

THE INFLUENCE OF BARGAINING STRUCTURE AND POSITIVE AFFECT ON
DECISION MAKING IN NEGOTIATIONS

A Thesis

Presented to the Faculty of the Graduate School
of Cornell University

In Partial Fulfillment of the Requirements for the Degree of
Master of Science

by

Yumi Seo

May 2008

© 2008 Yumi Seo

ABSTRACT

The present study examined the moderating role of bargaining structure that is positive and negative bargaining zone, on the impact of positive affect on decision making in negotiation. While prior research on positive affect and negotiation showed that positive affect helped negotiators use more cooperative strategies and reach more integrative outcomes, this study found that there exists a boundary condition for the impact to hold, according to the bargaining structure of the negotiation. Since the time and the energy invested in the negotiation are considered as the cost of negotiation, different structure of bargaining zone introduces different needs to negotiators to balance the benefits and the costs.

Positive and neutral affect was manipulated by showing a series of pictures to the participants and making them to write down their associations with the picture. Then participants conducted a two-party negotiation which seemed to be distributive but which had integrative potential. Results showed that negotiators in the positive affect condition reached more integrative solutions than negotiators in the control condition only when they faced a negative bargaining zone, but not when faced a positive bargaining zone. Negotiators with whom positive affect was induced guessed the propriety issues of the other party better in the negative bargaining zone condition as well. Also, they arrived at an agreement significantly faster and perceived the other negotiator as more cooperative than negotiators with neutral affect. Consistent with prior research on the impact of positive affect on cognitive flexibility, negotiators in the positive affect condition were able to distinguish when the efforts to reach an integrative outcome is necessary and worthwhile, thus balance the benefit and the cost of the negotiation.

BIOGRAPHICAL SKETCH

Yumi was born on August 12, 1979 in Deagu, Republic of Korea, and brought up in Seoul. She attended Seoul National University and graduated in February, 2004 with a BS in Psychology. During academic year 2002/03, she studied abroad as an exchange student at Singapore National University where she studied International Relations as her minor. Then, she pursued her Masters in Public Policy at Korea Development Institute School of Public Policy and Management in Seoul, Korea.

Yumi is a M.S./Ph.D. student at the New York State School of Industrial and Labor Relations at Cornell University. She is currently studying Organizational Behavior and is interested in studies of dispute resolution system and negotiation.

ACKNOWLEDGMENTS

I would like to express my gratitude to all those who gave me the possibility to complete this thesis. First of all, I would like to thank my advisor Dr. Tove H. Hammer for her guidance and patience. Her comments and suggestions have been always motivating and have contributed immensely towards shaping this work. I am deeply indebted to Dr. Alice. M. Isen, whose seminar course on affect and cognition was the initial motivation for this research. I would like to thank Dr. Isen for being my committee member and for her insightful advice.

There has been great amount of support from the School of Industrial and Labor Relations. I would like to thank Dr. Jack Goncalo for allowing me to use his lab for the research. Many other professors also helped me recruit students for the experiment from their class. My colleagues in the department of organizational behavior supported me through valuable discussions on the research. I am grateful to all of them from whom I could gain insights and support. Finally, I would like to express my heartfelt gratitude towards my parents for all the love that they have showed.

TABLE OF CONTENTS

BIOGRAPHICAL SKETCH	iii
ACKNOWLEDGMENTS	iv
TABLE OF CONTENTS	v
LIST OF FIGURES	vi
LIST OF TABLES	vii
Chapter 1 Introduction	1
Chapter 2 Theoretical Background	6
Chapter 3 The Present Study	17
Chapter 4 Result	24
Chapter 5 Discussion and Conclusion	31
APPENDIX 1 Pictures used for mood induction	34
APPENDIX 2 Remote Associates Test items	36
APPENDIX 3 Post Negotiation Questionnaire	37
REFERENCES	43

LIST OF FIGURES

Figure 1. Estimated marginal means of partner's perceived cooperativeness	26
Figure 2. Estimated marginal means of Perspective taking	27
Figure 3. Estimated marginal means of Duration of Negotiation	29
Figure 4. Pictures used for positive affect induction	34
Figure 5. Pictures used for neutral affect condition	34

LIST OF TABLES

Table 1. Affect Manipulation Check	24
Table 2. Mean scores of measures as a function of Affect and Bargaining Zone	25
Table 3. Integrative outcome as a function of Affect and Bargaining Zone	28
Table 4. t-test for equality of means (Pre-test)	35

CHAPTER 1

Introduction

Affect influences the planning and execution of complex, elaborate social encounters in organizations, such as negotiation. In negotiations, affect can influence the perception and behaviors of negotiators in terms of how they are expressed, how they are experienced, and how they are used strategically. Since Neal and Northcraft (1991) pointed out affect as one of the underexamined area of research in dyadic negotiation, the role of affect has been studied by many negotiation researchers (Barry, Fulmer, & Van Kleef, 2004; Thompson, Nadler, & Kim, 1999).

Prior research has focused on the intrapersonal effects of affect in negotiation; the influence of a negotiator's emotional state on his or her own behavior. Positive affect has been shown to increase concession making (Baron, 1990), stimulate creative problem solving (Isen, Daubman, & Nowicki, 1987), increase joint gains (Kramer, Newton, & Pommerenke, 1993; Carnevale & Isen, 1986), reduce the use of contentious tactics (Carnevale & Isen, 1986), and increase the use of cooperative negotiation strategies (Forgas, 1998).

On the other hand, negative affect has been shown to decrease initial offers (Baron, Fotin, Frei, Hauver, & Shack, 1990), promote the rejection of ultimatum offers (Pillutla & Murnighan, 1996), and increase the use of competitive strategies (Forgas, 1998). Angry negotiators also achieved fewer joint gains without successfully claiming more value for themselves. They expressed a sequence of retaliatory impulses and behaviors and showed decreased desire to work together in the future (Allred, Mallozzi, Matsui, & Raia, 1997; Allred, 1999).

Recently, several scholars have emphasized the importance of the interpersonal effects of emotions in negotiations and studied how an individual's affective

experiences influence not only the individuals but also their counterparts. Since emotions convey information about how one feels about things (Ekman, 1993), about one's social intentions (Ekman, Friesen, & Ellsworth, 1972), and about one's orientation toward other people (Knutson, 1996), they have very important social functions and consequences. Van Kleef et al.(2004) showed that negotiators with an angry opponent placed lower demands and made larger concessions than did those with a non-emotional opponent, whereas negotiators with a happy opponent placed higher demands and made smaller concessions. This social impact of anger and happiness on negotiation behavior generally suggests that anger triggers behavioral adjustment by serving as a negative reinforcement of other people's behavior to induce more concessions, whereas happiness triggers smaller concessions by serving as a positive reinforcement of other people's behavior.

Together with the social functions of emotions, the interpersonal effect of emotion was also used to explain a process of strategic decision making on the part of emotion-receiving negotiators. Negotiators used their opponent's emotion to infer the location of his or her limits and subsequently used this information to make a counteroffer. In other words, negotiators with a happy opponent judged the opponent's limit to be low, felt no need to concede to avoid impasse, and accordingly placed high demands and made small concessions. When faced with an angry opponent, negotiators estimated the opponent's limits to be high, thus placed low demands and made large concessions to avoid costly impasse (Van Kleef et al., 2004).

Given this ample research on the effects of interpersonal and intrapersonal affect on negotiation, this study focuses on the moderating role of bargaining structure on the relationship between affect and decision making in negotiations. While the terms emotion, mood and affect have often been used interchangeably in prior research, affect is used here to include both long-term influence of mild mood and

discrete and transient emotional states. Most previous findings on interpersonal affect suggest that positive affect provides more constructive basis for collaborative problem solving in integrative tasks (Barry, Fulmer, & Van Kleef, 2004). In contrast, Van Kleef et al. (2004) focused on interpersonal effects of affect using distributive tasks, and discovered that expression of anger could be a more effective strategy than expression of happiness. They concluded that anger appears to be more conducive to claiming value in distributive negotiations, whereas happiness appears to be more beneficial in integrative negotiations. However, prior research utilized either integrative or distributive tasks in the study, which made it difficult to find out the potential moderating role of bargaining structure on the impact of affect.

Bargaining structure in general means whether the negotiation is integrative task or distributive. However, these two categories are not mutually exclusive. Since negotiators are able to find out additional issues to add to the pre-existing distributive structure so that they can arrive at integrative outcomes, it is difficult to conclude that all distributive tasks are purely distributive in nature. Also, in distributive negotiations, negotiators face two types of bargaining structure, positive and negative bargaining zone. A positive bargaining zone refers to the condition where each negotiator's aspiration level and reservation point are overlapping over a range of prices or other issues at stake. A negative bargaining zone exists when there is no overlapping range of prices or issues at stake, and this prohibits the negotiator from reaching satisfactory distributive outcomes. Therefore, it is possible for negotiators having positive bargaining zone to reach an outcome easier than those with negative bargaining zone.

Considering this difference in bargaining structure, the main issue with prior findings on the effects of affect in negotiation is the moderating role of bargaining structure. Since most intrapersonal effects studies employed integrative negotiation tasks, while interpersonal effects studies utilized distributive negotiation tasks, the

moderating role of bargaining structure on the impact of affect on negotiations has been remained unclear. The perception of bargaining structure whether it is distributive or integrative may allow certain subsequent behaviors of negotiators in one task or not in the other. For example, the integrative potential of the task perceived by a negotiator may create a positive affective state even before the negotiation starts. In contrast, distributive negotiations with negative bargaining zone, negotiators may experience difficulty during the process of reaching agreement as they assume the interests of each other to be incompatible.

To examine the role of bargaining structure, this study manipulated the type of bargaining zone: positive and negative in a distributive task, while manipulating intrapersonal affect: positive vs. neutral control. In prior research findings, the focus of discussion has been on whether the positive or negative affect can help negotiators reach better and efficient outcomes. By taking account of the potential moderating impact of bargaining structure, the meaning of better and efficient negotiation outcome should be reconsidered. In negotiations, a negotiator's prior goal should be to maximize his or her benefit in a given situation. When there is integrative potential, negotiators who try to realize the potential could reach mutually beneficial outcomes from an expanded pie. However, to realize the integrative potential, negotiators should try hard to expand the pie first before dividing the pie. Since negotiation takes time and energy, and arriving at an integrative solution takes more time and energy, it is not always the main goal of negotiators to reach integrative outcomes. For example, when a positive bargaining zone exists, negotiators might find the distributive solution easier as compared to those with a negative bargaining zone. In such a case, the effort to arrive at integrative outcomes may not be worthwhile as much as it would be in the negative bargaining zone context. This different value attached to the effort to reach an integrative outcome can be considered as the outcome of bargaining structure, and

the present study will focus on how it moderates the effect of positive affect on negotiation.

CHAPTER 2

Theoretical Background

Integrative potential in different negotiation tasks

In prior research on the effects of affect on negotiation behavior, the bargaining structure of the tasks used in the studies has varied from an ultimatum game to mixed-motive integrative bargaining. Carnevale and Isen (1986) utilized an integrative bargaining task in which each negotiator was assigned to the role of buyer and seller who had profit schedules that allowed them to achieve high profits by exchanging concessions on their low-profit items. Using this type of task, the degree of joint benefits was measured as variables showing the quality of negotiation outcomes. The higher the joint outcome was, the more integrative the outcome was. This type of task allowing negotiators to use logrolling strategies (i.e. trading off their items based on different priorities), turning distributive negotiation into integrative negotiation by detecting different priority on the different issues, has been used in other negotiation studies to determine the outcome as distributive or integrative.

Baron (1990) used a negotiation task that involved decision making between two negotiators on how much of \$1,000,000 they would try to attain for their department and how many of position cuts they would try to induce their opponent to accept. He measured variables including final offers to the opponent (accomplice) with respect to funds and position cuts, the number of concessions made with respect to each issue, and the total size of concessions. Since this was mainly distributive task, the integrative potential of the task was not the main focus of the study. Pillutla and Murnighan (1996) used ultimatum games with no integrative potential, and the rejection of the ultimatum offer was their main dependent variable. Forgas (1998) asked happy, neutral and sad participants to select a course for a new curriculum from a tentative list of new courses, which was a purely distributive task, through either an

informal, interpersonal or formal, inter-group negotiation. In order to examine the interpersonal effect of emotion, a programmed opponent (computer) was used as a behavioral stimulus (Van Kleef et al., 2001) to participants, and their affective responses together with degree of concessions and estimation of the partner's limit were measured.

These variances of bargaining structures are considered to have an impact on the affective responses of negotiators. The existence of integrative potential, the number of issues negotiators have to deal with, the number of contingencies involved, and the various weights assigned to each issue, make the negotiation task more complex than single-issue bargaining. With more complex negotiation tasks, negotiators come to experience a higher cognitive load which might confound the effect of affect. Unless researchers systemically partial out the impact of task complexity as a potential moderator, research results cannot be coherently synthesized as accumulated knowledge on the relationship between affect and negotiation. Therefore, this study employed the simplest type of negotiation task: single-issue bargaining with a positive or negative bargaining zone. By examining the impact of affect with this less complex task, the influence of affect and the moderating role of bargaining structure (positive vs. negative bargaining zone) can be more clearly interpreted. In addition, although one single distributive issue is seemingly the main focus of the negotiation, adding other issues to the negotiation table is possible, as in many other negotiation tasks with integrative potential. The virtue of this task is that while there is always integrative potential, the impact of a positive or negative bargaining zone could be analyzed in relation to the realization and achievement of integrative outcomes.

The mechanism of the impact of positive affect on negotiation

Previous research has shown that individuals can overcome their cognitive barriers when positive affect is induced. Such individuals tend to improve integration of information, creative problem solving, decision making, and cognitive organization. (Isen, 1984, 1987; Isen & Daubman, 1984; Isen, Daubman, & Nowicki, 1987; Isen, Niedenthal, & Cantor, 1992) This study attempts to examine the impact of positive affect on the decision making process in a negotiation context. Positive affect induced before the negotiation practice is expected to make individuals more flexible in their thinking and behavior, thus leading them to overcome common mistakes found among negotiators and making them able to reach mutually better outcomes. Since negotiation is an affectively laden process, different types of emotions can be induced through a series of interactions. This study specifically examines the effect of positive affect induced before the negotiation since individual judgment in the initial phase of negotiation has been confirmed to be important in shaping the frame of the negotiation.

Negotiator's perception of the cooperativeness of the partner

Since the process of negotiation begins with each negotiator's expectations about the negotiation, how the individual negotiators define and create the negotiation game can change the nature of the game and the participants' behavior. Brandenburger and Nalebuff (1996) argued that how competitors define the game may be more important than the moves they make within the game. The understanding of participants' definition of the game is beyond the understanding of structural features which are inherent in a given game. By focusing on the individual framework of the game, we can look at possible factors that may facilitate or hinder the decision-making process.

Thompson and Hastie (1990) directly measured individual perceptions of a bargaining structure and found that the majority of negotiators assumed their interests were strictly opposed to those of the other party. This assumption held across all the various issues in the negotiation, even in cases where the two parties had identical and compatible interests. They also found that individuals who modified their initial perceptions, or mental models, did so immediately at the onset of the interaction; otherwise fixed assumptions tended to persist throughout the negotiation. The researchers concluded that fixed-pie biases result in a predictable outcome that fails to reflect integrative potentials. Their finding suggested the possibility that the impact of positive affect that is induced before a negotiation starts can influence negotiators' cognition in the early process of negotiation. This may change the negotiators' mental models from seeing the game as competitive and distributive to seeing it as integrative.

As negotiation is inevitably an interaction between the negotiators, the dynamics of interaction also affect the decision making process. De Dreu et al.(1995) found that a negotiator's behavior is influenced by the other party's gain-loss frame. The focal negotiator sends messages that communicate the held frame. The responding negotiator, in return, sends messages adopting this frame. This mutual influence holds primarily when the adopting party has a gain rather than a loss frame. Here, individual negotiators must make an initial decision about whether the frame that the other party seems to hold in the message is the one that benefits them before sending a message adopting that frame.

Research on the role of emotion in negotiation has found that the frame of the negotiation that individuals hold can be affected by positive emotions. Carnevale and Isen (1986) found that a positive mood tends to enhance negotiators' ability to achieve integrative gains. Forgas (1998) also showed that negotiators with positive affect

formulated more cooperative and integrative action plans than participants in neutral or negative affect states, and that they actually behaved more cooperatively and were more willing to make and reciprocate deals than were those in a negative mood. Furthermore, they also produced more successful negotiation outcomes.

Therefore, it is assumed that in the early stage of a negotiation, negotiators' attitudes towards the negotiation can change in the direction of cooperative group decision-making when positive affect is induced. This paper argues that negotiators who are in a positive mood will change their gain-loss frame into a more potentially integrative one, so that they can consider the other party as more cooperative, than will those in neutral condition (Hypothesis 1).

Perspective taking through information sharing

Negotiation can be seen as group decision making process among two or more negotiators. Therefore, the difficulties of group decision making in reaching creative outcomes also apply to negotiations in which creative integrative outcomes are required. Constraints on group processes come from incomplete communication of information. Although the key to divergent thinking is to communicate information, groups often fail to do so (Hollingshead, 1996; McLeod, Baron, Marti, & Yoon, 1997; Stasser, Stewart, & Wittenbaum, 1995; Stasser & Titus, 1985, 1987). Group members' orientation towards reaching a consensus or obvious compromise choice strengthens the tendency to forgo extensive discussion; thus, their unique information is not likely to be shared. The common knowledge effect (Gigone & Hastie, 1993, 1996) represents the phenomenon that decisions based on prior preferences will reflect what members know in common more than what individuals know uniquely. Therefore, discussion within the group may be dominated by common information. Stasser and Birchmeier (2003) also pointed out two major cognitive obstacles in decision making processes: concentration on common information and its substantial effects on final outcomes.

Members in a group tend to concentrate on common information shared in the initial discussion, and they experience difficulty in retrieving memory and sharing unique information that is crucial for generating creative outcomes. Negotiators are also likely to concentrate on the common information they shared in the early stage of negotiation and fail to share unique information that is important to reach integrative outcomes. To overcome the weaknesses of group processes, individual negotiators have to overcome their cognitive barriers first. Positive affect is assumed to help individuals overcome these barriers at the individual level. Therefore, people in a positive affect condition will be more able than those in a control condition to overcome their difficulties to share information with each other about their respective unique interests (Hypothesis 2).

Despite all those difficulties raised in group decision making, interaction within a group may also offer individuals substantial benefits, such as the possibility of perspective-taking. Smith (2003) suggested that one should take the perspectives of other individuals in order to overcome the fixation effects on the individual level. Fixation refers to something that blocks or impedes the successful completion of various types of cognitive operations, such as those involved in remembering, solving problems, and generating creative ideas. It takes the form of typical thinking, implicit assumptions, and reliance on recent experiences. By considering the perspective of others, individuals can overcome these difficulties. Several cognitive models presented in the research also imply the potential benefit of group work in that the ability of individuals to generate ideas can be enhanced by the number of stimuli coming from interaction with others in a group (Paulus, Brown, & Ortega, 1999; Nijstad, Stroebe, Lodewijkx, 2002). When individuals understand others' perspectives and generate more ideas through exposures to such information, cognitive barriers become easier to overcome.

The induction of positive affect can change individuals' frames of negotiation in the early stage of the game and help them overcome individual cognitive barriers, thus facilitating perspective-taking and information sharing in the group decision-making process. When negotiators overcome the fixation effects on the initial contentious frame of the game and modify the frame into a more integrative one, they will try to use cooperative strategies to reach outcomes that benefit both parties.

Information sharing, especially information about their interests, regarding not only the single major issue but also several other issues in the situation, will be chosen as a cooperative strategy. It will be more effective when negotiators are able to see the relevance of information to the negotiation from others' interests as well as their own interests. Creativity researchers have highlighted the importance of the number and the breadth of cognitive elements (Langley and Jones, 1988; Sternberg, 1988b). These elements enable people to have greater variation in idea possibilities, expanding the pool of unusual associations from which the final option can be chosen. Based on the degree of information sharing, negotiators are also able to understand the other's point of view, and can, therefore make efficient trade-offs among issues to arrive at integrative solutions (Hypothesis 3).

Integrative outcomes as the result of creative thinking

Having an integrative framework and understanding the other person's perspective through information sharing are necessary conditions for reaching integrative outcomes. Individual negotiators should also try harder to determine how their mutual interests can be met at lower costs through their information sharing and option generating processes. These processes require individual creativity that can broaden each negotiator's scope of information and lead to options that are beyond distributive outcomes. Therefore, the integrative outcomes in the negotiation can be considered outcomes of creativity.

Creativity is generally defined as the production of novel, useful ideas or problem solutions. It refers to both the process of idea generation and the actual idea (Amabile, 1983; Sternberg, 1988a; Weisberg, 1988). From this understanding of creativity, we can consider integrative negotiations as an example of achieving creative outcomes that involves activities such as recognizing various options, convincing others of their quality, and overcoming obstacles to implementing them. While individual negotiators may suffer from cognitive difficulties such as fixation, or the constraining effect of initial ideas, research on affect suggests that positive affect can help overcoming individual cognitive barriers. Isen (1999a, 1999b) proposed a link between positive affect and creativity, emphasizing three primary effects of positive affect on cognitive activity. First of all, positive affect makes additional cognitive material available for processing, thus increasing the number of elements for potential association. Secondly, directly related to the decrease of the fixation effect, positive affect leads people to more complex cognitive contexts and broadens the range of elements relevant to the problem. Thirdly, as a result of these effects, positive affect increases cognitive flexibility, thus unusual associations can be made.

In addition, sharing unique information allows one to see novel aspects of a problem; thus, negotiators can increase the possibility of reaching creative outcomes. As participants generally expect negotiation to be distributive in nature, they tend to try to achieve the best possible distributive outcome. When they are able to share unique information, however, they can look at unusual possibilities to draw an integrative outcome from a negotiation. In the negotiation context, when each negotiator takes the other party's perspective and shares more information, all parties can benefit and become creative in generating options. Since integrative negotiation depends fundamentally on parties' ability to trade issues with each other (Froman &

Cohen 1970; Walton & Mackersie, 1965), negotiators who can overcome obstacles to share information are more likely to reach integrative outcomes

Therefore, we can assume that negotiators in whom positive affect is induced will be more able than negotiators who have not experienced positive affect to overcome individual cognitive barriers. It can be shown by testing if negotiators can achieve creative outcomes given the limited information shared during the negotiation (Hypothesis 4a).

Time and energy as cost of negotiation: moderating role of bargaining structure

The goal of group decision-making is to agree on one of several decision options. Therefore, group decision making is partly a convergent process. Milliken, Bartel and Kurtzberg (2003) suggested that while divergent thinking is necessary for creative idea generation, convergent thinking is important for selection and implementation of the final outcome in the operational phase. Negotiators also face the same set of limits. While they should try to persuade the other party and discuss the options that can possibly benefit both of them, they must reach an agreement at a certain point. In many cases, time and energy involved in the negotiation process are also regarded as part of the costs. Therefore, reaching an agreement within a given time frame is another important element of negotiation.

Consideration of the importance of convergent process and costs of negotiation raises the questions of what is a better and efficient decision in a negotiation context. As discussed earlier in this thesis, the moderating role of bargaining structure can be related to the issue. Because discovering integrative solutions takes more time and energy, it is not always in the best interest of negotiator to reach integrative outcomes. When there exists a positive bargaining zone, negotiators might find satisfactory distributive solutions if they exchange information about their zone of possible agreement. In such a case, the integrative potential may be considered as less crucial

than that exist within negative bargaining zone context, so reaching a distributive agreement within a positive bargaining zone can be considered efficient and better decision. In contrast, when faced with a negative bargaining zone, negotiators have no other option but to walk out of the negotiation without an agreement, unless they discovered integrative options by adding additional issues to the table. Therefore, the effort to find out integrative potential and to create integrative options is necessary for negotiators to balance out their costs and benefits in a negotiation with negative distributive bargaining zone.

It has been shown that people with positive affect are better at recognizing multiple goals and reaching a balance between their intrinsic and extrinsic motivation than those without positive affect (Isen & Reeve, 2005). Although we cannot examine motivational factors directly during negotiations, recognition of the group goal (reaching an agreement) and balance between negotiation outcomes and costs can be indirectly examined by looking at whether negotiators agree on a solution in a given time. Since an integrative outcome is more crucial in a negative bargaining zone context, negotiators with positive affect, who can recognize multiple goals, would try harder to reach integrative outcomes when faced with a negative bargaining zone than when faced with a positive bargaining zone (Hypothesis 4b). In addition, considering time and energy as costs of negotiation, negotiators with positive affect are expected to reach agreements relatively faster than those in the control condition (Hypothesis 5).

Predictions

The following predictions are the basis of the research design regarding the impact of positive affect on the perception of the partner's cooperativeness, information sharing, and perspective taking as well as on integrative negotiation outcomes in both positive and negative bargaining zone contexts.

Hypothesis 1. People who have experienced positive affect will change their frame of the game into more cooperative one in the initial stage of the negotiation.

Hypothesis 2. People who have experienced positive affect will be more able than those in a control condition to overcome their difficulties to share information with each other about their respective unique interests.

Hypothesis 3. People who have experienced positive affect will understand the other party's interests and preferences better than will those in a control condition.

Hypothesis 4a. People who have experienced positive affect will be better at reaching integrative outcomes than will those in a control condition.

Hypothesis 4b. People who have experienced positive affect will reach more integrative solutions than will those in a control condition, and this relationship will be stronger in the negative bargaining zone condition.

Hypothesis 5. People who have experienced positive affect will reach negotiation outcomes faster than will those in a control condition.

CHAPTER 3

The Present Study

In order to examine the impact of positive affect on the decision making in a negotiation, a negotiation simulation experiment was planned with a 2 X 2 factorial design: positive affect condition vs. neutral control condition, and positive bargaining zone vs. negative bargaining zone. Participants in all four conditions were told to follow instructions given in the role simulation information sheet for a two-party negotiation, “Hong Kong Property Deal: An International Negotiation Case Simulation”.¹

The main issue in the simulation involves the selling and buying of office space. The case appears to have a single distributive issue: the price of the lot. The positive and negative bargaining zones were constructed so that seller and buyer have either overlapping or non-overlapping price range given their situational information. Although this distributive negotiation seems to have one single issue of the price, creative options can be invented if mutual interests other than bargaining price are explored by the parties. To do so, participants will have to take steps to create value by exploring several interests that offer integrative opportunities. People in the positive affect condition are expected to be better at sharing their unique information during the negotiation and reaching integrative outcomes regardless of bargaining zone conditions. In the negative bargaining zone condition, negotiators may reach an impasse after finding out they had no overlapping price range. However, negotiators in the positive affect conditions are expected to come up with integrative outcomes, since they are expected to share more information that can provide them integrative potential beyond the decision of the price per se.

¹ The negotiation role simulation “Hong Kong Property Deal” was written by Larry Crump based on a concept first developed by Michael Wheeler and Lawrence Susskind.

Method

Participants Participants were 124 Cornell university students from a variety of disciplines. They gave informed consent and received extra credit or five dollars for their participation in the research. Participants were randomly assigned to the conditions of a 2 (positive vs. neutral affect) X 2 (positive bargaining zone vs. negative bargaining zone) factorial design. Participants came in pairs and the pairs were assigned to the same affect condition.

Affect manipulation materials Affect was manipulated by inducing either positive or neutral mood state in the first phase of experiment. Twelve pictures that were selected from a pre-test were used in the experiment (see Appendix 1).

Pretest To select pictures for the mood induction, 110 students were asked to rate 25 various types of pictures according to the degree of how typical, pleasant, unusual, impressive, neutral, meaningful and dull each picture was. Five-point Likert scale was used (1-Not at all, 5-Very much) for evaluation. Based on the result of 110 responses, 6 pictures for each condition were selected to be used in the experiment for the mood induction. None of the students who rated pictures in the pretest participated in the experiment.

In order to compare the differences in the effect the pictures can generate, results of the t-test of mean ratings for the selected twelve pictures were examined. Pictures selected to induce a positive affective state had significantly higher scores for pleasantness $t(10)=2.07$, $p<.01$, impressiveness $t(10)=4.95$, $p<.01$, and meaningfulness $t(10)=8.10$, $p<.01$ than the pictures selected for the control or neutral mood condition. Pictures selected for the control condition had significantly higher scores for affectively neutral $t(10)=-2.87$, $p<.05$, and dullness $t(10)=-9.34$, $p<.01$. Pictures were not significantly different in the ratings of typicality and unusualness.

Mood Induction Positive affect was induced by giving each participant a set of six pictures which were pre-tested to be positive in valence and asking them to write down three words that come to their mind after looking at the picture. The control group also received a set of pictures which were neutral in valence and was asked to write down their associations with them.

Manipulation check The remote associates test (RAT) was used as a manipulation check after the induction of manipulation. The remote associates test is a measure of creativity designed by the Mednicks (Mednick, Mednick, & Mednick, 1964). Previous research has shown that people in whom positive affect was induced perform significantly better on the RAT than those in a neutral group (Isen, Daubman, & Nowicki, 1987). Each item consists of three words followed by a blank space and the subjects are supposed to fill in the blank with a word that relates to each of three words. Participants were asked to solve 11 items, selected among 63 items of modified list of remote associate test (Mednick & Mednick, 1967; Bowers, Regehr, Balthazard, & Parker, 1990) according to the levels of difficulty. The list of items included 7 moderately difficult items and 4 difficult items. Self-report on how they felt (happy, satisfied, sad, bored) was used as a supplementary tool (see Appendix 2).

Procedure The basic experimental design involved two between-subject factors (positive affect induction vs. control condition, positive vs. negative bargaining zone). The randomly paired subjects were brought into the room one pair at a time. An experimenter distributed the file that included a set of pictures to the participants and explained that these were pre-test materials for future marketing research. Since one experimenter administered all sessions, pictures for two affect conditions were kept in the same type of file so that the experimenter could be blind to the affect condition the participants were in. The experimenter asked them to write down the first three associations from the pictures and respond to the questions on their current mood for

five minutes. After collecting the pre-test materials, the experimenter explained that the experiment was a negotiation simulation between two people. In addition, the experimenter told them that for a successful negotiation, problem solving skills are necessary and a subset of the remote associates test (RAT) will help to improve these skills. Subjects were told that they would have ten minutes to solve a subset of the remote associates test. Their performance on this test was later analyzed as a manipulation check. After participants finished the remote associates test, the experimenter collected the test paper and distributed private information sheets to the subjects for the role simulation. Two subjects were randomly assigned to either the role of buyer or the role of seller in the negotiation simulation and given five minutes to read the instructions. During this preparation, negotiators were not allowed to communicate with each other or show their private information sheet to their partner.

After the five minutes of preparation, the experimenter told the participants that they may start a negotiation if they are ready. The experimenter distributed an outcome sheet on which participants were instructed to write down the final negotiation outcome. The outcome sheet was a blank sheet and negotiators were told to write down any outcomes they reached. The experimenter sat in the corner of the room and timed their actual negotiation. When they finished their negotiation, the experimenter collected the outcome sheet and distributed post-negotiation questionnaires. The questionnaire was explained as material for feedback on the negotiation process. Upon completing the questionnaires, participants gave it to the experimenter and received a debriefing.

Negotiation simulation

Materials The negotiation simulation used in this experiment is the “Hong Kong Property Deals,” which is designed in such a way that two negotiators who successfully share their unique interests with partners can reach integrative negotiation

outcomes. If they do not fully share their unique interests with each other, their negotiation outcome will be purely distributive regarding only bargaining price of the lot. Possibilities to move beyond the distributive negotiation depend on the negotiators' ability to share information and solve problems in a creative way. If a Chinese seller reveals his or her intention to move and expand the business in Australia, and an Australian buyer also discloses his or her interests in expanding business networks in China, they can find an alternative way to set the price and generate mutually beneficial integrative outcomes. Since each party's information sheet contains confidential information about own interests, the only way for participants to find out the interests of other negotiator, which are seemingly irrelevant to the major issue of bargaining price, is to share this information with their negotiating partner. If the people in a positive affect condition consider the game in a more integrative frame, overcome the initial fixation effect and see the relevance of their own interests to the major issue, they will be more likely to share this information to reach better outcomes.

Manipulation of bargaining zone Manipulation of bargaining zone (Positive vs. Negative bargaining zone) was established through the change of the price of the lot on the seller side and the limit of the budget on the buyer side. In the positive bargaining zone condition, the seller had an alternative buyer willing to pay \$50,000 for the lot and the buyer had budget up to \$200,000. In this condition, there was positive bargaining zone from \$50,000 to \$200,000. In contrast, negative bargaining zone was created such that there was no overlapping zone in terms of price. The seller could sell the lot to the third person for \$80,000, while the buyer only had the remaining budget up to \$75,000. The range of bargaining zone in terms of price of the lot did not overlap in the negative bargaining condition unless negotiators found integrative solutions to discuss beyond the price. If negotiators could not find out

integrative solutions to the issues, they had no choice but to reach an impasse, which is a rational, but suboptimal, choice in the case.

Outcome of Negotiation Measures of negotiation outcome include the price agreed on and the value creating options made by the participants. Negotiated price of the lot is the result of distributive negotiation, while the value creating options beyond the price are outcomes of integrative negotiation. If negotiators successfully share their interests, the outcome of the negotiation will include several value creating options, and the price can be either higher or lower than what is obtained in a purely distributive negotiation, according to the nature of the value creating options. The content of value creating options was analyzed by independent raters after the negotiations were completed, and the outcomes of negotiation were coded as either distributive or integrative. This dichotomous variable for the nature of negotiated outcome is limited that it cannot show the degree of integrative negotiations. However, it can be used to analyze whether the subject in whom positive affect was induced was more likely to achieve integrative negotiation outcomes than the subject in a neutral group.

When the group was not able to agree on the solution in time, their outcome was coded as “unfinished” and the content was not included in the analysis. The duration of negotiation was measured by the experimenter from the onset of communication between negotiators to the point of writing down the outcome.

Post negotiation questionnaire Post negotiation questionnaires contain items about the degree of information sharing, perspective taking, perception of fairness, perception of partner’s attitude, satisfaction from the negotiated outcome and the mood after the negotiation (see Appendix 3).

Information Sharing The degree of information sharing was obtained from the list of interests on both sides that was given to the subjects after the negotiation

practice. Negotiators were told to rate the degree to which they knew about specific issues (I did not know-1, I knew very clearly-7) or they revealed these issue during the negotiation to their partner using a 7 point scale (I did not disclose at all-1, I revealed information very clearly- 7). Question items included are as follows: “To what degree did you know about the following information?” “To what degree did you reveal the following information regarding your interests?” Each negotiator had 7 pieces of specific information on their side to share with the partner, and their responses were averaged to construct “Awareness” and “Sharing” scores for each individual negotiator. Both scores were compared separately across conditions (Positive affect vs. control, positive vs. negative bargaining zone) to look at the degree of information sharing according to the conditions.

Perspective Taking Measures for perspective taking were individual scores reflecting how much the subjects understood the order of preference from their partners’ perspective. Post negotiation questionnaires included a rating scale for each issue. Question items included were as follows: “How much do you think each item mattered to your partner? Rate the order of preferences for your partner’s interests.” This measured the negotiator’s insight into the other party’s priority for the items. Negotiators also rated the order of preferences for their own information, so that the index could be compared with the rating from the negotiating partner. If both negotiators accurately predicted their partner’s two most important issues, a score 4 is given to the pair. If neither negotiator predicted two most important issues to the partner, the pair received a score of zero. This score was compared across the conditions (Positive affect vs. control, positive vs. negative bargaining zone).

CHAPTER 4

Result

Manipulation Check Research has been shown that people in the positive affect status perform significantly better on the Remote Associate Test (RAT; Isen et al., 1987; cf. Estrada, Isen, & Young, 1994). Therefore, the Remote Associate Test (RAT) items and self-reports of the mood were used to verify the effect of the mood induction. Positive affect was successfully induced by looking at the pictures and writing down associations with them. Negotiators in the positive affect condition performed better on the Remote Associates Test than those in the control condition ($M_p=4.02$ vs. $M_c=3.15$), $F(1,122)=5.62$, $p<0.05$. Supplementary self-reports also supported the successful mood induction.

Table 1. Affect Manipulation Check

	Affect Control	Positive Affect	F(df)	Sig(2-tailed)
Happy	4.08(1.4)	4.89(0.93)	14.23 (1,122)	$p<.01$
Satisfied	3.90(1.21)	4.65(1.23)	11.46 (1,122)	$p<.01$
Sad	2.53(1.53)	1.89(1.12)	7.17(1,122)	$p<.01$
Bored	2.37(1.53)	1.66(1.02)	9.23(1.122)	$p<.01$
Number of right answers(RAT)	3.15(2.13)	4.02(1.95)	5.62(1,122)	$p<.05$

Note. Means for each response category are listed with standard deviation in parentheses.

Negotiators who were in the positive affect conditions reported that they were happier, ($M_p=4.89$ vs. $M_c=4.08$), $F(1,122)=14.23$, $p<.01$, and were more satisfied ($M_p=4.65$ vs. $M_c=3.90$), $F(1,122)=11.46$, $p<.01$, than did the negotiators in the control condition. There was also significant differences in the report of sadness, negotiators in the control condition reported their mood more sad ($M_c=2.53$ vs. $M_p=1.89$), $F(1,122)=7.17$, $p<.01$ than the negotiators in the positive affect condition. Also negotiators in the control condition reported their mood as more bored ($M_c=2.37$ vs.

$M_p=1.66$), $F(1,122)=9.23$, $p<.01$ than the negotiators in the positive affect condition (Table 1).

Perceived cooperation A main effect of positive affect was shown on the perception of partner's attitude. Negotiators in the positive affect condition considered their partner significantly more cooperative than those in the control condition, ($M_p=5.29$, $s.d.=1.26$ vs. $M_c=4.55$, $s.d.=1.63$), $F(1,120)=11.516$, $p<0.001$, $\eta^2=0.088$. It is consistent with the first hypothesis that people in the positive affect condition will perceive others more cooperatively and see the negotiation as a cooperative rather than competitive game. Significant main effect of bargaining zone was also found, ($M_p=5.36$, $s.d.=1.31$ vs. $M_n=4.31$, $s.d.=1.54$), $F(1,120)=18.496$, $p<0.001$, $\eta^2=0.134$. There was a significant interaction effect between affect and bargaining zone, $F(1,120)=5.105$, $p<0.05$, $\eta^2=0.041$, meaning that negotiators with positive affect considered the other party cooperatively even in the negative bargaining zone context, while control group negotiators considered the other party more competitively in the negative bargaining zone condition (See Table 2 and Figure 1).

Table 2. Mean scores of measures as a function of Affect and Bargaining Zone

	Affect control		Positive affect	
	Positive BZ	Negative BZ	Positive BZ	Negative BZ
Perceived cooperation (H1)	5.31(1.40)a	3.62(1.65)b	5.54(1.33)a	5.00(1.06)a
Information sharing (H2)	3.13(1.54)a	3.02(0.99)a	2.93(1.47)a	3.03(0.90)a
Perspective taking (H3)	1.5(0.77)a	1.31(1.08)a	1.44 (1.08)a	2.00(0.8)b
Time of negotiation (H5)	8.31(5.53)a	8.38(4.34)a	5.92(3.05)b	6.15(2.52)b

Note. Means with a different subscript differ at $p < .05$.

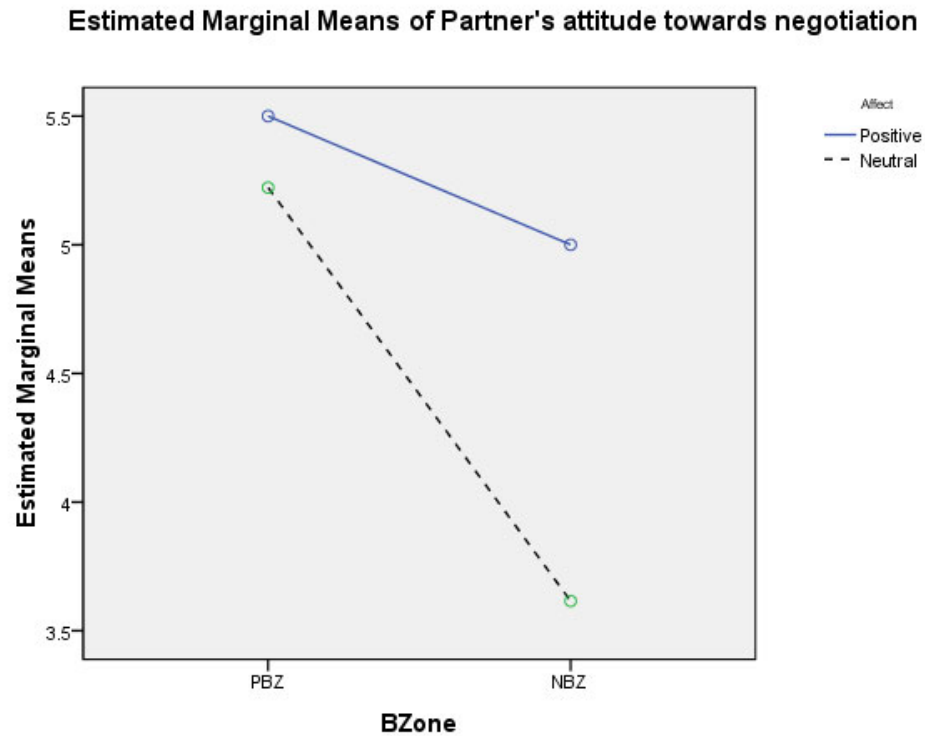


Figure 1. Estimated marginal means of partner's perceived cooperativeness

Information Sharing Negotiators in the positive affect condition did not share significantly more information with the partners, and nor were they more aware of their partner's information than the negotiators in the control condition. Sharing scores were not significantly different across the affect condition, $F(1,120)=0.147$, $p>0.05$, and Awareness scores were also not significantly different across the affect condition, $F(1,120)=2.985$, $p>0.05$. This result does not support the second hypothesis negotiators in a positive affect condition will be more able than those in a control condition to overcome their difficulties to share information with each other about their respective unique interests. However, this non-significant difference in the degree of information sharing should be considered with the time that negotiators in both condition spent in a negotiation. As will be shown in the later results, people in the positive affect condition reached an agreement significantly faster than those in the

control group. Therefore, given this finding, these non-significant differences in the degree of information sharing might be interpreted as reflection of one aspect of efficient decision making, which is efficient information exchange in a short amount of time.

Perspective taking There was a significant interaction effect of affect and bargaining zone on the degree of perspective taking. Analysis of variance indicated no main effect of affect or bargaining zone on the perspective taking, but the interaction term was significant, $F(1,120)=4.72$, $p < 0.01$, $\eta^2=0.038$. Negotiators in the positive affect condition understood the partner's perspective better when they faced a negative bargaining zone, as compared to those in a control group (See Table 2 and Figure 2).

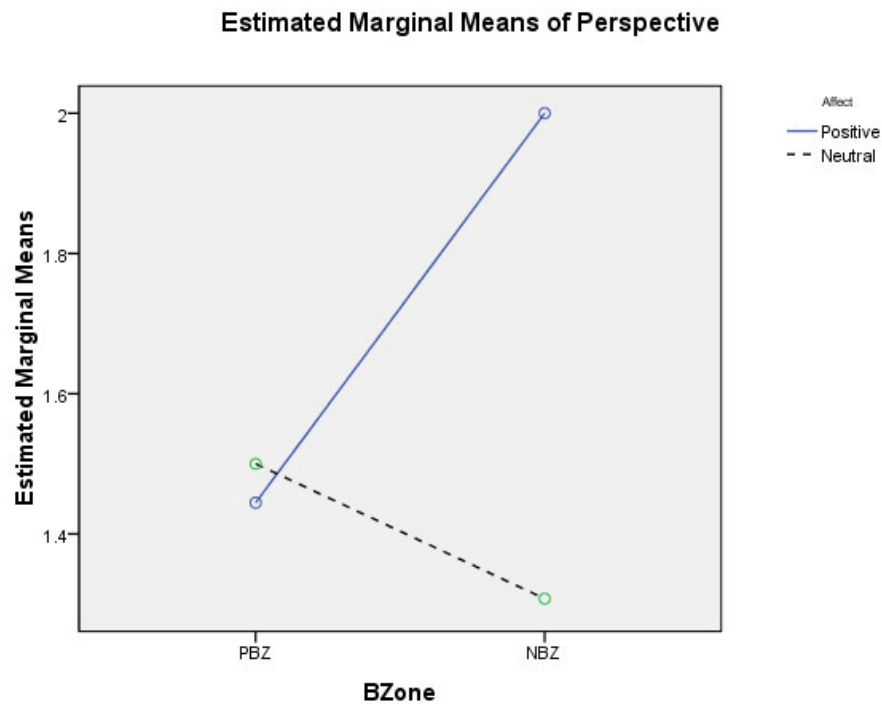


Figure 2. Estimated marginal means of Perspective taking

Integrative outcomes Negotiation outcome was coded either as integrative or non-integrative. Since this outcome variable is a categorical response, a logistic regression model was used to test the effect of positive affect on the negotiation outcome (Table 3).

Table 3. Integrative outcome as a function of Affect and Bargaining Zone

	B	S.E	Wald	Df	Sig.	Exp(B)
Bargaining Zone(NBZ)						
Affect (Positive)	-1.204*	.573	4.422	1	0.035	0.300
Bargaining Zone(NBZ) by Affect(Positive)						
Constant	1.253*	.521	5.774	1	0.016	0.286
	1.987*	.807	6.063	1	0.014	7.292
Constant	0	.333	0	1	1.00	1.00

Note. Reference categories are Bargaining zone (Negative) and Affect (Positive). Integrative options=1, non-integrative options=0, *p <.05. Exp(B) represents the ratio change in the odds of having integrative options.

Logistic regression analysis including affect, bargaining zone, and the interaction term between affect and bargaining zone indicated main effect of positive affect on reaching integrative outcome. This results support for the hypothesis 4a that people in the positive affect condition were more likely to reach integrative outcomes. In addition, a significant interaction effect between affect and bargaining zone was found, supporting hypothesis 4b, $\beta = -1.987$, Wald=6.063, $p < 0.05$. People in a positive affect condition reached more integrative solutions more than those in a control condition in the negative bargaining zone condition.

Time of negotiation Positive affect was shown to have a main effect on the duration of negotiation. One-way analysis of variance yielded main effect of positive affect ($M_p = 5.97$, s.d. = 2.91 vs. $M_c = 8.16$, s.d. = 4.64), ($F(1, 120) = 9.57$, $p < 0.01$, $\eta^2 = 0.074$), while there was no main effect of bargaining zone or interaction effect. Negotiators in the positive affect condition reached an agreement significantly faster

than those in the control condition across the bargaining zone conditions (See Table 2 and Figure 3).

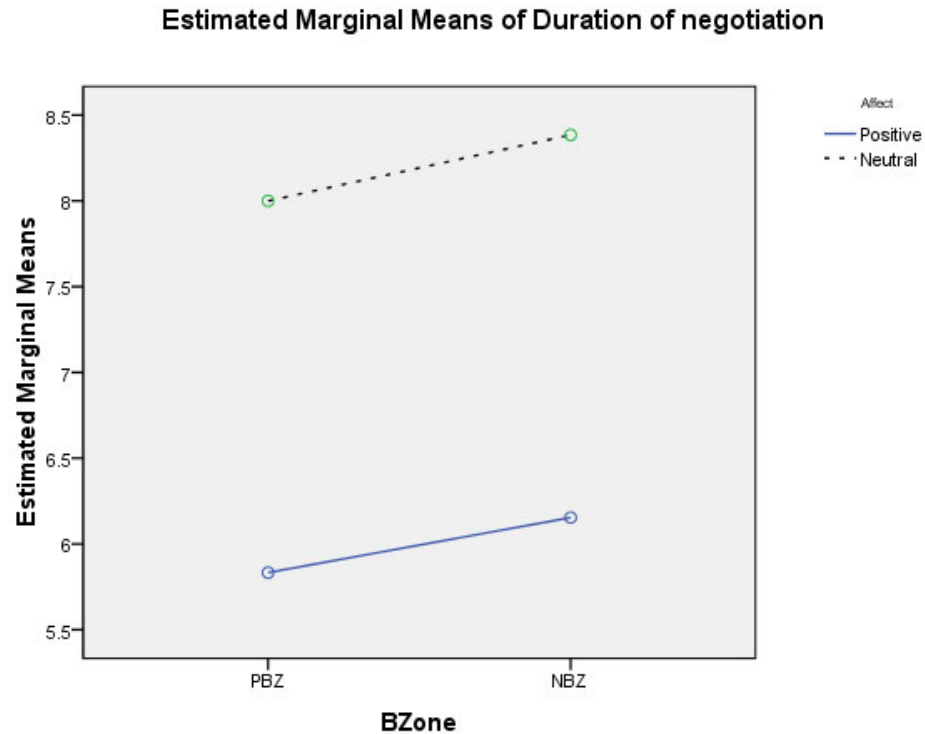


Figure 3. Estimated marginal means of Duration of Negotiation

Additional analysis indicated that there was a significant main effect of bargaining zone on the satisfaction with the negotiated outcomes, $F(1.120) = 4.63$, $p < 0.05$, $\eta^2 = 0.037$, perception of process fairness, $F(1.120) = 4.61$, $p < 0.05$, $\eta^2 = 0.037$, and mood after the negotiation, $F(1.120) = 5.11$, $p < 0.05$, $\eta^2 = 0.041$. People who negotiated in the positive bargaining zone were more likely to feel better after the negotiation, perceive the process fair, and be satisfied with the negotiation outcomes. There was no significant main effect of affect on these variables.

Contents Analysis of integrative options Among 62 negotiation outcomes, 20 were recorded as integrative outcomes. Thirteen pairs of negotiators with positive

affect reached integrative outcomes and 7 pairs of negotiators with neutral affect reached integrative outcomes. The quality of integrative outcomes was assessed by two independent raters, who made judgments on the contents of the integrative outcomes. The raters did not know affect or bargaining zone condition of the negotiation. The raters received the list of integrative agreements alone and made their own independent judgments on how innovative and how elaborate each agreement is compared to the agreement on the price only. The inter-rater correlation was high for the innovativeness ($r = 0.7$, $p < 0.01$) ($M_1 = 3.55$, $s.d. = 1.09$; $M_2 = 3.2$, $s.d. = 1.00$). Therefore, their scores were averaged together ($M = 3.37$, $s.d. = 0.97$). A high inter-rater correlation emerged between two rater's assessment of elaborateness as well ($r = 0.705$, $p < 0.01$) ($M_1 = 3.3$, $s.d. = 0.97$; $M_2 = 3.55$, $s.d. = 0.94$). With inter-rater reliability established, the average score between two rater's assessment is used for further analysis ($M = 3.42$, $s.d. = 0.90$).

Independent samples t-test of the mean assessment on the innovativeness and elaborateness showed there is significant difference in the mean of innovativeness across affect condition. The mean for innovativeness of positive affect condition was significantly higher than that of the control group, $t(18) = 3.913$, $p < 0.01$) ($M = 3.84$, $s.d. = 0.82$; $M = 2.5$, $s.d. = 0.5$). The mean for elaborateness of positive affect condition was higher than the mean of control group, but difference was not significant ($M = 3.65$, $s.d. = 0.92$; $M = 3.00$, $s.d. = 0.76$). Negotiators with positive affect made integrative options which were rated significantly higher than those made by negotiators in the affect control group.

CHAPTER 5

Discussion and Conclusion

This study examined the moderating role of bargaining structure on the impact of positive affect on negotiation. Consistent with prior research and the first hypothesis, results have shown that negotiators in whom positive affect was induced perceived others more cooperatively. Although this is not sufficient evidence to show that negotiators changed their mental frame of negotiation into more cooperative one under the influence of positive affect, there is significant moderating effect to examine further. The fact that people in the control condition changed their perception of the others according to the bargaining zone condition indicates that bargaining structure functioned as a moderator on the perception of the negotiation. While people with positive affect generally perceived the other partner slightly more cooperatively in the positive bargaining zone context, as compared to negative bargaining zone, people in control group were affected significantly more by bargaining structure. It can be explained by a multiplying effect of a pre-existing competitive framework of negotiation and the negative bargaining zone. While the control group subjects were not helped by positive affect to change their mental frame in the beginning of negotiations, experiencing a negative bargaining zone made them perceive the negotiation as a more competitive and distributive game. These results are related to the negotiation outcomes, where control group were able to reach integrative outcomes in a positive bargaining zone but not in a negative bargaining zone context.

In terms of information sharing, non-significant difference on the degree of Awareness and Share score should be considered with the result of duration of negotiation. As shown in the result section, people in the positive affect condition reached the agreement significantly faster than the control group. If following the

general assumption that there is a generally linear relationship between time and information flow, this non-significant result can be considered as partial support of the second hypothesis that people in positive affect condition will share more information. In fact, exchanging the similar amount of information within a shorter amount of time reflects efficient information sharing. Given the cooperative perception of the negotiation, negotiators with positive affect were able to share their information with their partner.

An interesting interaction effect between affect and bargaining zone was found on the degree of perspective taking. Negotiators with positive affect understood the partner's perspective better than the control group negotiators in the negative bargaining zone condition. It is partially supportive of the third hypothesis that people with positive affect would understand the partner's perspective better than control group. In addition, this significant interaction effect provides the mechanisms that can explain the results expected in the hypothesis 4b that people who have experienced positive affect will be more likely to reach integrative outcomes in the negative bargaining zone.

Most importantly, statistical results suggested that there is a boundary condition on the beneficial impact of positive affect mood reaching integrative outcomes. The moderating role of bargaining structure functioned so that people with positive affect were more likely to reach integrative outcomes when faced with a negative bargaining zone, and neutral affect negotiators were more likely to reach integrative outcomes when faced with positive bargaining zone. As hypothesized, people with positive affect were better at balancing multiple goals than those without positive affect (Isen & Reeve, 2005). Considering the fact that the negotiator with positive affect reached outcomes significantly faster than the control group, they were balancing the benefits and costs of negotiation. In the positive bargaining zone context, negotiators might

have not found it necessary to reach integrative outcomes through more option generation and information searching after they could agree on mutually satisfactory distributive outcome. However in the negative zone context, after finding that it was impossible to arrive at satisfactory distributive outcomes, negotiators with positive affect tried harder to discover integrative solutions to balance out the time and energy they had already invested in the negotiation process. Even in this case, negotiators with positive affect states reached integrative outcomes faster than those in the control group who ended up with irrational distributive outcomes or impasses. Therefore, people with positive affect were efficient decision makers who could consider the bargaining structure and the costs simultaneously.

In addition, the content analysis of integrative outcomes revealed that negotiators with positive affect made more innovative options than the affect control group. Although the number of groups that reached integrative outcomes was small, the significant difference in terms of ratings of the quality of integrative options is notable for future research. Considering that positive affect help people to be more creative, negotiators with positive affect could reach qualitatively better integrative outcomes, even when they were faced with negative bargaining zone.

Limitations

This study has its own limitations in terms of design and implication. A single-issue bargaining task was used in the negotiation in order to clearly identify the role of bargaining structure on the relationship between positive affect and negotiation. This simple task might lack external validity. However, single-issue bargaining over the price of the property is one of several common negotiation practices in everyday life. As reflected in the task, there are almost always implicit integrative potential, and it is up to negotiators' ability to realize that potential.

APPENDIX 1

Pictures used for mood induction

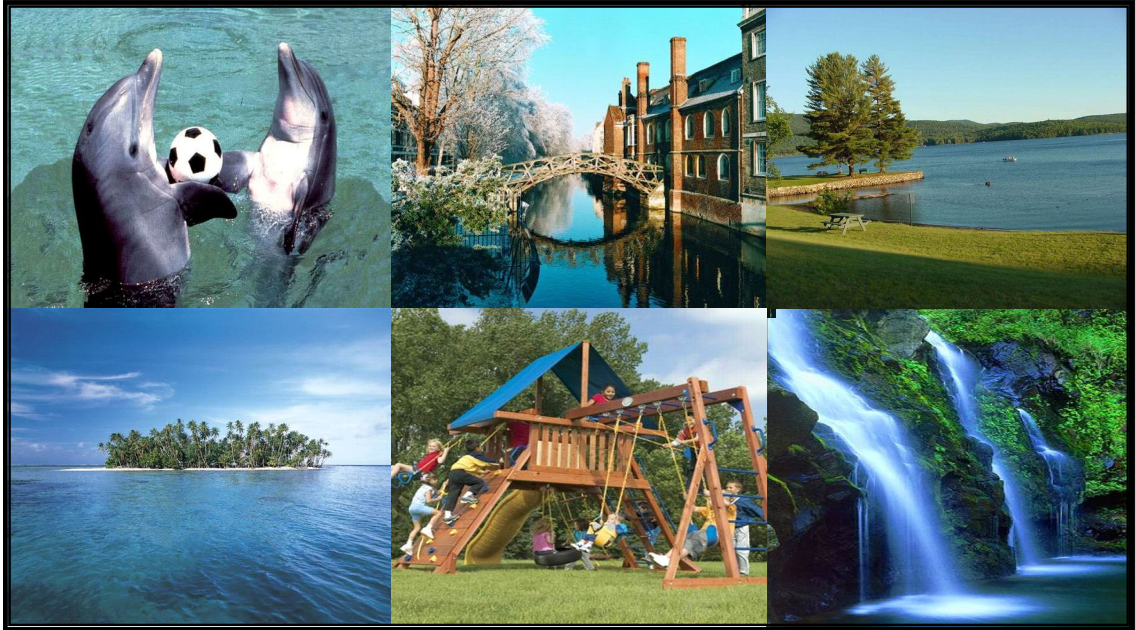


Figure 4. Pictures used for positive affect induction



Figure 5. Pictures used for neutral affect condition

Table 4. t-test for equality of means (Pre-test)

	t(df=10)	Mean difference	Std. Error of difference
Typical	-2.1850	-0.7	0.32
Pleasant	12.374**	2.07	0.17
Unusual	1.589	0.53	0.33
Impressive	4.95**	1.64	0.33
Neutral	-2.87*	-0.51	0.18
Meaningful	8.10**	1.22	0.15
Dull	-9.34**	-1.33	0.14

Note. Mean difference between a set of six pictures selected for positive affect manipulation and another six pictures selected for affect control group.

*p < .05. ** p < .01

APPENDIX 2

Remote Associates Test items used for mood manipulation check

Triad	Solution	Difficulty	
		p(unsolved)	Normalized
Falling Actor Dust	STAR ³	.15	-2.38
Barrel Root Belly	BEER ²	.50	-0.19
Mouse Sharp Blue	CHEESE ¹	.55	+0.13
Sandwich Golf Foot	CLUB ²	.55	+0.13
Silk Cream Even	SMOOTH ²	.55	+0.13
Strike Same Tennis	MATCH ²	.60	+0.44
Rock Times Steel	HARD ³	.65	+0.63
Foot Collection Out	STAMP ²	.70	+1.06
Magic Plush Floor	CARPET ²	.70	+1.06
Stick Light Birthday	CANDLE ²	.80	+1.69
Sore Shoulder Sweat	COLD ¹	.90	+2.31

¹From RAT, Form 1 of Mednick & Mednick (1967). ²From Bowers, Regehr, Balthazard, & Parker (1990). ³Modified from Bowers et al.(1990).

APPENDIX 3

Post Negotiation Questionnaire

Questionnaire for those who played the role of T. Jones (Buyer)

Thank you for your participation. Please take some time to think back about the negotiation you had with your partner and answer the following questions. These questions are just for analysis purposes and do not have an impact on your negotiation outcomes.

1. What was your initial bargaining range before the negotiation?

From \$ _____ to \$ _____

2. During the negotiation, to what extent did you know about the following information held by your partner before reaching the final outcome of negotiation? Please circle the number best describing your status during the negotiation.

Information	Did not know Knew very						
	at all			clearly			
Wing wants to move to Australia.	1	2	3	4	5	6	7
Wing wants to sell lot #77.	1	2	3	4	5	6	7
Wing can sell lot#77 for \$80,000 to the other person.	1	2	3	4	5	6	7
Wing bought lot #77 for \$70,000 when he purchased lot #78.	1	2	3	4	5	6	7
Wing sold lot#78 to the other businessman he knows.	1	2	3	4	5	6	7
Wing's business was importing building material.	1	2	3	4	5	6	7
Wing needs \$750,000 for immigration visa to Australia.	1	2	3	4	5	6	7

3. How much are you satisfied with your negotiation agreement?

Not at all

Very much satisfied

1	2	3	4	5	6	7
---	---	---	---	---	---	---

4. To which degree did you reveal the following information regarding your interests?

Information	Did not know						
	at all			Knew very clearly			
You do not like current office space.	1	2	3	4	5	6	7
You want to have a Chinese network for future business.	1	2	3	4	5	6	7
You want to expand your office space.	1	2	3	4	5	6	7
Your company is doing well in Hong Kong.	1	2	3	4	5	6	7
Your company plans to expand the business in Hong Kong..	1	2	3	4	5	6	7
You have extra budget up to \$75,000. (\$200,000 for Positive bargaining zone condition)	1	2	3	4	5	6	7
You know the price of lot 77 Wing paid in 1990.	1	2	3	4	5	6	7

5. How much did you think each item mattered to your partner? Rank the order of importance for your partner's interests according to your guess.

- Wing wants to move to Australia.
- Wing wants to sell lot #77.
- Wing can sell lot#77 for \$80,000 to the other person.
- Wing bought lot #77 for \$70,000 when he purchased lot #78.

- e. Wing sold lot#78 to the other businessman he knows.
- f. Wing's business is importing building material.
- g. Wing needs \$750,000 for immigration visa to Australia.

6. Please rank the order of importance for following information.

- a. You do not like current office space.
- b. You want to have a Chinese network for future business.
- c. You want to expand your office space.
- d. Your company is doing well in Hong Kong.
- e. Your company plans to expand the business in Hong Kong.
- f. You have extra budget up to \$75,000. (\$200,000 for Positive bargaining zone)
- g. You know the price of lot #77 Wing paid in 1990.

7. What do you think of your partner's attitudes towards the negotiation?

Very competitive

Very cooperative

1	2	3	4	5	6	7
---	---	---	---	---	---	---

8. Do you think the negotiation process was fair?

Not at all

Very much

1	2	3	4	5	6	7
---	---	---	---	---	---	---

9. How do you feel at the moment?

Not good at all

Very good

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Questionnaire for those who played the role of L. Wing (Seller)

Thank you for your participation. Please take some time to think back about the negotiation you had with your partner and answer the following questions. These questions are just for analysis purposes and do not have an impact on your negotiation outcomes.

1. What was your initial bargaining range before the negotiation?

From \$ _____ to \$ _____

2. During the negotiation, to what extent did you know about the following information held by your partner before reaching the final outcome of negotiation? Please circle the number best describing your status during the negotiation.

Information	Did not know Knew very						
	at all			clearly			
Jones does not like current office space.	1	2	3	4	5	6	7
Jones wants to have a Chinese network for future business.	1	2	3	4	5	6	7
Jones wants to expand his office space.	1	2	3	4	5	6	7
Jones's company is doing well in Hong Kong.	1	2	3	4	5	6	7
Jones's company plans to expand the business in Hong Kong.	1	2	3	4	5	6	7
Jones has extra budget up to \$75,000. (\$200,000 for Positive bargaining zone)	1	2	3	4	5	6	7
Jones knows the price of lot #77 you paid in 1990.	1	2	3	4	5	6	7

3. How much are you satisfied with your negotiation agreement?

Not at all

Very much satisfied

1	2	3	4	5	6	7
---	---	---	---	---	---	---

4. To which degree did you reveal the following information regarding your interests?

Information	Did not share Shared						
	at all			Very clearly			
You want to move to Australia.	1	2	3	4	5	6	7
You want to sell lot #77.	1	2	3	4	5	6	7
You can sell lot#77 for \$80,000 to the other person. (\$50,000 for Positive bargaining zone)	1	2	3	4	5	6	7
You bought lot #77 for \$70,000 when you purchased lot #78.	1	2	3	4	5	6	7
You sold the lot#78 to the other businessman you know.	1	2	3	4	5	6	7
Your business is importing building material.	1	2	3	4	5	6	7
You need \$750,000 for immigration visa to Australia.	1	2	3	4	5	6	7

5. How much did you think each item mattered to your partner? Rank the order of importance for your partner's interests according to your guess.

- a. Jones does not like current office space.
- b. Jones wants to have a Chinese network for future business.
- c. Jones wants to expand his office space.

- d. Jones's company is doing well in Hong Kong.
- e. Jones's company plans to expand the business in Hong Kong.
- f. Jones has extra budget up to \$75,000.
- g. Jones knows the price of lot #77 you paid in 1990.

6. Please rank the order of importance for following information.

- a. You want to move to Australia.
- b. You want to sell lot #77.
- c. You can sell lot#77 for \$80,000 to the other person.
- d. You bought lot #77 for \$70,000 when you purchased lot #78.
- e. You sold lot#78 to the other businessman.
- f. Your business is importing building material.
- g. You need \$750,000 for immigration visa to Australia.

7. What do you think of your partner's attitudes towards the negotiation?

Very competitive

Very cooperative

1	2	3	4	5	6	7
---	---	---	---	---	---	---

8. Do you think the negotiation process was fair?

Not at all

Very much

1	2	3	4	5	6	7
---	---	---	---	---	---	---

9. How do you feel at the moment?

Not good at all

Very good

1	2	3	4	5	6	7
---	---	---	---	---	---	---

REFERENCES

- Allred, K.G., Mallozzi, J.S., Matsui, F., & Raia, C.P. (1997). The influence of anger and compassion on negotiation performance. *Organizational Behavior and Human Decision Processes*, 70, 175-187
- Amabile, T. M. (1983). *The Social Psychology of Creativity*. New York: Springer-Verlag.
- Amabile, T. M., Barsade, S. G., Mueller, J.S., Staw, B.M. (2005) Affect and Creativity at work. *Administrative Science Quarterly*, 50, 367-403.
- Arrow, H., McGrath, J. E., & Berdahl, J. L.(2000). *Small groups as complex systems: Formation, coordination, development and adaptation*. Thousand Oaks, CA: Sage.
- Baron, R. A.(1990). Environmentally induced positive affect: Its impact on self-efficacy, task performance, negotiation, and conflict. *Journal of Applied Social Psychology*, 20(5), 368-384.
- Baron, R. A., Fotin, S. P., Frei, R. L., Hauver, L. A., & Shack, M. L. (1990). Reducing organizational conflict: The role of socially-induced positive affect. *International Journal of Conflict Management*, 1, 133-152.
- Barry, B. (1999). The tactical use of emotion in negotiation. *Research on Negotiation in Organizations*, 7, 93-121.

Barry, B., Fulmer, I.S., & Van Kleef, G. (2004). I laughed, I cried, I settled: The role of emotion in negotiation. In M. J. Gelfand and J. M. Brett (Eds.), *The Handbook of Negotiation and Culture: Theoretical Advances and Cross-cultural Perspectives* (pp.71-94). Palo Alto, CA: Stanford University Press.

Bazerman, M.H., Curhan, J. R., Moore, D.A., & Valley, K. L. (2000). Negotiation, *Annual Review of Psychology*, 51, 279-314.

Becker, H.S. (2001). The epistemology of qualitative research. In R. Emerson (Ed.), *Contemporary field research: Perspectives and formulations* (pp.317-330). Prospect Heights, IL: Waveland Press.

Berkowitz, L., Jaffee, S., Jo, F., & Troccoli, B.T. (2000). On the Correction of Feeling–Induced Judgmental Biases. In J. P. Forgas (Ed.), *Feeling and thinking: The role of affect in social cognition* (pp.131-152). New York: Cambridge University Press.

Bowers, K.S., Regehr, G., Balthazard, C.G., & Parker, K. (1990). Intuition in the context of discovery. *Cognitive Psychology*, 22, 72-110.

Brandenburger, A.M., & Nalebuff, B.J.(1996). *Coopetition*. New York: Doubleday.

Carnevale, P. J. D., & 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.

Cronbach, L.J. (1960). *Essentials of psychological testing* (2nd ed.). New York: Harper.

De Dreu, C.K.W. (1996). Gain-loss frame in outcome-interdependence: Does it influence equality or equity considerations?, *European Journal of Social psychology*, 26 315-324.

De Dreu, C.K.W., Carnevale P.J.D., Emans B.J.M., & van de Vliert E.(1995). Outcome frames in bilateral negotiation: resistance to concession making and frame adoption. In W. Stroebe. M. Hewstone.(Eds.), *European Review of Social Psychology* (pp.97-125). New York : Wiley.

DeSteno, D., Petty, R.E., Wegener, D.T., & Rucker, D.D.(2000). Beyond valence in the perception of likelihood: The role of emotion specificity. *Journal of Personality and Social Psychology*, 78, 397-416.

Diehl, M., & Stroebe, W. (1987). Productivity loss in brainstorming groups: Toward the solution of a riddle. *Journal of Personality and Social Psychology*, 53, 497-509.

Ekman, P. (1993). Facial expression and emotion. *American Psychologist*, 48, 384-392.

Ekman, P., Friesen, W. V., & Ellsworth, P. (1972). *Emotion in the human face: Guidelines for research and an integration of findings*. London: Pergamon.

Erber, R., & Erber, M. (2001). The role of motivated social cognition in the regulation of affective states. In J. P. Forgas (Ed.). *The handbook of affect and social cognition* (pp. 275-292). Mahwah, NJ : Erlbaum.

Forgas, J. P. (1991). Mood effect on partner choice: Role of affect in social decisions. *Journal of Personality and Social Psychology*, 61, 708-720.

Forgas, J. P. (1998). On feeling good and getting your way: Mood effects on negotiator cognition and bargaining strategies. *Journal of personality and social psychology*, 74(3), 565-577.

Forgas, J. P., & George, J. M. (2001). Affective influences on judgments and behavior in organizations: An information processing perspective. *Organizational Behavior and Human Decision Processes*, 86(1), 3-34.

Friedman, R., Anderson, C., Brett, J., Olekalns, M., Goates, N., & Lisco, C. C. (2004). The positive and negative effects of anger on dispute resolution: Evidence from electronically mediated disputes. *Journal of Applied Psychology*, 89(2), 369-376.

Froman L.A., & Cohen M.D., (1970). Compromise and logroll: comparing the efficiency of two bargaining processes. *Behavioral Science*, 30, 180-183.

George, J. M., Jones, G.R., & Gonzalez, J.A. (1998). The role of affect in cross-cultural negotiations. *Journal of International Business Studies*, 29, 749-772.

Gigone, D., & Hastie, R. (1993). The common knowledge effect: Information sampling and group judgment. *Journal of Personality and Social Psychology*, 65, 959-974.

Gigone, D., & Hastie, R. (1996). The impact of information on small group choice. *Journal of Personality and Social Psychology*, 72, 132-140.

Hegtvedt, K. A., & Killian, C. (1999). Fairness and emotions: Reactions to the process and outcomes of negotiations. *Social Forces*, 78, 269-303.

Hollingshead, A.B. (1996). The rank order effect in group decision making. *Organizational Behavior and Human Decision Processes*, 68, 181-193.

Isen, A. M. (1987). Positive affect, cognitive processes and social behavior. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 203-253). New York: Academic Press.

Isen, A. M. (1999a). On the relationship between affect and creative problem solving. In S. W. Russ (Eds.), *Affect, Creative Experience and Psychological Adjustment* (pp. 3-18). Philadelphia: Brunner/Mazel.

Isen, A. M. (1999b). Positive Affect. In T. Dagleish and M. Power (Eds.), *Handbook of Cognition and Emotion* (pp. 521-539). New York: Wiley.

Isen, A. M. & Hastorf, A. F. (1982). Some perspectives on cognitive social psychology. In A. H. Hastorf & A.M. Isen (Eds.), *Cognitive social psychology* (pp. 1-31). New York: Elsevier.

Isen, A. M., & Daubman, K. A. (1984). The influence of affect on categorization, *Journal of Personality and Social Psychology*, 47, 1206-1217.

Isen, A. M., Dauman, K. A., & Nowicki, G. P. (1987). Positive affect facilitates creative problem solving. *Journal of Personality and Social psychology*, 52, 1122-1131.

Isen, A. M., Niedenthal, P.M., & Cantor, N. (1992). The influence of positive affect on social categorization, *Motivation and Emotion*, 16, 65-78.

Isen, A. M., & Reeve, J. (2005). The Influence of Positive Affect on Intrinsic and Extrinsic Motivation: Facilitating Enjoyment of Play, Responsible Work Behavior, and Self-Control. *Motivation and Emotion*, 29, 297-325.

Isen, A. M. & Erez, A. (2007). Some measurement issues in the study of affect, In A. D. Ong & M. H. M. van Dulmen (Eds.) *Oxford Handbook of Methods in Positive Psychology* (pp. 250-265). New York: Oxford University Press.

Keltner, D., & R.J. Robinson. (1993). Imagined ideological differences in conflict escalation and resolution. *International Journal of Conflict Management*, 4, 249-262.

Knutson, B. (1996). Facial Expressions of emotion influence interpersonal trait inferences. *Journal of Nonverbal Behavior*, 20, 165-182.

Kramer, R.M., Newton, E., & Pommerenke, P.L. (1993). Self-enhancement biases and negotiator judgment: Effects of self-esteem and mood. *Organizational Behavior and Human Decision Processes*, 56, 110-133.

Langley, P., & Jones, R. (1988). A computational model of scientific insight, In R. J. Sternberg (Eds.), *The Nature of Creativity: Contemporary Psychological Perspectives* (pp. 171-201). Cambridge: Cambridge University Press.

Lyubomirsky, S., King, L., & Diener, E.(2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131(6), 803-855.

Martin, L.L., Ward, D. W., Achee, J. W., & Wyer, R.S. (1993). Mood as input: People have to interpret the motivational implications of their moods. *Journal of Personality and Social Psychology*, 64(3), 317-326.

McLeod, P. L., Baron, R. S., Marti, M. W., & Yoon, K.(1997). The eye have it: Minority influence in face-to-face and computer-mediated group discussion. *Journal of Applied Psychology*, 82, 706-718.

Mednick, M.T., Mednick, S.A., & Mednick, E.V. (1964). Incubation of creative performance and specific associative priming. *Journal of Abnormal and Social Psychology*, 69, 84-88.

Mednick, S.A., & Mednick, M.T. (1967). *Examiner's manual: Remote Associates Test*. Boston: Houghton Mifflin.

Milliken, F.J., Bartel, C.A., & Kurtzberg, T. R. (2003). Diversity and Creativity in Work Groups: A Dynamic Perspective on the Affective and Cognitive Processes that link diversity and performance, In P. Paulus & B. Nijstad (Eds.), *Group Creativity; Innovation through Collaboration*, (pp.32-62), New York, NY: Oxford University Press.

Moore, D. A., Kurtzburg, T.R., Thompson, L. L., & Morris, M. W. (1999). Long and short routes to success in electronically mediated negotiations: Group affiliations and good vibrations. *Organizational Behavior and Human Decision Processes*, 77, 22-43.

Neal, M.A., & Northcraft, G.B. (1991). Behavioral negotiation theory: A framework for conceptualizing dyadic bargaining. In L.L. Cummings and B. M. Staw (Eds.), *Research in organizational behavior* (Vol. 13., pp.147-190) Greenwich, CT:JAI Press.

Nijstad, B. A., Stroebe, W., & Lodewijkx, H. F. M.(2002). Cognitive simulation and interference in groups: Exposure effects in an idea generation task. *Journal of Experimental Social Psychology*, 38, 535-544.

O'Connor, K. M., & Arnold J. A. (2001). Distributive spirals: Negotiation impasses and the moderating role of disputant self-efficacy. *Organizational Behavior and Human Decision Processes*, 84, 148-176.

Paulus, P. B., Brown, V., & Ortega, A. H.(1999). Group creativity. In R. E. Purser & A. Montuori.(Eds.), *Social Creativity in organizations* (pp.151-176). Cresskill, NJ: Hampton.

Pillutla M. M., & Murnighan, J. K. (1996). Unfairness, anger, and spite: Emotional rejections of ultimatum offers. *Organizational Behavior and Human Decision Processes*, 68, 1208-1224.

Schwab, D. P. (2005). *Research methods for organizational studies* (2nd ed.). Mahwah, NJ: Erlbaum.

Schwarz, N., Bless, H., & Bohner, G.(1991). Response scales as frames of reference: The impact of frequency range on diagnostic judgments. *Applied Cognitive Psychology*, 5(1), 37-49.

Smith, S. M. (2003). The constraining effects of initial ideas, In P. Paulus & B. Nijstad (Eds.), *Group Creativity; Innovation through Collaboration* (pp.15-31), New York, NY: Oxford University Press.

Stasser, G. & Birchmeier, Z. (2003), Group creativity and collective choice, In P. Paulus & B. Nijstad (Eds.), *Group Creativity; Innovation through Collaboration* (pp.85-109), New York, NY: Oxford University Press.

Stasser, G., & Titus, W.(1985). Pooling of unshared information in group decision making: Biased information sampling during discussion. *Journal of Personality and Social Psychology*, 48, 1467-1478.

Stasser, G., & Titus, W.(1987). Effects of information load and percentage of shared information on the dissemination of unshared information during group discussion. *Journal of Personality and Social Psychology*, 53, 81-93.

Stasser, G., Stewart, D.D., & Wittenbaum, G. M.(1995). Expert roles and information exchange during discussion: The importance of knowing who knows what. *Journal of Experimental Social Psychology*, 31, 244-265.

Staw, B.M., & Barsade, S.G.. (1993). Affect and managerial performance: A test of the sadder-but-wiser vs. happier-and-smarter hypothesis. *Administrative Science Quarterly*, 38(2), 304-331.

Sternberg, R. J. (1988). *The Nature of Creativity: Contemporary Psychological Perspectives*, (pp.171-201). Cambridge: Cambridge University Press.

Thompson, L. L., & Hastie, R. (1990). Social perception in negotiation. *Organizational Behavior and Human Decision Process*, 58, 327-345.

Thomson, L.L., Nadler, J., & Kim, P. H. (1999). Some like it hot: The case for the emotional negotiator. In L.L. Thomson, J. M. Levine, & D. M. Messick (Eds.), *Shared cognition in organizations: The management of knowledge* (pp.139-161). Mahwah, NJ: Erlbaum.

Van Kleef, G. A., De Dreu, C. K. W., & Manstead, A. S. R. (2004a). The interpersonal effects of anger and happiness in negotiations. *Journal of personality and social psychology*, 86(1), 57-76.

Van Kleef, G. A., De Dreu, C. K. W., & Manstead, A. S. R. (2004b). The interpersonal effects of emotions in negotiations: A motivated information processing approach. *Journal of personality and social psychology*, 87(4), 510-528.

Van Kleef, Gerben A., De Dreu, Carsten K. W., & Manstead, A. S. R. (2006). Supplication and appeasement in conflict and negotiation: The interpersonal effects of disappointment, worry, guilt, and regret. *Journal of personality and social psychology*, 91(1), 124-142.

Walton R. E., & Mackersie, R. B., (1965). *A Behavioral Theory of Labor Negotiations*. New York: McGraw-Hill.

Weingart L. R., Bennett R. J., & Brett J. M., (1993). The impact of consideration of issues and motivational orientation on group negotiation process and outcome. *Journal of Applied Psychology*. 78, 504-517.

Weisberg, R. W. (1988). Problem solving and creativity, In R. J. Sternberg (Eds.), *The Nature of Creativity: Contemporary Psychological Perspectives*, (pp.148-176). Cambridge: Cambridge University Press.