously neglected relationship between knowledge of BATNA-asymmetries and intrinsic motivation.

Powerful Detrimental Impact of Strong Negotiators' Knowledge

Study 1 examines whether knowledge of BATNA-asymmetries needs to be commonly held to improve efficiency. The results reveal that dyads' outcomes tend to be less efficient when both parties have complete knowledge. Study 2 and 3 replicate the same pattern of results. In other words, it appears that the detriment of strong negotiators' knowledge is powerful enough to override the advantage of weak negotiators' knowledge. Study 2 and Study 3 have addressed *how* and *why* it occurs, and two reasons were found.

First, strong negotiators' knowledge of BATNA-asymmetries reduces their willingness to reveal information about their preferences across issues because it works to solidify judgement errors about others' interests which subsequently affects their interpretations of others' action. Specifically, informed strong negotiators consider weak negotiators' attempts to elicit information about preferences as strategies to counter their own strength. Second, strong negotiators' knowledge largely hinders their weaker counterparts' information-sharing behaviour because informed strong negotiators often dominate the negotiation process by making procedural remarks. These procedural remarks limit the perceived autonomy of weak negotiators' strategies. Given the importance of autonomy to creative performance, informed weak negotiators' high motivation becomes useless to facilitate information-exchange. As a result, negotiation dyads in the complete knowledge condition are unlikely to discover efficient outcomes.

Taken together, these findings reveal that strong negotiators' knowledge seems to create a 'Pygmalion effect' – defined as a persistently held belief in another person so that the belief becomes a reality (Goddard, 1985, Putnam and Jones, 1982, Rosenthal, 1987). Informed strong negotiators channel and affect their counterparts' behaviour by interpreting ambiguous behaviour in a schema-conforming way (Darley and Fazio, 1980), by reciprocating with their own distributive behaviours, and thus inducing reciprocal distributive behaviour on the part of weak negotiators. Their pre-judgements of the nature of negotiation, reluctance to reveal their preferences and use of procedural remarks preclude their counterparts from using tactics aimed at creating values. Finding no other avenues to settlement, informed weak negotiators in the complete knowledge condition come to act more distributively and less integratively than those negotiating

with uninformed strong parties.

The findings reported here relating to the relationship between knowledge of BATNA-asymmetries and agreement efficiency have important theoretical implications as well. One school of thought holds that asymmetric BATNAs among negotiators lead to agreements of higher efficiency (Pinkley, 1995, Pinkley *et al.*, 1994, Roloff and Dailey, 1987), and another, using different power manipulations, finds the opposite to be the case (Lawler and Yoon, 1993, Mannix and Neale, 1993). Given these contradicting results, we are left wondering whether BATNA-asymmetries do in fact matter.

I have shown that these different findings can be reconciled by incorporating the state of knowledge of BATNA-asymmetries into the analysis. Studies which assume complete knowledge of BATNA-asymmetries tend to show that dyads with equal power reach agreements of higher efficiency. However, studies that show the opposite result do not have the same common knowledge assumptions. Given that the detrimental effect of strong negotiators' knowledge is sufficiently powerful to wash away the benefit of weak negotiators' knowledge, the seeming contradiction is resolved (see Chapter 3 section 3.8.5 for details).

The effect of variability in negotiators' knowledge of BATNA-asymmetries on agreement efficiency also suggests that the existing research should take negotiators' knowledge status into account, because the majority of the existing research, as discussed in Chapter Two, assumed complete knowledge of power-asymmetries

(Binmore *et al.*, 1989, Giebels *et al.*, 2000, Kim and Fragale, 2005, Magee *et al.*, 2007, Osborne and Rubinstein, 1990, Van Kleef *et al.*, 2006). It remains questionable whether the pattern of results stays the same if they did not make such an assumption. Anderson and Thompson (2004), assuming incomplete knowledge condition, show that strong negotiators' positive affect facilitates the development of efficient agreements. Given the detrimental impact of strong negotiators' knowledge on information-exchange and agreement efficiency, it leaves us wondering if strong negotiators' positive affect still matters when strong negotiators are aware of BATNA-asymmetries. Since we know that informed strong negotiators tend to exert their dominance, the benefit of their positive affect on efficiency may be at least weakened.

Finally, a methodological point is made in that the studies reported here show that concurrent reporting of negotiators' experience is not necessary to create robust and unbiased results. Previous research on information-exchange adopts concurrent methodology which requires special equipments (e.g. video camera or audio recorder) and more complicated data management, and is more expensive (Kemp and Smith, 1994, Thompson and Hastie, 1990, Thompson, 1991). In the current study, various shortcomings of retrospective study were identified and subsequently mitigated or shown not be as detrimental as feared (Chapter 4). The experiment also meets one of the main difficulties in studying information-exchange: it generates consistent recall across dyads and high enough rates of valid cases for examination.

6.1.5 The Whole Picture

At the heart of this thesis is the message that knowledge of BATNA-asymmetries has a profound impact on many of the parameters which effect negotiation outcomes. Aspiration levels, the way negotiators approach negotiations, and ultimately distributive and integrative outcomes are all affected. Also, the direction of its impact substantially depends on which member of the dyad (strong or weak negotiators) has access to this information.

Whether knowledge of BATNA-asymmetries creates potential benefits or weaknesses to negotiators tends to depends on whether the negotiation is distributive or integrative. Past research shows that negotiators with higher aspiration make more aggressive offers and are less likely to concede and thereby helps them claim greater value in distributive negotiations (Brodt, 1994, Cummings and Harnett, 1969, Hamner and Harnett, 1975). Consistent with these studies, strong negotiators' knowledge increases their aspiration levels and focus on domination, thus leading to greater bargaining strength in distributive negotiations. On the other hand, it proves to be a weakness from the perspective of value-creation, since it tends to destroy dyads' ability to search for and reach efficient solutions.

However, the story is completely reversed for weak negotiators. Knowledge of BATNA-asymmetries, when being made available to weak negotiators, facilitates the development of efficient outcomes at the same time as it reduces weak negotiators' aspiration levels and leads them to be less effective at distributive bargaining (see

Chapter 3 section 3.8.6 for details). In other words, knowledge of BATNA-asymmetries introduces a trade-off between distributive and integrative bargaining for both strong and weak negotiators.

6.2 Limitations and Suggestions for Future Research

The current studies suggest that knowledge of BATNA-asymmetries is an important focus for future research while providing a fuller understanding of the relationship between this knowledge and agreement efficiency. That said, limitations of findings are inevitable. These limitations will be highlighted here and new research questions stimulated by the current findings will be discussed.

6.2.1 Methodological Limitations and Their Possible Solution

Retrospective methodology was adopted in the current studies to collect data about negotiators' information-sharing behaviour. We know that truthfulness of information shared is important to the development of efficient outcomes because it allows negotiators to make more accurate judgements about others' preferences (Thompson, 1991). A limitation of retrospective methodology is that it cannot be examined to reveal whether subjects were truthful in the information shared. Thus, while we know whether knowledge affects information-exchange, it is unclear whether negotiators with knowledge tend to deceive more often than others. For instance, it is now clear that strong negotiators' knowledge hinders information-exchange and willingness to reveal preferences when asked. It would be interesting to know whether strong negotiators' knowledge leads to more deceitful responses to questions asked by opponents. Perhaps strong negotiators construe that giving out truthful information would counter their bargaining strength. Future work could take this into account by audio-taping the content of negotiators' interaction. Alternatively, the retrospective report could include

negotiators' responses to questions asked and information that they provide, to allow for examination of their truthfulness. However, such extensive post-act questioning, essentially asking people to reveal if they had misled, seems particularly prone to the known problems associated with retrospective methodologies.

The second limitation is that although knowledge has been shown to affect the quality of outcomes, it is unclear *how much* knowledge is required to achieve this effect. Specifically, it remains questionable whether strong or weak negotiators' knowledge still affects agreement efficiency if the *exact* value of opponents' BATNAs is not provided. Future research can use manipulations of knowledge that do not contain 'full' details of others' BATNAs. Wolfe and McGinn (2005), to my knowledge, first focuses on complete knowledge condition without giving out the exact value of counterparts' BATNAs –parties were told that the other's BATNA was more (or less) attractive. A hypothesis to be tested is that merely alerting negotiators to BATNA-asymmetries might impose sufficient impact on negotiators' behaviour and outcomes.

Another limitation of the current experimental design is that the current findings do not allow us to determine whether knowledge of BATNA-asymmetries in general is advantageous to negotiators. Since this knowledge introduces a trade-off between distributive and integrative outcomes, it is possible that the variability of the resource pie (i.e. the intensity of difference in preferences across issues) determines whether this knowledge is a source of benefit or not. For example, we know that knowledge of BATNA-asymmetries leads weak negotiators to be more effective at integrative bargaining but at the same time less effective at distributive bargaining. Thus, if the

expansion of the resource pie is sufficiently large to cover the loss in bargaining strength, this knowledge tends to be advantageous to weak negotiators. It would become a source of weakness if the efficiency gains were not sufficiently large.

For future research in this vein, further studies could test for the effect of the difference in importance across issues on negotiated outcomes. For example, in the current experimental design, the company car is four times more important to weak negotiators than medical coverage is (see Chapter 3 Table 3.1). It would be important to examine if altering the intensity of difference across preferences leads to the same pattern of results as reported in this thesis.

Finally, the current work, like much of the research on negotiation, used university students. Obviously, this limits the generalisability of the findings because the stakes involved were lower than they would typically be in real-life situations. Also, the intensity of weak negotiators' motivation and strong negotiators' focus on domination may be more extreme. Thus, a possible direction for future research could be the effect of knowledge of BATNA-asymmetries in real-world disputes. This could be accomplished by qualitative research into actual negotiated settlement.

6.2.2 New Areas of Theoretical Interest

The impact of magnitude of BATNA-asymmetries on outcomes may be important for future research. Further studies focussing on this difference would open up other interesting areas of research. For example, what are the minimum differences in

BATNAs needed to instigate the same pattern of results suggested in this thesis? I would expect an inverse relationship: when the magnitude of BATNA-asymmetries reduces – negotiators’ BATNAs approach similarity – the effect of knowledge should diminish. This is because negotiators tend to assume equal-BATNA situations and this knowledge merely confirms their expectations. For now, this is merely conjecture.

Another possible avenue for future research could be what would happen if negotiators are provided with ‘false knowledge’ about the other’s BATNA. One speculation is that the effect of false knowledge of BATNA-asymmetries is very different from that of true knowledge. For instance, when weak negotiators are told that their opponents are in a *weaker* position than they are, it is possible that this knowledge no longer increases their motivation to discover efficient outcomes. Instead, more value-claiming and competitive strategies are expected from their side. This is because informed weak negotiators are virtually (at least they think they are) strong negotiators in this case.

6.3 Practical Implications

When negotiators are in a position of higher power and have knowledge of BATNA-asymmetries, we know that they are likely to focus on the distributive element, suffer from more persistent judgement errors about others' interests, and that they are likely to overlook possible agreements that make both parties better off. In other words, although research about others' BATNAs improves bargaining strength, it also poses potential costs that may destroy integrative potential. In this case, strong negotiators should bear in mind they should still look for ways to expand the resource pie and therefore create more values on the table for both parties without hurting themselves. Negotiators' strength can undermine the quality of negotiated agreements.

The current thesis focuses on a one-shot negotiation, but this suggestion becomes particularly important when there are future ramifications for the parties (e.g. unions and their management). This is because "taking large slices out of a resource pie" (i.e. diminishing opponents' resources) can easily create a negative atmosphere and destroy trust in future relationships. Given the importance of trust to communication of interests and priorities (Anderson and Thompson, 2004, Carnevale and Isen, 1986), it renders the discovery of efficient agreements even harder in future negotiations and the accumulative loss of surplus that strong negotiators suffer may be considerable.

On a related point, when strong negotiators have knowledge of BATNA-asymmetries, I suggest that they may reveal their BATNA advantage to their weaker opponents for two reasons. First, this knowledge is shown to increase weak negotiators' motivation and

efficient solutions are more likely to be discovered. Second, it reduces their aspiration levels and as a result informed weak negotiators are likely to demand less and make larger concessions to their stronger counterparts. Since knowledge was provided by an impartial party (i.e. the experimenter) in these studies, the credibility of this information may be an important factor provoking the changes in weak negotiators' behaviours, which should be taken into consideration.

From the perspective of weak negotiators, expecting competitive and controlling behaviour from informed strong negotiators, I do not suggest that weak negotiators reveal their BATNAs to their stronger counterparts. On the other hand, strategies such as eliciting information about interests from opponents may be perceived by informed strong negotiators as a way to counter their strength, and as a result, they are reluctant to reveal this information. Encountering this, weak negotiators may share information in a different way to break this deadlock: they can initiate information-exchange by disclosing their preferences to others as prior work suggests that it can improve agreement efficiency with no apparent cost to the party who initiates it (Thompson, 1990).

Knowledge of BATNA-asymmetries – depending on the context, which party has access to it, and how negotiators use it – may be the heart of a successful negotiation. What I have shown here is that this knowledge is a double edged sword, where one's weakness leads to efficiency and where strength can lead to 'winning' an impoverished prize.

Appendix A (I)

Informed Consent Form

Title of Study: Negotiation Analysis

People in charge:

Ricky Wong

Interdisciplinary Institute of Management

London School of Economics

This study is part of the research programme intended to investigate how people behave in negotiations. If you agree to take part in this research, you will be asked to negotiate with another person here. Your participation in this study will take about 60-75 minutes. The amount of money that you earn in this study will depend on the performance and decisions that you and the other person make.

You may ask questions about the research procedures, and these questions will be answered. Your participation in this research is confidential. Only the person in charge will have access to your identity and to information that can be associated with your identity. In the event of publication of this research, no personally identifying information will be disclosed. To make sure your participation is confidential, only a code number will be used to identify you; furthermore, your name will not be used. No record will be kept matching your name with your code number. Further, your participation is voluntary. You are free to stop participating in the research at any time or to decline to answer any specific questions without penalty. Finally, this study involves minimal risks: that is, no risks to your physical or mental health beyond those encountered in the normal course of every day life.

By signing below, you are verifying the following:

I agree to participate in a scientific investigation of human behaviour in negotiations. I understand the above information and I have received answers to any questions I may have about the research procedure. I understand and agree to the conditions of this study as described. I understand that my participation in this research is voluntary and that I may withdraw from this study at any time by notifying the person in charge. Finally, I certify that I am at least 18 years of age and that to the best of knowledge I have no physical or mental illness that would increase the risk to me of participation in this study.

Signature:	Date:
Print Your Name:	

Appendix A (II)

General Negotiation Information

Please imagine the following situation.

There will be a negotiation between an employer and employee about a job contract for the post of Assistant Manager. You will be randomly assigned as either an employer or employee. There are six issues of concern in the negotiation: salary, annual leave, bonus, starting date, medical coverage and company car. You will negotiate for 'points'. Before you negotiate, you will be given a chart that describes all the possible ways you can settle this negotiation and how many points you can get for each alternative settlement. Your goal in this negotiation is to maximise the number of points you gain for yourself. You will be given thirty minutes to negotiate and if you are unable to reach an agreement during that time, a disagreement will be declared.

Are there any questions so far?

Appendix A (III)

Confidential Information (Employers)

You are about to negotiate with a potential employee for a job contract that includes different options on the following issues: the salary, annual leave, bonus, starting date, medical coverage and company car. To aid you in your negotiation, you have quantified your preferences with 'points'. The total value of any deal will be the sum of the points for each issue. The more points, the better the deal is for you. Note that you can only choose stated options (just the ones shown in the table). Any intermediate amounts or imagined alternatives are not allowed.

Issue A: Salary

There are five possible options on the annual salary that you can offer the potential employee, as shown in the following table.

Salary	Benefit in Points
1) £24,000	0
2) £23,000	500
3) £22,000	1000
4) £21,000	1500
5) £20,000	2000

Issue B: Annual Leave

This issue regards the number of days of annual holiday that you offer the potential employee. Again, you are not allowed to agree on any intermediate numbers of annual leave. For example, a 17-day annual leave is not allowed.

Annual Leave	Benefit in Points
1) 25 days	0
2) 20 days	1000
3) 15 days	2000
4) 10 days	3000
5) 5 days	4000

Issue C: Bonus

You need to negotiate with the potential employee over the percentages of bonus that you will pay him/her at the end of each year.

Bonus	Benefit in Points
1) 10%	0
2) 8%	400
3) 6%	800
4) 4%	1200
5) 2%	1600

Issue D: Starting Date

The current employee in this post will certainly leave your company at the end of June. To minimise the adverse effect on the company, you prefer the potential employee to start the job as early as possible.

Starting Date	Benefit in Points
1) 1 st July	1200
2) 15 th July	900
3) 1 st August	600
4) 15 th August	300
5) 1 st September	0

Issue E: Medical Coverage

Your company has always been arranging Medical Insurance for all your employees with AIB Insurance Ltd. They have given five different Medical Coverage Plans for you and your employees to choose from.

Medical Coverage	Benefit in Points
1) Plan A	3200
2) Plan B	2400
3) Plan C	1600
4) Plan D	800
5) Plan E	0

Issue F: Company Car

Instead of providing your employees with transportation allowance, your company rather gives them company car because you can always get some discounts on the company cars with bulk order.

Company Car	Benefit in Points
1) BMW 330i	0
2) VW Golf	200
3) Honda Civic	400
4) Ford Focus	600
5) No Company Car	800

Your Best Alternative to the Negotiated Agreement (Outside Option)

Mr. Jones, the head of Human Resources Department, has found a candidate from another MBA programme. He is definitely ready to accept an offer from you. This candidate would be worth 6,000 points to you. Now if you fail to reach an agreement with the employee with whom you are about to negotiate, you will instead hire the alternative candidate for a score of 6,000. The employee may or may not know about your alternative candidate (your BATNA/Outside Option). Please take a moment to consider how might want to negotiate. Of course, your goal is still to maximise the number of points you earn for yourself.

Conduct

During the upcoming negotiation, the interaction is unrestricted except that you are not allowed to exchange the pay-off schedules provided³⁸.

Quiz

To ensure that everyone understands his/her outside option, please indicate the number of points that the following agreements generate and determine whether it is better than your outside option.

Agreement 1 - £22,000 salary, 15-day annual leave, 4% bonus, starting on 15th August, Plan C medical coverage and Honda Civic company car

Number of Points: _____

This agreement is worth _____ the outside option.

More than the same as less than

³⁸ For those assigned to the control group, they were told not to reveal their own BATNAs to opponents. This was to avoid contaminations of the manipulation of knowledge.

Agreement 2 - £23,000 salary, 15-day annual leave, 6% bonus, starting on 15th August, Plan D medical coverage and VW Golf company car

Number of Points: _____

This agreement is worth _____ the outside option.

More than the same as less than

Your Pay

Your pay for the experiment will be based on your performance in the upcoming negotiation with the potential employee. You will receive 10p for every 100 points you earn.

- Notice that it may be the case that the employee's offer is worth less than your outside option. If you fail to reach a negotiated agreement, then you will hire the other candidate for 6,000 points and receive a payment of £6.00.
- If you reach an agreement with the employee that gives you less than 6,000 points, you will NOT receive any money at all. Your pay for the negotiation would be £0.00.
- If you reach an agreement with the opponent that generates more than 6,000 points, you will receive 0.1p for every point you earn. So, for instance, if you were to settle an agreement generating 7,500 points, you would therefore receive a payment of £7.50.

In order to make sure that everyone understands how you will be paid, please answer the following questions.

How much would you earn if you reached an agreement with the employee that gives you 8,000 points? £ _____

How much would you earn if you reached an agreement that is worth 4,500 points?
£ _____

How much would you earn if you do not reach an agreement? £ _____

Confidential Score Sheet – Employer

Issue	Option	Benefit for employee (in points)	Selected option (transfer payoff of selected option)
Salary	£24,000	0	
	£23,000	500	
	£22,000	1000	
	£21,000	1500	
	£20,000	2000	
Annual Leave	25 days	0	
	20 days	1000	
	15 days	2000	
	10 days	3000	
	5 days	4000	
Bonus	10%	0	
	8%	400	
	6%	800	
	4%	1200	
	2%	1600	
Starting Date	1 st July	1200	
	15 th July	900	
	1 st August	600	
	15 th August	300	
	1 st September	0	
Medial Coverage	Plan A	3200	
	Plan B	2400	
	Plan C	1600	
	Plan D	800	
	Plan E	0	
Company Car	BMW 330i	0	
	VW Golf	200	
	Honda Civic	400	
	Ford Focus	600	
	No Company Car	800	
Total Value of Agreement			

Contract

Issue	Option	Selected Option
Salary	£24,000	
	£23,000	
	£22,000	
	£21,000	
	£20,000	
Annual Leave	25 days	
	20 days	
	15 days	
	10 days	
	5 days	
Bonus	10%	
	8%	
	6%	
	4%	
	2%	
Starting Date	1 st July	
	15 th July	
	1 st August	
	15 th August	
	1 st September	
Medial Coverage	Plan A	
	Plan B	
	Plan C	
	Plan D	
	Plan E	
Company Car	BMW 330i	
	VW Golf	
	Honda Civic	
	Ford Focus	
	No Company Car	

Signature Employer Representative

Signature Employee Representative

Additional Information (Available to Employers in Relevant Conditions)

You have just received word that another company, ABC Ltd., has offered a job to the employee you are about to negotiate with. This job offer would be worth 1,200 points to the employee. In the case of no agreement reached, s/he will take this job offer for a score of 1,200. However, it still does not change the fact that s/he may or may not know about your alternative candidate.

Please answer the following questions:

How many points would the employee receive if no agreement had been reached?

_____.

Given that the employee also receive 10p for every 100 points s/he earns, how much would s/he receive if no agreement had been reached?

_____.

Confidential Information (Employees)

You are about to negotiate with a potential employer for a job contract that includes different options on the following issues: the salary, annual leave, bonus, starting date, medical coverage and company car. To aid you in your negotiation, you have quantified your preferences with 'points'. The total value of any deal will be the sum of the points for each issue. The more points, the better the deal is for you. Note that you can only agree on stated options (just the ones shown in the table). Any intermediate amounts or imagined alternatives are not allowed.

Issue A: Salary

There are five possible options on the annual salary that the potential employer can pay you, as shown in the following table.

Salary	Benefit in Points
1) £24,000	2000
2) £23,000	1500
3) £22,000	1000
4) £21,000	500
5) £20,000	0

Issue B: Annual Leave

This issue regards the number of days of your annual holiday. Again, you are not allowed to agree on any intermediate numbers of annual leave. For example, a 17-day annual leave is not allowed.

Annual Leave	Benefit in Points
1) 25 days	1600
2) 20 days	1200
3) 15 days	800
4) 10 days	400
5) 5 days	0

Issue C: Bonus

You need to negotiate with the potential employer over the percentages of bonus that s/he will pay you at the end of each year.

Bonus	Benefit in Points
1) 10%	4000
2) 8%	3000
3) 6%	2000
4) 4%	1000
5) 2%	0

Issue D: Starting Date

Since you have been looking for a job for a couple of weeks, you would like to settle in a new job as soon as possible. You therefore prefer an early starting date to a late one.

Starting Date	Benefit in Points
1) 1 st September	0
2) 15 th August	300
3) 1 st August	600
4) 15 th July	900
5) 1 st July	1200

Issue E: Medical Coverage

You are expecting to obtain some medical coverage to give you peace of mind. There are five different Medical Coverage Plans available from AIB Insurance Ltd with which the company has a strong link. Plan E is the most comprehensive health insurance plan that covers you for all consultation costs, regular body check, any costs incurred from surgery, etc. Plan A is the least comprehensive.

Medical Coverage	Benefit in Points
1) Plan A	0
2) Plan B	200
3) Plan C	400
4) Plan D	600
5) Plan E	800

Issue F: Company Car

Instead of providing the employees with transportation allowance, the company rather gives them company car. You are expecting that you will benefit from having a company car because you live quite far from the office.

Company Car	Benefit in Points
1) BMW 330i	3200
2) VW Golf	2400
3) Honda Civic	1600
4) Ford Focus	800
5) No Company Car	0

Your Best Alternative to the Negotiated Agreement (Outside Option)

You have just received a phone call from another company, ABC Ltd that you interviewed with last week. They are definitely ready to take you onboard. Their offer is worth 1,200 points to you. If you fail to reach an agreement with the employer with whom you are about to negotiate, you will instead work for ABC Ltd. for a score of 1,200. The employer you are about to negotiate with may or may not know about your recent job offer from ABC Ltd. (your BATNA/Outside Option).

Please take a moment now to read over all the information available to you and to consider how you might want to negotiate. Of course, your goal is still to maximise the number of points you earn for yourself.

Conduct

During the upcoming negotiation, the interaction is unrestricted except that you are not allowed to exchange the pay-off schedules provided³⁹.

Quiz

To ensure that everyone understands his/her outside option, please indicate the number of points that the following agreements generate and determine whether it is better than your outside option.

Agreement 1 - £22,000 salary, 15-day annual leave, 4% bonus, starting on 15th August, Plan C medical coverage and Honda Civic company car

Number of Points: _____

This agreement is worth _____ the outside option.

More than the same as less than

³⁹ For those assigned to the control group, they were told not to reveal their own BATNAs to opponents.

Agreement 2 - £20,000 salary, 5-day annual leave, 4% bonus, starting on 1st September, Plan B medical coverage and No company car offered

Number of Points: _____

This agreement is worth _____ the outside option.

More than the same as less than

Your Pay

Your pay for the experiment will be based on your performance in the upcoming negotiation with the potential employer. You will receive 10p for every 100 points you earn.

- Notice that it may be the case that the employer's offer is worth less than your outside option. If you fail to reach a negotiated agreement, then you will work for ABC Ltd. for 1,200 points and receive a payment of £1.20.
- If you reach an agreement with the employee that gives you less than 1,200 points, you will NOT receive any money at all. Your pay for the negotiation would be £0.00.
- If you reach an agreement with the opponent that generates more than 1,200 points, you will receive 0.1p for every point you earn. So, for instance, if you were to settle an agreement generating 4,000 points, you would therefore receive a payment of £4.00.

In order to make sure that everyone understands how you will be paid, please answer the following questions.

How much would you earn if you reached an agreement with the employer that gives you 3,500 points? £ _____

How much would you earn if you reached an agreement that is worth 1,000 points?
£ _____

How much would you earn if you do not reach an agreement? £ _____

Confidential Score Sheet – Employee

Issue	Option	Benefit for employee (in points)	Selected option (transfer payoff of selected option)
Salary	£24,000	2000	
	£23,000	1500	
	£22,000	1000	
	£21,000	500	
	£20,000	0	
Annual Leave	25 days	1600	
	20 days	1200	
	15 days	800	
	10 days	400	
	5 days	0	
Bonus	10%	4000	
	8%	3000	
	6%	2000	
	4%	1000	
	2%	0	
Starting Date	1 st September	0	
	15 th August	300	
	1 st August	600	
	15 th July	900	
	1 st July	1200	
Medial Coverage	Plan A	0	
	Plan B	200	
	Plan C	400	
	Plan D	600	
	Plan E	800	
Company Car	BMW 330i	3200	
	VW Golf	2400	
	Honda Civic	1600	
	Ford Focus	800	
	No Company Car	0	
Total Value of Agreement			

Contract

Issue	Option	Selected Option
Salary	£24,000	
	£23,000	
	£22,000	
	£21,000	
	£20,000	
Annual Leave	25 days	
	20 days	
	15 days	
	10 days	
	5 days	
Bonus	10%	
	8%	
	6%	
	4%	
	2%	
Starting Date	1 st September	
	15 th August	
	1 st August	
	15 th July	
	1 st July	
Medial Coverage	Plan A	
	Plan B	
	Plan C	
	Plan D	
	Plan E	
Company Car	BMW 330i	
	VW Golf	
	Honda Civic	
	Ford Focus	
	No Company Car	

Signature Employer Representative

Signature Employee Representative

Additional Information (Available to Employees in Relevant Condition)

You have just received word that a candidate from another MBA programme is definitely ready to accept an offer from the employer with whom you are about to negotiate. This other candidate is worth 6,000 points to the employer. S/he will therefore hire the alternative candidate instead for a score of 6,000 if no agreement is reached. However, this still does not change the fact that s/he may or may not know about your recent job offer from ABC Ltd.

Please answer the following questions:

How many points would the employer receive if no agreement had been reached? _____
_____.

Given that the employer also receive 10p for every 100 points s/he earns, how much would s/he receive if no agreement had been reached?
_____.

Appendix A (IV)

Pre-Negotiation Questionnaire 1

1. My identification letter is R/C _____.
2. I am a male/female.
3. I am _____ years old.
4. I am currently studying _____ at _____ university.

Please circle your answer

5. Do you think that you will reach a negotiated agreement?
Yes No
6. Do you think that the employee (or employer) also has an outside option (BATNA)?
Yes No
7. Please state your nationality. _____
8. Is English your native language?
Yes No
9. If you answered Yes to Question 6, please answer the following question.
 - a) There is a 100% chance that their outside option (BATNA) is greater than

 - b) There is a 100% chance that their outside option (BATNA) is less than

 - c) What is your estimate of others' outside option (BATNA)? _____.

Subjects were asked to answer the alternative Question 9 when the range of opponents' BATNAs was available.

9. If you answered Yes to Question 6, please answer the following question.

In your opinion, there is a _____% chance that the other has an outside option greater than 0.

In your opinion, there is a _____% chance that the other has an outside option greater than 1000.

In your opinion, there is a _____% chance that the other has an outside option greater than 2000.

In your opinion, there is a _____% chance that the other has an outside option greater than 3000.

In your opinion, there is a _____% chance that the other has an outside option greater than 4000.

In your opinion, there is a _____% chance that the other has an outside option greater than 5000.

In your opinion, there is a _____% chance that the other has an outside option greater than 6000.

In your opinion, there is a _____% chance that the other has an outside option greater than 7000.

In your opinion, there is a _____% chance that the other has an outside option greater than 8000.

In your opinion, there is a _____% chance that the other has an outside option greater than 9000.

In your opinion, there is a _____% chance that the other has an outside option greater than 10000.

In your opinion, there is a _____% chance that the other has an outside option greater than 11000.

In your opinion, there is a _____% chance that the other has an outside option greater than 12000.

In your opinion, there is a _____% chance that the other has an outside option greater than 12800.

Pre-Negotiation Questionnaire 2

Please circle your answer

1. Overall, I expect that I am likely to do _____ the employee (employer).
 better than about the same as worse than

2. Overall, I expect that I am likely to do _____ the other employers
 (employees).
 better than about the same as worse than

3. Do you think you are likely to reach an agreement?
 Yes No

Below is a payoff chart similar to the one that has been given to you. Now, we would like you to fill in the boxes in this chart to indicate what your ideal settlement would be on each issue. Please note that only one alternative can be ticked for each issue.

Salary	Annual Leave	Bonus	Starting Date	Medical Coverage	Company Car
Alternatives for the to-be-negotiated issues					
£24,000 <input type="checkbox"/>	25 days <input type="checkbox"/>	10% <input type="checkbox"/>	1 st July <input type="checkbox"/>	Plan A <input type="checkbox"/>	BMW 330i <input type="checkbox"/>
£23,000 <input type="checkbox"/>	20 days <input type="checkbox"/>	8% <input type="checkbox"/>	15 th July <input type="checkbox"/>	Plan B <input type="checkbox"/>	VW Golf <input type="checkbox"/>
£22,000 <input type="checkbox"/>	15 days <input type="checkbox"/>	6% <input type="checkbox"/>	1 st Aug <input type="checkbox"/>	Plan C <input type="checkbox"/>	Honda <input type="checkbox"/>
£21,000 <input type="checkbox"/>	10 days <input type="checkbox"/>	4% <input type="checkbox"/>	15 th Aug <input type="checkbox"/>	Plan D <input type="checkbox"/>	Ford Focus <input type="checkbox"/>
£20,000 <input type="checkbox"/>	5 days <input type="checkbox"/>	2% <input type="checkbox"/>	1 st Sept <input type="checkbox"/>	Plan E <input type="checkbox"/>	No Car <input type="checkbox"/>

Post-Negotiation Questionnaires

1. What was the identification letter of the person *you negotiated with*?

Please circle your answer:

2. Did you negotiate with someone you knew?
Yes No
3. Were you given any information about the other party's outside option before the experiment began?
Yes No
4. If you answered 'yes' to Question 3, did you tell your opponent that you knew his/her outside option during the experiment?
Yes No
5. If you answered 'yes' to Question 3, did you find the information provided useful?
Yes No
6. Did you tell your opponent the value of your outside option?
Yes No
7. Did your opponent reveal his/her outside option to you?
Yes No
8. If you answered yes to Question 7, do you believe that is true?
Yes No
9. Do you think that your opponent had been given the information about your outside option?
Yes No Not sure
10. Did you ask any questions in relation to the preferences of the negotiated issues?
Yes No
11. If you answered 'yes' to Question 10, did your opponent answer the questions that you raised?
Yes No
12. Did your opponent ask any questions in relation to the preferences of the negotiated issues?
Yes No
13. If you answered 'yes' to Question 12, did you answer the questions that s/he raised?
Yes No
14. If you answered 'no' to Question 13, please specify why you did not reveal the information asked: _____

15. Did you provide your opponent with information about your preferences across issues without being prompted? (E.g. Bonus is way more important to me than Medical Coverage, etc.)

Yes No

16. Did your opponent provide you with information about his or her preferences across issues without being prompted?

Yes No

17. If you answered 'yes' to Question 10, 12, 15, or 16 who asked the first question or who first provided information about preferences?

You The opponent N/A

18. Please try to tell us what types of questions that you asked and/or were asked in the negotiation.

The questions you asked:

The questions your opponents asked:

Judgement Error Measures

Below is a blank payoff schedule similar to the one that has been given to you in this negotiation situation. At this time, we would like you to 'fill in the numbers' to indicate what you think the employee's payoff schedule looks like. Your only hint is that the lowest number on his/her chart is zero and the highest is 4000.

Issue	Option	Benefit for employee (employer)
Salary	£24,000	
	£23,000	
	£22,000	
	£21,000	
	£20,000	
Annual Leave	25 days	
	20 days	
	15 days	
	10 days	
	5 days	
Bonus	10%	
	8%	
	6%	
	4%	
	2%	
Starting Date	1 st July	
	15 th July	
	1 st August	
	15 th August	
	1 st September	
Medial Coverage	Plan A	
	Plan B	
	Plan C	
	Plan D	
	Plan E	
Company Car	BMW 330i	
	VW Golf	
	Honda Civic	
	Ford Focus	
	No Company Car	

Focus on Distributive Element & Perception of Information-Exchange Measures

For each of the statements below, please indicate the extent to which you agree or disagree by placing a tick in the appropriate column.

	Strongly agree	Agree	Slightly agree	Neutral	Slightly disagree	Disagree	Strongly disagree	Undecided
1. I was very concerned if I could outperform the employee.								
2. I did not believe that sharing information about preferences with the employee would yield a desired outcome.								
3. My primary concern in the negotiation task was whether I could claim more surplus on the table than the opponent did.								
4. I tried so hard to split the resources between us in the task.								
5. As long as I enjoyed the negotiation, I was not very concerned if the other party earned more than I did.								
6. I think a fair agreement would be the one that reflected the quality of my BATNA (outside option).								
7. I do not think that exchanging information about preferences could improve my payoff.								
8. The main goal I pursued was to do better than the opponent.								
9. I felt that there was not much room in the negotiation for me to reach a deal that provided much more surplus than the BATNA I already had.								

Motivation Measures

For each of the statements below, please indicate the extent to which you agree or disagree by placing a tick in the appropriate column.

	Strongly agree	Agree	Slightly agree	Neutral	Slightly disagree	Disagree	Strongly disagree	Undecided
1. I felt that the task was a complex problem to solve.								
2. I was concerned about whether the offers I made would satisfy the opponent.								
3. I think the task was difficult for me.								
4. I seldom thought about whether the opponent was satisfied with the offer(s).								
5. The task was relatively simple and straightforward.								
6. I was very worried about whether the opponent would claim most of the surplus available on the table.								
7. I found the task was something I could do easily, rather than something that stretched my abilities.								
8. I was concerned about how the opponent was going to react to the agreements suggested.								

Appendices A

9. I was keenly aware of whether I earned something for what I did, while keeping the other party at the negotiation table.								
10. I found that the negotiation problems tackled were completely new to me.								
11. I felt that I was responsible for coming up with agreements that keep the opponent at the negotiation table.								

Appendix B Experimental Protocol

All participants were given an 'Informed Consent Form' to fill out before negotiations began.

All Experimental Conditions

Participants assigned to all four experimental conditions were given the same general instructions as follows:

"The purpose of this experiment is to examine negotiation behaviour. There will be a negotiation about a job contract between an employer and employee. There are six issues of concern in the negotiation: salary, annual leave, bonus, starting date, medical coverage and company car. You will negotiate for 'points'. Before you negotiate, you will be given a chart that describes all the possible ways you can settle this negotiation and how many points you can get for each alternative settlement. Your goal in this negotiation is to maximise the number of points you gain for yourself. You will be given thirty minutes to negotiate and if you are unable to reach an agreement during that time, a disagreement will be declared."

As an incentive, participants were informed that the money that they received at the end of the experiment was related to the number of points they earned: they received 10p for every 100 points they earned. They were then randomly assigned as the role of either an employer or employee and sent to different rooms.

Strong Negotiators (Employers)

In all conditions, employers were provided with role materials that described the six issues in a 'pay-off' schedule (see Table 3.1, top half of the table) and a short quiz to ensure that subjects understood their pay-off schedules. Most importantly, subjects were told that their interaction was unrestricted except that they were not to physically exchange their pay-off schedules⁴⁰. The employers in this condition were told the following:

"Mr. Jones, the head of Human Resources Department, has found a candidate from another MBA programme. He is definitely ready to accept an offer from you. This

⁴⁰ In the control group, employers were instructed not to reveal their own BATNAs to their opponents to avoid contaminations of knowledge manipulation.

candidate would be worth 6,000 points to you. Now if you fail to reach an agreement with the employee with whom you are about to negotiate, you will instead hire the alternative candidate for a score of 6,000. The employee may or may not know your BATNA. Please take a moment to consider how you might want to negotiate. Of course, your goal is still to maximise the number of points you earn for yourself”.

To ensure that subjects understood their BATNAs, a short quiz was constructed. A number of different sample settlements were included in the quiz and subjects were asked to indicate which settlement generated more (or less) points than their BATNAs. Their answers to every question were checked. Subjects in error were told to attempt the item again. After that, the first and second pre-negotiation questionnaires were given out to measure their perceptions of others’ BATNAs and aspiration levels (see Appendix A (IV)).

Weak Negotiators (Employees)

In all conditions, employees were provided with role materials that described the six issues, a pay-off schedule (see Table 3.1, bottom half of the table), and a short quiz to ensure that subjects understand their pay-off schedules. Most importantly, subjects were told that their interaction was unrestricted except they were told not to physically exchange their pay-off schedules⁴¹. The employees in this condition were told the following:

“You have just received a phone call from another company, ABC Ltd. They are definitely ready to take you onboard. Their offer is worth 1,200 points to you. If you fail to reach an agreement with the employer with whom you are about to negotiate and you will instead work for ABC Ltd. for a score of 1,200. The employer you are about to negotiate with may or may not know your BATNA. Please take a moment now to read over all the information available to you and to consider how you might want to negotiate. Of course, your goal is still to maximise the number of points you earn for yourself.”

To ensure that subjects understood their BATNAs, a short quiz was constructed. A number of different sample settlements were included in this quiz and subjects were asked to indicate which settlement generates more (or less) points than their own

⁴¹ In the control group, employees were instructed not to reveal their own BATNAs to their opponents to avoid contaminations of knowledge manipulation.

BATNA. Their answers to every question were checked. Subjects in error were told to attempt the item again.

Experimental Condition 1 (Control)

Strong and Weak Negotiators (Employers and Employees)

After completing of the short quiz, the first and second pre-negotiation questionnaires were given out to measure their perceptions of others' BATNAs and aspiration levels (see Appendix A (IV)).

After completion of questionnaires, all participants returned to the initial room. Employers were randomly assigned to employees. They were given 30 minutes to negotiate. If no deal was reached, an impasse would be declared and the outside option (BATNA) would be the result. Final questionnaires were given to all participants to elicit strategies adopted, how they approached negotiations, etc. After participants completed the final questionnaire, they were debriefed about the purpose of the experiment.

Experimental Condition 2 (Strong Negotiators Informed)

All participants were given the same general instructions as in Condition 1. They were assigned to the roles of either an employer or employee and were sent to different rooms.

Strong Negotiators (Employers)

Similar to Condition 1, employers in this condition were provided with the role materials that described the six issues, a pay-off schedule and information about their own BATNAs. We now gave out the first questionnaire to the employers, which were used to measure their perceptions of the other's BATNA (see Appendix A (IV)). Employers were then told by the experimenter the following:

"I have just received word that another company, ABC Ltd., has offered a job to the employee you are about to negotiate with. This job offer would be worth 1,200 points to the employee. In the case of no agreement reached, she will take this job offer for a score of 1,200. The employee does not yet know that you are informed of her BATNA but it does not change the fact that she may or may not know your

BATNA.”

The second questionnaire was given out to employers at this point to measure their aspiration levels (see Appendix A (IV)).

Weak Negotiators (Employees)

Similar to Condition 1, employees in this condition were provided with the role materials that described the six issues, a pay-off schedule and information about their own BATNAs. After completing of the short quiz, the first and second pre-negotiation questionnaires were given out to measure their perceptions of others' BATNAs and aspiration levels (see Appendix A (IV)).

After completion of questionnaires, all participants returned to the initial room. Employers were randomly assigned to employees. They were given 30 minutes to negotiate. If no deal was reached, an impasse would be declared and the outside option (BATNA) would be the result. Final questionnaires were given to all participants to elicit strategies adopted, how they approached negotiations, etc. After participants completed the final questionnaire, they were debriefed about the purpose of the experiment.

Experimental Condition 3 (Weak Negotiators Informed)

All participants were provided with the same general instructions as in Condition 1. They were assigned as either an employer or employee and were sent to different rooms.

Strong Negotiators (Employers)

Similar to Condition 1, employees in this condition were provided with the role materials that described the six issues, a pay-off schedule and information about their own BATNAs. After completing of the short quiz, the first and second pre-negotiation questionnaires were given out to measure their perceptions of others' BATNAs and aspiration levels (see Appendix A (IV)).

Weak Negotiators (Employees)

Similar to Condition 1, employees in this condition were provided with the role

materials that described the six issues, a pay-off schedule and information about their own BATNAs. We now gave out the first questionnaire to the employees, which were used to measure their perceptions of the other's BATNA (see Appendix A (IV)). Employees were then told by the experimenter the following:

“I have just received word that a candidate from another MBA is definitely ready to accept an offer from the employer with whom you are about to negotiate. This other candidate is worth 6,000 points to the employer. He will therefore hire the alternative candidate instead for a score of 6,000 if no agreement is reached. The employer does not yet know that you are informed of his BATNA but this does not change the change the fact that he may or may not know your BATNA.”

The second questionnaire was given out at this point to employees to measure their aspiration levels (see Appendix A (IV)).

After completion of questionnaires, all participants returned to the initial room. Employers were randomly assigned to employees. They were given 30 minutes to negotiate. If no deal was reached, an impasse would be declared and the outside option (BATNA) would be the result. Final questionnaires were given to all participants to elicit strategies adopted, how they approached negotiations, etc. After participants completed the final questionnaire, they were debriefed about the purpose of the experiment.

Experimental Condition 4 (Complete Knowledge)

All participants were given the same general instructions as in Condition 1. They were assigned to the roles of either an employer or employee and were sent to different rooms.

Strong Negotiators (Employers)

Similar to Condition 1, employers in this condition were provided with the role materials that described the six issues, a pay-off schedule and information about their own BATNAs. We now gave out the first questionnaire to the employers, which were used to measure their perceptions of the other's BATNA (see Appendix A (IV)). Employers were then told by the experimenter the following:

“I have just received word that another company, ABC Ltd., has offered a job to the

employee you are about to negotiate with. This job offer would be worth 1,200 points to the employee. In the case of no agreement reached, she will take this job offer for a score of 1,200. The employee does not yet know that you are informed of her BATNA but it does not change the fact that she may or may not know your BATNA.”

The second questionnaire was given out to employers at this point to measure their aspiration levels (see Appendix A (IV)).

Weak Negotiators (Employees)

Similar to Condition 1, employees in this condition were provided with the role materials that described the six issues, a pay-off schedule and information about their own BATNAs. We now gave out the first questionnaire to the employees, which were used to measure their perceptions of the other’s BATNA (see Appendix A (IV)). Employees were then told by the experimenter the following:

“I have just received word that a candidate from another MBA is definitely ready to accept an offer from the employer with whom you are about to negotiate. This other candidate is worth 6,000 points to the employer. He will therefore hire the alternative candidate instead for a score of 6,000 if no agreement is reached. The employer does not yet know that you are informed of his BATNA but this does not change the change the fact that he may or may not know your BATNA.”

The second questionnaire was given out at this point to employees to measure their aspiration levels (see Appendix A (IV)).

After completion of questionnaires, all participants returned to the initial room. Employers were randomly assigned to employees. They were given 30 minutes to negotiate. If no deal was reached, an impasse would be declared and the outside option (BATNA) would be the result. Final questionnaires were given to all participants to elicit strategies adopted, how they approached negotiations, etc. After participants completed the final questionnaire, they were debriefed about the purpose of the experiment.

Appendix C Pattern of Reasons for Excluded Cases

Pattern of reasons for exclusion for Strong Exchange (in Percentage)

	Strong negotiators reported that they shared information about preferences but their opponents disagree	Strong negotiators reported that they did not share information about preferences but their opponents disagree
Condition 1 (Control)	0	0
Condition 2 (Strong Negotiators Informed)	33.3	0
Condition 3 (Weak Negotiators Informed)	16.7	33.3
Condition 4 (Both Informed)	0	16.7

Note. Number of excluded case = 6

Pattern of reasons for exclusion for Weak Exchange (in Percentage)

	Weak negotiators reported that they shared information about preferences but their opponents disagree	Weak negotiators reported that they did not share information about preferences but their opponents disagree
Condition 1 (Control)	16.7	16.7
Condition 2 (Strong Negotiators Informed)	0	16.7
Condition 3 (Weak Negotiators Informed)	16.7	16.7
Condition 4 (Both Informed)	0	16.7

Note. Number of excluded case = 6

Pattern of reasons for exclusion for Weak Initiation (in Percentage)

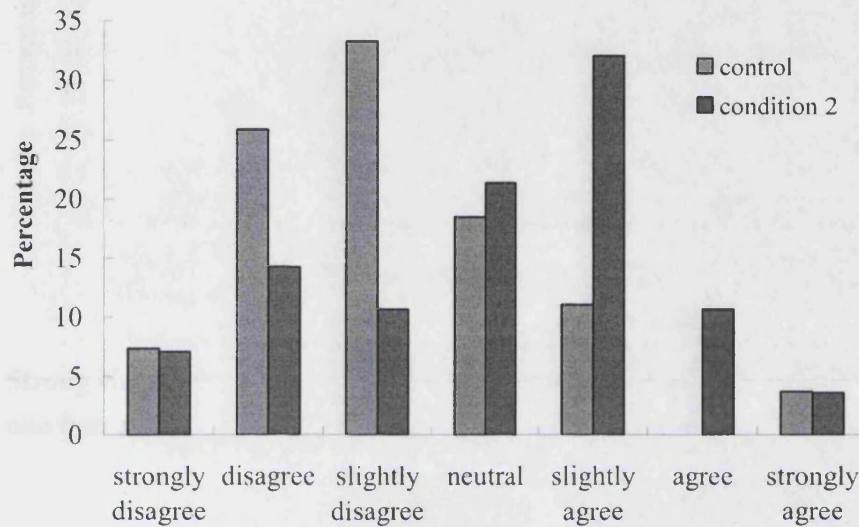
	Weak negotiators reported that they initiated information-exchange but their opponents disagree	Weak negotiators reported that they did not initiate information-exchange but their opponents disagree
Condition 1 (Control)	8.3	8.3
Condition 2 (Strong Negotiators Informed)	16.7	0
Condition 3 (Weak Negotiators Informed)	25	16.7
Condition 4 (Both Informed)	16.7	8.3

Note. Number of excluded case = 12

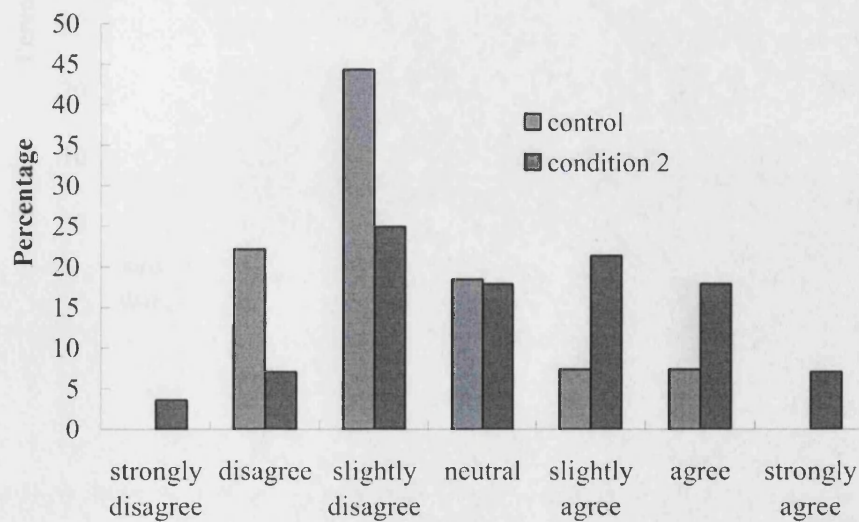
Appendix D (I) Subjects' Full Responses to Items (Study 3)

Strong Negotiators' Focus on Distributive Element

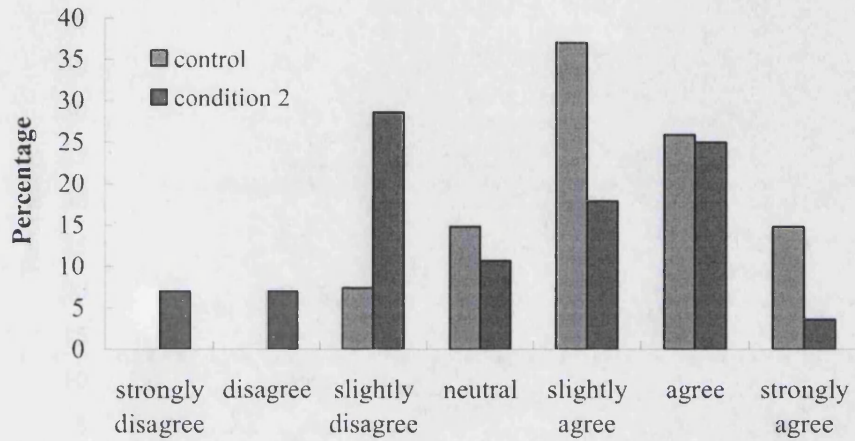
Strong Negotiators' Response to Item 2 ("My primary concern in the negotiation task was whether I could claim more surplus on the table than the opponent did")



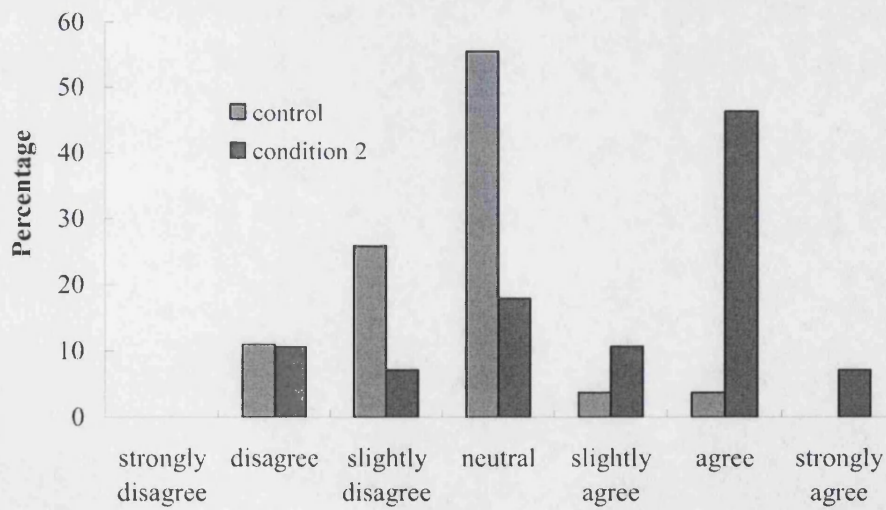
Strong Negotiators' Response to Item 3 ("I tried so hard to split the resources between us in the task")



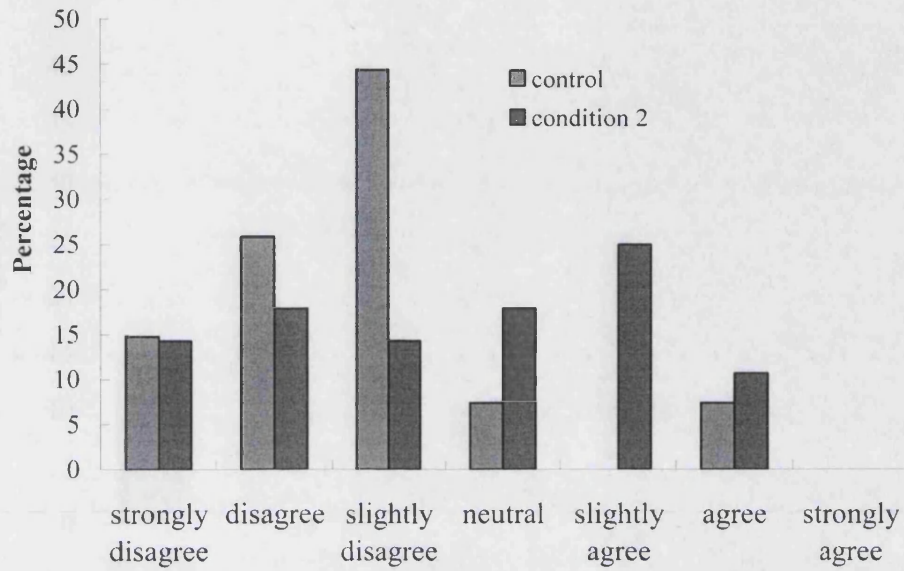
Strong Negotiators' Response to Item 4 ("As long as I enjoyed the negotiation, I was not very concerned if the other party earned more than I did")



Strong Negotiators' Response to Item 5 ("I think a fair agreement would be the one that reflected the quality of my BATNA (outside option)")

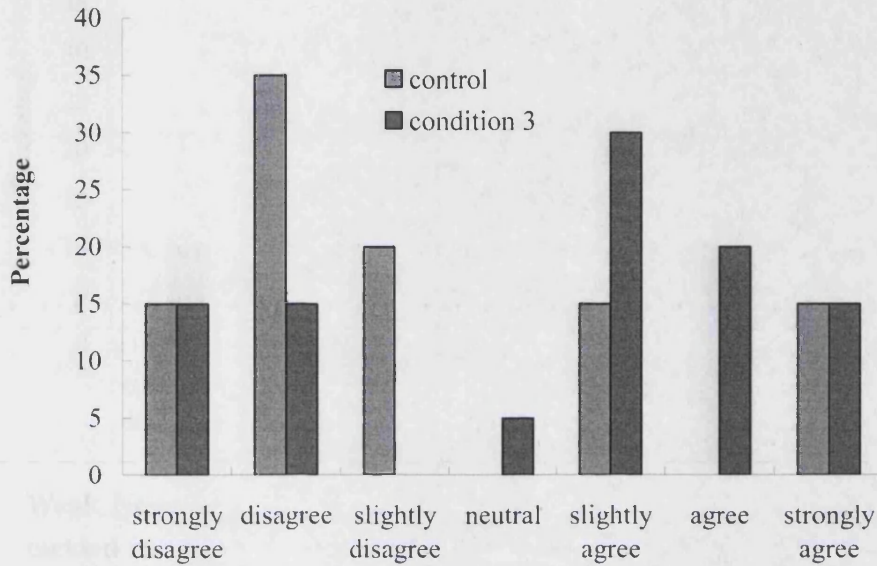


Strong Negotiators' Response to Item 6 ("The main goal I pursued was to do better than the opponent")

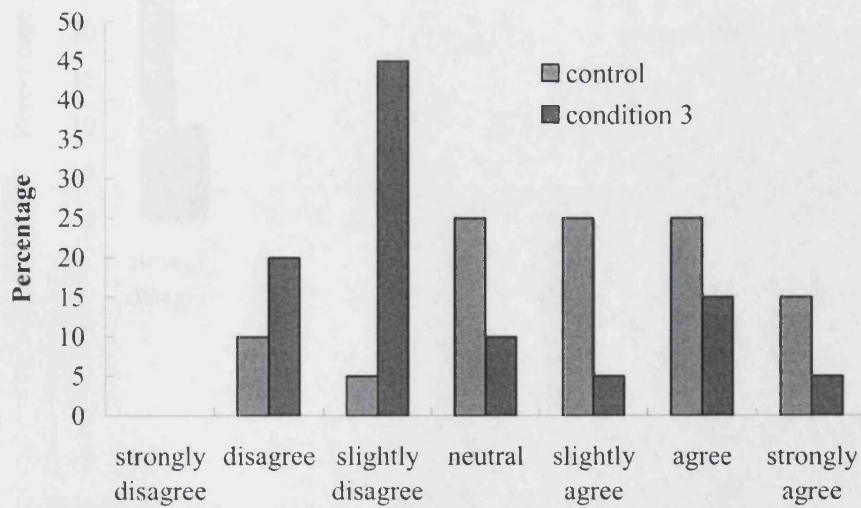


Weak Negotiators' Motivation

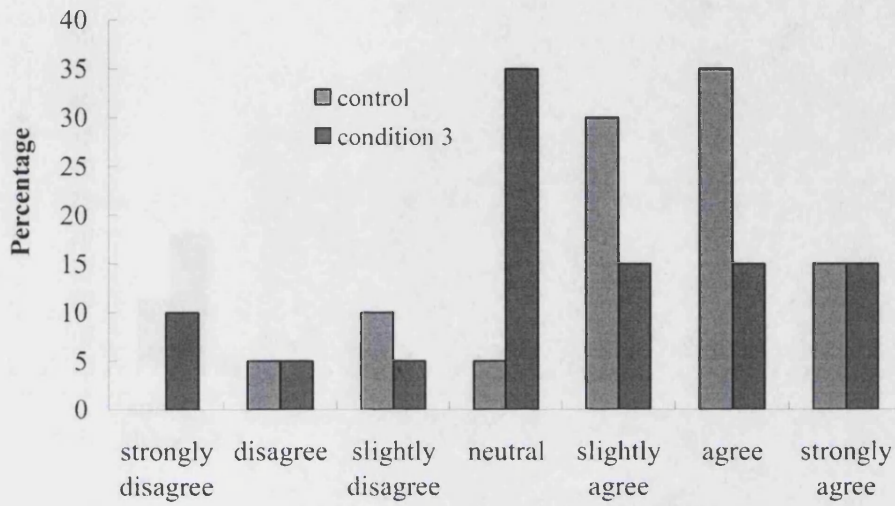
Weak Negotiators' Response to Item 2 ("I think the task was difficult for me")



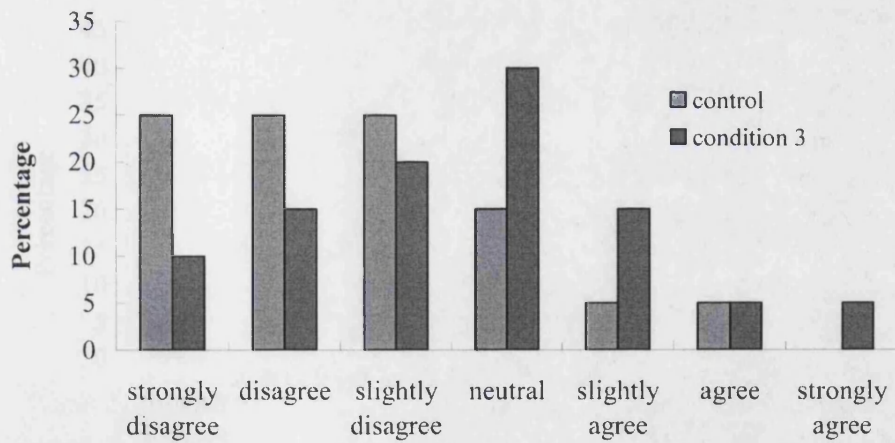
Weak Negotiators' Response to Item 3 ("The task was relatively simple and straightforward")



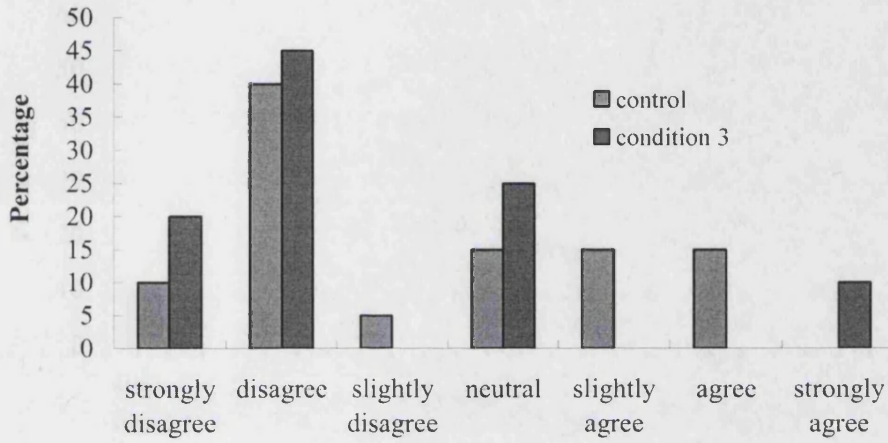
Weak Negotiators' Response to Item 4 ("I found the task was something I could do easily, rather than something that stretched my abilities")



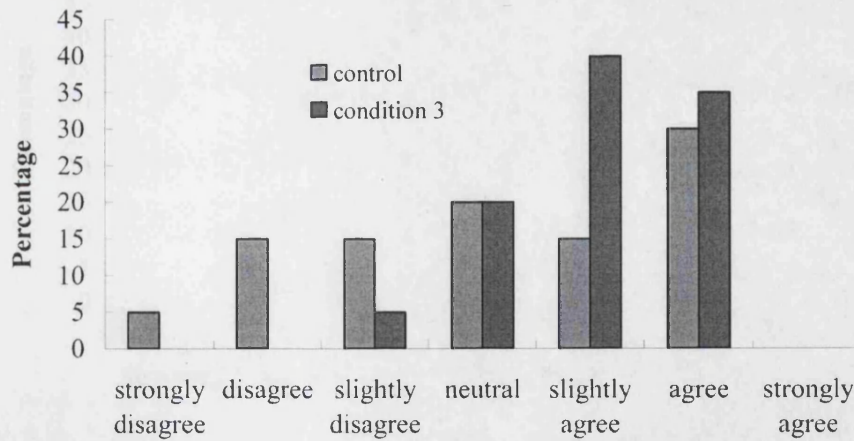
Weak Negotiators' Response to Item 5 ("I found that the negotiation problems tackled were completely new to me")



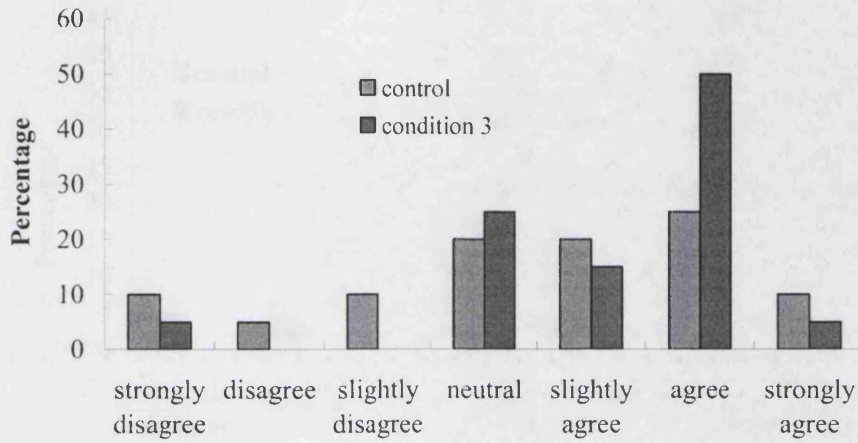
Weak Negotiators' Response to Item 7 ("I seldom thought about whether the opponent was satisfied with the offer(s)")



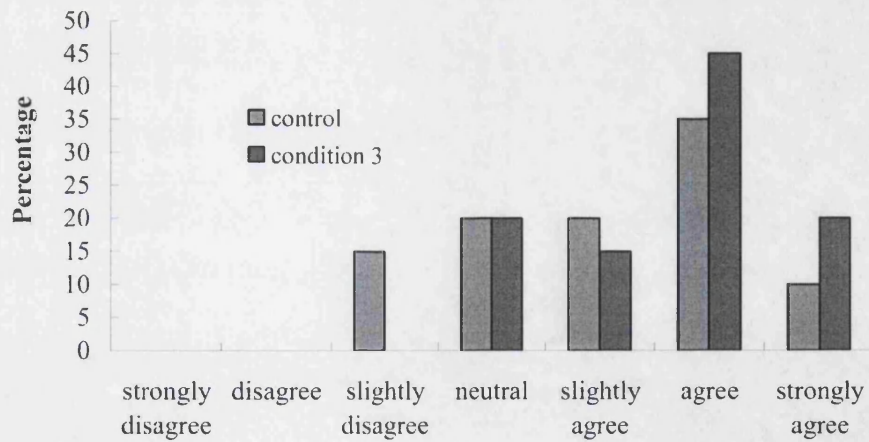
Weak Negotiators' Response to Item 8 ("I was very worried about whether the opponent would claim most of the surplus available on the table")



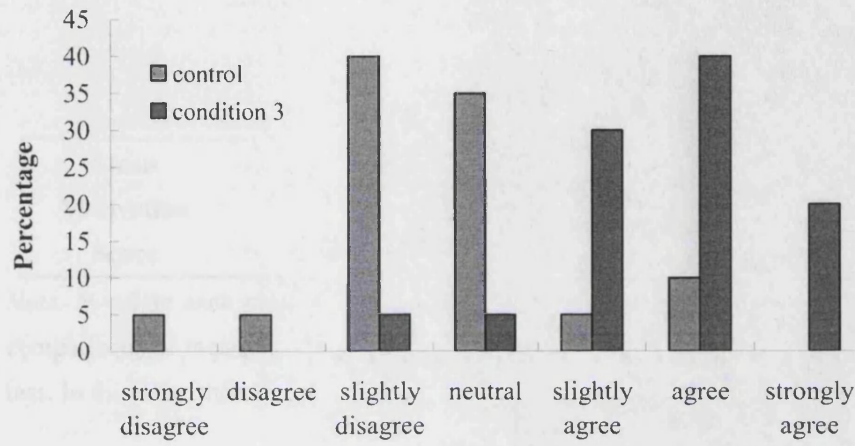
Weak Negotiators' Response to Item 9 ("I was concerned about how the opponent was going to react to the agreements suggested")



Weak Negotiators' Response to Item 10 ("I was keenly aware of whether I earned something for what I did, while keeping the other party at the negotiation table")



Weak Negotiators' Response to Item 11 ("I felt that I was responsible for coming up with agreements that keep the opponent at the negotiation table")



Appendix D (II) A Summary of Pilot Study Results

Strong Negotiators' Motivation Score in Different Conditions

	Experimental Condition		
	Neither Informed (Control)	Strong Negotiators Informed (Condition 2)	Weak Negotiators Informed (Condition 3)
Mean			
Motivation	38.9 _a	39.0 _a	37.3 _a
Score			

Note. *N* = 7 in each condition. Maximum motivation score = 77. Subscripting is based upon comparisons of means within each row; different subscripts indicate means differ at *p* < .10 or less. In this case, there is no significant difference across different experimental conditions.

Weak Negotiators' Focus Score in Different Conditions

	Experimental Condition		
	Neither Informed (Control)	Strong Negotiators Informed (Condition 2)	Weak Negotiators Informed (Condition 3)
Mean Focus Score	17.3 _a	18.1 _a	13.3 _b

Note. *N* = 7 in each condition. Maximum focus score = 35. Higher focus scores indicate a greater degree to which weak negotiators focus on the distributive element. Subscripting is based upon comparisons of means within each row; different subscripts indicate means differ at *p* < .10 or less. (e.g. the focus score for Control is given the subscript 'a' and it is significantly different to that for Condition 3 given subscript 'b', but the scores for Control and Condition 2 are not significantly different). Also, one of the items, "I think a fair agreement would be the one that reflected the quality of my BATNA (outside option)", was removed. This is because weak negotiators' BATNAs were less attractive than their opponents' and their BATNAs were no longer considered as leverage to claim more surplus.

References

- Amabile, T. M. (1982) Social psychology of creativity: a consensual assessment technique. *Journal of Personality and Social Psychology*, 43, 997-1013.
- Amabile, T. M. (1983a) *The social psychology of creativity*, New York, Springer-Verlag.
- Amabile, T. M. (1983b) Social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology*, 45, 357-376.
- Amabile, T. M. (1985) Motivation and creativity: Effects of motivational orientation on creative writers. *Journal of Personality and Social Psychology*, 48, 393-399.
- Amabile, T. M. (1988) A Model of Creativity and Innovation in Organizations. *Research in Organizational Behavior* 10, 123-167.
- Amabile, T. M. (1996) *Creativity in context: Update to the social psychology of creativity*, Boulder, CO, Westview Press.
- Amabile, T. M., Hill, K. G., Hennessey, B. A. & Tighe, E. M. (1994) The Work Preference Inventory: Assessing Intrinsic and Extrinsic Motivational Orientations. *Journal of Personality and Social Psychology*, 66, 950-967.
- Anderson, C. & Thompson, L. L. (2004) Affect from the top down: How powerful individuals' positive affect shapes negotiations. *Organizational Behavior and Human Decision Processes*, 95, 125-139.
- Ariely, D. & Wallsten, T. S. (1995) Seeking subjective dominance in multidimensional space: An explanation of the asymmetric dominance effect. *Organizational Behavior and Human Decision Processes*, 63, 223-232.
- Bacharach, S. B. & Lawler, E. J. (1981) *Bargaining: Power, Tactics, and Outcomes*, San Francisco, CA, Jossey-Bass.
- Bailey, B. (2003) 'Concurrent' vs. 'Retrospective' Comments, Retrieved October 23, 2006, from www.webusability.com/article_concurrent_vs_retro_7_2003.htm.
- Baron, R. M. & Kenny, D. A. (1986) The moderator/mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Bartholomew, D., Steele, F., Moustaki, I. & Galbraith, J. (2002) *The Analysis and Interpretation of Multivariate Data for Social Scientist*, London, Chapman & Hall/CRC.
- Bazerman, M. & Carroll, J. S. (1987) *Negotiator cognition*. In L. L. Cummings & B. Staw (Eds.) *Research in organizational behavior*, Greenwich, CT: JAI Press.
- Bazerman, M. H. & Neale, M. A. (1983) *Heuristics in negotiation: Limitations to effective dispute resolution*, Beverly Hills, CA: Sage.
- Binmore, K., Rubinstein, A. & Wolinsky, A. (1986) The Nash bargaining solution in

References

- economic modelling. *Rand Journal of Economics*, 17, 176-188.
- Binmore, K., Shaked, A. & Sutton, J. (1989) An outside option experiment. *Quarterly Journal of Economics*, 104, 753-770.
- Brett, J. F., Pinkley, R. L. & Jackofsky, E. F. (1996) Alternatives to having a BATNA in dyadic negotiation: The influence of goals, self-efficacy, and alternatives on negotiated outcomes. *International Journal of Conflict Management*, 7, 121-138.
- Brod, S. E. (1994) "Inside Information" and Negotiator Decision Behavior. *Organizational Behavior and Human Decision Processes*, 58, 172-202.
- Camerer, C. F. (2003) *Behavioral Game Theory: Experiments in Strategic Interaction*, New Jersey, Princeton University Press.
- Carnevale, P. J. & Isen, A. M. (1986) The influence of positive affect and visual access on the discovery of integrative solutions in bilateral negotiation. *Organizational Behavior and Human Decision Processes*, 37, 1-13.
- Colman, A. M., Pulford, B. D. & Bolger, F. (in press) Asymmetric dominance and phantom decoy effects in games. *Organizational Behavior and Human Decision Processes*.
- Conti, R., Coon, H. & Amabile, T. M. (1996) Evidence to support the componential model of creativity: Secondary analyses of three studies. *Creativity Research Journal*, 9, 385-389.
- Conway, M. & Ross, M. (1984) Getting what you want by revising what you had. *Journal of Personality and Social Psychology*, 47, 738-748.
- Cummings, L. L. & Harnett, D. L. (1969) Bargaining behavior in a symmetric bargaining triad: The impact of risk-taking propensity, information, communication, and terminal bid. *Review of Economic Studies*, 36, 485-501.
- Darley, J. M. & Fazio, R. H. (1980) Expectancy confirmation processes arising in the social interaction sequence. *American psychologist*, 35, 867-881.
- de Vaus, D. A. (1996) *Surveys in Social Research*, London, UCL Press.
- de Vaus, D. A. (2001) *Research Design in Social Research*, London, SAGE Publications.
- deCharms, R. (1968) *Personal causation*, New York, Plenum.
- Deci, E. L. & Ryan, R. M. (1985) *Intrinsic Motivation and self-determination in human behavior*, New York, Plenum.
- Dixit, A. & Skeath, S. (2004) *Games of strategy*, New York, W. W. Norton.
- Doyle, J. R., O'Connor, D. J., Reynolds, G. M. & Bottomley, P. A. (1999) The robustness of the asymmetrically dominated effect: Buying frames, phantom alternatives, and in-store purchases. *Psychology and Marketing*, 16, 225-243.
- Emerson, R. M. (1962) Power-dependence relations. *American Sociological Review*, 27,

References

- 31-41.
- Fischhoff, B. (1975) Hindsight \neq foresight: The effect of outcome knowledge on judgement under uncertainty. *Journal of Experimental Psychology: Human Perception and Performance*, 1, 288-299.
- Fischhoff, B. (1982) *For those condemned to study the past: Heuristics and biases in hindsight*. In D. Kahneman, P. Slovic, & A. Tversky (Eds.), *Judgement under uncertainty: Heuristics and biases* (pg. 335-351), New York Cambridge University Press.
- Fisher, R. & Ury, W. (1981) *Getting to yes: Negotiating agreement without giving in.*, Boston, Houghton-Mifflin.
- Fiske, S. T. & Taylor, S. E. (1991) *Social cognition*, New York, McGraw-Hill.
- French, J. & Raven, B. (1959) The bases of social power. In D. Cartwright (Ed.). *Studies in social power*. Ann Arbor, MI: Institute for Social Research.
- Giebels, E., De Dreu, C. K. W. & Van De Vliert, E. (2000) Interdependence in negotiation: Effects of exit options and social motive on distributive and integrative negotiation. *European Journal of Social Psychology*, 30, 255-272.
- Goddard, R. (1985) The Pygmalion Effect. *Personnel Journal*, 64, 10-16.
- Hamner, W. C. & Harnett, D. L. (1975) The Effect of Information and Aspiration Level on Bargaining Behavior. *Journal of Experimental Social Psychology*, 11, 329-342.
- Hawkins, S. A. & Hastie, R. (1990) Hindsight - Biased judgements of past events after the outcomes are known. *Psychological Bulletin*, 107, 311-327.
- Huber, G. & Power, D. (1985) Retrospective Reports of Strategic-Level Managers - Guidelines for Increasing Their Accuracy *Strategic Management Journal*, 6, 171-180.
- Kemp, K. E. & Smith, W. P. (1994) Information Exchange, Toughness, and Integrative Bargaining: The Roles of Explicit Cues and Perspective-Taking. *The International Journal of Conflict Management*, 5, 5-21.
- Kim, P. H. & Fragale, A. R. (2005) Choosing the path to bargaining power: An empirical comparison of BATNAs and contributions in negotiation. *Journal of Applied Psychology*, 90, 373-381.
- Kim, P. H., Pinkley, R. L. & Fragale, A. R. (2005) Power Dynamics in Negotiations. *Academy of Management Review*, 30, 799-822.
- Komorita, S. S. (1984) The Role of Justice and Power in Reward Allocation. *Progress in Applied Sociology*, 2, 185-206.
- Komorita, S. S. & Hamilton, T. P. (1984) *Power and equity in coalition bargaining*, Connecticut, JAI Press.
- Komorita, S. S. & Leung, K. (1985) The Effects of Alternatives on the Salience of

References

- Reward Allocation Norms. *Journal of Experimental Social Psychology*, 21, 229-246.
- Kray, L. J., Reb, J., Galinsky, A. D. & Thompson, L. (2004) Stereotype reactance at the bargaining table: The effect of stereotype activation and power on claiming and creating value. *Personality and Social Psychology Bulletin*, 30, 399-411.
- Kurtzberg, T. R. (1998) Creative thinking, cognitive aptitude, and integrative joint gain: A study of negotiator creativity. *Creativity Research Journal*, 11, 283-293.
- Lawler, E. J. & Yoon, J. (1993) Power and the Emergence of Commitment Behavior in Negotiated Exchange. *American Sociological Review*, 58, 465-481.
- Lax, D. A. & Sebenius, J. K. (1986) *The Manager as Negotiator*, New York, The Free Press.
- Lewicki, R. & Litterer, J. (1985) *Negotiation*, Homewood IL: Irwin.
- Magee, J. C., Galinsky, A. D. & Gruenfeld, D. H. (2007) Power, propensity to negotiate, and moving first in competitive interactions. *Personality and Social Psychology Bulletin*, 33, 200-212.
- Mannix, E. A. (1993) Organizations as Resource Dilemmas: The Effects of Power Balance on Coalition Formation in Small Groups. *Organizational Behavior and Human Decision Processes*, 55, 1-22.
- Mannix, E. A. & Neale, M. A. (1993) Power Imbalance and the Pattern of Exchange in Dyadic Negotiation. *Group Decision and Negotiation*, 2, 119-133.
- Morrow, J. D. (1994) *Game Theory for Political Scientists*, Princeton, New Jersey, Princeton University Press.
- Murnighan, J. K., Babcock, L., Thompson, L. & Pillutla, M. (1999) The Information Dilemma in Negotiations: Effects of Experience, Incentives, and Integrative Potential. *The International Journal of Conflict Management*, 10, 313-339.
- Nash, J. (1950) The bargaining problem. *Econometrica*, 18, 155-162.
- Nash, J. (1953) Two-person cooperative games. *Econometrica*, 21, 128-140.
- Neale, M. & Northcraft, G. (1986) Experts, amateurs, and refrigerators: Comparing expert and amateur negotiators in a novel task. *Organizational Behavior and Human Decision Processes*, 38, 305-317.
- Neale, M. A. & Northcraft, G. (1991) Behavioral negotiation theory: A framework for conceptualizing dyadic bargaining. *Research in Organizational Behavior*, 13, 147-190.
- Osborne, M. J. & Rubinstein, A. (1990) *Bargaining and markets*, San Diego, Academic Press.
- Pfeffer, J. (1992) *Managing with power: Politics and influence in organizations*, Boston, MA: Harvard Business School Press.
- Pinkley, R. L. (1995) Impact of Knowledge Regarding Alternatives to Settlement in

References

- Dyadic Negotiations: Whose Knowledge Counts? *Journal of Applied Psychology*, 80, 403-417.
- Pinkley, R. L., Griffith, T. L. & Northcraft, G. (1995) Fixed Pie A La Mode - Information-Availability, Information-Processing, And The Negotiation of Suboptimal Agreements. *Organizational Behavior and Human Decision Processes*, 62, 101-112.
- Pinkley, R. L., Neale, M. A. & Bennett, R. J. (1994) The Impact of Alternatives to Settlement in Dyadic Negotiation. *Organizational Behavior and Human Decision Processes*, 57, 97-116.
- Pratt, C. C., Mcguigan, W. M. & Katzev, A. R. (2000) Measuring program outcomes: Using retrospective pretest methodology. *American Journal of Evaluation*, 21, 341-349.
- Pruitt, D. G. & Carnevale, P. J. (1993) *Negotiation in Social Conflict*, Buckingham, UK, Open University Press.
- Pruitt, D. G. & Rubin, J. Z. (1986) *Social conflict: Escalation, stalemate and settlement*, New York, Random house.
- Putnam, L. L. & Jones, T. S. (1982) Reciprocity in negotiations - An analysis of bargaining interaction. *Communication Monographs*, 49, 171-191.
- Raiffa, H. (1982) *The art and science of negotiation*, Cambridge, MA: Harvard University Press.
- Roloff, M. E. & Dailey, W. O. (1987) The effects of alternatives to reaching agreement on the development of integrative solutions to problems: The debilitating side effects of shared BATNA. *Paper presented at the Temple University discourse conference. Conflict Interventions Perspectives on Process*, Philadelphia, PA.
- Rosenthal, R. (1987) "Pygmalion" Effects: Existence, Magnitude, and Social Importance. *Educational Researcher*, 16, 37-41.
- Ross, L. & Nisbett, R. (1991) *The person and the situation*, New York, McGraw-Hill.
- Roth, A. & Malouf, M. W. K. (1979) Game-theoretic models and the role of information in bargaining. *Psychological Review*, 86, 574-594.
- Roth, A., Malouf, M. W. K. & Murnighan, J. (1981) Sociological versus strategic factors in bargaining. *Journal of Economic Behavior and Organization*, 2, 153-177.
- Roth, A. & Murnighan, J. (1982) The role of information in bargaining: An experimental study. *Econometrica*, 50, 1123-1142.
- Rubinstein, A. (1982) Perfect equilibrium in a bargaining model. *Econometrica*, 50, 97-109.
- Ruscio, J., Whitney, D. M. & Amabile, T. M. (1998) Looking inside the fishbowl of creativity: Verbal and behavioral predictors of creative performance. *Creativity*

References

- Research Journal*, 11, 243-263.
- Ryan, R. M. & Deci, E. L. (2000) Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25, 54-67.
- Shaken, A. & Sutton, J. (1984) Involuntary unemployment as a perfect equilibrium in a bargaining model. *Econometrica*, 52, 1351-1364.
- Shaw, M. E. (1981) *Group dynamics: The psychology of small group behaviour*, New York, McGraw-Hill.
- Straub, P. G. & Murnighan, J. (1995) An experimental investigation of ultimatum games: Information, fairness, expectations, and lowest acceptable offers. *Journal of Economic Behavior and Organization*, 27, 345-364.
- Thompson, L. (1990a) An Examination of Naive and Experienced Negotiators. *Journal of Personality and Social Psychology*, 59, 82-90.
- Thompson, L. (1990b) The Influence of Experience on Negotiation Performance. *Journal of Experimental Social Psychology*, 26, 528-544.
- Thompson, L. (1990c) Negotiation behavior and outcomes: Empirical evidence and theoretical issues. *Psychological Bulletin*, 108, 515-532.
- Thompson, L. (1991) Information Exchange in Negotiation. *Journal of Experimental Social Psychology*, 27, 161-179.
- Thompson, L. (1995) The impact of minimum goals and aspirations on judgements of success in negotiations. *Group Decision Making and Negotiation*, 4, 513-524.
- Thompson, L. (2001) *The Mind and Heart of The Negotiator*, New Jersey, Prentice Hall.
- Thompson, L. & DeHarpport, T. (1994) Social Judgement, Feedback, and Interpersonal Learning in Negotiation. *Organizational Behavior and Human Decision Processes*, 58, 327-345.
- Thompson, L. & Hastie, R. (1990) Social perception in negotiation. *Organizational Behavior and Human Decision Processes*, 47, 98-123.
- Tinsley, C. H., O'Connor, K. M. & Sullivan, B. A. (2002) Tough guys finish last: the perils of a distributive reputation. *Organizational Behavior and Human Decision Processes*, 88, 621-642.
- Tripp, T. M. & Sondak, H. (1992) An evaluation of dependent variables in experimental negotiation studies: Impasse rates and Pareto efficiency. *Organizational Behavior and Human Decision Processes*, 51, 273-295.
- Van Kleef, G. A., De Dreu, C. K. W., Pietroni, D. & Manstead, A. S. R. (2006) Power and emotion in negotiation: Power moderates the interpersonal effects of anger and happiness on concession making. *European Journal of Social Psychology*, 36, 557-581.

References

- von Neumann, J. & Morgenstern, O. (1947) *Theory of games and economic behavior*, Princeton, Princeton University Press.
- Walton, R. E. & McKersie, R. B. (1965) *A behavioral theory of labor relations*, New York, McGraw-Hill.
- Wolfe, R. J. & McGinn, K. L. (2005) Perceived relative power and its influence on negotiations. *Group Decision and Negotiation*, 14, 3-20.