ATTRIBUTIONAL PROCESSES IN BUYER-SELLER NEGOTIATIONS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
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by
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CHAPTER I

INTRODUCTION

THE SURVIVAL VALUE OF NEGOTIATION

The ability to detect and to interpret accurately the behavioral signals provided
by people in social interactions is a critical skill which can spell the difference between
success and failure in interpersonal relationships such as marriage and negotiation.
Indeed, failure to attend to all of the information available in an interaction or an inability
to use that information to understand the motives and intentions of parties in conflict
situations can lead to the most dire consequences. The animal trainer that fails to note
the aggressive mood of a circus elephant may be killed or injured as a result.
Governments which misread the willingness of potential enemies to defend their
interests with military forces risk losing more than elections. In the years just prior to
World War II, the democracies of Europe chose to ignore the menace of Nazi Germany
even though all the information available in the behavior and personality of Adolf Hitler
clearly signalled aggressive intentions. On the other hand, from Hitler's perspective,
Chamberlain's obvious willingness to accept the most flimsy assurance of Germany's
peaceful intentions even after the seizure of much of Czechoslovakia made it
clear that the Allies would be very reluctant to respond to further aggressive actions.

One could argue that today the very survival of the human race depends on the ability
of the leaders of the super-powers to form accurate impressions of each government's
intentions. At no time has the cost of a failure to communicate seemed greater.

Clearly there is survival value for individuals, organizations, nations, and even
the human race in the ability to use information to form accurate impressions of others in
conflict situations. The best, and fortunately also the most common mechanism which
humans have been able to devise to resolve conflicts of interest is negotiation. With so
much depending on the utilization and interpretations of social stimuli in a negotiation
setting, developing an understanding of the ways in which such information is
processed and used should be a top priority for social scientists.

STATEMENT OF THE PROBLEM

Rubin and Brown (1975) in their exhaustive review of the bargaining literature
from social psychology conclude that disclosures of information in negotiations
provide the vehicle for mutual influence. In their words:

"It is this exchange of information, the attributions to which it leads, and the ways in
which it is shaped for the purposes of mutual social influence, that represents the
fundamental strategic issue in bargaining." (Rubin & Brown 1975:260)
For those interested in gaining a theoretical understanding of bargaining behavior, it is disappointing to note that previous negotiation research has failed to provide satisfactory answers to some long-standing, fundamental issues related to these social influence processes in negotiations. For example, after twenty years of research, it is still not clear how bargainers use the information provided in the negotiation through explicit communications or more subtle behavioral cues to form impressions of the other party. The central problems facing negotiators are related to the dual purpose of communications in a negotiation. Negotiators use communications for the exchange of information used to facilitate reaching an agreement and also as a means of persuasion or influence. How is a negotiator to determine if information provided by a negotiation partner is credible? Are attributions about the causes of a negotiator’s behavior made spontaneously in bargaining, and, if so, do those attributions affect the attributor’s subsequent bargaining behavior as Rubin and Brown (1975) have suggested? This research is intended to provide a test of some theoretical notions regarding bargainers’ perception and utilization of information in buyer-seller negotiations.

Toward this goal, there are four key questions to be addressed in this research:

1. Can an attribution-based theory provide a more parsimonious and robust explanation for influence processes in bargaining than earlier theoretical perspectives?
2. Do bargainers make spontaneous attributions in an attempt to understand the behavior of their negotiating partners?
3. To what extent do these attributions affect the inference-maker’s subsequent behavior?
4. Is it possible to influence bargaining behavior and outcomes through the use of strategies designed to
affect attributional processing?

STRUCTURE OF THE DISSERTATION

In Chapter II, a review of the literature on bargaining strategy, attributional processing, and bargaining communications is provided. Derived in part from this literature, an attribution theory of bargaining behavior is proposed in Chapter III. The implications of this theory are then used to develop a number of testable hypotheses which are described and supported in Chapter IV. In Chapter V the research design and methodology used to test these propositions are specified and the results of pretests designed to test the methodology are summarized. Chapters VI summarizes the results of the main experiment in which the effects of various patterns of behavior on attributions and bargaining behavior are tested. In Chapter VII a follow-up study designed to clarify some of the unexpected results of the main experiment is discussed. Finally, a critical evaluation of the implications, strengths, and weaknesses of this research is followed by an agenda for future research in Chapter VIII.
CHAPTER II

BARGAINING STRATEGY AND ATTRIBUTIONAL PROCESSES

INTRODUCTION

The exchange of information in negotiations is a factor which buyers and sellers can and do attempt to control. The benefits to be derived from developing bargaining skills and from learning which bargaining strategies are more powerful in a given negotiating context are clearly important. Individual consumers and organizations alike stand to profit greatly from an improved understanding of bargaining behavior. Given that marketing is perhaps the discipline most concerned with understanding and influencing micro-level economic exchanges, one might expect to find a significant body of research on bargaining behavior in the marketing literature. That this is not the case is rather surprising.

To examine the literature dealing with the efficacy of various bargaining strategies, one must turn primarily to social psychology. Indeed, social psychologists have examined the effects of behavioral cues such as explicit communications and the pattern of concessions in bargaining in great detail (Rubin and Brown 1975; Chertkoff and Esser 1976; Pruitt 1981).
In this chapter the results of many studies related to the efficacy of various bargaining strategies are reviewed along with some competing theoretical explanations for these results. Of particular interest are those studies which examine the ways in which a bargainer responds to behavioral cues provided by the other party.

While many variables have been shown to have significant effects on bargaining behavior and outcomes in the laboratory, very little is known about the psychological processes which mediate the impact of these variables. The assumption guiding this research is that responses are mediated by inferential processes initiated by the bargainer to explain the other's behavior. This explanation is very important because it implies that bargainers can influence the other's behavior by selecting a bargaining strategy designed to provide only those behavioral stimuli likely to elicit attributions favorable to the bargainer's position. To support this hypothesis, relevant literature from attribution research and research on persuasive communications is introduced.

THE BARGAINING PROBLEM

As a preface to a review of the bargaining strategy literature, it is important for the reader to understand the nature of the bargaining problem. In this report the terms "bargaining" and "negotiation" are used interchangeably. Bargaining is an interaction in which a conflict of interest between two or more interdependent parties is resolved through a process of give-and-take. In the context of buyer-seller negotiation which is
the focus of this research, the conflict of interest arises from the seller’s desire to make as much money as possible from the sale of a good or service for which the buyer wants to pay as little as possible. Figure 1 depicts the bargaining problem graphically. Both the seller and the buyer have resistance points beyond which they are not willing to concede. The seller’s resistance point, or reservation price as it is sometimes called, represents the lowest price which he/she is willing to accept for the product. The buyer’s reservation price is the most the buyer is willing to pay for the product. The overlap in price between these resistance points constitutes the bargaining range. The bargaining range represents a set of settlements acceptable to all parties in the

![Diagram of the bargaining range](image)

**Figure 1. The bargaining range.**
negotiation. Without some overlap of acceptable prices no negotiation can take place because no amount the buyer would be willing to pay would satisfy the seller.

Another important notion in bargaining is the concept of aspiration level. An aspiration level is simply the negotiator's settlement goal. If price is the only factor being negotiated, the aspiration levels are the prices which the seller hopes to get for the product and the buyer hopes to pay for the product. The importance of resistance points and aspiration levels will become clear in the review of the bargaining strategy literature which follows.

A REVIEW OF THE BARGAINING STRATEGY LITERATURE

The interpretation of behavioral cues in bargaining can be a very complex task. In the absence of prenegotiation information relevant to his bargaining partner, a negotiator is likely to derive attributions about preferences and intentions from the interaction itself. Rubin and Brown (1975) suggest that bargainers convey information about their expectations and intentions in three primary ways: (1) through initial offers and responses, (2) through the over-all pattern of offers and counter-offers and (3) through explicit influence attempts such as threats, promises, justifications, and excuses (Rubin and Brown 1975). However, it seems likely that many other behavioral cues such as body language, tone of voice, and deliberation time are also important sources of information. Another plausible assumption is that all of these cues interact to form an informational gestalt which is used by the observer to form an impression about the actor's dispositions and intentions.
Given our understanding of the impact of behavioral cues on the inferences made by bargaining participants, some intriguing questions can be raised concerning the mediating effects of these attributions on subsequent bargaining behavior. For example, does a bargainer’s tough opening statement cause the other party to modify his expectations and the extremity of his opening bid? Does the response to an opening statement convey more information than the opening statement itself? How important is consistency between verbal communications and the pattern of bids and concessions? Which elements of bargaining strategy have the greater impact on bargaining outcomes? These and several other interesting questions are examined through a review of the bargaining strategy and attribution literature.

RESPONSES TO BEHAVIORAL CUES IN BARGAINING

Participants in the bargaining interaction attempt to overcome their lack of information concerning the other’s aspiration level (i.e. the bargainer’s settlement goal) and reservation price (i.e. the bargainer’s limit or least desirable acceptable settlement) by observing the other’s behavior. In addition to formal and informal communications, bargainers also draw inferences from cues such as the initial bid and the pattern of concessions which emerge during the negotiation. Researchers have recognized the importance of behavioral cues in bargaining and have tried to discover the impact of different bargaining strategies on bargaining behavior and outcomes. Unfortunately, the results of this stream of research have been equivocal, reflecting the complexity of the relationships and processes involved.
Several authors have noted that three very different explanations have been proposed to explain the ways in which bargainers respond to behavioral cues such as the initial bid and the size/frequency of concessions (Tedeschi, et al. 1973; Yukl 1974a; Smith et al. 1982). The aspiration level hypothesis posits that bargainers tend to adjust their aspiration levels in response to their opponents' bargaining behavior (Siegel & Fouraker 1960). According to this explanation, a bargainer's aspirations and behavior is mismatched with the other's behavior. In other words, a bargainer will tend to lower his aspirations, make greater concessions, and settle at a less favorable outcome when the other adopts a tough bargaining stance. When the opponent adopts a soft bargaining stance, a bargainer will respond by raising his aspirations and becoming more competitive. These responses are probably driven by attributional processes through which tough stances are attributed to a strong bargaining position and soft stances are attributed to weakness. However, there has been no direct empirical test of this proposition, and it is not clear what kinds of information bargainers derive from patterns of concessions and other types of behavioral cues (Schurr and Ozanne 1985).

The reciprocity explanation for bargaining behavior predicts that bargainers respond to the behavior of the other in kind. Tough behavior elicits toughness; cooperation elicits cooperation. This is the exact opposite of the prediction made by the aspiration level hypothesis. Osgood's (1959) recommendation that tension in international negotiations might be reduced through a policy of making small, unilateral concessions that are increased in magnitude only if reciprocated by the other side is based on this notion of bargaining behavior being driven by a norm of reciprocity.
The third hypothesis for bargaining behavior can be called the independent action hypothesis (Yuki 1974a). According to this explanation, bargainers essentially ignore the behavior of their opponents when formulating their own strategies. Bargaining behavior from this perspective tends to be mechanistic and arguably irrational. This type of behavior might reflect attempts by bargainers to implement a bargaining strategy that is not responsive to the behavior of the other party.

ASPIRATION LEVEL

Several studies indicate that Siegel and Fouraker's (1960) level-of-aspiration hypothesis is a valid model of bargaining behavior (Siegel and Fouraker 1960; Komorita and Brenner 1968; Rubln & DiMatteo 1972; Yuki 1974a,b; Bateman 1980). According to this explanation, subjects' behavior tends to be mismatched with the opponent's behavior.

Initial offers help bargainers infer the aspirations of the other party and provide clues as to the potential zone of agreement. A bargainer's level of aspiration as indicated by the extremity of his opening bid is frequently used as one measure of his toughness.

It seems that high aspirations are important because the expression of high initial demands communicates the bargainer's expectation of how he should be treated (Rubin & Brown 1975). This is a form of impression management. Tough stances leave a bargainer's opponent in an uncertain position. Should the tough posture be attributed to strength, bravado, greed, or some other cause? If the tough stance is attributed to the strength of the other's position, should the bargainer alter his own
aspirations? According to the aspiration level hypothesis, bargainers do alter their aspirations as a result of these inference processes.

The magnitude of initial offer does influence the other party's aspirations and subjective utilities. Rubin & DiMatteo (1972) demonstrated in a Bilateral Monopoly game that subjects who received favorable initial offers from their bargaining partners responded with tougher bargaining behavior and higher subjective utilities. Apparently, the bargainers attributed the moderate initial offers to weakness and, consequently, adjusted their own aspirations upward.

In an automobile trading game Liebert, et al. (1968) examined the interaction of information (knowledge of profit schedules) and the magnitude of the initial offer on subsequent behavior and outcomes. Uninformed subjects were shown to use their opponent's initial bid as a basis for setting their own goals. Informed bargainers may have used their opponent's initial bids as an indication of the reasonableness of their opponents' expectations. Apparently, in some circumstances, a bargainer can lower the other's expectations by adopting an initially extreme position.

The first study by Yuki (1974a) also clearly demonstrates this mismatching effect. Under conditions of limited information about the opponent, subjects tended to make more favorable initial offers and to make larger concessions when faced with an opponent who adopted a tough bargaining stance by making an unfavorable initial offer and conceding very little thereafter. No significant interactions between concession size and opening offer were found.
In the second study Yuki (1974b, Exp. 2) manipulated both concession size and concession frequency. Subjects matched the frequency of the opponent's concessions, but mismatched the size of the opponent's concessions. In other words, when the opponent conceded frequently, the subjects tended to concede frequently. When the opponent made small concessions, subjects tended to make larger concessions, and vice versa. Most importantly, the more favorable final offers were obtained from subjects whose opponents made small, frequent concessions.

Yuki concluded that concession size and the extremity of the initial offer were more important determinants of the favorability of the final offer than concession frequency. In Experiment 1 (Yuki 1974b) the opponent's concession magnitude was found to account for 36% of the variance in the final offer, while the size of the opponent's initial offer accounted for 18% of the variance in final offer.

All this is not to suggest that a tough strategy may be used without fear of adverse consequences. As Bartos (1970) points out, toughness is a two-edged sword in bargaining. On the one hand, tough stances decrease the likelihood of reaching an agreement. On the other hand, tough stances are likely to reward bargainers with higher outcomes if agreement is reached. There are also risks associated with unilaterally initiating concessionary behavior. As noted above, cooperative bargainers may be perceived as weak or naive and may suffer tangible losses as a consequence. Unilateral concessions also entail intangible risks such as loss of face, lowered self-image, or condemnation by constituents.
RECIPROCITY

In the second category are those studies which support a matching effect between one bargainer's concession behavior and the behavior of the other party (Chertkoff and Conley 1967; Pruitt and Johnson 1970; Benton et al. 1972; Esser and Komoita 1975; Komoita and Esser 1975). These studies, at least in part, lend support to a reciprocity explanation for bargaining behavior.

The Chertkoff and Conley (1967) study has been cited as supporting both the reciprocity and aspiration-level explanations of bargaining behavior. The researchers compared subjects' responses to two concession patterns (large, infrequent concessions and small, frequent concessions) under conditions of limited information. Subjects tended to match their opponents' concession frequency. However, when the programmed opponent adopted a tough stance by making an unfavorable initial offer, subjects settled at a price more favorable to the opponent. The first result supports a reciprocity explanation while the latter result supports an aspiration-level explanation. It should be noted that the total amount conceded by the opponent (i.e. the difference between initial and final offer) was constant across conditions. Thus, concession size was really not manipulated independently of concession frequency.

In a study primarily devoted to the effects of mediation on bargaining behavior, Pruitt and Johnson (1970) varied concession frequency prior to intervention by the mediator and found a matching effect. Concession size was held constant. One problem with interpreting their results stems from the small number of concessions made in both frequency conditions. Only two concessions were made. In the fast
concession rate condition, concessions were made on the third and fourth trials and intervention occurred after the fifth trial. In the slow concession rate condition, concessions were made on the fourth and eleventh trials and intervention was made after the twentieth trial. In the latter case six consecutive bids were made without concession prior to the eleventh trial, and nine consecutive bids without concession were made prior to intervention. This seems to be an extremely long and tough concession pattern likely to force matching behavior from the subjects.

As might be expected, the availability of information about an opponent's profit schedules and reservation prices has been shown to be an important variable mediating a subject's responses to behavioral cues in bargaining (Liebert et al. 1968). In two studies in which support was claimed for the reciprocity hypothesis subjects were given rather complete information about their opponent's profit schedule and reservation price (Esser and Komorita 1975; Komorita and Esser 1975). Given that subjects were able to judge the reasonableness of their opponent's concession behavior directly, it is not surprising that subjects tended to match the pattern of reciprocated concessions by the opponent. When the other reciprocated concessions immediately, subjects tended to respond in kind and to settle at a lower price than when the other's reciprocation was delayed.

In a second experiment it was found that subjects matched their opponent's concession size as well as the pattern of reciprocity. Komorita and Esser (1975) also found that reciprocation of non-concessions induced further concessions from subjects only when concessions were also reciprocated. For a strategy of strict
reciprocal to work, bargainers had to reciprocate fully by conceding when their partners conceded and not making concessions when their partners failed to concede. In other words, any deviation from a pattern of strict reciprocity undermines the effectiveness of a tit-for-tat strategy.

Benton, Kelley, and Liebling (1972) examined the effects of three degrees of relative information. In the equal information condition subjects thought both parties had full knowledge of the other's payoff schedule. In the high information condition, the subject knew both parties' payoffs but thought that the other knew only his or her own. In the low information condition, the subjects knew only their own payoffs but thought the other knew both parties' payoffs. The information conditions were crossed with three concession pattern conditions in a factorial experiment. There were only six possible bids labeled A to F with A being most favorable to the subject and F being most favorable to the confederate. In the extreme intransigence condition, the confederate bid F and made no concessions in the bargaining session. In the moderate intransigence condition, the confederate began with D and did not concede. In the concession condition, the confederate opened with an offer of F, conceded every two minutes to E and then to D, but then conceded no further.

The results of the experiment supported the reciprocity hypothesis in that subjects tended to make extreme demands in response to extreme demands from the confederate. The concession condition led to outcomes most favorable to the other party. Subject offers were more extreme when they perceived themselves to have more or less information than their opponent. Benton et al. reported that subjects in the
high information condition expected a competitive interaction and thus may have hardened their position to signal their resistance to exploitation to the other bargainer. They also suggest that the tough behavior of the low-information subjects could have reflected a desire to elicit information from the other party by prolonging the interaction. A more parsimonious explanation for their results would be that the artificiality and simplicity of their abstract bidding process and symmetrical pay-off schedule made it easy for the subjects in all conditions to infer the pay-offs of the other party at each of the six bid levels. Thus, all subjects could be said to have knowledge of their opponents' pay-off schedule. Under such conditions, Liebert et al. (1968) have shown that reciprocal behavior is likely to be elicited.

INDEPENDENT ACTION

Finally, a few studies have found no relationship between some aspects of a bargainer's behavior and the behavior of his opponent, thus supporting an "independent action" hypothesis. Pruitt and Drews (1969) found that subjects tended to ignore their opponents' concession behavior even though post-experimental investigation showed them to be aware of the reasonableness of that behavior. Subjects were asked to report the likelihood that their opponent would have made a concession on the next offer had a settlement not been reached on the previous offer. As expected, subjects in the high concession rate condition felt additional concessions were more likely than subjects in the low concession rate condition. However, these perceptions seemed to have no effect on subjects' bargaining
behavior. In fact, subjects seemed to engage in wishful thinking concerning their opponents' goals and aspirations. For example, under conditions of mild time pressure, subjects increased their aspiration levels. When asked to evaluate their opponents' aspirations under the same conditions, subjects indicated that their opponents decreased their aspirations! This irrational behavior is difficult to explain and may simply have reflected the naivete of the student subjects used in the experiment.

The Liebert, et al. (1968) study also affords some support for the independent action hypothesis. In this study the total amount conceded by the other had no significant effect on the amount conceded by subjects. However, the extremity of the initial offer did affect the subjects' concession magnitude.

Before introducing some attribution literature relevant to bargaining, it seems useful to consider the contribution of the bargaining strategy research to our understanding of bargaining behavior. The strength of this body of research is also its weakness in that much has been learned about the effects of various types of concession strategies on bargaining behavior, but little is known about the effects of other types of behavioral cues. The mechanisms through which these cues exert their effects on behavior are also relatively obscure. While some studies have explored the interactions among concession cues and non-behavioral variables such as time pressure or limit, it is important to note that, in most of the concession strategy research, interactions between concession cues and other behavioral signals have not been examined. If bargaining research is to continue to progress, it is imperative that
researchers begin to develop interactionist theories and frameworks capable of explaining more of the complexity and richness of bargaining behavior.

Most of the empirical research reported to date has been characterized by tests of competing explanations for bargaining behavior, primarily involving predictions based on aspiration level or reciprocity. However, there have been few attempts (e.g. Smith et al. 1982) to resolve the inconsistencies in experimental results generated in these studies. Thus, the research stream is fragmented. For the most part, unexpected or conflicting findings have been only weakly addressed in post-hoc speculation rather than through a rigorous, on-going program of research. In Chapter III a theoretical framework is proposed which possesses the potential to explain some of the inconsistencies in previous research and to reconcile the competing theoretical perspectives described in this section.

THE ROLE OF ATTRIBUTIONS IN BARGAINING

In a laboratory negotiation exercise and quite often in field negotiations (e.g. real estate transactions), the parties have very little knowledge about each other. They may indeed be total strangers or may communicate offers only by written correspondence or telephone, although the dangers of such "long-distance" bargaining are well recognized (Nierenberg 1981). Information about external, situational factors is also often minimal, although prior to important negotiations a good negotiator will seek as much information about the other party as can be obtained.
Given this setting of limited information about the other party, a bargainer is likely to attribute the other’s behavior to personality traits, responsibilities to constituents, or to responses to the bargainer’s behavior. This latter case reflects the complex recursive nature of interdependence in negotiations in that Bargainer A’s attributions may reflect the belief that Bargainer B’s behavior is caused by attributions about Bargainer A’s behavior (i.e. attributions about attributions). In any case, the strength of the attributions made will vary according to the context in which they are made. According to Chertkoff and Esser (1976), a tough bargaining strategy is more likely to be successful if the toughness is justified based on economic necessity and/or the availability of viable alternative buyers or sellers rather than to greed. In other words, bargainers should strive to be perceived as tough, but fair.

After reviewing the bargaining strategy literature, it seems likely that attributions are key mediators of the influence of behavioral cues on bargaining behavior. Except for those persons who are totally individualistic in their approach to bargaining, negotiators are sensitive to the behavior of their negotiating partners (Rubin and Brown 1975). Cooperatively oriented bargainers use the information provided by their partners’ behavior in an attempt to find mutually acceptable settlements. Competitively oriented negotiators tend to enter negotiations with a win-lose expectation. These persons view the other’s behavior with suspicion and attempt to use the information available in the interaction to their advantage. Given that most negotiations are characterized to some degree by this behavioral interdependence, the key question to be answered relates to the process by which the effects of interdependence are
manifested. A likely candidate for this process is attribution. Attribution theories are based on the assumption that individuals are motivated to gain cognitive mastery over their environment (Heider 1958). Certainly, negotiators have an interest in understanding the motivations and intentions underlying the behavior of their negotiating partners on whom they are dependent for the attainment of rewards. Therefore, an understanding of attribution theory should provide a solid foundation for the generation of hypotheses related to the impact of various behavioral strategies in bargaining.

Perhaps more importantly, attribution theory also provides a more parsimonious explanation within which competing hypotheses for the cue-response relationship in bargaining may be reconciled. In particular, it is possible to explain the circumstances under which bargainers are likely to respond as predicted by the level-of-aspiration hypothesis or the reciprocity hypothesis by developing an understanding of inferential processes in bargaining. Attribution theory also allows a prediction of the circumstances under which certain types of bargaining strategies are likely to elicit more favorable final offers and provides insight into the process by which impressions are formed in bargaining. For example, in Chapter III the way in which attributions affect the extent to which a bargainer is perceived as being credible is explicated.

BEHAVIORAL EXPECTATIONS

Social psychologists performing attributional analyses of persuasive communications have drawn some conclusions which may be applicable to the study
of bargaining since attempts to persuade or influence are implicit in most bargaining communications. In particular, the perceiver's expectation about the position a communicator will adopt in a message can have a significant influence on the attributions generated in response to the message. When on expectancy is disconfirmed (i.e. when the communicator adopts an unexpected position), the perceiver will search for plausible alternative explanations for the unexpected behavior (Eagly and Chaiken 1975; Pyzczynski and Greenberg 1981).

For an example relevant to bargaining, consider a situation in which one's opponent has a reputation for tough, competitive bargaining. To what would a bargainer attribute a conciliatory bargaining stance out of character for such a competitively-oriented opponent? The locus of causality inferred by the bargainer in this example would likely greatly influence the nature of his response to such behavior (Wood and Eagly 1981). If the unexpectedly conciliatory behavior is attributed to a perceived weakness in the other's current bargaining position, then the bargainer is likely to respond by taking a tougher stance in order to exploit the other's apparent vulnerability. However, if the conciliatory behavior is attributed to a genuine desire by the other to promote a cooperative relationship, the bargainer may respond with cooperation as well. Note that these explanations account for the apparently conflicting predictions of aspiration level and reciprocity perspectives on bargaining behavior. Siegel and Fouraker (1960) would view the former example where the unexpected cooperation was attributed to weakness as an example of a bargainer adjusting his/her aspiration level upward in response to the perceived weakness of the
other's position. A reciprocity theory can account for the behavior in the second example. In other words, the bargainer who attributes the unexpectedly soft behavior to a cooperative disposition would appear to reciprocate the other's behavior. Attribution theory can account for the behavior in either case.

Deception is expected in bargaining (particularly by competitively oriented negotiators), and this expectation affects the inferences drawn from bargaining communications. Eagly and her colleagues found that when a communicator's message disconfirmed expectancies, greater persuasion was achieved (Eagly et al. 1978). Subjects may have attributed the unexpected position advocated in the message to the communicator's belief in the veridicality of the message. In short, the attributions elicited by the unexpected behavior tend to counteract the assumption that the communicator is being deceptive. This type of attribution is greatly strengthened when the communicator advocates a position that is not only unexpected but which is also perceived to be in conflict with his/her interests.

Other studies have indicated that observers are more likely to make attributions about actors whose behavior has important implications for the perceivers (Monson et al. 1982). This would certainly apply to most bargaining situations. In addition to the obvious economic implications for the bargainer of the other's behavior, another stream of research has highlighted the importance of the expectation of future interaction to the attribution and bargaining processes. The prospect of future interaction tends to elicit accurate trait attributions concerning the actor when information related to consistency and distinctiveness of the actor's behavior is
available (Monson et al. 1982). In bargaining the expectation of future interaction has been shown to elicit relatively greater frequency of cooperative behavior (Walker 1971; Rubin and Brown 1975:234). Clearly, the long-term risks associated with "beating" your negotiating partner in the current negotiation may outweigh the short-term benefits. In the future one's partner may try to get even, or perhaps end the relationship altogether. The old axiom that states, "Don't bite the hand that feeds you", is especially appropriate in business relationships that are characterized by a high degree of interdependence.

Attribution researchers have noted a tendency for observers to make trait attributions about an actor's behavior and to underestimate the importance of situational causes (Jones and Nisbett 1972). This tendency is what Ross (1977) has described as the fundamental error in attribution. This same phenomenon has been observed in a bargaining context. Kelley et al. (1970) and Pruitt and Drews (1969) found that subjects consistently underestimated the importance of external constraints and pressures placed upon their opponent's behavior. Thus, tough stances and competitive moves are often erroneously attributed to the other's obstinacy, greed, or other personality traits. Such attributions are likely to lead to behavior which is characterized by reciprocity. This phenomenon led Kelley et al. (1970:435) to predict that "when persons interacting in a mixed-motive relationship allocate responsibility for the conflict they experience, they underestimate the contribution of the common external situation (the bargaining problem) and overestimate the contribution of the other party."
Another explanation for this tendency by observers to make trait attributions about others' behavior was tested by Pryor and Kriss (1977). Their results support previous research which has shown persons to be viewed as more causal than objects are. In addition, they found that perceptions of causality are related to salience as measured by the ease or speed with which possible causes can be recalled from memory. This may be the same phenomenon which Tversky and Kahneman (1974) have labeled "information availability". So, according to Pryor and Kriss trait attributions are more frequently made because person information is more salient or more readily available in the observer's mind than entity or situation information. This perspective provides an interesting counterpoint to other research by implying that trait attributions may be made by observers regardless of the confirmation or disconfirmation of expectancies because of the salience of person information. Use of the availability heuristic would seem to indicate a less complex process of causal inference than that described by Kelley (1973) or Jones and Davis (1965).

Research has also shown that a bargainer's interpersonal orientation (competitive or cooperative) and his choice of competitive or cooperative goals for a given interaction can significantly affect his expectations of his opponent's behavior and the attributions made about that behavior. Kelley and Stahelski (1970) argue that in the context of the Prisoner's Dilemma Game (PD) competitive players tend to expect others to be competitive while cooperatively-oriented players expect either cooperation or competition from opponents. Whether this tendency generalizes to explicit bargaining is not known.
In the research of Kelley and Stahelski the perceiver's goals were also found to affect the inferences made from patterns of moves in the PD game. For example, consider this pattern of moves: Y-W, W (Y=cooperation, W=competition). The competitive subjects attributed a cooperative orientation to Player A based on this pattern significantly less frequently than cooperative subjects. This tendency was not observed, in general, across all the stimulus patterns used in the study. Apparently, competitive subjects tend to overlook the possibility that A's choice of W on the second move was prompted by B's competitive response in the first move. Competitive persons tend to force others into competitive behavior, thereby creating an expectation that most people are also competitive. Cooperative persons have differentiated experiences based on the behavior of others (some competitive, some cooperative) and thus do not develop such a generalized expectation (Kelley and Stahelski 1970).

An alternative explanation of this phenomenon is provided by Dawes et al. (1977). They suggest that subjects' own behavior (i.e., their decision to compete or to cooperate) affects their expectations about others. Thus, subjects who make a cooperative choice would expect cooperation in return and vice versa. If this supposition were correct, then a participant in the interaction would make a different prediction about his opponent's response than an observer to the interaction. No such difference would be expected from Kelley and Stahelski's perspective. Results of the subsequent experiment conducted by Dawes et al. support their position. In their words, "One's choices.....not only reflect beliefs about others, but also affect these
beliefs.* In summary, it appears that individuals differ in their expectations of others’ behavior and the attributions made to account for others’ behavior, and that the individuals’ own initial behavioral intentions affect the expression of these differences.

EXPLANATIONS AND JUSTIFICATIONS

Bargaining is an interaction in which conflict of some sort is almost unavoidable. If there were no disagreements, then the bargaining process and compromise would be unnecessary. Since bargainers are usually interdependent, the behavior of each party can have negative consequences for the other. Naturally, each party is vitally interested in the explanations offered by the other to account for his behavior in the bargaining interaction. The inferences drawn from that behavior can be modified by effective and plausible explanations which justify the behavior or absolve the actor from responsibility for it. If a bargainer perceives that the other’s competitive behavior is forced upon him by external conditions, the tendency to retaliate in kind may be lessened.

In a recent study, Tedeschi et al. (1983) found that the type of explanation offered for moves in the PD game had specific effects on attributions of social motives. The researcher adopted Scott and Lyman’s (1968) account typology in which accounts which deny responsibility are called "excuses" and those which accept responsibility but attempt to legitimize the act are labeled "justifications". In their study Tedeschi et al. found that an acceptable justification leads to an attribution of a motive for the observed behavior that is correspondent with the account given. An unacceptable
justification provides the basis for attribution of a negative motive for the observed behavior. An acceptable excuse preempts an attribution to the actor of intent to carry out a threat, but may also lead to negative trait attributions concerning the actor's disinterest or apathy toward the consequences of his behavior. The finding that subjects are quite willing to accept justifications for threatening behavior is somewhat surprising given the generally accepted tendency for communications to be viewed with skepticism in conflict situations. It would be interesting to examine the impact of such accounts on actual behavior and outcomes in a bargaining context.

One bargaining study has examined the impact of overt deception on bargaining behavior. Results similar to those found in the Tedeschi et al. study were obtained by Chertkoff and Baird (1971). Subjects in this study tended to concede readily when their opponent justified his tough behavior by claiming to have a high break-even point.

The literature described above has provided evidence for the role of attributions as mediators of the impact of behavioral cues such as the pattern of concessions on bargaining behavior. Some of the studies appear to provide alternative explanations for the same phenomena while others even seem to demonstrate contradictory effects. Perhaps the greatest deficiency of many of the studies cited (at least from the standpoint of one interested in bargaining interactions) is their use of uninvolved observers rather than participants. As noted by Dawes et al. (1977) one's expectations of others, the attributions made to explain bargaining
behavior, and one’s future behavior are all affected by one’s own behavior as well as the sense of perspective brought to the interaction.

Do actions really speak louder than words? While conventional wisdom would indicate that bargainers view communications in the interaction with skepticism, the empirical studies just described have shown that subjects participating in laboratory bargaining exercises can be very willing to accept excuses and justifications for their opponent's tough behavior. These results might be related to the use of naive, inexperienced student subjects in the sense that inexperience could lead to greater gullibility. Experienced negotiators may be more aware that bargaining communications are strategic in nature as well as informational and, therefore, may interpret another bargainer’s messages with greater skepticism. This raises the more general question of whether or not student subjects and "real world" negotiators differ in their attention to and response to social stimuli. Does experience make a difference? The research reported in this paper will not address this issue, but it is an important one that I intend to investigate as part of a program of research.

Some researchers interested in persuasion have suggested the existence of a normative standard which predisposes people to trust communicators or at least initially to give them the benefit of the doubt (Greenberg and Miller 1966). It is also possible that bargainers seek to reduce their perceptions of uncertainty in the environment by using the information which is provided by the other regardless of doubts about the information’s accuracy (Thibaut and Kelley 1978). It would be interesting to determine the limiting conditions of this phenomenon. Are bargaining
strategies which combine tough stances with justifications for those stances superior to strategies which are tough but minimize the exchange of information with the other?

SUMMARY

In this chapter three competing explanations for bargaining behavior were described. In addition, the relevance of attribution research to the development of an understanding of bargaining behavior was supported. From this discussion three major issues may be identified.

The first issue concerns the lack of research into the interactive effects of various behavioral cues on bargainers' perceptions, attributions, and behavior. Clearly, bargaining behavior is multi-dimensional in the sense that an observer or participant is presented with a multitude of cues associated with any action. It is the interaction of these cues to which the observer attends that influences the observer's interpretation of that behavior. The importance of this micro-level perspective for attribution theory and bargaining behavior will be developed in Chapter III.

Secondly, researchers (e.g. Schurr and Ozanne 1985) have frequently cited attributions as powerful mediators of the cue-response relationship in bargaining. However, it appears that no one has demonstrated the conditions under which attributions are made spontaneously by bargainers in an attempt to understand the other party's behavior. Even if one accepts that such attributions are made, little research has examined the strength of the linkage between those attributions and bargainers' attitudes, intentions, or behavior.
A final issue concerns the unresolved conflict between the reciprocity and the aspiration level explanations for the cue-response relationship in bargaining. Even though these explanations make opposite predictions about bargaining behavior, both have received considerable support in the experimental bargaining literature. Attempts to reconcile these rival hypotheses have not been very convincing. Smith et al. (1982) attempted to show that tendencies to use matching or mismatching behaviors are largely a function of the pay-off information available to the negotiators. From this perspective matching behavior occurs when the other's pay-offs are known or can be confidently inferred, and mismatching is more likely when such information is unavailable. This effect was expected to be enhanced under high time pressure. Their hypothesis was not supported because behavior consistent with reciprocity was observed in the limited information/high time pressure condition. However, their bargaining game was so simple and artificial that subjects in the low information condition may have been able to infer the pay-off schedule of their opponents.

Since both matching and mismatching types of bargaining behavior have been demonstrated in experimental research, it is clear that a more general explanation for bargaining behavior is needed to account for these results. The attribution framework proposed in this research holds the potential to reconcile these seemingly contradictory models of bargaining behavior. In this framework, behaviors reflecting aspiration level adjustments or reciprocity are not viewed as mutually exclusive. Rather, both types of behaviors could be observed in the same negotiation depending upon the nature and strength of the attributions made concerning the
other's behavior, dispositions, intentions, etc. While not designed to provide a strong test, because attributions are not directly manipulated, this research should provide some interesting correlational evidence concerning the linkage between attributions and the type of behaviors usually associated with the reciprocity and aspiration-level models.
CHAPTER III

AN ATtribution THEORY OF BARGAINING BEHAVIOR

INTRODUCTION

Attribution theories have frequently been proposed as a rich conceptual framework which could be fruitfully applied to bargaining research (e.g. Chertkoff and Esser 1976; Schurr and Ozanne 1985). Despite the relevance of attributional processes to an understanding of bargaining behavior, scholars have not followed up this speculation with the rigorous program of research that is clearly merited. The purposes of this chapter are (1) to describe an attributional framework useful for guiding future research into attributional processes in bargaining, (2) to demonstrate the power and relevance of attribution theory in bargaining research by proposing an attributional explanation for some fundamental, unresolved bargaining issues, and (3) to emphasize the signalling power of cue consistency across time and modality in bargaining.
A FRAMEWORK FOR STUDYING BARGAINING ATTRIBUTIONS

In the model depicted in Figure 1 (adapted from Hastie 1984), the attributional process is triggered by several types of conditions. An attributional search begins with the bargainer seeking information relevant to the problem both from memory and from external sources such as the target person and other members of the bargaining unit. After the search process, one or more plausible inferences are made to explain the target behavior. These attributions are stored in memory for future reference, and the bargainer then responds with behavior which is to some extent determined by the

![Diagram]

Figure 2. A framework for studying attributional processes in bargaining.
nature of the inferences made. The strengths of the linkages between the attribution, the observed behavior, and the subsequent response are also stored in memory as part of an attribution schema (Kelley 1973).

ATtribution TRiggers

Since some scholars (e.g. Manis 1977) have questioned the prevalence and importance of attributional processing in human behavior in general, it seems necessary to examine the conditions under which attributions are likely to be made in bargaining. Figure 2 lists four factors which have been shown to be potential instigators of attributional processing: (1) explicit causal questions, (2) outcome dependency, (3) task failure, and (4) unexpected events. Although demonstrations of the potency of these factors to stimulate inference-making have been made in contexts other than bargaining, the extrapolation of these findings to bargaining behavior seems straightforward.

The achievement literature provides substantial evidence that task failure (e.g. Diener and Dweck 1978; Wong and Weiner 1981) can stimulate causal reasoning. In the former study the researchers used a concurrent protocol procedure in which school children talked about what they were thinking while working on a discrimination task in which they were asked to choose the correct shape from a pair of shapes on a card. Task failure led subjects, who had been characterized as "helpless" based on the Intellectual Achievement Responsibility Scale (IAR), to attribute failure to personal characteristics (i.e. lack of ability) and to make more attributions than children classified as mastery oriented by the IAR. Helpless children tended to focus on the causes for
their failure while mastery oriented students sought remedies for their failure and were less concerned with causes. The Wong and Weiner study was a role-playing experiment in which subjects were asked to imagine that they had expectedly or unexpectedly failed or succeeded on an exam. Based on information seeking measures in which subjects' requests for causally relevant information were counted, subjects imagining failure reported greater attributional search than those imagining success.

In a bargaining context, perceptions of failure in previous negotiations and the failure of the other party to accept the latest offer in the current negotiation may lead a bargainer to seek explanations for that lack of success and result in more frequent or more thorough inferential processes during subsequent negotiations.

Explicit causal questions also stimulate inference-making. In the Enzle and Schopflocher (1978) study a confederate gave help to subjects that either appeared to be spontaneous or a result of instructions from the experimenter. Half of the subjects were given explicit instructions to evaluate the confederate's dispositions. According to Kelley's discounting principle, the confederate who appeared to help spontaneously should be rated as being more socially attractive than the confederate who appeared to be following instructions. Interestingly, only those subjects who were asked to make attributions about the confederate subsequently evaluated the confederate in a manner consistent with the discounting principle. Apparently the other subjects either did not make attributions about the confederate spontaneously or did not act on their attributions. It is likely that direct attributional questions asked of subjects before or after bargaining experiments may lead bargainers to make attributions which
might not otherwise have been made spontaneously or may increase the salience of those attributions which are made. This phenomenon places severe burdens on methods used to measure attributions which are independent of the research context.

Several experiments (e.g. Pyszczynski and Greenberg 1981; Wong and Weiner 1981) in the attribution literature support the prediction that unexpected events promote attributional processing, particularly when the disconfirmed expectancy has negative consequences for the perceiver. In the Pyszczynski and Greenberg study subjects observed the experimenter asking a confederate a small or large request which the confederate either refused or agreed to. Subjects expected the confederate to comply with the small request but not the large request. When their expectancies were disconfirmed, subjects sought more information relevant to the confederate’s helping behavior than when expectancies were confirmed. The authors argued that the differences in the type of information sought about the confederate were driven by the relative extent of causal analysis conducted by subjects. Similarly, Wong and Weiner (1981) reported that attributional search is more likely when people are confronted with outcomes which are both negative and unexpected.

In negotiations, inference-making may be stimulated by bargaining behavior that deviates markedly from the perceiver’s experience, that seems contrary to the actor’s interests (as in Kelley’s (1973) augmentation principle), that is inconsistent with the actor’s prior behavior, or that violates norms of acceptable bargaining behavior. For example, consider a situation where a bargainer has been consistently soft or cooperative in his or her bargaining stance but suddenly deviates from this pattern by ceasing to make concessions and by expressing an inability to make further
concessions. Faced with such a dramatic shift in behavior, the perceiver is likely to begin an attributional search for a likely cause. Another case of disconfirmed expectancy occurs when a cooperatively-oriented bargainer makes a meaningful concession, fully expecting a concession in return, but is rebuffed and is left to wonder why the reciprocity norm was violated. Should the unexpected failure to cooperate be attributed to external situational constraints such as a lack of authority to make further concessions or to internal dispositional factors such as greed? The perceiver’s response may depend strongly on the type of attribution made to account for such distinctive behavior.

Mutual dependency seems to be a particularly powerful attribution-triggering factor in a bargaining context. Berscheid et al. (1976) demonstrated in a non-bargaining context that the degree of motivation to perform causal analysis of an actor’s behavior varied directly with the actor’s ability to control the rewards and punishments available to the perceiver. It has been suggested that the attribution-stimulating properties of outcome dependency are derived from a drive for control (Harvey and Weary 1984). Bargainers are motivated to seek as much information as possible about environmental factors likely to influence hedonically relevant outcomes.
All four attribution stimulating factors described above seem likely to operate in a bargaining context. However, little research has examined the relative importance of these factors and other triggers. It is important to understand the conditions under which attributions are likely to be made in bargaining for two reasons. First, this knowledge would contribute directly to our understanding of bargaining behavior and would allow a judgment to be made as to the relative importance of attributions as determinants of bargaining behavior. Obviously, if attributional processing does not occur spontaneously in bargaining, then the attribution-behavior link can not be a strong one. Second, an understanding of the factors capable of stimulating inference-making in bargaining might improve bargaining skills by suggesting tactics that would tend to elicit certain types of attributions and impressions favorable to the tactician.

ATTRIBUTIONAL SEARCH AND INFERENCE MAKING

Once the bargainer recognizes an attributional problem, the process of deriving a plausible explanation for the observed behavior is set into motion. The first step in this process would seem to be a search for attributionally relevant information. This information might be internal (i.e., in memory) or external to the inference maker. However, due to the strategic nature of bargaining, information obtained through explicit communication with the other party may not be accurate. Bargainers not only manage their explicit communications, but they frequently attempt to control the impression derived from implicit cues such as the pattern of concessions as well (Brucks and Schur 1984). Thus, bargaining communications serve a dual purpose: one
informational, the other manipulative. Bargainers may make excuses or attempt to justify their tough behavior by telling their negotiating partners that their inability to concede is caused by external, uncontrollable factors such as high costs. Another common impression management tactic (Schlenker 1980) is to try to bluff the other into accepting the current offer by threatening to break-off negotiations or insisting on one's inability to make further concessions. This "big lie" technique has been shown to work with student subjects in some bargaining experiments (e.g. Chertkoff and Baird 1971). However, such overt manipulations of impressions and attributions are unlikely to be credible in most bargaining situations. For instance, the credibility of a statement such as "This is my last offer" is immediately undermined when the bargainer subsequently makes a further concession. Much of the mainstream attribution research (e.g. McArthur 1972) has focused on the extent to which people acquire and utilize distinctiveness, consistency, and consensus information (Kelley 1967) as part of the process of making attributions. There exists some empirical evidence that people tend to prefer consistency information and to use it before considering distinctiveness or consensus information (Major 1980). Kelley (1973) views his original attribution model, which includes the three criteria for judging the validity of an attribution (i.e. distinctiveness, consensus, and consistency), as an idealized framework within which more limited attributational processes are actually carried out. This perspective recognizes that one or more types (consensus, distinctiveness, consistency) of information sources are usually unavailable in a negotiation and other social contexts, particularly when people are interacting for the first time. Yet even in circumstances of incomplete information, attributions may be quickly and confidently made.
Kelley's causal schemata were proposed as one solution to this problem of one-time interactions and limited information (Kelley 1973). A causal schema is thought to function as an assumed pattern of data in a full analysis of variance framework which is learned through experience. Hence, a chessmaster playing with an opponent for the first time is able to confidently infer the other's intentions from a pattern of moves even though inference-relevant information is incomplete.

Kelley has proposed several schemata. One which might be applied in a bargaining setting is the multiple sufficient cause schema (MSC). When a bargainer is confronted by tough behavior from the other party, sufficient causes for that behavior might include greed, aggressiveness, constituent pressure, economic restrictions, use of a negotiating ploy, etc. Kelley's discounting principle suggests that under such circumstances the role of any one of these factors as a potential cause of the observed behavior is discounted due to the presence of other plausible causes. The attributor then becomes mired in a problem of trying to assess the plausibility of various competing explanations. It is exactly this sticky problem which must be solved if an attribution theory is to prove useful as a predictor of bargaining behavior. A potential solution to this problem of relative plausibility appears to have been overlooked in earlier theoretical work even though the raw material for the solution may be found in Kelley's attribution model. While distinctiveness and consensus information may often be absent in a bargaining context, several different types of consistency information are available in the form of a pattern of stimulus cues provided to one party by the behavior of the other.
CUE CONSISTENCY

Kelley's model recognizes consistency in response over time and across modalities. Kelley has described the latter form of consistency as referring to different perceptual modes or sensory modalities (Kelley 1973) of interaction with the actor. Clearly, the consistency dimension of Kelley's cube is multi-dimensional. Bargaining behavior provides a multitude of stimuli, a subset of which is attended to and comprehended by the observer. However, researchers have not used the concept of consistency over modality in this way. Most researchers have either ignored the modality dimension (e.g. McArthur 1972) or have associated it with differences in context (e.g. Mizerski et al. 1979).

The concept of consistency over perceptual modality is very important in bargaining. Cue inconsistencies across time or modality may undermine a bargaining position. Many different types of cues are typically available in a negotiation: facial expressions, body language, explicit written and verbal communications, the size and frequency of concessions, the deliberation time between bids, etc. Perhaps, the most important type of implicit information available in a negotiation is provided by cue patterns rather than the individual cues. When multiple cues are present in an interaction (and it is hard to imagine a setting in which more than one cue would not be available in a bargaining context), several types of information are extractable from the pattern of their inter-relationships or correspondence with one another. First, any cue may exhibit a pattern of consistency over time. For example, a bargainer may start out with a tough initial offer, make a relatively generous concession, and then follow a non-linear pattern of decreasing concessions over time which signals an
asymptotic settlement price (e.g. Druckman et al. 1972). Second, any set of cue patterns provides information relating to the degree of inter-pattern consistency over time. In this case, a pattern of increasingly intense, agitated communications expressing a growing reluctance to make further concessions would be consistent with the concession pattern just described. Finally, sets of individual cues will exhibit varying degrees of inter-cue consistency at any one point in time, thereby providing a third type of information. If at least one cue provides information that is inconsistent with the other available cues, the credibility of the bargainer will be damaged. For example, if a bargainer is inconsistent in her verbal communications, sometimes tough and other times soft, the degree of correspondence between the wrangling behavior and any particular concession will be high when the concession is small (large) and the message is tough (conciliatory) and low when the concession is large (small) and the message is tough (conciliatory).

This consistency information may be used to overcome the plausibility dilemma described earlier. The degree of intra-cue and inter-cue correspondence over time determines the most plausible cause for the observed behavior. In other words, the most plausible cause for an observed behavior is the one which is most consistently signalled by the cues available in the interaction. If information related to consistency over time is not available for any reason, the degree of cue consistency during the one period of interaction may be sufficient to allow an ordering of potential causes in terms of plausibility.

Before proceeding, it might be helpful to reconsider our earlier example of causal analysis in bargaining. Consider again the situation in which a buyer is
attempting to determine the cause of a seller's tough negotiating behavior. The seller claims to have a high break-even point as justification for an inability to concede beyond a certain point. The buyer realizes that the seller could be telling the truth about the external constraints on his/her behavior. However, the buyer also recognizes several other plausible causes for the seller's behavior such as greed, aggressiveness, the need to dominate, etc. In this setting Kelley's multiple sufficient cause schema would appear to be appropriate. However, how is the buyer to evaluate the relative plausibility of these competing explanations for the seller's behavior?

The concept of cue consistency provides a differentiating mechanism in such a case. Let's suppose that the seller's concessions have been decreasing in size over time in a non-linear manner, thereby signalling an asymptotic settlement price. In addition, the seller has been taking an increasingly long time to respond to the buyer's counteroffers while becoming more and more agitated and strident in his communications concerning the likelihood of conceding further. The observer perceives a high degree of correspondence both among the cues presented during a given bid and within cues over time. The strong cue correspondence may make the external attribution (high break-even point) relatively more plausible than it would be otherwise, and may increase the buyer's confidence in attributing the seller's behavior to economic constraints.

Cue consistency is particularly important in bargaining because of certain attributional biases that have been identified in past research. In particular, observers tend to be biased toward person attributions as explanations for observed behavior while actors are biased toward external attributions as explanations for their own
behavior (Jones and Nisbett 1971). Ross (1977) has called this phenomenon the “fundamental error of attribution”. In bargaining, each actor is also an observer, so the bargainer attempting to enhance his/her credibility must overcome this attributional bias regardless of whether the information being conveyed is truthful or not. This attributional bias leads to the prediction that cue consistency must be high for an external cause for tough bargaining behavior to be inferred. This raises the question of how much consistency is enough. At this point any answer to such questions is highly speculative since there is no empirical basis for making a prediction.

It is important to recognize that, just as there are several types of consistency information, a lack of correspondence among the cues can take different forms as well. The effects of these types of inconsistency on attributional processing differ. Consider a variation of the previous bargaining example where, instead of a non-linear, decreasing concession pattern, the seller has been making increasingly larger concessions over bids in the negotiation. This concession pattern is internally consistent over time; however, such a pattern does not correspond with the wrangling and deliberation time patterns available. In this case, the lack of consistency across cues should weaken the external attribution being considered by the buyer. Similarly, if the seller's concession behavior did not exhibit a pattern at all (i.e. had been apparently random), cross-cue correspondence would still be damaged.

This perspective on attributional processing recognizes the complex interrelationships among the cues provided in a negotiation. The rich information value of the interaction of these behavioral cues provides a potential solution to the problem of multiple sufficient causes for a target bargaining behavior. From a cue consistency
perspective, the patterns observable in bargaining behavior are more important to attributional processes than individual cues. A prediction that high levels of cue consistency can increase the plausibility of a factor as a potential explanation for an observed behavior is, in effect, a prediction that impression management can be used to outwit naive attributional processing in many human interactions. This should not be a surprising finding. Attempts to manipulate and manage impressions are part of the reality and richness of bargaining.

THE ATTRIBUTION-BEHAVIOR LINK

There exists a long-standing difference of opinion in bargaining research as to the basic nature of the cue-response relationship in bargaining (Smith et al. 1982). One school of thought, perhaps guided by Osgood’s (1959) guidelines for the reduction of tension in international arms negotiations, sees bargainers as primarily guided by a social norm of reciprocity. From this perspective, bargainers are likely to respond to tough bargaining behavior with correspondingly tough behavior of their own. When one party makes a concession, the other party is expected to reciprocate. Thus, if this hypothesis is valid, an examination of behavior in a negotiation should reveal a pattern of matched behaviors.

The aspiration level hypothesis posits that bargainers tend to adjust their aspiration levels in response to their bargaining partners’ behavior (Siegel and Fouraker 1960). According to this explanation, a bargainer’s aspirations and behavior are mismatched with the other bargainer’s behavior. In other words, a bargainer will tend to lower his aspirations, make greater concessions, and settle at a less favorable
outcome when the other adopts a tough bargaining stance. These responses are probably driven by attributional processes through which tough stances are attributed to a strong bargaining position and soft stances are attributed to weakness. When the opponent adopts a soft bargaining stance, a bargainer will respond by raising his aspirations and becoming more competitive. This is exactly the opposite of the prediction made by the reciprocity hypothesis.

Both theoretical perspectives were reviewed in detail in Chapter II and, therefore, will not be discussed here. The essence of the problem is that support exists for both hypotheses. Several studies indicate that Siegel and Fouraker’s (1960) level-of-aspiration hypothesis is a better model of bargaining behavior (e.g. Siegel and Fouraker 1960; Yukl 1974a,b; Bateman 1980; Smith et al. 1982). On the other hand, an equally impressive number of studies have provided support for the reciprocity explanation (e.g. Chertkoff and Conley 1967; Pruitt and Johnson 1970; Benton et al. 1972; Esser and Komorita 1975; Komorita and Esser 1975). The dependent variables of interest in these studies include initial offer, concession size, concession frequency, the percentage of concessions which are reciprocated, settlement price goal (aspiration level), and final settlement price. Predictions based on the competing theories of bargaining behavior are tested by observing the ways in which subjects respond to various programmed bargaining strategies.

Bargainers sometimes behave in a manner consistent with an aspiration level perspective, and at other times reciprocity seems to be operating. In fact, support for the two competing explanations for bargaining behavior often varies within an experiment depending on the dependent measure considered (e.g. Yukl 1974a). How
is this conflict to be resolved? One approach to reconciling the contradictory
evidence has been to attempt to identify the conditions under which either reciprocity
or aspiration level types of behavior are likely to be observed. Unfortunately, this stream
of research has also produced equivocal results (Smith et al. 1982).

What is needed is a more sophisticated theory which does not require an
either-or dichotomy between behaviors consistent with an adjustment of aspiration
levels and those consistent with the application of a norm of reciprocity. Both types of
behaviors are clearly possible (even probable) during a negotiation. The position
taken here is that the relationships among cues and responses in bargaining are, at
least in part, mediated by attributional processes occurring in the minds of both parties
in a bargaining dyad. Whether a bargainer responds to toughness with toughness or
concessionary behavior depends on the nature and the strength of the attributions
made to account for the other party's behavior.

Support for this perspective in consumer bargaining research is scarce and
indirect at best. In a recent bargaining study, Schurr and Ozanne (1985) found that
subjects conceded more and were generally more tolerant of their bargaining
partners' tough behavior when they were told before the negotiation that the other
party was trustworthy and fair. In effect, subjects had a crucial attribution made for them
by the experimenters. When bargainers have little or no information about the other
party's payoffs in the negotiation, they use the other's behavior to infer the
reasonableness of their own position and aspirations. Although Schurr and Ozanne did
not measure bargainers' perceptions of their partners' reasonableness directly, the
combination of trustworthiness and toughness may have led to a perception of
reasonableness about the other's behavior which in turn led to greater concessions. In a Prisoner's Dilemma experiment, Kelley and Stahelski (1970) found that competitively-oriented subjects tended to attribute competitive orientations to their partners and to respond in kind while cooperatively oriented subjects made both competitive and cooperative dispositional attributions depending on the pattern of moves observed. Thus, it seems that the type of attribution made to account for the other's behavior and the linkage between that attribution and subsequent response are dependent both on one's own motivational orientation as well the behavior of the other party.

Let us consider a simple, hypothetical bargaining example in which a seller is motivated to conduct a causal analysis of a buyer's behavior. The only cues that are available are the initial offer and the pattern of concessions. This is somewhat analogous to a real estate negotiation in which the bargaining parties never meet. Suppose the buyer has made a very low initial offer which was followed by a concession pattern characterized by relatively large and generous initial concessions. The low initial offer seems tough, yet the buyer proceeds to concede generously. How is this behavior to be interpreted? Clearly, even this simple example requires some rather complex causal analyses which can be made only with full consideration of the context. If the seller's own concessions have been minimal, the buyer's behavior might be attributed to a weak bargaining position (i.e. buyer must have the house; or the house is very attractively priced compared to alternatives), to a lack of bargaining expertise, or to a desire to cooperate with the seller. In this situation, if the seller attributes the buyer's behavior to a weak position or to ignorance, mismatching is likely.
to result as the seller hardens her own position to exploit the perceived weakness. On the other hand, if a cooperative disposition is attributed to the buyer, the seller may reciprocate with concessions of her own.

Now suppose that as the negotiation proceeds the seller notices that the buyer's concessions have been decreasing in size at an increasing rate. In fact, the concessions seem to be approaching a settlement price asymptotically. Now that a pattern is observable, the seller's causal analysis of the buyer's behavior may change to incorporate the new information. The plausible cause of the buyer's behavior now becomes a clearly signalled settlement price beyond which the buyer may be unwilling or unable to concede. In this case, assuming the signalled price is within the range of outcomes acceptable to the seller, the seller's behavior is likely to be mismatched with the buyer's as he concedes to the signalled price. If the signalled price is not in the acceptable range of outcomes or if the seller feels manipulated, the seller may adopt a concession agenda that signals an alternative minimum settlement price. This is an example of matching behavior or imitation at the level of bargaining strategy (Pruitt 1981). The key point that should be emphasized here is that an effect of attribution on response is likely to be observed regardless of the type of attribution made to account for the other's behavior. Thus, it is not necessary for the observer to be gullible and willing to accept the information provided by the other's behavior at face value. Even if the behavior patterns are attributed to the use of a manipulative bargaining ploy or strategy, the observer's subsequent behavior is likely to be strongly affected by that inference.
The example used above is a simple one and assumes that the bargainer is aware of the behavior patterns of the other party. However, it does provide an interesting demonstration of the capacity of an attribution-based explanation to reconcile the confusing and contradictory findings of earlier bargaining research. Of course, this is not to suggest that attributions are the only determinants of behavior in bargaining. Rather, it seems likely that many situational (e.g., relative availability of information) and individual difference variables (e.g., motivational orientation) affect the extent to which attributions guide bargaining behavior and even whether attributions are made at all.

SUMMARY

In this chapter a framework was described which could be used to structure a program of research investigating the role of attributional processes in bargaining behavior. Four important parts of the attributional process were identified as particularly worthy of future research: (1) the identification of factors likely to instigate attributional processes, (2) the nature of attributional search and cue utilization, (3) the process by which available information is used to compute attributions, and (4) the nature and strength of the link between attributional processing and subsequent bargaining behaviors. The concept of cue patterns across time and modalities was introduced as a potentially powerful construct which may explain the way in which bargainers overcome the dilemma of choosing among several plausible explanations for the other party's behavior. Finally, an example was provided to demonstrate the potential ability of an attributional perspective to reconcile a long-standing difference of opinion
in bargaining research. While a vast body of potentially relevant attribution research exists in social psychology and allied fields, consumer researchers interested in buyer-seller negotiations have not followed up on their speculations concerning the crucial role played by attributional processing in bargaining. In Chapter IV several testable hypotheses are described which are derived from the attribution-based theoretical perspective described in this chapter. This research was designed to test these hypotheses, thereby providing some preliminary information concerning the nature and importance of bargaining attributions.
CHAPTER IV

RESEARCH HYPOTHESES

INTRODUCTION

The most interesting questions to be addressed by this research relate to the effects on attributions and behavior of various types of inter-relationships among the behavioral cues provided in a negotiation. In Chapter III the concept of cue consistency was introduced to explain the way in which bargainers may derive plausible explanations for their partners' behavior. The purpose of this chapter is to propose and defend several hypotheses based on attribution theory in general and cue consistency in particular. The research propositions to be examined are presented below. Definitions of the constructs used and the rationale for each hypothesis are then discussed in some detail. All hypotheses are expressed in terms of buyer-seller negotiations.
CUE CONSISTENCY MAIN EFFECTS

As was pointed out in Chapter III, several kinds of information are provided by a bargainer's behavioral cues such as the concessions made or the messages communicated. For example, a negotiator's concessions may follow a pattern over time which is consistent in its direction, soft-to-tough or tough-to-soft. Other cues such as the bargainer's messages may exhibit similar patterns. If these patterns provide the same directional signals, in other words both are soft-to-tough or both are tough-to-soft, then a high degree of cross-cue consistency is said to exist and the information value of the bargainer's behavior is also high. Figure 3 depicts this condition.

![Diagram]

Figure 3. Highly consistent, directional cue condition (CD).
If the available cues exhibit different directional patterns thereby providing conflicting signals to the observer, then the information value of the cue patterns is high but cross-cue consistency is low. A very confusing situation for a bargainer interested in understanding his partner’s behavior is created by the cue set depicted in Figure 4. In this condition, both the message and the concession cues are patterned and directional. However, the confusion is caused by the conflicting information provided by the direction, tough-to-soft or soft-to-tough, suggested by each cue. Here, the negotiator’s messages are becoming increasingly tough which suggests an inability or unwillingness to make further concessions. At the same time the concessions grow larger as the negotiation progresses, indicating an increasing willingness to cooperate. With only this conflicting information, it would be very difficult to make confident attributions about the other’s behavior.

Situations like the one just described pose some interesting questions about how inconsistent information is handled in impression formation. For example, do people faced with conflicting information tend to avoid the dilemma by ignoring some of the inconsistent information? Perhaps the information is not ignored, but rather is perceived in a biased fashion due to the dominance of one cue over another. To test these propositions a third cue condition was created in which the message cue is patterned and directional, but the concessions are neither patterned nor directional. This condition is shown in Figure 5. Thus, in Figure 4 two conflicting cue patterns which are directional and, therefore, high in information value are paired, while in Figure 5 only one of the cue patterns is directional and provides useful information about the actor’s intentions. By including both of these cue conditions in the experiment, it is possible to
examine the dominance issue in more detail. For example, if perceptual biases are observed only in the mixed cue condition (Figure 5), then a reasonable assumption would be that the dominance phenomenon is related to the information value of the available cues (i.e. the cue conveying the most information dominates). On the other hand, if the same perceptual biases are observed in both cue conditions, a reasonable conclusion would be that one type of cue is more salient. For example, learning theory would predict that information based on observed behavior (i.e. concessions) would be more salient than information based on verbal communication (i.e. actions speak louder than words). If different perceptual biases are observed in the two cue conditions, some interaction of information value and cue type would be indicated.

If bargainers are prone to perceptual biases when faced with a combination of low information and high information cues, subjects should perceive the non-patterned concessions as exhibiting a soft-to-tough pattern similar to that of the message cue. This is a form of stimulus generalization in which the information from the patterned cue is generalized to the non-patterned cue. It is important to note that relationships among the signals provided by a bargainer's behavior are dynamic and very complex even in simplified settings in which only two cues are provided to the observer. It is likely that an observer will draw different conclusions about his or her bargaining partner's behavior depending on the stage of the negotiation (i.e. the number of bids exchanged) at which the attributional processing occurs. For example, consider a two-cue situation in which both the toughness of the bargainer's messages and the size of his concessions are erratic over time, creating an impression of randomness in his behavior. Figure 6
Figure 4. Highly inconsistent directional cues (ID).

Figure 5. Mixed cue condition (MC): one directional cue, one non-directional cue.
depicts a case in which no patterned cues are provided, and the information value of the behavior is low when the behavior is evaluated in its totality. However, during any bid the relationship between the size of the concession made and the toughness of the verbal communication may be entirely consistent. Likewise, the direction, tough-to-soft or soft-to-tough, suggested by the change in the cues from one bid to the next may be consistent for any two consecutive bids considered. In short, the overall relationship between the cues may provide little information about the bargainer, but an observer may or may not see the cues as conflicting if only a portion of the behavior is closely attended to.

The importance of attributions as mediators of responses to tough bargaining behavior was discussed in Chapter II. A tough negotiator does not want his tough behavior to be attributed to socially undesirable personal characteristics such as greed or a domineering personality. If a seller can influence a buyer to make an external attribution for the seller's tough bargaining stance, the likelihood that the buyer will concede to the seller's position will be enhanced. One way to accomplish this goal is for the seller to manage the behavioral cues provided to the buyer such that a plausible external cause for the tough behavior is signalled. Bargainers who are consistent in their behavior should be viewed as being more trustworthy than inconsistent bargainers; and, therefore, the credibility of the signal conveyed by their behavior should be increased. This effect of cue consistency on perceptions of trustworthiness is based partly on the fact that consistent bargainers behave in a manner which is consistent with their verbal communications while inconsistent bargainers do not. A negotiator who claims to be unable to make further concessions
on one bid, but then makes a generous concession on the next bid is clearly not to be trusted. This leads directly to a prediction that bargainers exposed to behavioral cues from their negotiating partners which consistently signal a soft-to-tough direction to their behavior will concede more than those facing inconsistent negotiators. Stated formally:

H1: Subjects will concede more when available behavioral cues consistently signal increasing toughness than when cues are inconsistent.
H2: Subjects will perceive the seller to be more trustworthy when available behavioral cues are consistent than when cues are inconsistent.

Since the effects of cue consistency are largely dependent on bargainers' perceptions of cue patterns over time, it is plausible that the effect of cue consistency on bargaining behavior might not be manifested until sufficient time has passed in the interaction for the direction of the cue patterns to be recognized. Thus, it is predicted that consistent soft-to-tough behavior will elicit greater concessions from bargainers late in the negotiation than inconsistent behavior.

H3: Bargainers will concede more late in the negotiation when faced with consistent soft-to-tough cues than when the available cues are inconsistent.

These hypotheses are simply main effect predictions for cue consistency. Yielding will be hindered when any type of inconsistency (i.e. over time, across cues, etc.) among behavioral cues is observable. The predictions for yielding are derived directly from the anticipated effects of cue consistency on subjects' perceptions of the trustworthiness and credibility of the other party. A key assumption is that attributions of trustworthiness and fairness in the consistent cue condition will moderate the otherwise negative impact of tough bargaining behavior on yielding (Schurr and Ozanne 1985).

Another explanation for the predicted effects of consistency on yielding is based on the notion of attributions as mediators of cue and response in bargaining. Subjects may attribute the tough bargaining behavior to an external constraint, as
suggested by the other party, regardless of whether the available cues are consistent or inconsistent (although subjects should be more likely to do so in the consistent cue condition). However, subjects faced with cues which are inconsistent are unlikely to be very confident about the accuracy of the inference they have made. Less confident subjects should be less likely to act on the attribution by making concessions than confident ones. It is also possible that the internal/external nature of the attribution is really not particularly important. Rather the key attribution may simply be whether or not subjects accept the veracity of the seller’s signalled resistance point. However, subjects’ willingness to act on this information by conceding is likely to depend on the type of attribution made to explain why the seller will not concede beyond the signalled price.

In the high-consistency cue condition depicted in Figure 3, a settlement point is clearly signalled by the negatively accelerated concession pattern and the soft-to-tough message pattern. An external attribution for the seller’s tough behavior should be strengthened if the seller tells the buyer that the tough stance is necessary because of constraints such as high costs or competitive conditions and the seller’s behavior is consistent with such an explanation. This is true because the concession and message pattern cues both signal that the seller has reached his limit. On the other hand inconsistent behavior should lead to attributions of causes which are internal to the seller (i.e. greed, lack of experience, etc.). Temporally consistent, directional cue patterns provide more information than inconsistent or non-directional cue patterns. This makes the consistent seller’s behavior more certain and predictable and should lead to stronger causal attributions.
H4: Stronger (i.e. more certain) attributions will be made when cues are consistent than when cues are inconsistent.

H5: Bargainers will report greater confidence in their estimates of the other party’s reservation price when the other’s behavioral cues are consistent and directional than when those cues are inconsistent and/or non-directional.

External attributions for the other party’s behavior will be associated with greater yielding than internal attributions when that behavior is perceived to be tough. This proposition is speculative in that little empirical evidence exists that would suggest a locus-of-causality effect on yielding in bargaining. However, considerable support for an attributional mediation of retaliation may be found in the human aggression literature. Scholars interested in human conflict have proposed that people are less likely to reciprocate another’s aggressive behavior when that behavior can be attributed to forces beyond the aggressor’s control (e.g. Horai 1977; Dyck and Rule 1978). In Horai’s words, “the allocation of praise and blame is affected by whether the causal explanation centers on characteristics or qualities of the actors involved or on aspects of the social or physical environment.” Analogous behavior can be seen in the actions of the criminal court system in this country in that less severe punishment is often applied to those whose crimes can be attributed, at least partially, to circumstantial factors, such as the orders of a superior or a loss of control (e.g. due to intoxication).

H6: Bargainers who are provided by their opponents with an external justification (e.g. cost constraints) for tough bargaining behavior will tend to attribute their opponents’
tough bargaining behavior to external factors more strongly when other behavioral cues are consistent with the external justification than when one or more of the other behavioral cues are inconsistent with the justification.

H7: External attributions for the other party's tough behavior will be associated with greater yielding than internal attributions for tough behavior.

When evaluating bargainers' affective reactions to the negotiation, questions are usually directed toward satisfaction with the outcome. This is understandable given the obvious importance of the final settlement. However, focusing on attitudes toward the outcome could lead to erroneous conclusions concerning the source of a bargainer's overall affective response to the negotiation. In fact, affective response toward the negotiation could be more closely related to the behavior of one's bargaining partner and to one's own performance than to the final outcome. This proposition has significant implications for personal selling and the importance of maintaining cordial business relationships. Stating the proposition formally, bargainers will be more satisfied with their own performance in the negotiation when cues are consistent than when cues are inconsistent.

One could also make the opposite prediction. For example, suppose the negotiation were ended after a fixed number of trials by the programmed opponent either accepting the bargainer's latest offer or rejecting it in favor of some alternative outside the negotiation. The most negative reaction to the negotiation should be reported by those bargainers in the consistent cue condition whose latest offer is
rejected, and the most positive reaction should be expressed by those in the consistent cue condition whose latest offer is accepted. The reasons for these predictions are simple. Those bargainers whose latest offers are accepted will feel very good for having read the other's signals correctly and having squeezed out the last possible concession. On the other hand, the rejected bargainers will be especially frustrated with themselves due to their perception of having pushed the other too far. If bargainers' satisfaction with the negotiation is more affected by the other's behavior than the final outcome, it is likely that some shrewd negotiator may be able to keep opponents happy while taking them to the cleaners. Again, an awareness of the potential pitfalls (and opportunities for influence) in negotiations may greatly increase a bargainer's effectiveness.

H8: There will be an interactive effect of cue consistency and type of outcome in the negotiation on subjects' satisfaction with their performance in the negotiation. Specifically, subjects faced with a consistent seller will report greater satisfaction with their performance when their negotiation ends in agreement and less satisfaction satisfaction with their performance when the negotiation ends in a deadlock than subjects facing an inconsistent seller.

THE SPONTANEITY ISSUE

Another important issue to be addressed in this research is the question of spontaneous attributional processing in bargaining. I argued in Chapter III that bargaining is the type of interaction likely to motivate participants to conduct causai
analyses in an attempt to understand the other party's behavior. However, this proposition has never been tested. If bargainers engage in inference-making spontaneously in a negotiation and if the attributions made affect their own behavior and/or their perceptions of the other party, then their behavior and the behavior of bargainers who have been given specific instructions to make attributions may not differ significantly. On the other hand, if the behavior of bargainers in a forced-inference condition is significantly different from bargainers in a spontaneous-inference condition, one would conclude that less attributional processing is occurring spontaneously or, alternatively, that attributions and behavior are less strongly related in the spontaneous-inference condition. The inference-making manipulation may simply make the subjects' attributions more salient. In this case, the attributions made should be similar between conditions, but the relationship of the attributions to behavior should be stronger in the forced-inference condition. The final hypotheses predict that bargainers do spontaneously engage in substantial attributional processing. Specifically, bargainers who are instructed to conduct causal analyses of their opponents' behavior will not differ in the nature or strength of their attributions nor in their behavior from bargainers who receive no inference instructions.

H9: Bargainers who are instructed to conduct causal analyses of their opponents' behavior will not differ in their behavior from bargainers who receive no inference instructions.
H10: Bargainers who are instructed to conduct causal analyses of their opponents' behavior will not differ in their perceptions from bargainers who receive no inference instructions.

SUMMARY OF HYPOTHESES

In this section the hypotheses proposed in this research are summarized.

H1: Subjects will concede more when available behavioral cues signal a consistent soft-to-tough direction to the seller’s behavior than when cues are inconsistent.

H2: Subjects will perceive the other party to be more trustworthy when available behavioral cues are consistent than when cues are inconsistent.

H3: Bargainers will concede more late in the negotiation when faced with consistent soft-to-tough cues than when the cues available are inconsistent.

H4: Stronger (i.e., more certain) attributions will be made when cues are consistent than when cues are inconsistent.

H5: Bargainers will report greater confidence in their estimates of the other party's reservation price when the other's behavioral cues are consistent and directional than when those cues are inconsistent and/or non-directional.
H6: Bargainers who are provided by their opponents with an external justification (e.g. cost constraints) for tough bargaining behavior will tend to attribute their opponents' tough bargaining behavior to external factors more strongly when other behavioral cues are consistent with the external justification than when one or more of the other behavioral cues are inconsistent with the justification.

H7: External attributions for the other party's tough behavior will be associated with greater yielding than internal attributions for tough behavior.

H8: Bargainers will be more satisfied with their own performance in the negotiation when cues are consistent than when cues are inconsistent.

H9: Bargainers who are instructed to conduct causal analyses of their opponents' behavior will not differ in their behavior from bargainers who receive no inference instructions.

H10: Bargainers who are instructed to conduct causal analyses of their opponents' behavior will not differ in their perceptions of the seller from bargainers who receive no inference instructions.

H11: Bargainers faced with patterned, directional messages and non-patterned concessions will tend to generalize the direction of the patterned cue to the non-patterned one.
The next chapter describes the methodology which was used to test these hypotheses. Also discussed are the procedures used to calibrate the independent variables and to evaluate the viability of the computer simulation used to play the role of the seller in the negotiation.
CHAPTER V

RESEARCH METHODOLOGY

INTRODUCTION

In this chapter the methodology used to test the hypotheses proposed in Chapter IV is described. The procedure by which the independent variables were operationalized and calibrated through a series of pretests is also discussed. The experimental design and final versions of the independent and dependent variables used in the primary factorial experiment are described in the final section of this chapter.

PRETEST 1 - THE MAIN EFFECTS OF THREE CUE PATTERNS

This pretest was intended to serve three key purposes: (1) to evaluate subjects' ability to observe and report patterns in the behavioral cues provided, (2) to determine the impact of these cue patterns on subjects' bargaining behavior by comparing their performance on certain key dependent measures with the performance of other
subjects in a no-pattern control condition, and (3) to evaluate the effectiveness and usefulness of the bargaining simulation software written for this research.

THE BARGAINING SIMULATION

Subjects played the role of buyer in a buyer-seller negotiation. The seller's role was played by a programmed opponent using an interactive software program on micro-computers (See Clapton 1984 and Schurr & Ozanne 1985 for similar approaches). The final version of the instructions provided in the bargaining program which was used in the first pretest is listed in Appendix A. Subjects were told they would be bargaining against each other over the price of a commodity industrial chemical called "Dexene". Use of a commodity is important to the external validity of the exercise since subjects only bargain over price (the quantity to be purchased is assumed to be fixed). In addition, it was vital to the internal validity of the experiment that the subjects believe that they were actually bargaining with a live opponent. For this reason every effort was made to enhance the mundane realism of the negotiation and its setting.

The negotiations were held in several campus micro-computer labs. Approximately ten subjects participated in each session. The number of participants in a given session was deliberately kept small in order to ensure that subjects could be isolated physically from each other. Subjects were told that they were participating in a test of negotiating skill. The prenegotiation instructions provided to the subjects are also found in Appendix A. The most important objective of these instructions was to convince subjects that they would actually be negotiating with a real opponent.
Subjects were allowed to send written, one-line messages of their own to the seller during each turn but were not allowed to pose questions. These messages were chosen by the subjects from a list of fifteen messages that are identical (except for references to buyer or seller) to those sent by the programmed seller. Only the pattern of the messages sent varied. The messages used by the subjects are listed in Table 1.

Table 1

Subjects’ Message List - Pretest 1

1. I think my offer is fair.
2. Look, you have to leave something for me in this.
3. Accept this offer or I’ll have to sell to another buyer.
4. Come on, leave me at least a little profit on this deal.
5. i refuse to give anymore.
6. Seriously, this is my very last offer.
7. Look, I’m sure this is a fair deal.
8. This is my final offer, take it or leave it.
9. Be fair, I’m not going to sell to you at a loss.
10. I’m sure you’ll think this deal is fair.
11. I’m sorry, but this is as far as I will go.
12. Come on now, this offer is more than fair.
13. I can’t believe you. This is absolutely my final offer.
14. Be reasonable, your offer leaves me nothing.
15. Clearly, my offer is fair to both of us.
Subjects were given two incentives to maximize their outcomes in the negotiation. All subjects received a variable amount of course credit for participating dependent on performance in the negotiation. A monetary reward was allocated to subjects also based on their performance in terms of the settlement price.

To avoid deadlocks arising because the bargainers become overly zealous in pursuit of a reward, subjects were given an alternative price available from a vendor external to the negotiation which is automatically accepted if the negotiation ends without a settlement. This price is not a very favorable one for the buyer, and thus if accepted, minimizes the reward the bargainer can earn. This price also provides the bargainers with a point of comparison against which to evaluate the seller's offers. Subjects were given their own reservation price and appropriate instructions, but no information concerning the opponent's payoff schedule or reservation price was provided. Table 2 describes the payoff schedule of the buyer as well as the alternative supplier price.

With sufficient pretesting, this experimental procedure provided the subject bargainers with a stimulating and realistic bargaining exercise. While a lot of time and effort was invested in enhancing the mundane realism of the experimental setting, the rewards in the form of more motivated subjects and more valid responses make these efforts worthwhile.
Table 2
Buyer’s Payoff Schedule - Pretests 1 and 2

<table>
<thead>
<tr>
<th>Price/Ton (in dollars)</th>
<th>Your savings (in dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2500</td>
<td>0.00</td>
</tr>
<tr>
<td>2400</td>
<td>0.00</td>
</tr>
<tr>
<td>2300</td>
<td>0.00</td>
</tr>
<tr>
<td>2200</td>
<td>0.00</td>
</tr>
<tr>
<td>2100</td>
<td>0.00</td>
</tr>
<tr>
<td>2000</td>
<td>0.00</td>
</tr>
<tr>
<td>1900</td>
<td>$100</td>
</tr>
<tr>
<td>1800</td>
<td>200</td>
</tr>
<tr>
<td>1700</td>
<td>300</td>
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<tr>
<td>1600</td>
<td>400</td>
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<td>1400</td>
<td>600</td>
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<tr>
<td>1300</td>
<td>700</td>
</tr>
<tr>
<td>1200</td>
<td>800</td>
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<tr>
<td>1100</td>
<td>900</td>
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<tr>
<td>1000</td>
<td>1000</td>
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<td>1100</td>
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<td>800</td>
<td>1200</td>
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<td>700</td>
<td>1300</td>
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<td>600</td>
<td>1400</td>
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<td>500</td>
<td>1500</td>
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<tr>
<td>400</td>
<td>1600</td>
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<tr>
<td>300</td>
<td>1700</td>
</tr>
<tr>
<td>200</td>
<td>1800</td>
</tr>
<tr>
<td>100</td>
<td>1900</td>
</tr>
<tr>
<td>0</td>
<td>2000</td>
</tr>
</tbody>
</table>

*This table shows the savings which you may attain for your company in the negotiation. Note that your savings depend entirely on the price which you agree to pay to the seller. For example, if you agree to pay $1650 for the Dexene your savings would be $350.

*Bids are not restricted to $100 increments. You may bid any whole dollar price.

*You have an alternative supplier willing to sell the Dexene to you for the following price

REDSTONE’S PRICE IS $1800/ton
INDEPENDENT VARIABLES

Three behavioral cues were manipulated to construct the consistency conditions of interest in this research: (1) the pattern of concessions, (2) the deliberation time between bids, and (3) the toughness of the messages used. The selection of the most theoretically interesting levels of the independent variables was a difficult task. It is hypothesized that a bargainer's behavior is influenced by the nature and strength of the attributions made concerning the causes of the other's behavior and that the strength of those attributions depends on the consistency of the behavioral cues provided by the other. Therefore, it is crucial that the independent variables create conditions in which the behavioral cues present either a consistent pattern, no pattern, or an inconsistent mix of non-patterned and patterned cues.

Concession Pattern

With these goals in mind, two different types of concession patterns were chosen for pretesting: (1) random concessions, and (2) a pattern of non-linear, decelerating concessions (similar to Druckman et al. 1972). The concession patterns used are depicted in Table 3. A very important issue concerns the contingent or non-contingent nature of the programmed concessions. One approach would be to make each concession in all conditions contingent on a previous concession on the same turn by the subject bargainer. It could be argued that this restriction is necessary in order to avoid unilateral forfeiture of profits by the programmed opponent. On the other hand, requiring all programmed concessions to be contingent may
Table 3
Concession Patterns

<table>
<thead>
<tr>
<th>Bid</th>
<th>Offer</th>
<th>Concession</th>
<th>Offer</th>
<th>Concession</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2400</td>
<td>0</td>
<td>2400</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>2100</td>
<td>300</td>
<td>2373</td>
<td>27</td>
</tr>
<tr>
<td>3</td>
<td>1900</td>
<td>200</td>
<td>2173</td>
<td>200</td>
</tr>
<tr>
<td>4</td>
<td>1766</td>
<td>134</td>
<td>2113</td>
<td>60</td>
</tr>
<tr>
<td>5</td>
<td>1676</td>
<td>90</td>
<td>1979</td>
<td>34</td>
</tr>
<tr>
<td>6</td>
<td>1616</td>
<td>60</td>
<td>1976</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>1576</td>
<td>40</td>
<td>1958</td>
<td>18</td>
</tr>
<tr>
<td>8</td>
<td>1549</td>
<td>27</td>
<td>1946</td>
<td>12</td>
</tr>
<tr>
<td>9</td>
<td>1531</td>
<td>18</td>
<td>1646</td>
<td>300</td>
</tr>
<tr>
<td>10</td>
<td>1519</td>
<td>12</td>
<td>1641</td>
<td>5</td>
</tr>
<tr>
<td>11</td>
<td>1511</td>
<td>8</td>
<td>1633</td>
<td>8</td>
</tr>
<tr>
<td>12</td>
<td>1506</td>
<td>5</td>
<td>1632</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>1503</td>
<td>3</td>
<td>1592</td>
<td>40</td>
</tr>
<tr>
<td>14</td>
<td>1501</td>
<td>2</td>
<td>1502</td>
<td>90</td>
</tr>
<tr>
<td>15</td>
<td>1500</td>
<td>1</td>
<td>1500</td>
<td>2</td>
</tr>
</tbody>
</table>

Drastically reduce the effectiveness of the experimental manipulations by making the
behavior patterns difficult or even impossible to perceive. Given the goals of this
research, the latter outcome would be disastrous. The question of how subjects
respond to concession patterns is an empirical one. There was no a priori reason to
assume that a substantial number of subjects would simply sit back and watch the
opponent concede without reciprocating. For these reasons a non-contingent
concession pattern was used.

The bargaining is opened by the programmed seller with the same tough initial
bid in each condition. The initial bid ($2400) is tough because it is $400 above the buyer's
break-even price. The non-linear, decelerating concession pattern was derived by
decreasing the size of the concession by one third on each turn. The non-linear, decelerating pattern starts with a large initial concession then decreases the size of further concessions at an increasing rate (soft to tough). This strategy should clearly signal a settlement point arrived at asymptotically through the pattern of concessions. In the other concession condition, the size of the concessions was deliberately constructed so as to avoid signalling a settlement point with a pattern.

In order to avoid confounding the concession patterns with the total amount conceded, the total amount conceded was held constant in all conditions. One way to do this is to end each negotiation after the same number of bids (Yuki 1974a,b). The number of bids should be sufficiently large to permit the subjects to discern the pattern of cues presented yet small enough to ensure that all sessions end simultaneously with either an acceptance of the subject's latest offer by the programmed opponent or a rejection of that offer for an external alternative. An alternative to this unrealistic constraint would be to allow the bargainers to finish the exercise subject to some time or number of bids constraint (Smith et al. 1982). The hypotheses concerning the effects of consistent behavioral cues on bargaining behavior and outcomes could then be tested using data up to the last turn on which all bargainers are still involved in the interaction. This method would permit examination of the effects of the various behavior patterns on the failure to reach agreement and actual outcomes. It would also avoid confounding the measures of satisfaction and attitude toward the negotiation and the opponent with feelings of frustration over the sudden end to the interaction. However, it could also introduce an element of time pressure to all conditions, the importance of which would depend on the length of time allowed for the
negotiation. Under conditions of high perceived time pressure, bargainers have been found to make larger and more frequent concessions as the deadline nears both in laboratory experiments and in actual negotiations (e.g. labor negotiations) (Pruitt & Drews 1969; Chertkoff & Esser 1976; Raiffa 1982). This effect is moderated by the importance of reaching an agreement (i.e. the availability of acceptable alternatives to agreement within the negotiation).

As a compromise, in the first three pretests the programmed seller made a maximum of 15 predetermined bids. If agreement was not reached after the fifteenth bid, the negotiation ended with the programmed seller indicating to the bargainer that it was accepting an alternative offer outside the negotiation. When the seller withdrew from the negotiation, subjects were compensated as if they had accepted their outside alternative as well.

The outside alternative provided to the subject bargainers was designed to be acceptable, but not very attractive. It was expected therefore that subjects would perceive a moderate degree of pressure to reach agreement within the negotiation. The effects of this pressure might vary systematically across conditions if the amount conceded by the programmed seller were not held constant. Obviously, tough strategies are made more effective when one's bargaining partner feels compelled to reach an agreement. Since the amount conceded by the program was held constant in these studies, the only systematic effect on subject concessions should be related to the nature and consistency of the behavioral cues provided in the interaction.
Deliberation Time Pattern

The amount of time spent by the programmed opponent was varied in two levels: (1) a non-linear, accelerating pattern and (2) a no-pattern, randomized condition. The non-linear pattern was created in the same manner as the non-linear concession pattern described above. The total deliberation time was held constant. Deliberation time was measured from the time the bargainer receives a bid until the instant the counter-bid is made. Table 4 lists the deliberation time patterns.

<table>
<thead>
<tr>
<th>After Bid Number</th>
<th>Increasing Deliberation Time</th>
<th>Random Deliberation Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15 seconds</td>
<td>59 seconds</td>
</tr>
<tr>
<td>2</td>
<td>17</td>
<td>105</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>4</td>
<td>24</td>
<td>42</td>
</tr>
<tr>
<td>5</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>6</td>
<td>35</td>
<td>92</td>
</tr>
<tr>
<td>7</td>
<td>42</td>
<td>80</td>
</tr>
<tr>
<td>8</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>9</td>
<td>59</td>
<td>69</td>
</tr>
<tr>
<td>10</td>
<td>69</td>
<td>15</td>
</tr>
<tr>
<td>11</td>
<td>80</td>
<td>119</td>
</tr>
<tr>
<td>12</td>
<td>92</td>
<td>17</td>
</tr>
<tr>
<td>13</td>
<td>105</td>
<td>35</td>
</tr>
<tr>
<td>14</td>
<td>119</td>
<td>50</td>
</tr>
</tbody>
</table>
Message Pattern

Two levels of communications were manipulated. In one condition the toughness of the messages sent by the programmed bargainer was increased on each turn. In the second condition the communications were randomly ordered in order to avoid creating a pattern. The message patterns used by the programmed seller are shown in Table 5. This manipulation required exploratory research in order to ascertain the nature of the inferences suggested by various patterns of wrangling behavior and to ensure that actual differences in the toughness of the messages are observable from one bid to the next in the increasing-toughness condition. Preliminary evidence was gathered by asking subjects to assume the role of a bargainer who has just received a particular message from a bargaining partner. Subjects were asked to judge the toughness of each message and the likelihood that a bargainer sending such a message would make further concessions on subsequent bids. The ordering of the messages suggested by this admittedly imprecise method was used to construct the initial message patterns which were later validated in the context of an actual negotiation.

Method - Pretest 1

52 undergraduate business students signed up to participate in "a test of negotiating skill", but only 36 students showed up on the day of the experiment. These subjects were randomly assigned to one of four bargaining conditions: (1) concession pattern condition, (2) message pattern condition, (3) time pattern condition, and (4) no-pattern control. The number of subjects assigned to each group was 10, 8, 8, and 10
respectively. Each subject played the role of buyer in the bargaining simulation
described above. Subjects were told that they would be participating in a test of the
effectiveness of interactive computer networks as a tool for conducting negotiations.
They were also told that their compensation, both monetary and class credit, would be
contingent on their performance in the negotiation. In order to minimize the distractions
present in the computer laboratory, subjects were not permitted to talk to each other
and were instructed to attend to their own negotiation, not their neighbors'. The
sessions varied in size from sixteen subjects to seven subjects. Some difficulty was
encountered in trying to prevent subjects from talking to each other during the largest
session.

In each of the first three conditions one cue was presented to the subjects in a
pattern while the other two cues were made random across bids. In the concession
pattern condition subjects were presented with the non-linear decreasing pattern of
concessions as well as messages and deliberation time cues in random order.
Subjects in the message pattern condition received the pattern of tough-to-soft
messages with random deliberation time and concessions. In the patterned time
condition the seller was programmed with a combination of increasing deliberation
time, random concessions, and random messages. In the control condition all cues
were presented in a random fashion across bids. These manipulations were expected
to provide information about the relative potency of each of the three types of cues.
### Table 5

Programmed Seller’s Message Patterns

<table>
<thead>
<tr>
<th>Soft-to-tough Message Pattern</th>
<th>Toughness Rating*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I think my offer is fair.</td>
<td>71</td>
</tr>
<tr>
<td>2. I'm sure you'll think this deal is fair.</td>
<td>60</td>
</tr>
<tr>
<td>3. Look, I'm sure this is a fair deal.</td>
<td>56</td>
</tr>
<tr>
<td>4. Clearly, my offer is fair to both of us.</td>
<td>51</td>
</tr>
<tr>
<td>5. Come one, leave me at least a little profit on this deal.</td>
<td>49</td>
</tr>
<tr>
<td>6. Look, you have to leave something for me in this.</td>
<td>47</td>
</tr>
<tr>
<td>7. Come on now, this offer is more than fair.</td>
<td>42</td>
</tr>
<tr>
<td>8. Be fair; I'm not going to sell to you at a loss.</td>
<td>40</td>
</tr>
<tr>
<td>9. Be reasonable; your offer leaves me nothing.</td>
<td>36</td>
</tr>
<tr>
<td>10. Seriously, this is my very last offer.</td>
<td>31</td>
</tr>
<tr>
<td>11. I'm sorry, but this is as far as I will go.</td>
<td>25</td>
</tr>
<tr>
<td>12. Accept this offer, or I'll have to buy from another supplier.</td>
<td>23</td>
</tr>
<tr>
<td>13. I refuse to give any more.</td>
<td>21</td>
</tr>
<tr>
<td>14. I can't believe you. This is absolutely my final offer.</td>
<td>17</td>
</tr>
<tr>
<td>15. This is my final offer; take it or leave it.</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No-pattern Messages</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I think my offer is fair.</td>
<td></td>
</tr>
<tr>
<td>2. Look, you have to leave something for me in this.</td>
<td></td>
</tr>
<tr>
<td>3. Accept this offer or I'll have to sell to another buyer.</td>
<td></td>
</tr>
<tr>
<td>4. Come on, leave me at least a little profit on this deal.</td>
<td></td>
</tr>
<tr>
<td>5. I refuse to give anymore.</td>
<td></td>
</tr>
<tr>
<td>6. Seriously, this is my very last offer.</td>
<td></td>
</tr>
<tr>
<td>7. Look, I'm sure this is a fair deal.</td>
<td></td>
</tr>
<tr>
<td>8. This is my final offer, take it or leave it.</td>
<td></td>
</tr>
<tr>
<td>9. Be fair; I'm not going to sell to you at a loss.</td>
<td></td>
</tr>
<tr>
<td>10. I'm sure you'll think this deal is fair.</td>
<td></td>
</tr>
<tr>
<td>11. I'm sorry, but this is as far as I will go.</td>
<td></td>
</tr>
<tr>
<td>12. Come on now, this offer is more than fair.</td>
<td></td>
</tr>
<tr>
<td>13. I can't believe you. This is absolutely my final offer.</td>
<td></td>
</tr>
<tr>
<td>14. Be reasonable, your offer leaves me nothing.</td>
<td></td>
</tr>
<tr>
<td>15. Clearly, my offer is fair to both of us.</td>
<td></td>
</tr>
</tbody>
</table>

---

*The lower the number, the tougher the message. Toughness was defined as the probability that a bargainer would concede after sending the message.*
PATTERN RECOGNITION TESTS

The instrument used to evaluate the pattern recognition question is shown in Appendix B. Of particular interest are the three written descriptions of the seller's behavior. Item 1 is an open-ended task in which subjects are asked "to describe the seller's negotiating behavior in as much detail as possible." Items 5 and 6 cue subjects to recall patterns in the behavior of the seller. In Item 5 subjects were told: "Some negotiators exhibit identifiable and describable patterns in one or more aspects of their negotiating behavior, while other negotiators do not. We are interested in whether or not the seller in your negotiation exhibited patterned behaviors." Subjects were asked: "... did the seller exhibit any patterns in his or her negotiating behavior?". If the answer was "yes", subjects were told to "describe the pattern(s) you observed in as much detail as possible." Only subjects who did not answer Item 5 completed Item 6 which asks the same question about perceptions of patterns in the seller's behavior. In this case, subjects were instructed "to reflect back on the seller's negotiating behavior... Having thought about the seller's behavior, do you now recall the seller exhibiting any patterns in his or her negotiating behavior? If your answer is "yes", please describe the behavior pattern(s) the seller exhibited in your negotiation in as much detail as possible ... ". Responses to the written pattern recognition tasks were analyzed by the experimenter for evidence of pattern recognition. No difficulties were encountered since subjects' reports tended to be brief, and the presence or absence of patterns in their answers was easily recognized. Responses were then dummy coded.

Finally, subjects were asked direct pattern recognition questions in the form of multiple choice items and scale items for each behavioral cue in Items 7-14. Subjects
were asked to circle the letter of the sentence which best described messages sent to
them by the seller. In Item 7 the statement options described the seller's messages as
(1) all tough and unchanging, (2) tough early/soft later, (3) inconsistent in terms of
toughness, and (4) soft early/tough later. In Item 8 the seller's messages were
described as (1) inconsistent in terms of intensity, (2) mild early/intense later, (3) all
intense and unchanging, and (4) intense early/mild later.

In Items 9 and 10 subjects were asked to indicate the extent of their agreement
with the following statements on a seven-point Likert-like scale. Item 9 read: "The seller
was more reluctant to concede late in the negotiation than early." Item 10 read: "The
seller took a tougher stance late in the negotiation than early."

Subjects were also asked to circle the letter of the sentence which best
described the concessions made and deliberation time taken by the seller. In Item 11
the statement options described the seller's concessions as (1) consistently tough and
unchanging, (2) tough early/soft later, (3) inconsistent in terms of toughness, and (4) soft
early/tough later. In Item 12 the seller's concessions were described as (1) all large and
unchanging, (2) small early/large later, (3) inconsistent in terms of size, and (4) large
early/small later. In Item 13 the seller's deliberation time between bids was described
as (1) about the same/unchanging, (2) increasing in length as the negotiation
proceeded, (3) inconsistent, and (4) decreasing in length as the negotiation
proceeded.

Subjects perceptions of the seller's deliberation time pattern was also
assessed by asking them to indicate the extent of their agreement with the following
statement on a seven-point Likert-like scale. The statement read: "The seller took more
time to respond to my later bids than to my earlier bids".

Frequencies for each of thirteen variables were computed within each
experimental condition. The results are summarized in Table 6. The most noteworthy
outcome is the failure of most subjects to report accurately observations of patterns in
their opponent's behavior, regardless of experimental condition. Only in the
concession pattern condition did a significant number of subjects correctly recognize
the cue pattern provided. Even though the concession pattern manipulation was
expected to be a rather obvious one, only three of the eight subjects in this condition
accurately recognized the concession pattern in their description of the seller's
behavior (Item 1). Of those concession condition subjects who failed to report a pattern
in Item 1, two correctly reported the concession pattern in the first cued recall task (Item
5). The other three subjects also failed to describe the pattern accurately in the second
cued recall task (Item 6). No subjects in the time pattern condition recognized the
deliberation time pattern in either the free recall or cued recall tasks. One message
condition subject recognized the pattern of increasingly tough messages in the first
cued recall task (Item 5).

Further information concerning subjects' abilities to recognize cue patterns in
this negotiation was provided by multiple choice items in which subjects were asked to
choose the correct description of the seller's behavior from four alternatives. Res-
ponses to these items (7, 8, 11, 12, and 13 in questionnaire) are particularly difficult to
interpret.
<table>
<thead>
<tr>
<th>Measure*</th>
<th>Concession Pattern**</th>
<th>Message Pattern</th>
<th>Time Pattern</th>
<th>Random Cues</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Free recall task accuracy</td>
<td>3/8</td>
<td>0/8</td>
<td>0/10</td>
<td>n/a</td>
</tr>
<tr>
<td>(5) 1st cued recall - pattern description</td>
<td>2/8</td>
<td>1/8</td>
<td>0/10</td>
<td>n/a</td>
</tr>
<tr>
<td>(6) 2nd cued recall - pattern description</td>
<td>0/8</td>
<td>0/8</td>
<td>0/8</td>
<td>n/a</td>
</tr>
<tr>
<td>(7) 1st cued message pattern recognition</td>
<td>4/8</td>
<td>4/8</td>
<td>4/10</td>
<td>5/10</td>
</tr>
<tr>
<td>(8) 2nd cued message pattern recognition</td>
<td>4/8</td>
<td>5/8</td>
<td>4/10</td>
<td>5/10</td>
</tr>
<tr>
<td>(11) 1st cued concession pattern recognition</td>
<td>4/8</td>
<td>1/8</td>
<td>5/10</td>
<td>7/10</td>
</tr>
<tr>
<td>(12) 2nd cued concession pattern recognition</td>
<td>5/8</td>
<td>1/8</td>
<td>5/10</td>
<td>6/10</td>
</tr>
<tr>
<td>(13) Time pattern recognition</td>
<td>1/8</td>
<td>4/8</td>
<td>2/10</td>
<td>3/10</td>
</tr>
</tbody>
</table>

* Numbers in parentheses refer to the number of the measure in the pretest questionnaire, Appendix D.

** Numbers in the cells refer to the fraction of subjects correctly describing the cue patterns in each condition.
In most conditions only about 50% of the subjects chose the correct description of the seller's behavior. In fact, subjects in the control condition picked the correct description of the seller's behavior (i.e. random or inconsistent) as often or more often than subjects in the pattern conditions for every multiple choice measure except for the deliberation time question (item 13). Particularly noticeable is the failure of subjects in the time pattern condition to recognize the pattern of increasing deliberation time between bids. Only 20% of these subjects chose the correct behavioral description, and the errors tended to be consistent in that most subjects recalled the deliberation time to have been constant throughout the negotiation. In general the time pattern seems to have been the least easily recalled since subjects' overall accuracy on item 13, in which subjects' recognition of changes in deliberation time was measured, was only 25%. While much higher accuracy was expected in these rather obtrusive measures of pattern recognition, the fact that about half of the subjects did not report accurate descriptions of the seller's behavior does not preclude an effect of the cue patterns on subjects' bargaining behavior.

Several scaled perceptual measures (7-point scales, strongly disagree/strongly agree) were also recorded and were analyzed for between-group differences. These included a reluctance to concede scale (item 9), a tough stance scale (item 10), a time pattern scale (item 14), an estimate of the lowest price acceptable to the seller (item 15), and a scale intended to measure subjects' confidence in the limit estimates (item 16). T-tests were computed comparing the means of each type of cue-pattern group with the random-cue group for each of these measures and also for several behavioral measures: (1) mean profit earned, (2) mean
amount conceded, (3) the mean value of the first bid, and (4) the mean value of the last bid. The results are reported in Table 7. The most striking feature of these tests was the general lack of significance of the differences between group means on most of the dependent measures tested. This may be due in part to the small sample size, and it is encouraging to note that most of the differences between means were in the hypothesized direction. Some interesting results were obtained however.

Subjects in the pattemed message condition disagreed strongly (mean=2.4 on 7 pt. scale) with the suggestion that the seller had become more reluctant to concede as the negotiation proceeded, and the comparison with the control group approached significance at t = -1.81 (p<.09). This is the opposite of the prediction which would have been made in this comparison in that the message pattern was hypothesized to create an impression of increasing toughness by the seller. Apparently, subjects found the message pattern to lack credibility in that several positions were taken in the messages to the effect that the seller could concede no further. In each case save the last these messages were followed by further concessions. The bluffing nature of the messages may have greatly affected subjects' perceptions of the seller's behavior in the sense that the subjects had no reason to believe that the seller would not concede further. Also, the difference between message-condition subjects' estimates of the seller's limit and the estimates from the control group approached significance (t=2.05, p<.05). In other words, subjects who
Table 7  
Pretest 1 - Mean Contrasts For Perceptual Measures

<table>
<thead>
<tr>
<th>Measures</th>
<th>Concession Pattern</th>
<th>Message Pattern</th>
<th>Time Pattern</th>
<th>Random Cues</th>
</tr>
</thead>
<tbody>
<tr>
<td>(9) reluctance to concede: less-to-more</td>
<td>4.38</td>
<td>2.43&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.80</td>
<td>3.70&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>(10) tough stance: soft-to-tough</td>
<td>4.63</td>
<td>3.00</td>
<td>4.70</td>
<td>3.30</td>
</tr>
<tr>
<td>(14) deliberation time: short-to-long</td>
<td>2.88</td>
<td>3.29</td>
<td>4.00</td>
<td>3.10</td>
</tr>
<tr>
<td>(15) estimate of seller’s limit</td>
<td>1447</td>
<td>1496&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1480&lt;sup&gt;d&lt;/sup&gt;</td>
<td>1320&lt;sup&gt;cd&lt;/sup&gt;</td>
</tr>
<tr>
<td>(16) confidence in limit estimate</td>
<td>5.63</td>
<td>5.29</td>
<td>6.20&lt;sup&gt;e&lt;/sup&gt;</td>
<td>5.00&lt;sup&gt;e&lt;/sup&gt;</td>
</tr>
<tr>
<td>profit earned</td>
<td>3.47</td>
<td>3.57</td>
<td>2.42</td>
<td>2.96</td>
</tr>
<tr>
<td>total concessions</td>
<td>449</td>
<td>465</td>
<td>795</td>
<td>512</td>
</tr>
<tr>
<td>first offer</td>
<td>849</td>
<td>933</td>
<td>536</td>
<td>679</td>
</tr>
<tr>
<td>final offer</td>
<td>1298</td>
<td>1398</td>
<td>1331</td>
<td>1191</td>
</tr>
</tbody>
</table>

<sup>a</sup>The perceptual measures were 7-pt. scales. Higher scores mean greater agreement with the description of the seller’s behavior. For Item 16, higher scores mean greater confidence.

<sup>b</sup>Contrast approached significance: t=-1.81, p≤0.09.

<sup>c</sup>Contrast approached significance: t=2.05, p≤0.07.

<sup>d</sup>Contrast approached significance: t=1.90, p≤0.09.

<sup>e</sup>Contrast is significant: t=2.25, p≤0.04.
faced a seller whose messages became increasingly tough as the negotiation proceeded tended to make more accurate estimates of the seller's reservation price than subjects whose seller was inconsistent in her/his behavioral cues. These estimates by subjects in the patterned message condition were on average very accurate (mean estimate: $1496; actual reservation price: $1500). However, no significant difference between message and random-cue groups for the confidence measure was found. Subjects in the patterned message condition were more accurate in their estimate of the seller's limit than those in the random-cue group, but they were not more confident in that estimate. It is also worth noting that subjects in the message and control conditions reported no difference in agreement with a description of the seller's behavior as getting tougher as the negotiation proceeded (Item 10).

The results for the perceptual measures in the concession pattern condition were also problematic. Mean contrasts between each cue-pattern condition and the random-cue condition on the perceptual scales were tested using t-tests, but again no significant differences were found, although the mean differences were in the hypothesized directions. Most troublesome is the failure to find a significant difference between treatment and control for the reluctance to concede scale. Perhaps the wording of the question misled the subjects. They were asked to indicate on a seven-point scale anchored by strongly agree/strongly disagree the extent to which they agreed that "the seller was more reluctant to concede late in the negotiation than early in the negotiation". A concession was made on every bid. Only the size of the concession diminished over time. Thus, subjects may not have perceived the seller's
reluctance to make a concession as increasing over time. A better measure would have been to ask subjects whether or not the seller became increasingly reluctant to make large concessions. Item 10 described the seller as taking a tougher stance late in the negotiation. Subjects in the concession condition tended to agree with this statement (mean = 4.625) while control subjects did not (mean = 3.300). However, this difference was not statistically significant.

The treatment-control comparisons for the deliberation time manipulation were similar to those for the other conditions. Again, all mean differences were consistent with the hypothesized effects of the cue pattern on perceptions and behavior, but only two comparisons approached significance. The t-test for differences in limit estimate showed time pattern subjects to be more accurate in their estimates of the seller's limit ($t=1.90$, $p<.09$) and more confident in their estimates of the seller's limit ($t=2.25$, $p<.04$). This finding is in marked contrast to subjects inability to report accurately the time pattern hypothesized to be causing these differences even in cued recognition tasks.

Results for the behavioral measures shown in Table 7 parallel those for the perceptual measures. No treatment-control comparisons were significant. Subjects tended to concede more and to make final offers which were more favorable to the programmed seller in the patterned-cue conditions than in the random-cue control group, but these differences were not statistically significant. It is possible that the very large within cell heterogeneity of response to the treatments and the small sample size obscured the significance of the contrasts between the patterned-cue and random-cue conditions.
CONCLUSIONS

This pretest was useful for several reasons. First, the computer simulation software was tested and found to work well. Secondly, much was learned about how to manage the physical setting of the negotiation so as to increase the credibility of the cover story. Third, subject reactions to the negotiation indicated that most of them took it seriously. They were particularly frustrated by being restricted to experimenter prepared messages. Consideration was given to allowing subjects to send their own one-line messages. One alternative would be to give them a list of messages including those used by the programmed seller, but to allow them to send their own messages if they want to. However, allowing subjects to send their own messages would seem to invite suspicion of the live nature of the interaction because the programmed seller would not appear to respond to those messages. The disadvantages of associated with subjects’ frustration over the communication restrictions seem less critical than the potentially disastrous effects to the validity of the research posed by a general increase in subjects’ suspicion about the realism of the interaction. Therefore, subjects were not allowed to send messages of their own creation in the follow-up studies.

Fourth, the study uncovered a potential problem with the cue pattern manipulations. In particular, the mundane realism of using random cues must be questioned. For example, use of random messages, many of which are positional in nature, may destroy any signaling power in the concession or time cue patterns by undermining the seller’s credibility. A better approach might be to use the same message repeatedly (or a set of very similar, non-positional messages). Likewise, the random concession and time conditions could be replaced by a pattern of constant
deliberation time and unchanging concessions. This change would mean a focus in this research on the relative signalling power or information value of some cue patterns and on the synergistic effects of cross-cue consistency. Using a constant cue alternative would avoid the complex problem of how to handle inconsistency across cues within a bid. Finally, it seems appropriate to pretest subject responses in the condition in which treatment effects are hypothesized to be strongest, in other words when all three patterned cues are present. One would be interested in whether or not the consistency manipulation affects the subjects' attributions about, perceptions of, and attitude toward the seller. A failure to find an effect of cue consistency on behavior could be attributed to the weakness of the experimental manipulations, or simply to the lack of a link between perception and behavior.

Finally, the failure to observe many significant treatment-control differences may be somewhat accounted for by the small sample size. Problems with inconsistencies between the messages used and the other behavior patterns may also have contributed to the frequent null findings. To remedy these problems it was decided (1) to revise the messages used by the seller, (2) to change the random message conditions to remove positional statements, (3) to make some critical changes in the questionnaire used to collect subject responses, (4) to re-run the pretest with a larger sample and (5) to compare the condition in which effects are expected to be strongest, the consistent cue condition in which all three cue patterns are provided, with an inconsistent cue condition. These changes are described in greater detail in the discussion of the method used in Pretest 2 below.
PRETEST 2 - THE MAIN EFFECTS OF CUE CONSISTENCY

The purpose of this study was to examine the main effects of cue consistency on bargaining behavior. The between-subjects design was a simple one with only one factor, relative cue consistency, operationalized in two levels, low and high. In the low cue consistency condition, the programmed seller took a random amount of time to make random concessions and send messages of random toughness. A pattern of decreasing concessions, soft-to-tough messages, and increasing deliberation time comprised the high consistency treatment.

Several changes were made in the bargaining simulation, the message pattern, and in the instrument used to measure the effects of cue consistency in order to correct problems identified in the first pretest. Appendix C contains the revised questionnaire. The second cued recall task (item 6 in pretest 1) was dropped because it had contributed nothing to the original study, and subjects found it to be redundant. The multiple choice cued pattern recognition items were modified slightly so that subjects would be less likely to use information from the other cues to infer the pattern of the target cue in each item. For example, see item 6 in Appendix C which is designed to test subjects' recognition of the message pattern. Subjects were instructed to answer the question using only the information provided by the messages. In the previous questionnaire, subjects were instructed to "circle the letter of the sentence which best describes the messages sent to you by the seller". Also, in the previous questionnaire, this item had asked subjects whether or not the seller's messages had been mild-to-intense or intense-to-mild. This item did not capture the soft-to-tough dimension which was intended to be conveyed by the message pattern.
A reluctance-to-concede item was substituted (Item 6, Appendix C) for the intensity item in the original questionnaire since toughness had been initially operationalized as relative reluctance to concede when the message patterns were constructed. In this revised item, subjects were asked whether or not the seller's messages had signaled a greater reluctance to concede late in the negotiation than early in the negotiation. Another important addition to the instrument used in the second pretest was a seven point scale (not at all consistent/very consistent) designed to measure subjects' over-all perceptions of the consistency of the seller's behavior (Item 18). Subjects were asked, "How consistent was the seller's behavior? In other word, were all aspects of the seller's bargaining behavior such as the pattern of concessions, the time needed to make an offer, and the messages sent consistent with each other?". 

In another change from the first pretest, the message pattern was modified in order to eliminate the credibility damaging effects of positional statements sent early in the negotiation (See Table 7). For example, the use of statements like "This is my final offer: take it or leave it" or "I can't give any more" early in the negotiation may have undermined the seller's credibility in the first pretest since these positional statements were immediately followed by further, substantial concessions. In short, the failure to find effects of individual cue patterns on behavior in the initial test may have been related to the inconsistency of the cues in each condition. For example, the information value of a decreasing concession pattern could be nullified by the messages just described. In retrospect, the first pretest could have been better designed to test the effects of cue patterns on behavior since each condition was characterized by a low degree of consistency across cues and also a low degree
Table 8
Revised Bargaining Messages For Pretest 2

**Soft-to-tough Message Pattern**

1. I'm sure we can reach a mutually satisfactory agreement.
2. I'm sure you'll think this deal is fair.
3. I think my offer is fair.
4. I think my offer is very fair.
5. I've made a fair offer, now it's your turn.
6. Look, I'm sure this is a fair deal.
7. Clearly, my offer is fair to both of us.
8. Come on now, this offer is more than fair.
9. You have to consider my firm's needs as well as yours.
10. You must concede further if you want to reach agreement.
11. Remember, I have another buyer that I can sell to.
12. Your proposals are not acceptable; you'll have to do better.
13. Accept this offer or I'm very likely to sell to another buyer.
14. I can't give any more.
15. This is my final offer; take it or leave it.

**No-pattern Messages**

1. I think my offer is fair.
2. Your proposals are not acceptable; you'll have to do better.
3. I'm sure we can reach a mutually satisfactory agreement.
4. Clearly, my offer is fair to both of us.
5. You have to consider my firm's needs as well as yours.
6. I've made a fair offer, now it's your turn.
7. You must concede further if you want to reach agreement.
8. I'm sure you'll think this deal is fair.
9. I think my offer is very fair.
10. I'm sure we can reach a mutually satisfactory agreement.
11. Come on now, this offer is more than fair.
12. Look, I'm sure this is a fair deal.
13. I think my offer is fair.
14. You have to consider my firm's needs as well as yours.
15. Clearly, my offer is fair to both of us.
of consistency over time for two of the three cues. Cross-cue consistency was low because in each of the conditions one cue was patterned and directional while the other two were random. Thus, two of the cues in each condition (all three in the random-cue control condition) displayed low temporal consistency and were non-directional. To have found an effect of an individual cue pattern on behavior under such conditions would have been quite surprising given the implications of cue consistency developed in Chapter IV. Therefore, this pretest was designed to provide a better test of the effects of cue consistency because the consistency manipulation was strengthened.

Notice in Table 8 that several new messages were substituted for messages used in the first pretest. Some of these new messages were taken from Clopton (1984) because they were thought to be "more realistic".

Because the messages were substantially modified, the original ordering of the messages based on toughness was no longer valid. Therefore, a new ordering was derived from a ranking task completed by a small sample (7) of marketing doctoral students. This information was used to create the new message pattern, depicted in Table 8, which was used in the second pretest.

PERCEPTIONS OF CUE PATTERNS AND CUE CONSISTENCY

Forty-six undergraduate business students negotiated with the same incentives as in the first pretest (class credit and a contingent monetary reward) and the same payoff schedule (Table 2). One subject in the consistent cue condition and two subjects in the inconsistent cue condition had to be dropped from most of the
analyses, one due to her error (accidentally withdrawing from the negotiation by pressing the wrong key) and two due to a bug in the bargaining program (detected in the first session) which caused a premature ending of their negotiation.

Subjects reported more accurate perceptions of the cue patterns in this study than in the initial experiment, perhaps as a result of the improvements made in the pattern recognition measures as noted above or because of the strengthened manipulation. Table 9 summarizes the frequency with which subjects accurately reported the cue patterns to which they were exposed. While accurate pattern recognition was not observable in the free response tasks for most subjects (Items 1 and 5), accuracy in response to the pattern recognition multiple choice items was much improved (Items 6, 7, 9, and 11), especially in the consistent cue condition. Most subjects in the consistent cue condition were able to recognize whether the seller’s messages signalled an increasing reluctance to concede (Item 6), whether the seller’s messages became tougher as the negotiation progressed (Item 7), whether the seller’s concessions moved from small to large (Item 9), and whether the seller’s deliberation time increased as the negotiation proceeded (Item 11). Subjects in the inconsistent cue condition tended to be less accurate in their descriptions of the seller’s behavior. This may be attributed to their perception that they were supposed to find patterns in the seller’s behavior (although that behavior was intentionally not patterned).

Further evidence of the successful operationalization of the cue patterns is provided by subjects’ responses to the cue pattern scales. The cue pattern scales are Items 8a, 8b, 10a, 10b, 12a, 12b, and 12c in Appendix C. Based on each cue (i.e. concessions, messages, and deliberation time), subjects were asked the extent of
their agreement with statements describing the seller as becoming more reluctant to concede and tougher as the negotiation proceeded on a 7-point scale anchored by strongly disagree/strongly agree. In addition, subjects were asked the extent to which they agreed that the seller had taken more time to deliberate late in the negotiation than early on the same 7-point scale. Table 10 summarizes the results of the analyses of variance conducted on subjects’ responses to these seven point scales anchored by strongly disagree/strongly agree. All of the contrasts are significant at ps<.01, and the means are in the expected directions. As expected, subjects exposed to a consistent seller perceived the seller to be tougher, more reluctant to concede, and to deliberate longer as the negotiation progressed. No mean in the inconsistent cue condition is higher than the scale midpoint of four, nor is a mean in the consistent cue condition lower than the scale midpoint. Importantly, subjects in the two conditions perceived a clear difference in the over-all consistency of the cues provided by the seller as measured by the consistency scale (Item 18).

EFFECTS OF CUE CONSISTENCY ON PERCEPTIONS OF THE SELLER

It was expected that bargainers in the consistent cue condition would view the seller as more trustworthy and competent than bargainers exposed to inconsistent behaviors. Fourteen semantic differential scales were used to evaluate subjects’ beliefs about the seller. Subjects were asked to rate the seller on the following dimensions: cooperative/competitive, deceptive/frank, strong/weak, skilled/unskilled, thoughtful/thoughtless, wise/foolish, honest/dishonest, reasonable/unreasonable, intense/mild, generous/selfish, tough/easy,
professional/amateurish, trustworthy/untrustworthy, and good/bad. These measures are listed under Item 3 in Appendix C.

Table 11 summarizes the results of a principal components analysis of these measures. Two principal components were identified which accounted for approximately 60% of the variance in subjects' responses. Items which with loadings of at least .50 were interpreted as indicators of a latent factor. Thus, cooperation, strength, skill, wisdom, intensity, generosity, toughness, and professionalism loaded on the first component. Deception, thoughtfulness, honesty, reasonableness, and trustworthiness loaded on the second component. The former was interpreted as toughness, and the latter was interpreted as trustworthiness. Responses to the items comprising each component were then summed, and differences between treatments on these summated scores were tested using analysis of variance. As expected, cue consistency had a significant effect on subjects' perceptions of the seller's trustworthiness (F=7.39, p<.01). The consistent seller was seen to be more trustworthy (mean=16.42) than the inconsistent seller (mean=19.77), with a lower score indicating greater trustworthiness. No differences in subjects' perceptions of the seller's trustworthiness were expected or found (F=.63, p=.43). The means for the consistent and the inconsistent conditions were 32.13 and 34.27, respectively, with a higher score indicating a greater toughness.
<table>
<thead>
<tr>
<th>Measure*</th>
<th>Consistent Cues</th>
<th>Inconsistent Cues</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) description of seller’s behavior</td>
<td><strong>3/21</strong></td>
<td>0/21</td>
</tr>
<tr>
<td>(5) cued pattern recall</td>
<td>4/21</td>
<td>10/22</td>
</tr>
<tr>
<td>(6) message pattern</td>
<td>18/21</td>
<td>6/22</td>
</tr>
<tr>
<td>reluctance to concede</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(7) message pattern</td>
<td>16/21</td>
<td>9/22</td>
</tr>
<tr>
<td>toughness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(9) concession pattern size</td>
<td>20/21</td>
<td>10/22</td>
</tr>
<tr>
<td>(11) time pattern duration</td>
<td>13/21</td>
<td>13/22</td>
</tr>
</tbody>
</table>

*The numbers in parentheses refer to the number of the item in Appendix C.

** The numbers in the cells refer to the fraction of subjects accurately describing the cue patterns provided by the programmed seller.
### Table 10

**Pretest 2 - Pattern Recognition Scale Means**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Consistent Cues</th>
<th>Inconsistent Cues</th>
</tr>
</thead>
<tbody>
<tr>
<td>(8a) message pattern - reluctance to concede</td>
<td>5.25</td>
<td>3.73</td>
</tr>
<tr>
<td>(8b) message pattern - tough stance</td>
<td>4.91</td>
<td>3.36</td>
</tr>
<tr>
<td>(10a) concession pattern - soft-to-tough</td>
<td>5.17</td>
<td>3.55</td>
</tr>
<tr>
<td>(10b) concession pattern - reluctance to concede</td>
<td>5.75</td>
<td>3.95</td>
</tr>
<tr>
<td>(12a) time pattern - reluctance to concede</td>
<td>5.33</td>
<td>3.73</td>
</tr>
<tr>
<td>(12b) time pattern - soft-to-tough</td>
<td>5.00</td>
<td>3.50</td>
</tr>
<tr>
<td>(12c) time pattern - short-to-long</td>
<td>5.13</td>
<td>3.41</td>
</tr>
<tr>
<td>(18) consistency</td>
<td>5.42</td>
<td>3.82</td>
</tr>
</tbody>
</table>

*The numbers in parentheses refer to the number of the item in Appendix C.*

**All mean differences are significant at p<.01, F (1,44).**
Table 11
Pretest 2 - Rotated Factor Pattern For Evaluative Scales^a

<table>
<thead>
<tr>
<th>Measure</th>
<th>Factor 1^b</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>cooperative/competitive</td>
<td>-0.803</td>
<td>0.295</td>
</tr>
<tr>
<td>deceptive/frank</td>
<td>-0.141</td>
<td>-0.502</td>
</tr>
<tr>
<td>strong/weak</td>
<td>0.902</td>
<td>-0.014</td>
</tr>
<tr>
<td>skilled/unskilled</td>
<td>0.878</td>
<td>0.129</td>
</tr>
<tr>
<td>thoughtful/thoughtless</td>
<td>0.062</td>
<td>0.695</td>
</tr>
<tr>
<td>wise/foolish</td>
<td>0.768</td>
<td>0.216</td>
</tr>
<tr>
<td>honest/dishonest</td>
<td>0.112</td>
<td>0.710</td>
</tr>
<tr>
<td>reasonable/unreasonable</td>
<td>-0.408</td>
<td>0.649</td>
</tr>
<tr>
<td>intense/mild</td>
<td>0.690</td>
<td>-0.164</td>
</tr>
<tr>
<td>generous/selfish</td>
<td>-0.627</td>
<td>0.029</td>
</tr>
<tr>
<td>tough/easy</td>
<td>0.880</td>
<td>-0.118</td>
</tr>
<tr>
<td>professional/amateurish</td>
<td>0.681</td>
<td>0.299</td>
</tr>
<tr>
<td>trustworthy/untrustworthy</td>
<td>0.319</td>
<td>0.837</td>
</tr>
<tr>
<td>good/bad</td>
<td>0.486</td>
<td>0.399</td>
</tr>
</tbody>
</table>

Variance explained^c

|               | 5.468       | 2.803    |

^a principal components analysis with varimax rotation
^b standardized factor loadings
^c Total variance accounted for: 59.1%
EFFECTS OF CUE CONSISTENCY ON BARGAINING BEHAVIOR

It was anticipated that consistent cues would be associated with greater yielding by the subject bargainers and fewer deadlocked negotiations. The results of the second pretest, however, provided only weak support for these propositions. Table 10 summarizes the means by treatment condition for the behavioral measures and some other, key related dependent variables. The consistency manipulation had no significant effect on the total amount conceded or the size of the average concession, nor was there a significant difference between groups in profit earned in the negotiation. Subjects in the consistent cue conditions tended to make a higher final offer but the effect only approached significance (p<.09). Bargainers faced with consistent cues were more likely to reach an agreement with the seller in the negotiation than subjects whose sellers' were inconsistent. 67% of the consistent cue group reached agreement while only 41% of the inconsistent cue subjects settled within the negotiation. This difference was significant (t = 1.72, p<.05, one-tailed test). This is an important result since no bargaining strategy is effective if it greatly decreases the likelihood of reaching an agreement.

It was also expected that the signalling power of the consistent cue patterns would lead subjects to make more confident and accurate estimates of the other's reservation price ($1500 in this study). In fact, no significant differences were found in subjects' estimates of the seller's limit or their confidence in that estimate. One explanation for this unexpected result is related to the high percentage of negotiations which ended in stalemate in the inconsistent cue condition. Since the programmed seller automatically broke off the negotiation at the end of fifteen bids after conceding
to $1500, subjects best estimate of the seller's limit would likely be the price at which the seller broke off, $1500. Thus, any treatment effects were obscured by the seller's automatic withdrawal. Clearly, the best clue regarding a bargainer's limit is the last price offered prior to withdrawal, and so in retrospect, the failure to find a significant difference between groups on these variables is hardly surprising.

SUMMARY AND IMPLICATIONS OF PRETEST 2 RESULTS

The most important outcome of the second pretest was the clear demonstration that the cue patterns manipulated in this research are valid in the sense that subjects are able to recognize them accurately. Clear differences in the appropriate direction between groups were found for all of the cue pattern scales.

Further support for the validity of the consistency manipulation was provided by subjects' perceptions of the degree of cue consistency in the seller's behavior as reported in the consistency scale. The most surprising result of this study was the failure to find strong support for an effect of cue consistency on bargaining behavior. One significant effect of cue consistency on bargaining behavior was observed. Subjects faced with a consistent seller tended to reach an agreement more often than subjects faced with an inconsistent seller. While no other behavioral outcome was significantly affected by the consistency treatment, it is useful to note that all of the means for the behavioral measures differed in the expected direction. The mean differences appear fairly large, but are overwhelmed by the large individual differences in response across subjects within each treatment condition. It could be that the treatments simply are not powerful enough to affect behavior significantly. However,
Table 12
Pretest 2 - Means of Behavioral Measures and Perceptions of Seller's Limit

<table>
<thead>
<tr>
<th>Measure</th>
<th>Consistent Cues</th>
<th>Inconsistent Cues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit earned</td>
<td>$3.60</td>
<td>$3.02</td>
</tr>
<tr>
<td>Total amount conceded</td>
<td>494</td>
<td>419</td>
</tr>
<tr>
<td>Average concession</td>
<td>46.60</td>
<td>32.30</td>
</tr>
<tr>
<td>Value of last bid</td>
<td>1471*</td>
<td>1319*</td>
</tr>
<tr>
<td># reaching agreement</td>
<td>14/21**</td>
<td>9/22**</td>
</tr>
<tr>
<td>Estimate of seller's limit</td>
<td>1476</td>
<td>1484</td>
</tr>
<tr>
<td>Confidence in limit estimate</td>
<td>5.22</td>
<td>5.09</td>
</tr>
</tbody>
</table>

*Contrast of means approaches significance (p ≤ .09).
** p ≤ .05

The fact that the manipulations were being correctly perceived indicates that the problem was not the potency of the manipulation. Rather, it seems likely that something else about the experimental context may have swamped the effects of the cue consistency manipulation. Alternatively, subjects' perceptions of the seller simply may not have been closely related to their behavior. This would indicate that in this study social inter-dependence was not a significant determinant of bargaining behavior or outcomes.

One possible problem could have been the comparison with an alternative supplier available to the subjects. The alternative supplier price was $1800 as in the first
pretest, and subjects tended to use this figure as a proxy for market value. However, the programmed seller would concede to $1500. Thus, it seems likely that the bargaining behavior of the seller was viewed as being soft rather than tough as was intended. A look at Table 11 reveals that subjects' perceptions of the seller's toughness, generosity, reasonableness, etc. hover very close to the midpoint of the scale. While no effect of cue consistency on perceptions of toughness across conditions was desired, it is important that the seller be perceived as tough rather than soft if bargaining outcomes are to be maximized from the seller's perspective. Therefore, the decision was made to increase subjects' uncertainty of the market value of the product by giving them a "best estimate" of the market value in the form of a price range. This was expected to increase the perceived cost of withdrawing from the negotiation and to make subjects perceive a greater risk in their tough behavior. The changes in the experimental procedure and measures used are described in detail in the next section.

PRETEST 3 - ANOTHER TEST OF THE EFFECTS OF CUE CONSISTENCY

This study was designed to re-examine the effects of cue consistency on bargaining behavior in a modified experimental context. The changes made in the experimental methodology are described below. Another purpose of this study was to examine the usefulness of several attribution measures proposed for use in the primary factorial experiment. These measures were used to test the effects of the consistency treatment on subjects' attributions and to determine if certain types of attributions affected subjects' bargaining behavior.
METHODOLOGY

Thirty-six undergraduate business students participated in what they were told was a test of negotiating effectiveness using micro-computer technology. Three subjects did not complete the exercise due to their having ended the negotiation by mistake because they did not understand the experimental task. Therefore, only eighteen and fifteen subjects were randomly assigned to the consistent cue condition and the inconsistent cue condition respectively.

Two major changes were made in the negotiation simulation. As noted in the discussion of the problems identified in the second pretest, subjects did not seem to perceive the seller's behavior to be tough. This may have led to greater competitive behavior on the part of the subject buyers across conditions and obscured any treatment effects. In an attempt to resolve this problem, the subjects' were not given a fixed price alternative supplier as in the previous two studies. Instead, they were told that their best estimate of the market value of the Dexene was somewhere between $1300 and $1425. This was intended to increase subjects' uncertainty as to the cost of buying the product outside of the negotiation. In conjunction with this change, the seller's limit was lowered to $1400. The total amount conceded and the pattern of concessions were not changed. The seller simply started the negotiation at $2300 rather than $2400. This change was thought to make the seller's stance seem tough, but not unreasonable since the final offer fell in the upper range of the subjects' market price estimate.

The other major change involved the subjects' incentives. Through debriefing, it was learned that subjects did not consider the contingent monetary reward to be
particularly motivating since the average payoff was only about three dollars. In this study, subjects were instead given an opportunity to win three larger prizes of thirty dollars each. These awards were presented to the most effective negotiators based on settlement price. Ties were broken by a random drawing. Subjects also received class credit for participation; however, the credit was not contingent on performance. The names of the top three negotiators were posted publicly in order to provide a social incentive.

Several new measures were introduced in the pretest questionnaire, most of them concerning alternative ways to measure attributions. The revised questionnaire is listed in Appendix D. Items 1 and 2 were directed thought listing tasks the responses to which it was hoped would reveal some evidence of spontaneous attributional processing. In Item 1 subjects were asked to "list all the thoughts that come to mind about the seller in the negotiation...". In Item 2 subjects were asked to "list all the thoughts ... about the negotiation". Item 3 was a direct attributional question in which subjects were asked to list what they thought were the causes of the seller's negotiating behavior.

Several different coding schemes could have been used to classify any attributions detected in these measures. The measurement of attributions is an extremely difficult problem that has been approached in several different ways with varying degrees of success. The issue of which method is best is far from resolved and almost certainly depends on the research problem being examined. The most common has been the internal-external categorization (Dyck and Rule 1978; Baron 1985). In this scheme attributions are classified as internal if they are judged to assign
causality to something about the actor’s personal characteristics or dispositions. External attributions are those which assign causality to something about the setting or situation external to the actor. It is also possible to categorize subjects as having made both situational and dispositional attributions. Another classificatory scheme has been suggested by Miller, Smith and Uleman (1981). They provided support for the validity of a controllable/ uncontrollable causal dimension by showing that subjects seemed to interpret the internal/external dimensions used in standard attribution scales more in terms of responsibility for the observed behavior than in terms of situations versus dispositions. In other words, free responses to attributional questions which were interpreted by researchers in terms of internal and external loci of causality were found to be only weakly correlated with subjects’ responses to scale items designed to measure the internal/external dimensions directly. However, when the free responses were recoded using the controllable/ uncontrollable categorization scheme, these were found to be highly correlated with scale items which directly measured the control causal dimension. Since this pretest was an exploratory study designed to provide some support for the selection of a method for measuring attributions, both the external/internal and the controllable/uncontrollable causal dimensions were measured (Items 9 and 10).
Other measures were added to determine if the treatment affected subjects' satisfaction with the outcome of the negotiation (item 15a) or with their own conduct of the negotiation (item 15b). Subjects indicated the extent of their agreement with the following statements: (15a) "I am satisfied with the settlement price in this negotiation" and (15b) "I am satisfied with the way I negotiated". Three additional items (15c, 15d, and 15e) were added to test the assumption made in this research that bargainers are more likely to concede when the other party's behavior is attributed to external causes rather than to internal, dispositional factors. Specifically, subjects were asked the extent of their agreement with the following statements on 7-point scales: (15c) "I am more likely to make concessions when I know that my negotiating partner's tough bargaining behavior is caused by external constraints such as costs than when the tough behavior is caused by my partner's personal characteristics such as personality", (15d) "I am more likely to make concessions when I know that my negotiating partner's tough bargaining behavior is caused by his/her personal characteristics such as personality when the tough behavior is caused by external constraints such as costs", and (15e) "Whether or not my negotiating partner's behavior was caused by situational factors or by personal characteristics would have no effect on my willingness to make concessions".
CHECKS OF THE VALIDITY OF THE CONSISTENCY MANIPULATION

Once again subjects were able to perceive accurately the cue patterns used in the creation of the consistent and inconsistent cue conditions. Table 13 lists the results of the one-way analyses of variance conducted on subjects' responses to the pattern recognition scales. Unfortunately there was one crucial, unexpected result. Subjects failed to perceive a difference between the two conditions on the consistency dimension which was intended to be the manipulated construct. In other words, differences in subjects' mean ratings of the seller's over-all consistency (Item 14) were in the expected direction but were not significant (4.89 and 4.33 for the consistent and inconsistent conditions respectively). This result is very disappointing and puzzling given the strong perceptions of differences in consistency found in Pretest 2 using essentially the same cue patterns. It is possible that removing the positional statements from the messages used in the inconsistent cue condition reduced the degree of inconsistency among the behavioral cues in that condition. Another explanation for this finding could be that subjects simply were not very observant of the seller's behavior. This seems unlikely, however, given their accurate recognition of the individual cue patterns.

The data in Table 13 support the notion that consistent cues provide a much clearer signal concerning the directionality (i.e. changes in toughness over time) of the seller's behavior. Consistent sellers were seen as being increasingly reluctant to concede and to take a tougher stance as the negotiation proceeded. These perceptions were not dependent on the type of cue evaluated. Subjects saw the seller's messages, concessions, and deliberation time patterns as all indicating an increasing reluctance to concede as the negotiation progressed.
PERCEPTUAL EFFECTS OF CUE CONSISTENCY

Table 14 summarizes the results of analyses of variance run on subjects’ responses to several types of perceptual scale items and attribution measures. As in the second pretest, the consistency manipulation had no effect on subjects’ perceptions of the seller’s toughness. Toughness was measured using a 7-item scale similar to one first reported by Schurr and Ozanne (1985). The items included were cooperative/competitive, weak/strong, soft/hard, reasonable/unreasonable, dominant/submissive, generous/selfish, and tough/easy. The reliability of the toughness scale based on Cronbach’s alpha was .82. The effect of cue consistency on subjects’ perceptions of the seller’s trustworthiness noted in the second pretest was replicated using a 5-item trust scale similar to a scale first reported by Schurr and Ozanne (1985). The trust scale was composed of the items deceptive/frank, reliable/unreliable sincere/insincere, honest/dishonest, and trustworthy/untrustworthy and was also reliable with a Cronbach’s alpha of .72.

No significant effects of cue consistency on type of attribution as measured by the two causal dimensions, controllable/uncontrollable and external/internal, were observed. On the internal/external dimension subjects in both conditions seemed to attribute the seller’s behavior somewhat more strongly to situational factors than to personal characteristics (overall mean=3.48). This result may reflect subjects’
Table 13

Pretest 3 - Mean Comparisons For Manipulation Checks

<table>
<thead>
<tr>
<th>Measure*</th>
<th>Consistent Cues**</th>
<th>Inconsistent Cues**</th>
</tr>
</thead>
<tbody>
<tr>
<td>(6a) message pattern</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- reluctance to concede</td>
<td>6.17</td>
<td>2.73</td>
</tr>
<tr>
<td>(6b) message pattern</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- tough stance</td>
<td>5.94</td>
<td>3.53</td>
</tr>
<tr>
<td>(6c) concession pattern</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- soft-to-tough</td>
<td>6.22</td>
<td>2.67</td>
</tr>
<tr>
<td>(6d) concession pattern</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- reluctance to concede</td>
<td>5.44</td>
<td>2.87</td>
</tr>
<tr>
<td>(6e) time pattern</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- reluctance to concede</td>
<td>6.04</td>
<td>3.53</td>
</tr>
<tr>
<td>(6f) time pattern</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- soft-to-tough</td>
<td>6.17</td>
<td>3.47</td>
</tr>
<tr>
<td>(6g) time pattern</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- short-to-long</td>
<td>5.94</td>
<td>4.40</td>
</tr>
<tr>
<td>(14) consistency</td>
<td>4.89</td>
<td>4.33</td>
</tr>
</tbody>
</table>

*The numbers in parentheses refer to the number of the item in Appendix D.

**All mean differences are significant at p<.01. F (1,44), except for the consistency means (Item 14) which are not significantly different. Agree=7, disagree=1.
Table 14
Pretest 3 - Mean Comparisons For Perceptual Measures

<table>
<thead>
<tr>
<th>Measure*</th>
<th>Consistent Cues**</th>
<th>Inconsistent Cues**</th>
</tr>
</thead>
<tbody>
<tr>
<td>(3) direct causal question(^a)</td>
<td>1.20</td>
<td>1.40</td>
</tr>
<tr>
<td>(4) trust scale (7 items)</td>
<td>15.94(^b)</td>
<td>22.07(^b)</td>
</tr>
<tr>
<td>(4) toughness scale (5 items)</td>
<td>39.65(^c)</td>
<td>32.73(^c)</td>
</tr>
<tr>
<td>(9a) person attribution scale</td>
<td>4.44</td>
<td>4.07</td>
</tr>
<tr>
<td>(9b) situation attribution scale</td>
<td>5.06</td>
<td>4.60</td>
</tr>
<tr>
<td>(9c) person-situation scale</td>
<td>3.44</td>
<td>3.53</td>
</tr>
<tr>
<td>(10a) control causal scale 1</td>
<td>5.05(^d)</td>
<td>5.40(^d)</td>
</tr>
<tr>
<td>(10b) control causal scale 2</td>
<td>3.44</td>
<td>3.93</td>
</tr>
<tr>
<td>(10c) control causal scale 3</td>
<td>5.22</td>
<td>4.87</td>
</tr>
<tr>
<td>(10d) control causal scale 4</td>
<td>4.72(^e)</td>
<td>3.73(^e)</td>
</tr>
<tr>
<td>estimate of seller's limit</td>
<td>1381.5</td>
<td>1397.9</td>
</tr>
<tr>
<td>accuracy of limit estimate</td>
<td>±46.5</td>
<td>±51.2</td>
</tr>
<tr>
<td>confidence in limit estimate</td>
<td>8.44</td>
<td>8.07</td>
</tr>
</tbody>
</table>

*Numbers in parentheses refer to the item number in Appendix D.
**Numbers in columns refer to group means on each of the perceptual measures.
\(^a\) A locus of causality index was derived by coding 1 for external attributions and 2 for internal attributions. A mean index value close to 1 then indicates that the attributions were predominately external.
\(^b\) Contrast of means is significant, \(F_{1,31}=13.28\), \(p<.001\).
\(^c\) Mean contrast approaches significance, \(F_{1,31}=2.85\), \(p<.101\).
\(^d\) Responses were polar adjusted. A high score means greater control.
\(^e\) Mean contrast approached significance (\(p<.09\)) for \(F\) test with 1 and 31 d.f.
perceptions that the seller's behavior was attributable at least in part to the experimental context, in other words, to instructions that profit maximization was their task in the negotiation. The control causal dimension also did not discriminate between treatment conditions. Only one contrast approached significance, that of Item 10d which was a measure of subjects' perceptions of the overall freedom of choice available to the seller in the negotiation (p<.09). In this case the subjects in the inconsistent cue condition attributed less control to the seller than subjects in the consistent cue condition. This result runs counter to what was expected since the patterned cues were thought to signal more clearly the seller's limit, a factor in the negotiation which subjects were expected to classify as uncontrollable since the payoff schedules were invariant.

The direct attributional question (Item 3), in which subjects were asked to list what they thought were the causes of the seller's behavior, was used to create an attribution index based on the locus of causality dimension. Subjects' inferences were assigned a 1 when the seller's behavior was attributed to external, situational factors. A 2 was coded for attributions of internal, dispositional causality. The coding of the attributions was done by the experimenter and was a rather difficult task. As has been noted by others (e.g. Russell 1982), the coding of subjects' self-reports of attributions is an endeavor fraught with bias and error. The coding of these responses was made difficult by the weak discrimination provided by the internal-external classification system. For example, one of the most frequently cited causes of the seller's behavior was that the seller wanted to maximize his/her profit in the negotiation. If one interprets this response to mean that the seller had a disposition toward greed, aggressiveness, or some other personal characteristic, then this could be considered an attribution of
internal causality. On the other hand, this could be considered an attribution to external causes because the profit maximization goal was stressed in the negotiation instructions. Given the context in which the attributions were made, the latter classification seemed more appropriate and was used.

However, this resulted in a preponderance of external attributions being identified. Out of eighteen subjects in the consistent cue condition, twelve made external attributions, three made internal attributions, and three could not be classified because they failed to answer the question. In the inconsistent cue condition, nine of fifteen subjects attributed the seller's behavior to situational factors while six made a dispositional inference. A comparison of the means for the locus of causality index revealed no significant differences between groups.

No differences between conditions were found for subjects' estimates of the seller's limit, the accuracy of that estimate, or subjects' confidence in their estimate. This replicates the null result found in the second pretest which was thought to be an artifact of the bargaining simulation.

In Chapter IV it was hypothesized that bargainers exposed to consistent cues would be more satisfied with their own performance in the negotiation because of the perception that they had extracted all possible concession from their negotiating partner. This effect approached significance in the third pretest, but the explanation for the effect seems inadequate. Subjects in the consistent cue condition were somewhat more satisfied (mean=5.00) with their conduct of the negotiation than subjects faced with an inconsistent seller (mean=3.87) (F=3.48, p<.07).

However, it was expected that this effect would only be present when the negotiation ended in agreement. In fact, most of these negotiations ended with one
party or the other (usually the seller) withdrawing in favor of an alternative outside the negotiation. Under such conditions, one would expect that subjects faced with a seller whose behavior consistently signals a settlement point would be more frustrated because of the perception of having ignored the signals and pushed the other party too far. Subjects faced with an inconsistent seller should have been less certain of the signalld settlement point and, therefore, should have felt less responsible for having missed it. One explanation for the observed superiority of the consistent cue condition in eliciting more positive affective reactions to the negotiation may be that the orderliness and rational nature of the seller's behavior in the consistent condition led the subjects to perceive themselves as rational and professional as well.

EFFECTS OF CUE CONSISTENCY ON BARGAINING BEHAVIOR

No significant effects of cue consistency on bargaining behavior or outcomes were observed. Table 15 summarizes the results of analyses of variance on several behavioral measures. Whereas in the second pretest, subjects had been more likely to reach agreement in the consistent cue condition, in this study very few bargainers in either group settled with the programmed seller. Only six subjects settled, three in each condition. This is an indication that something about the bargaining task was driving subjects to be very tough and competitive in this study. Since the same effect was not observed in the previous study, it seems likely that one of the changes made in the bargaining simulation was responsible for this drastic effect on subjects' behavior. This possibility will be explored further in the next section of this chapter.
Table 15
Pretest 3 - Mean Comparisons For Behavioral Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Consistent Cues*</th>
<th>Inconsistent Cues*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total amount conceded</td>
<td>349.00</td>
<td>313.00</td>
</tr>
<tr>
<td>Average amount conceded</td>
<td>39.66</td>
<td>27.55</td>
</tr>
<tr>
<td>Value of the last bid</td>
<td>1163.72</td>
<td>1204.67</td>
</tr>
<tr>
<td>Value of the first bid</td>
<td>814.56</td>
<td>891.73</td>
</tr>
</tbody>
</table>

* None of the mean contrasts approach significance at p<.05.

Having noted that over 80% of the subjects failed to reach an agreement in the fifteen bids made by the seller, it is not surprising then that none of the behavioral measures were significantly affected by the consistency treatment. Neither the total amount conceded, the value of the last bid, nor the size of the average concession differed between groups. Nor could the null results be attributed to differences in the initial bid since that contrast was also non-significant.

To summarize, the consistency treatment did not affect the types of attributions made to account for the seller’s behavior nor the subjects’ bargaining behavior. However, it is possible that subjects’ attributions did have an effect on their bargaining behavior. It was expected that subjects who made external attributions to explain the seller's behavior would tend to concede more readily. Analyses of variance were
conducted on the behavioral measures listed in Table 15 using the type of attribution, internal or external, as the grouping variable. Again, no significant effects were found.

In another attempt to demonstrate a behavioral effect in this study, subjects were grouped according to their responses on the trust scale. Those subjects whose responses were at the scale midpoint, 20, (the higher the score, the lower the perception of trustworthiness) or above were compared with those whose responses were below 20. Again, no significant effects on behavior were found. Finally, only the seven subjects whose responses to the trust scale were most extreme (i.e. either high or low) were grouped and the same behavioral effects tested. Even in this most liberal of tests no significant effects of perceptions of the seller's trustworthiness on bargaining behavior were found.

IMPLICATIONS OF THE THREE PRETESTS

To put it bluntly, the third pretest was an unmitigated disaster for a researcher interested in studying attribution and impression formation in buyer-seller negotiations. There seem to be two plausible explanations for the failure to find results of significance for the cue consistency treatments in this study. First, it is possible that the manipulations simply do not affect bargainers' attributions and behavior in the manner expected and that the link between attribution and bargaining behavior is simply not a strong one. However, to say this with any confidence, some evidence of differences in perceived cue consistency between treatment conditions is required. Second, the results could reflect strong nuisance variables (e.g., differences in motivational orientation, reference prices, or bargaining strategies) operating in the experiment that are
swamping the effects of the independent variables or even of subjects' attributions and perceptions.

While the former explanation is possible, the question remains as to whether the expected treatment effects were fairly tested in this study. Clearly, the subjects behaved very competitively in this negotiation, much more so than in the earlier pretests. This toughness is likely to have resulted from changes made in the negotiation context. The decision to give subjects a market price range rather than a fixed price alternative supplier and to lower the seller's limit to $1400 led to some unexpected problems. From subjects' comments after the negotiation, it was clear that they assumed the market price estimate ($1300-1425) was accurate even though they were told that it might not be. Therefore, subjects were quite confident that they could buy the product on the open market for less than $1400. Therefore, they bargained very competitively, yielded much less than in the previous studies, and felt that there was little risk or cost associated with failure to reach agreement with the seller.

Also, elimination of the $1800 alternative supplier price made the seller's concession schedule look rather unrealistic and incredible. Recall that the seller opened the negotiation with a $2300 initial price and conceded $900 over fifteen bids. When the alternative price was $1800, this initial bid looked extreme. With a comparison level of $1400 or less, the seller's behavior was totally unrealistic. Most of the subjects hardened their own positions, perhaps in response to the seller's overly tough initial bid. Subsequent large concessions in the consistent cue condition showed the subjects that the seller recognized the absurdity of his/her position and their tough behavior was reinforced. In order to be effective in modifying bargainers' aspirations, initial offers must be perceived as tough but not beyond the bounds of reason. On the
other hand subjects in the inconsistent cue condition received the same extreme initial bid, but the seller conceded much more slowly and in a non-patterned fashion. Thus, these subjects were less likely to be reinforced for their tough reactions. The net effect of these powerful contextual factors was to increase yielding in the inconsistent cue condition relative to the consistent cue condition, thereby working against the treatment effects.

Another problem with this study is the weakness of the attribution measures used. With the exception of the trust and toughness perceptual scales, the validity or reliability of the attribution measures were not established. The classification scheme used to code the causal question measure had serious weaknesses which have been noted by a number of researchers interested in the measurement of attributions (e.g. Miller, et al. 1981; Russell 1982). Russell (1982) has developed and validated a causal dimension scale which reliably measures all three causal dimensions shown to be important in attributional processing: the locus of causality dimension, the control dimension, and the stability dimension. This scale will be used in the main factorial experiment and allows the testing of some more sophisticated hypotheses concerning the nature of attributions elicited by a bargainer's behavior patterns. It also provides a valid measure of the nature of subjects' causal inferences which does not rely on the researcher's biased and error-filled translation of written responses. This instrument will be described in detail in Chapter VI.

The second and third pretests provided strong evidence for the validity of the cue patterns used, in the form of significant effects on subjects' perceptions of the seller's behavior, and some support for the consistency manipulation. The effects of cue consistency on bargaining behavior in the second study were not significant, but
the means were in the expected direction. With some minor changes in the bargaining context, a fair test of the hypotheses was expected. Unfortunately, instead of some minor calibration, a sledgehammer approach was taken to changes in the third study. The results of that study do not necessarily invalidate the support for the manipulations found in all of the studies. Rather, the third pretest highlighted the importance of the bargaining context in determining subjects behavior.

The presence of an alternative to the negotiated transaction is crucial to the external validity of any bargaining experiment since few true monopoly situations exist in industrial or consumer markets. The failure of much experimental bargaining research to provide such an alternative has been strongly criticized (Schurr and Ozanne 1985). One of the reasons for the more favorable results found in the second pretest could have been that the alternative supplier's price ($1400) was not very attractive relative to the programmed seller's target price ($1500). On the other hand, the alternative was perceived to be too attractive in the third study. The keys to a fair test of the hypotheses of interest in this research are to offer subjects a bargaining context in which the seller's behavior is realistic and the alternative to the negotiated settlement is plausible but does not dominate the negotiated settlement. Subjects must believe that there is some risk or a substantial potential cost to failing to reach an agreement in the negotiation. Schurr and Ozanne (1985) accomplished this by allowing the subjects to leave the negotiation with the target seller and enter into a negotiation with an alternative seller. Since this would disrupt the manipulations used in this study, it is not a feasible option. However, these conditions can be met by applying what was learned in these studies.
First, subjects must be given an estimate of the market value of the product which is clearly uncertain. This can be accomplished by telling subjects that they may buy the Dexene from an alternative supplier, but that the supplier's price will be based on an average of all the other subjects' negotiated settlements, a price which may be less favorable than the one being offered by their current supplier. Second, subjects' incentives to perform well in the negotiation must be strengthened. From debriefing subjects it was learned that the most powerful incentive that could be feasibly offered would be to make class credit contingent on the settlement price agreed to. Highly motivated subjects would bargain more carefully, pay more attention to the information available to them when making decisions, and be less likely to adopt an unreasonably tough stance when the penalty for failure to reach agreement is potentially more severe.

Chapter VI describes the revised version of the experimental methodology and the results of the factorial experiment designed to test the hypotheses proposed in Chapter IV. It is believed that this experimental design provided a stronger test of the effects of cue consistency on attributional processing and behavior in buyer-seller negotiations.
CHAPTER VI

THE EFFECTS OF CUE CONSISTENCY ON BARGAINING ATTRIBUTIONS AND BEHAVIOR

INTRODUCTION

This study was designed to address three key issues using the methodology and constructs evaluated in the studies described in Chapter V. The first issue concerns the effects of varying degrees of cue consistency on attributions made by bargainers to account for their negotiating partners' behavior. The second issue relates to the nature and strength of the linkage of these attributions to the bargainers' subsequent behavior. Finally, a third major objective of this study was to evaluate whether or not bargainers tend to make spontaneous attributions about their partners while negotiating.

METHODOLOGY

As in the pretests the subjects played the role of buyer negotiating over the price of a hypothetical industrial chemical called Dexene with a programmed seller. Some crucial changes were made in the negotiating context in order to avoid some of the problems encountered in the pretests. These changes are summarized in Table 16.
The three types of concession patterns used to create the cue conditions are shown in Table 17. In order to increase the toughness and realism of the concession pattern, the total amount conceded was drastically lowered from $900 to $266 by dropping the three largest concessions. The remaining concessions were identical to those used in the pretests. The programmed seller began the negotiation by offering the Dexene for sale at a price of $1650. The seller's limit was 1650-266 or $1384. As in the pretests, the seller broke off the negotiation if agreement had not been reached after bid twelve.

The seller's message pattern was essentially the same as that used in Pretest 3 with only two changes made. Because the negotiation was shortened to twelve bids in order to avoid fatiguing the participants, it was necessary to delete three messages. The choice of messages to delete was made based on similarity in toughness scores. In addition to dropping three messages, one of the messages was amended in order to suggest an explanation for the seller's behavior to the subject buyers. The message in which the inference suggestion is planted is item ten in the patterned message list shown at the top of Table 18. It was hypothesized in Chapter IV that subjects would be more willing to accept an explanation that attributes the seller's inability to make further concessions to external, stable, and uncontrollable causes when the seller's behavioral cues are all consistent with such an explanation. Therefore, it was expected that subjects in the and unlikely to have an effect on subjects' attributions or behavior of sufficient magnitude to justify the additional complexity that would be introduced by using three cues instead of two.
Summary of Changes in the Bargaining Setting

1. Length of the negotiation was changed from 15 bids to 12 bids.
2. Subjects were given a different list of messages.
3. An explanation for the seller's behavior was added to the seller's message pattern.
4. Greater uncertainty about the outcome of leaving the negotiation to deal with another supplier was introduced by telling the subjects that they would have to buy the Dexene at the average price negotiated by other buyers if either they or the seller withdrew.
5. The three largest concessions by the seller were eliminated in order to lower the total amount conceded from $900 to $266. The remainder of the concession pattern was not changed.
6. Three very similar, soft messages were deleted from the message pattern in order to shorten the pattern to 12 messages.
7. Subjects were told that their class credit as well as their opportunity to win one of six $30 bonuses were contingent on their performance in the negotiation.
8. The deliberation time cue was dropped.
Table 17
Main Study Concession Patterns

<table>
<thead>
<tr>
<th>Decelerating Concessions</th>
<th>Accelerating Concessions</th>
<th>Non-patterned Concessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1650</td>
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<td>1650</td>
</tr>
<tr>
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<tr>
<td>1384</td>
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</tbody>
</table>

High cue consistency condition would concede more than subjects in the low cue consistency condition and would tend to make stronger attributions of an external, stable, and uncontrollable cause (i.e., cost constraints) for the seller's behavior as suggested by the seller's message. In other words, a negotiator's explanation for tough bargaining behavior is made more credible when it is consistent with other behavioral cues.

The deliberation time cue used in the pretests was dropped altogether in the interest of simplicity. The dynamics of the relationship between only two behavioral
Table 18

Main Study Message Patterns

Soft-to-tough Message Pattern

1. I'm sure we can reach a mutually satisfactory agreement.
2. I think my offer is very fair.
3. Clearly, my offer is fair to both of us.
4. You have to consider my firm's needs as well as yours.
5. I've made a fair offer, now it's your turn.
6. Come on now, this offer is more than fair.
7. You must concede further if you want to reach agreement.
8. Remember, I have other buyers that I can sell to.
9. Your proposals are not acceptable, you'll have to do better.
10. I can't give any more because Dexene is very expensive to make.
11. Accept this offer, or I'm very likely to sell to another buyer.
12. This is my final offer; take it or leave it.

No-pattern Messages

1. I'm sure we can reach a mutually satisfactory agreement.
2. Come on now, this offer is more than fair.
3. Accept this offer, or I'm very likely to sell to another buyer.
4. You have to consider my firm's needs as well as yours.
5. Clearly, my offer is fair to both of us.
6. You must concede further if you want to reach agreement.
7. I can't give any more because Dexene is very expensive to make.
8. This is my final offer; take it or leave it.
9. I've made a fair offer, now it's your turn.
10. I think my offer is very fair.
11. Remember, I have other buyers that I can sell to.
12. Your proposals are not acceptable, you'll have to do better.
cues are still complex for this research. Also, based on evidence from the pretests, the deliberation time cue was quite subtle.

A different message list than the one used in Pretest 3 was given to subjects in the main study. The revised messages are shown in Table 19. These messages were borrowed from a list of integrative and distributive messages used by Schurr and Ozanne (1985). The change was made for two reasons. First, it was thought that giving subjects a different message list would tend to make the seller's messages seem more spontaneous, unexpected, and real. Second, the messages used by Schurr and Ozanne have been classified by those researchers using Angelmar and Stern's (1978) typology for bargaining communications. This classification system provides a basis for evaluating the nature of subjects' responses to the seller's behavior. For example, when faced with tough, distributive bargaining messages from the seller, did subjects' reciprocate with toughness of their own? If so, what form did that tough behavior take, a refusal to concede, a threat, or a positional commitment?

Before beginning the negotiation, subjects read several paragraphs of instructions on their computer monitors intended to familiarize them with their task and role in the exercise. A copy of the instructions provided to subjects in the bargaining program used to simulate the seller in each negotiation is listed in Appendix E. All subjects received the same set of instructions. At the end of the instructional material, subjects were given the option of reading the information again if they were uncertain about some aspect of the bargaining setting or their task.
Table 19

Revised Bargaining Messages For Buyers

**Integrative Messages**

1. Let's cooperate. If you make a concession, I will also make a concession.
2. I am pleased with the concessions made thus far.
3. We have made great progress in our negotiation.
4. Helping buyers out can enhance your reputation and make working together easier.
5. Your offers have been fair and equitable.
6. It's only fair for you to concede when I have conceded.
7. I am trying to work with you by reciprocating appropriately.

**Distributive Messages**

1. This is my final offer: take it or leave it.
2. Make a concession or you will be in trouble.
3. Respond with a concession or I will call another supplier.
4. Make a concession or you will be in trouble.
5. This is my best offer. I'm going to find a more reasonable supplier if you don't accept it.
6. This negotiation is going nowhere.
7. My company has a policy against uncooperative sellers.
8. Your profit picture will look red if you don't deal with my company.
9. I refuse to pay any more for this product.
10. Give me a lower price.
11. I don't like your tone. I can find another supplier.
12. Your tough position means we are not going to reach an agreement. At this point I have to be tough too.
13. Make a better concession than your last one.
Table 20
Pre-treatment Measures Used in Main Study

1. Age
2. Sex
3. Negotiation experience
   a) yes/no dummy variable
   b) 7 point experience scale: not at all experienced-very experienced
4. Settlement price expectation (xpric) - what S expects to pay
5. Settlement price goal/aspiration level (apric) - what S wants to pay
6. Settlement price limit/reservation price (rpric) - the most S would pay
7. Expectation of seller's toughness - 7 point scale, very easy-very tough

After reading the instructions, the subject bargainers responded to several questions which were primarily intended to provide descriptive information about the sample, but some of which were thought to covary potentially with the treatments used in the study. These pre-treatment measures are listed in Table 20.

EXPERIMENTAL DESIGN

Eighty-three undergraduate business students participated in the negotiation in one of eight conditions. Three subjects had to be excluded from the analysis because of crucial errors (e.g. inadvertently withdrawing from the negotiation) or an inability to understand the bargaining task. The design ended up being balanced with ten subjects per cell. The sample consisted of 39 women and 41 men who averaged 23 years of age. 35 subjects claimed to have had at least one negotiating experience such as haggling over the purchase or sale of a car or a house. In order to test
hypotheses relating to cue consistency and the spontaneity of attributional processes.

A 2-factor between-subjects factorial design was used. The first factor varied the
degree of consistency between the message and concession cues in four levels
(highly consistent directional cues, inconsistent directional cues, consistent
non-directional cues, and a mixed cue condition) which were described in Chapter 4
(See Figures 3, 4, 5, and 6).

The second factor was the presence or absence of inference instructions. Half
of the subjects received instructions to try to understand the causes of their negotiating
partner's behavior. This manipulation was necessary in order to test the spontaneity of
attributional processing in bargaining. If subjects in the no-inference-instructions
condition exhibit bargaining behavior and attributions similar to those observed in
those subjects who were prompted to make inferences, the same attributional
processes may be occurring spontaneously in the no-instruction subjects. Alternatively,
the lack of differences could be attributed to weakness in the forced-inference
manipulation.

Appendix F contains the one-page written introduction which subjects were
given as they entered the computer lab. This introduction contained some brief
instructions about the computer keyboard and the subjects' task as well as the
instructions to make inferences. In the instructions condition subjects were told that
"some bargaining experts believe that a key to effective bargaining is the ability of
negotiators to understand the reasons or causes for the behavior of the person they are
negotiating with. We want you to be effective negotiators. Therefore, your other major
task in this negotiation is to try to understand the cause(s) of your negotiating partner's
behavior. You will be asked for this explanation after the negotiation is over, so make
Sure that you pay close attention to the other party's negotiating behavior. For half of the negotiators this paragraph which contained the inference making manipulation was deleted.

DEPENDENT VARIABLES

The measurement instrument used in Pretest 3 was substantially revised for the main study. The revised instrument is listed in Appendix G. In particular several new items were designed to classify and interpret subjects' attributions and to provide detailed information on their perceptions of the seller, the seller's behavior, and their own behavior. One of the weaknesses of past attribution research has been a tendency to recognize self and other-person attribution as related and equally important aspects of social perception but to study each one as a separate phenomenon. It seems likely that our behavior and perceptions in social interactions are simultaneously influenced by our self-attributes as well as our attributions about others. Therefore, both attributions about the seller and the subjects' self-attributions were measured using the same two-step procedure.

In item 1 subjects were asked to list their beliefs about the cause of the seller's negotiating behavior. Rather than making a very difficult and possibly biased attempt to interpret the subjects' attributions using judges, in Item 3 subjects were instead asked to interpret their attributions using a causal dimension scale adapted to a bargaining setting from one introduced by Russell (1982). This scale uses subjects' own interpretation of their responses to Item 1 to classify their attributions along three dimensions, locus of causality, controllability, and stability which have been shown to be important latent constructs in previous attribution research (Weiner 1979). The
causal dimension scale consists of three subscales of three items each designed to measure the extent to which subjects believe the cause of the seller's behavior to be internal or external to the seller (Items 3a, 3e, 3g), under the seller's control or not under his control (Items 3b, 3d, 3i), and stable or unstable (Items 3c, 3f, 3h). The same scale was used in a slightly modified form in Item 7 to measure subjects' interpretations of their self-attributions listed in Item 6.

Russell (1982) provided some evidence for the scales' validity and reliability in two studies in which analysis of variance was used to show that responses to each sub-scale were affected by manipulations of only one causal dimension, but not the other two. A factor analysis supporting the three-dimensional structure of the over-all scale was also reported. Reliabilities of the locus of causality, stability, and controllability sub-scales were measured using coefficient alpha and were reported to be .87, .84, and .73 respectively.

Items 10a and 10b are the inference instruction manipulation checks. Subjects were asked to indicate on 7-point scales the extent of their agreement with two statements: (1) "During the negotiation, I tried to figure out the cause(s) of the seller's negotiating behavior" and (2) "During the negotiation, I concentrated on my own strategy and did not concern myself with the causes of the seller's behavior". Items 11a to 11e provide a much more finely tuned measurement of the degree to which subjects were satisfied with the negotiation in terms of outcome, performance, and price paid than was obtained in the pretests. On 7-point scales subjects were asked to indicate the extent of their agreement that they were satisfied with the price they paid for the Dexene in the negotiation, that they were satisfied with the way they negotiated, and that they were satisfied with the outcome of the negotiation. The extent to which their
satisfaction with the negotiation could be attributed to their behavior or that of their opponent was also measured.

Item 12 was added in an attempt to understand why subjects choose to accept or reject the seller's final-offer ultimatum delivered on bid twelve. Subjects were asked to use a 7-point scale anchored by "much lower than" and "much higher than" to complete the following statement: "I believe that the price offered on the final bid by the seller was ___ ___ ___ the average settlement price negotiated today". Rational subjects who refuse the seller's ultimatum should report believing that the seller's final offer was higher than the average settlement price.

The eight items listed under number 13 in the questionnaire serve two purposes. First, they provide evidence for the validity of the cue pattern manipulations. Secondly, they provide some valuable data about subjects' perceptions of the seller's behavior at three different stages in the negotiation: early, middle, and late. For each of three stages in the negotiation, subjects were asked to evaluate the tone (cooperative/competitive) of the seller's messages and the size of the seller's concessions (larger/smaller). By using these measures to construct plots of subjects' perceptions by experimental group, it was possible to evaluate some of the perceptual bias propositions described earlier in this chapter.

In addition to a check of subjects' perceptions of the seller's overall behavioral consistency, subjects were also asked to provide an evaluation of their own behavioral consistency in the negotiation in Item 19. Likewise, Items 20 and 21 asked subjects to rate the seller's responsiveness to their behavior in the negotiation as well as their own responsiveness to the seller's behavior on 7-point scales (very responsive/very unresponsive). Finally, Item 22 provided a further check on the sources of subjects'
satisfaction or dissatisfaction with the negotiation by asking them to evaluate their performance relative to the seller's performance on a 7-point scale (I performed better/the seller performed better). Besides these perceptual self-report measures, the bargaining program automatically recorded several types of behavioral measures such as the amount offered by the buyer and the message sent to the seller on each bid. From these measures several additional dependent variables were derived such as the average amount conceded per bid (AVECON), the total amount conceded in the negotiation (TOTCON), and the value of the last offer (LASTBID).

UNCONTROLLED FACTORS LIKELY TO AFFECT BARGAINING BEHAVIOR

Preliminary data analysis indicated that the within-cell heterogeneity of response to the treatments was very high. Therefore, the decision was made to include certain variables as covariates in the analyses in order to extract some of this nuisance variance which might obscure any treatment effects. Three variables were used as covariates in most of the analyses conducted. For tests of the effects of cue consistency on subjects' attributions and other perceptions and for tests of the effects of cue consistency on bargaining behavior and outcomes, subjects' expectations of the price which they would have to pay in the negotiation (XPRIC), subjects' expectation of the seller's toughness (XTOUGH), and the value of the subjects' first offer were included as covariates. The expectations of seller's toughness and settlement price were measured prior to the negotiation, but after the inference-making instructions. Two additional covariates, gender and negotiating experience were included in preliminary analyses but were found not to be significantly related to the dependent variables of interest and, thus, are not reported here. The selection of
covariates was made on the basis of past research which suggests that bargaining behavior and attributional processing are significantly affected by perceptions of the seller's toughness (Pruitt 1981; Schurr and Ozanne 1985). Some research in the mainstream attribution literature also suggests that the extent to which a person's expectations concerning an event are not fulfilled, attributional processing is stimulated (Wong and Weiner 1981). Also, it seemed likely that subjects' expectation of the price they would have to pay (a surrogate for their perception of market value) would serve as a frame of reference against which the reasonableness of the seller's behavior may be evaluated. The value of the first bid was thought to capture much of the individual differences in motivational orientations. More competitive, aggressive bargainers would be expected to make more extreme initial offers (i.e. lower) than cooperatively oriented subjects.

CHECKS ON THE INFERENCE INSTRUCTIONS

Two checks on the inference-making manipulation were included in the post-negotiation questionnaire. One (item 10a) asked subjects if they had tried to figure out the cause of the seller's negotiating behavior on a "strongly disagree-strongly agree" seven-point scale. The mean response on this scale was 4.90 for subjects who received the inference instructions and 4.48 for the no-instruction condition. This is a non-significant difference ($F_{1,78}=1.08, p=.303$). The second inference manipulation check (item 10b) used the same seven-point scale and asked subjects the extent to which they agreed that they had concentrated on their own strategy and had not concerned themselves with the causes of the seller's negotiating behavior. The mean scale responses were 3.55 and 3.83 for subjects in the instruction and no-instruction
conditions respectively. Again the mean contrast was in the expected direction but non-significant ($F_{1,78}=0.41$, $p=0.53$).

Based on these manipulation checks, it seems reasonable to conclude that subjects' motivation to conduct causal analyses was not successfully manipulated. The inference-making treatment was a weak one. In retrospect, it might have been better to include the inference manipulation in the instructions given to the subjects by the computer just before the start of the negotiation. As it was, the potency of the manipulation may have been weakened by giving the subjects a separate hand-out containing both the treatment and general orientation information just as they entered the laboratory. In addition, there is evidence, given the scale means, that some subjects who received no instructions conducted causal analyses spontaneously. It is also possible that subjects in the no-instructions condition tended to report that they were interested in the other party's behavior because they felt that type of response to be expected by the experimenter or to be more socially desirable. However, since no significant effect was observed, this proposition seems unlikely as well.

CHECKS ON THE CUE CONSISTENCY MANIPULATION

Several types of checks on the validity of the cue pattern manipulation were taken. These checks included measures of the subjects' perceptions of the cue patterns during each of three stages of the negotiation (early, middle, late) as well as checks of perceptions of consistency both within cue and over-all. The results of analyses of variance performed on these manipulation checks plus check on the validity of the inference manipulation and the amount of effort subjects put into the negotiation are presented in Table 21.
The consistency manipulation checks provide some interesting but somewhat unexpected information regarding the ways in which subjects perceived the cue conditions in terms of over-all consistency. First, on the over-all consistency measure, the means for all experimental groups are above the midpoint of the scale which suggests that subjects saw little inconsistency in the seller's behavior even when that behavior was essentially random as it was in condition three. While the differences between means for the consistency ratings were in the expected directions, only the contrast between condition one (m=6.45) and condition three (m=4.10) was statistically significant. Subjects in condition one faced a seller whose behavior was highly consistent, while condition three subjects interacted with a seller whose messages and bids were consistent in toughness during any one bid but which presented no directional patterns over time.

This failure to find clear differences across treatment conditions in terms of perceived cue consistency probably reflects the fact that each cue condition actually exhibited at least one type of consistency. Condition one included two cues which were both consistent in direction over time and consistent with each other in toughness at any point (i.e. bid) in time. The cues in condition two were both highly consistent internally over time in the sense that each cue was consistent in its direction of change (i.e. either tough-to-soft or soft-to-tough) over bids in the negotiation. However, the cues were entirely inconsistent with each other in terms of the directionality of their patterns. Bargainers in the third cue condition saw cues which were non-directional over time. Yet these cues were entirely consistent with each other when one bid is
Table 21
ANOVA Summary - Contrasts of Means For the Manipulations
and Other Experimental Checks

<table>
<thead>
<tr>
<th>Experimental Check</th>
<th>Consistent, Directional Cues (Group 1)</th>
<th>Inconsistent, Directional Cues (Group 2)</th>
<th>Consistent, Non-directional Cues (Group 3)</th>
<th>Mixed Cues (Group 4)</th>
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Stage-wise Perceptions of Toughness For Concessions and Messages:

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<th>Type</th>
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<th>Middle Con.</th>
<th>Late Con.</th>
<th>Early Mess.</th>
<th>Middle Mess.</th>
<th>Late Mess.</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effort</td>
<td>6.15&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.85&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.80&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.70&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.70&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.70&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.70&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Realism</td>
<td>4.60&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.30&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.40&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.40&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.40&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.40&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.40&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

1. Means with different superscript letters differ significantly at p<.05 by Tukey HSD test.
2. The lower the mean, the greater the perceived consistency.
3. The lower the mean, the tougher the bargaining stance.
4. The higher the mean, the greater the effort and perceived realism.
considered in isolation from other bids (i.e. both message and concession signalled the same degree of toughness). These cues were also consistent with each other in the direction of their changes from one bid to the next. The fourth cue condition consisted of one patterned cue, soft-to-tough messages, and one non-patterned cue, random concessions. The message cue was internally consistent over time and displayed a clear soft-to-tough direction. The concessions were erratic and presented no such pattern.

It seems plausible that these elements of consistency found in each condition could have contributed to subjects' tendency to report some consistency in their over-all evaluation of each cue condition. However, the paucity of significant differences in subjects' perceptions of the over-all degree of consistency between experimental groups is surprising. Particularly, it was expected that the two cues presented in condition two would lead to a low consistency rating for this condition. The concession cue presented a tough-to-soft directional signal while the messages moved from soft-to-tough. These signals are clearly conflicting, yet subjects' perceptions of consistency in this group did not differ significantly from the perceptions of subjects in the high consistency condition. Apparently, the subjects tended to focus on one cue or the other when evaluating the over-all consistency of the seller's behavior. This proposition and its' implications are addressed in greater detail in Chapter VII.

The subjects were also asked to rate the consistency of the concession and message cues individually. In Table 21 the group means for each of these seven-point scales, anchored by "very consistent-not at all consistent", are listed. Group 1 subjects perceived the most consistent concessions, and as expected their perceptions differ
significantly from those of subjects in Groups 3 and 4 but not from those of subjects in Group 2. Likewise, subjects in Groups 3 and 4 did not differ significantly in their perceptions of the non-directional concessions they faced. The only unexpected result was the lack of significance for the contrast of Group 2 with Groups 3 and 4. The results for the message consistency check were identical to those for the concession check described above.

Further checks on subjects' perceptions of the cue patterns were obtained by asking them to report their perceptions of the cue patterns during each of the three stages of the negotiation - early, middle, and late. Plots of these perceptions for each experimental group are depicted in Figures 7 through 10. Subjects reported their perceptions of the seller's message pattern on a seven-point cooperative-uncooperative scale and described the seller's concession pattern on another seven-point scale anchored by larger-smaller.

For the most part, subjects were quite accurate in their perceptions of the seller's cue patterns. Figure 7 which depicts the perceptions of Group 1 subjects shows the expected soft-to-tough pattern between the toughness of the seller's behavior and the stage of the negotiation with tougher behavior occurring later.

Figure 8 depicts Group 2 (soft-to-tough messages/tough-to-soft concessions) subjects' perceptions of the seller's message and concession patterns. The expected X-shaped pattern is revealed with concessions seen as decreasing in toughness and the messages seen as increasing in toughness. What is most interesting about those perceptions is the tendency for Group 2 subjects to perceive the message pattern to be much flatter than those in Group 1. This observation is supported by trend analysis in which the perceptions of Group 1 subjects of the seller's message pattern exhibit a
significant soft-to-tough linear trend (F = 77.15, p < .0001). No significant soft-to-tough linear trend was found for Group 2 subjects’ perceptions of the seller’s messages (F = 1.85, p > .1788). This intriguing result provides some evidence that subjects tended to be biased in their perceptions of the message cue when it conflicted in terms of direction with the concession cue. This finding may also suggest a reason for subjects’ failure to view cue patterns in condition two as inconsistent. By perceiving the message cue to be essentially unchanging in terms of toughness over time, subjects were able to eliminate the major portion of the inconsistency in this condition, i.e. the conflicting directional signals of the cue patterns.

In Figure 9 subjects’ perceptions of the cue patterns in Group 3 (non-directional, inconsistent message and concession patterns) are depicted. No directionality to the cues was expected, and none was reported. The toughness of the message and concession cues was seen as practically constant over time (i.e. no significant linear trends, F = 1.99, p > .1640 for messages; F = 1.17, p > .6796 for concessions).

Some further evidence that subjects exhibit perceptual biases when faced with inconsistent cues is provided by the plot of Group 4 (soft-to-tough messages/random concessions) subjects’ perceptions depicted in Figure 10. In this condition subjects saw a soft-to-tough message pattern and no-pattern set of concessions. Interestingly, as the negotiation progressed, the subjects tended to see the concessions as being similar to the messages in toughness. In particular, Group 4 subjects perceived the seller’s concessions to be softer (i.e. larger) late in the negotiation compared to concessions in the middle of the negotiation (p < .05, Tukey test). This effect was not found in Group 3 where the same inconsistent concession pattern was used by the programmed seller.
Figure 7. Plot of Group 1 subjects' perceptions of the concession and message patterns.
Figure 8. Plot of Group 2 subjects' perceptions of the concession and message patterns.
Figure 9. Plot of Group 3 subjects' perceptions of the concession and message patterns.
Figure 10. Plot of Group 4 subjects' perceptions of the concession and message patterns.
Figure 11. Plot of subjects' concessions by stage of the negotiation.
EVIDENCE FOR THE SPONTANEITY OF BARGAINING ATTRIBUTIONS

Recall that one objective of this study was to provide evidence indicating whether or not bargainers tend to make attributions spontaneously in an attempt to understand their negotiating partners' behavior. To examine this issue, analysis of covariance was used to determine whether or not the inference instructions affected subjects' attributions or behavior directly or through interactions with the cue consistency treatment. All four covariates described above were used in the tests of effects on the behavioral measures, while only the price expectation and toughness expectation covariates were used to test the effects on subject's perceptions of the seller. As was hypothesized, there were no significant main effects of inference instruction nor were there any significant cue X instruction interactions for any behavioral or perceptual measure. This lack of effect can not be attributed to low power since the F-values were uniformly small (i.e., $F_{1,72} \leq 1.0$). Subjects who received the inference instructions seemed to behave and to perceive the seller and themselves no differently than those subjects who were not prompted to conduct a causal analysis. Due to the failure of the inference-instructions manipulation, it is impossible to determine whether this result is due to subjects in both conditions conducting spontaneous causal analysis during the negotiation or to subjects in neither condition doing so.

Because the inference instruction manipulation did not effect subjects' bargaining behavior, attributions, or other perceptions, that factor was removed from subsequent analyses. Collapsing across the instruction conditions created a simple, one-factor design with twenty subjects randomly assigned to each of four levels of cue consistency.
CONCERNS IN THE ANALYSIS OF NEGOTIATIONS OF VARYING LENGTHS

Studies of bargaining behavior are complicated by the fact that the negotiations vary in length. In this study the negotiations lasted from three to twelve bids (the programmed seller automatically withdrew if agreement was not reached in twelve bids). Table 22 shows the distribution of subjects according to the length of their negotiations. There were no significant differences in length of the negotiation across the four conditions (F<1, p>.48). Seventy-nine percent of the sessions lasted the full twelve bids. Four subjects settled by bid six or before which means they were exposed to no more than half of the cue patterns. The inclusion of these extremely cooperative (or uninvolved) subjects in the data analysis adds error to the perceptual measures. Also, some of the crucial dependent variables relate to subjects' behavior in different stages of the negotiation. Variation in the length of the negotiations creates problems for stage-wise data analysis as well.

Table 22

Distribution of Subjects By Length of Negotiation

<table>
<thead>
<tr>
<th>Number of Bids</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>9</td>
<td>7</td>
<td>8.8</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>12</td>
<td>63</td>
<td>78.8</td>
</tr>
</tbody>
</table>
Other researchers faced with this problem have dealt with it in different ways. Pruitt and Drews (1969) simply forced all subjects to take the same number of bids. However, they were forced to use a very short negotiation in order to avoid having early settlements. Another alternative is to let subjects bargain freely and to compensate for early settlements by assigning the settlement price to each bid subsequent to settlement. For example, if a bargainer settled at bid nine at $100 in a negotiation intended to last twelve bids, then a bid of $100 would be recorded as having been offered by that bargainer on each of bids ten, eleven, and twelve. This approach has some rather obvious drawbacks when it comes to analysis of concession patterns and average concession size. A third approach was used by Druckman et al. (1972). In this method each negotiation longer than three bids was divided into quartiles. Numbers of bids not evenly divisible by four were randomly assigned to one of the four stages. This approach can add considerable error to the data depending on the number of bids which must be randomly distributed across stages.

In this study, a modified version of the Druckman et al. method was adopted. The negotiation was analyzed in thirds, an early stage, a middle stage, and a late stage, to coincide with the way in which subjects were asked to report their perceptions of the cue patterns. The first four concessions were assigned to the EARLY stage, the next four to the MIDDLE stage, and the last three to the LATE stage. Because the stages differed slightly in length, the average size of the concessions in each phase was used as the key behavioral dependent variable rather than the total amount conceded in each stage. All subjects were included in the analysis. This resulted in missing values for some subjects in the MIDDLE and LATE stages and reduced the cell sizes.
accordingly. However, it also permitted a more accurate test of behavior in each stage by avoiding some of the error introducing procedures described above.

THE EFFECTS OF CUE CONSISTENCY ON BARGAINING BEHAVIOR AND OUTCOMES

In this study 75% of the negotiations ended without agreement between buyer and seller. Of these 60 negotiations only one was ended as a result of the subject buyer deciding to withdraw from the negotiation. Nine interactions ended when the buyer accepted the programmed seller's offer, and eleven concluded with the seller's acceptance of an offer from the buyer. The type of outcome was not affected by the consistency treatment ($X^2$ with 3 d.f. = .533, p < .912). Taken as a whole this result is an indication that subjects bargained very competitively, but it is also an artifact of the bargaining simulation. The programmed seller automatically withdrew from the negotiation after twelve bids if agreement had not been reached regardless of the distance in terms of dollars separating the buyer's and seller's positions. Thus, a large number of deadlocks was expected.

The results of the analyses of covariance conducted on the behavioral data and the means by treatment condition are reported in Tables 23 and 24 respectively. Because of the automatic withdrawal mechanism built into the programmed seller, the level of agreement reached between seller and buyer is not a useful criterion by which to judge the effects of the consistency manipulation. A more appropriate measure is the extent to which subjects concede to the seller's target selling price ($1384 in all conditions). This effect was evaluated by examining subjects' last bid (LASTBID). Other behavioral variables of interest include the size of the average concession (AVECON), the total amount conceded (TOTCON) and the frequency with which concessions were
made (FREQ), calculated as the percentage of concessionary bids out of the total number of bids made.

As can be seen from Table 23, none of the overall behavioral measures was significantly affected by the cue consistency treatment and most of the F-values for the treatment effect are rather small. To understand what was driving subjects' bargaining behavior, it is important to note the significance of the three covariates used in the analysis. Clearly, the relationship between the price expectancy covariate and outcome variable LASTBID (F₁,₇₃=16.08, p≤.001) is a very strong one. The lower the price subjects expected to have to pay in the negotiation, the less willing they were to concede to the seller's position. The value of the last bid covaried significantly with the value of the first bid (F₁,₇₃=72.63, p≤.0001). A lower initial bid was strongly associated with a lower final bid. The size of the average concession also covaried significantly with the value of the initial offer (F₁,₇₃=17.40, p≤.0001). Subjects tended to make smaller concessions when their initial bid was low than when it was high. The price expectancy covariate was also significant for the average concession measure (p≤.01) and for the total amount conceded (p≤.001). The higher the price subjects expected to have to pay for the Dexene, the larger were their concessions on average and in total.

Surprisingly, subjects' expectations of the seller's toughness entering the negotiation was not significantly related to any of the behavioral measures. It seems likely that the subjects simply felt compelled to report expectations about a total stranger that they really did not have.

One final check on subjects' bargaining behavior was made by examining the kinds of messages sent to the seller. An index of distributive communications was derived by calculating the percentage of messages sent to the seller which were
Table 23

ANCOVA Summary - Tests of the Effects of Cue Consistency
Including Three Covariates

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Cue Consistency</th>
<th>Expected Price</th>
<th>Expected Toughness</th>
<th>First Bid</th>
</tr>
</thead>
<tbody>
<tr>
<td>LASTBID</td>
<td>0.54</td>
<td>16.08&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.01</td>
<td>72.63&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>AVECON</td>
<td>0.48</td>
<td>10.96&lt;sup&gt;d&lt;/sup&gt;</td>
<td>0.00</td>
<td>17.40&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>TOTCON</td>
<td>0.54</td>
<td>16.08&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.01</td>
<td>40.54&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>FREQ</td>
<td>1.77</td>
<td>1.09</td>
<td>4.30&lt;sup&gt;e&lt;/sup&gt;</td>
<td></td>
</tr>
</tbody>
</table>

**Overall Measures of Concession-making Behavior**

**Stagewise Measures of Concession-making Behavior**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EARLY CON.</td>
<td>1.32</td>
<td>5.96&lt;sup&gt;e&lt;/sup&gt;</td>
<td>0.02</td>
<td>7.73&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td>MIDDLE CON.</td>
<td>1.03</td>
<td>3.50&lt;sup&gt;f&lt;/sup&gt;</td>
<td>0.27</td>
<td>5.51&lt;sup&gt;e&lt;/sup&gt;</td>
</tr>
<tr>
<td>LATE CON.</td>
<td>3.27&lt;sup&gt;e&lt;/sup&gt;</td>
<td>14.38&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1.37</td>
<td>33.34&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup>For the full-negotiation measures, an F statistic is given with 3 and 73 degrees of freedom for the consistency effect with covariates, and 1 and 73 degrees for the covariates. For the stagewise measures, the degrees of freedom are 3 and 72, 3 and 68, and 3 and 57 for EARLY, MIDDLE, and LATE stages respectively.

<sup>b</sup><sub>p<.001</sub>  <sup>c</sup><sub>p<.0001</sub>  <sup>d</sup><sub>p<.01</sub>  <sup>e</sup><sub>p<.05</sub>  <sup>f</sup><sub>p<.10</sub>
Table 24

Means For Key Behavioral Measures In Each Experimental Group

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>Consistent, Directional Cues (Group 1)</th>
<th>Inconsistent, Directional Cues (Group 2)</th>
<th>Consistent, Non-directional Cues (Group 3)</th>
<th>Mixed Cues (Group 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LASTBID</td>
<td>1199</td>
<td>1099</td>
<td>1142</td>
<td>1118</td>
</tr>
<tr>
<td>AVECON</td>
<td>37.19</td>
<td>31.44</td>
<td>32.61</td>
<td>29.44</td>
</tr>
<tr>
<td>TOTCON</td>
<td>399</td>
<td>346</td>
<td>355</td>
<td>322</td>
</tr>
<tr>
<td>FREQ</td>
<td>0.80</td>
<td>0.84</td>
<td>0.85</td>
<td>0.75</td>
</tr>
<tr>
<td>EARLY CON.</td>
<td>57.89</td>
<td>42.48</td>
<td>51.51</td>
<td>36.07</td>
</tr>
<tr>
<td>MIDDLE CON.</td>
<td>20.49</td>
<td>22.01</td>
<td>29.42</td>
<td>20.82</td>
</tr>
<tr>
<td>LATE CON.</td>
<td>26.51</td>
<td>32.48</td>
<td>18.33</td>
<td>46.62</td>
</tr>
</tbody>
</table>

distributive in nature. Analysis of covariance revealed no effect of cue consistency on the extent to which subjects chose distributive messages ($F_{3,73}<1$). The means for the message variable were 0.80, 0.84, 0.85, 0.75 for Groups 1 to 4 respectively indicating that subjects relied heavily on distributive messages. However, it should be noted that the subjects were given a message list which contained twice as many distributive as integrative messages. In retrospect, it seems obvious that subjects should have been presented with a balanced list of messages.

CONCESSION-MAKING BY STAGE OF THE NEGOTIATION

The concession behavior and outcome measures for the negotiation as a whole fail to support any of the hypotheses which predicted that consistent cues would elicit more generous concessions from the subject bargainers. However, it seems
plausible that the effect of cue consistency, depending as it does on subjects' perceptions of the relationships between cues over time, might not be manifested until later in the negotiation. While the congruity of the message and concession cues during a given bid may be readily apparent, it obviously takes time for the presence or absence of a directional pattern to be recognized. For that reason the concession-making data was analyzed in a stage-wise fashion by using the procedure described in the previous section to break the negotiation into three phases: early, middle, and late. For each phase and experimental group, the average concession (shown as STAGE1, STAGE2, or STAGE3 in Tables 23 and 24) was computed.

Analysis of covariance revealed a significant effect of cue consistency on subjects' concession-making behavior in the final stage of the negotiation ($F_{3,57}=3.27$, $p<.05$). Pairwise contrasts were made to determine the nature of the consistency effect using Tukey's HSD test. Group 4 was found to differ significantly ($p<.05$) from Groups 1 and 3. No other pairwise contrast was significant. Apparently, subjects in the mixed cue condition made larger average concessions late in the negotiation than subjects faced with two highly consistent, directional cues or subjects presented with consistent, non-directional cues.

Analysis of variance using subjects' average concession within each stage of the negotiation as a repeated measure (i.e. measured three times) revealed a significant consistency X negotiation stage interaction ($F_{8,206}=5.38$, $p<.0001$). This interaction is depicted in Figure 11. Concession-making was significantly enhanced in the final phase of the negotiation for Group 4 buyers but not for buyers in any of the other cue conditions. There were also significant simple main effects of negotiation stage at three of the four levels of consistency. In particular, subjects faced with a seller whose
messages and concessions exhibited a consistent soft-to-tough direction (i.e. Group 1) concede significantly less in the middle and late stages of the negotiation than during the early stage (p<.05, Tukey test). However, their concessions in the final stage of the negotiation did not differ significantly from their concessions in the middle stage. The same results were observed for subjects in Group 3 (non-directional, inconsistent messages and concessions). Subjects in Group 4 (soft-to-tough messages/random concessions) conceded more in the final stage than in the middle stage (p<.05, Tukey test). The main effect for negotiation stage within Group 2 (soft-to-tough messages/tough-to-soft concessions) was only marginally significant (F=2.54, p<.09). Likewise, no pairwise contrast of stagewise concessions was significant based on Tukey's multiple comparison test.

DISCUSSION OF THE CONCESSION-MAKING RESULTS

The analysis of subjects' concession making behavior in this study failed to provide support to the first hypothesis which predicted greater yielding in the condition in which the cues were most consistent. Nor can it be argued that subjects failure to respond to the seller's behavior was the result of an inability to perceive the signals provided by that behavior. On the contrary, with the exception of some predicted perceptual biases, subjects perceived the cue patterns quite accurately. An examination of the information provided by the covariates used in the analyses indicates that subjects' concession-making behavior was much more closely related to what they brought with them into the negotiation (e.g. personal goals, estimates of market value, motivational orientation, etc.) than to the effects of the other party's behavior. Subjects drew conclusions about what was a reasonable price to pay for the
product prior to the negotiation and simply refused to concede much beyond it. While no pre-treatment measures of the subjects' predispositions toward cooperative or competitive behavior were obtained, these motivational orientations (as well as other individual difference variables which might affect bargaining behavior such as mood or strategy) should have been reflected in the extremity of their opening offers. The inference made here is that the more extreme the opening offer, the more competitive the bargainer's motivational orientation. This assumption is supported by the strong relationships between the value of the first bid and many of the behavioral measures examined.

It seemed possible that subjects' lack of responsiveness to the seller's behavior could also be related to the use of a non-contingent negotiating strategy on the part of the seller. In other words, the buyers were unresponsive because they may have perceived the seller as unresponsive. Some evidence on this issue was provided by two measures which asked subjects to rate the responsiveness of the seller to their behavior and their own responsiveness to the seller's behavior. Analysis of variance revealed no significant differences between experimental groups on either of these variables (F<1 for both seller's responsiveness and buyer's responsiveness).

Apparently, the seller's behavior was not perceived as being especially unresponsive. However, there were large within-cell differences in perceptions of the seller's responsiveness and own responsiveness and that these perceptions might be related to bargaining behavior. Therefore, both responsiveness measures were used as covariates in an analysis of the effects of cue consistency on total concessions. Neither own responsiveness (F\_1,70=2.32, p<.13) nor seller's responsiveness (F\_1,70<1) were significant covariates.
The conclusion to be drawn here is that, for this sample of non-professional bargainers, individual differences were far more important contributors to bargaining behavior than responsiveness to the other party's behavior. Combined, subjects' expectations of the settlement price and the values of their first offer accounted for 69% of the variance in the value of the final offer. This outcome supports the assertion of Bartos (1966), based on experiments with naive subjects, that bargainers' behavior is much more closely related to their previous behavior than to their opponents' behavior. This perspective suggests that bargainers have set strategies and expectations/goals which are not easily influenced during the course of a negotiation.

Results similar to those found in this study were reported in other buyer-seller negotiation studies making use of student samples. Pruitt and Drews (1969) found no effects of opponent's concession rate on subjects' bargaining behavior in negotiation over the purchase of a hypothetical product. However, this finding may have been related to the extremely tough concession patterns used. Even in the high concession rate condition the programmed buyer only made two offers which were profitable to the seller. Liebert et al. (1968) also found no main effect of concession magnitude (i.e. the size of the average concession) on bargaining behavior. The Liebert et al. study used a similar negotiating paradigm in which subjects bargained over the purchase of an automobile. These authors did find an effect of the size of the initial offer on subjects' total concessions when no information concerning opponents' payoffs was available.

It must be noted that many other studies have found evidence supporting an interactive component to the bargaining process (Druckman et al. 1972; Yuki 1974a,b). These studies differed in important ways from the present research, however. For example, Druckman et al. used contingent rather than non-contingent concession
patterns, and their sample consisted of children at a boys' camp. Yukie's bargaining paradigm was similar to the one used in this research, but concession patterns were not manipulated. Instead, the size of the average concession and concession frequency was varied. The differences between studies which have examined the role of behavioral interdependence in bargaining are so great as to make any generalizations very difficult to make. An important objective of future research should be to determine the circumstances in which bargainers are likely to be more or less responsive to the behavior of their negotiating partners.

EFFECTS OF CUE CONSISTENCY ON BARGAINING ATTRIBUTIONS

In Chapter 4, it was predicted that bargainers exposed to consistent behavior by their negotiating partner would tend to make stronger, more confident attributions about the cause of the observed behavior than bargainers faced with an inconsistent seller (Hypothesis 4). It was also hypothesized that subjects would tend to attribute the seller's tough bargaining behavior to external, uncontrollable causes such as the presence of cost constraints when exposed to cues which are consistent with such an explanation than when cues are inconsistent. Further, the type of attribution made to account for the seller's behavior was predicted to be significantly correlated with bargaining behavior and outcomes, with external/uncontrollable/unstable attributions being associated with greater yielding than internal/controllable/stable attributions.

In Item 1 of the questionnaire subjects were asked to list what they thought was the cause (or causes) of the seller's negotiating behavior. Responses to this task were then categorized by the experimenter into one of ten general types of attributions. Table 27 lists the types of attributions made by subjects in each condition.
Table 25

Cell Means For Attribution Measures and Several Other
Perceptual Measures

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attribution Measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locus of Causality Scale</td>
<td>14.79</td>
<td>16.55</td>
<td>16.35</td>
<td>17.36</td>
</tr>
<tr>
<td>Controllability Scale</td>
<td>16.55</td>
<td>18.55</td>
<td>17.30</td>
<td>17.80</td>
</tr>
<tr>
<td>Stability Scale</td>
<td>16.25</td>
<td>14.95</td>
<td>17.05</td>
<td>14.90</td>
</tr>
<tr>
<td>Confidence in attributions</td>
<td>5.25</td>
<td>5.00</td>
<td>5.35</td>
<td>5.35</td>
</tr>
<tr>
<td>Locus of Causality Scale - Self</td>
<td>17.05</td>
<td>15.90</td>
<td>17.15</td>
<td>15.00</td>
</tr>
<tr>
<td>Controllability Scale - Self</td>
<td>18.90</td>
<td>20.40</td>
<td>18.00</td>
<td>16.35</td>
</tr>
<tr>
<td>Stability Scale - Self</td>
<td>13.45</td>
<td>15.15</td>
<td>15.80</td>
<td>13.00</td>
</tr>
<tr>
<td>Trust Scale</td>
<td>18.70</td>
<td>21.05</td>
<td>21.50</td>
<td>21.15</td>
</tr>
<tr>
<td>Toughness</td>
<td>35.75</td>
<td>35.85</td>
<td>35.85</td>
<td>35.20</td>
</tr>
<tr>
<td>Confidence in trust attribution</td>
<td>28.65</td>
<td>27.79</td>
<td>31.00</td>
<td>29.22</td>
</tr>
<tr>
<td>Confidence in toughness attribution</td>
<td>48.12</td>
<td>49.42</td>
<td>48.00</td>
<td>49.94</td>
</tr>
<tr>
<td>Trust Scale - Self</td>
<td>15.45</td>
<td>14.40</td>
<td>14.05</td>
<td>14.30</td>
</tr>
<tr>
<td>Toughness Scale - Self</td>
<td>29.40</td>
<td>30.00</td>
<td>28.90</td>
<td>29.40</td>
</tr>
<tr>
<td><strong>Other Perceptual Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate of seller's limit</td>
<td>1333</td>
<td>1356</td>
<td>1328</td>
<td>1291</td>
</tr>
<tr>
<td>Confidence in limit estimate</td>
<td>6.15*</td>
<td>5.10</td>
<td>5.00*</td>
<td>5.50</td>
</tr>
<tr>
<td>Seller's responsiveness</td>
<td>4.65</td>
<td>4.65</td>
<td>4.40</td>
<td>4.70</td>
</tr>
<tr>
<td>Buyer's responsiveness</td>
<td>3.95</td>
<td>3.70</td>
<td>3.65</td>
<td>3.80</td>
</tr>
<tr>
<td>Satisfaction with price</td>
<td>3.16**</td>
<td>2.25</td>
<td>1.95**</td>
<td>2.58</td>
</tr>
<tr>
<td>Satisfaction with performance</td>
<td>4.10</td>
<td>4.25</td>
<td>4.15</td>
<td>4.05</td>
</tr>
<tr>
<td>Satisfaction with outcome</td>
<td>2.60</td>
<td>2.40</td>
<td>2.30</td>
<td>2.26</td>
</tr>
<tr>
<td>Extent of buyer's responsibility</td>
<td>4.45</td>
<td>3.60</td>
<td>3.50</td>
<td>4.20</td>
</tr>
<tr>
<td>Extent of seller's responsibility</td>
<td>4.65</td>
<td>5.35</td>
<td>5.35</td>
<td>5.05</td>
</tr>
<tr>
<td>Comparison with average price</td>
<td>4.20</td>
<td>5.35</td>
<td>4.67</td>
<td>5.55</td>
</tr>
<tr>
<td>Who performed better?</td>
<td>4.35</td>
<td>4.50</td>
<td>3.95</td>
<td>4.25</td>
</tr>
<tr>
<td>Negotiating skill</td>
<td>4.30</td>
<td>4.30</td>
<td>4.10</td>
<td>3.65</td>
</tr>
<tr>
<td>Expected settlement price</td>
<td>1084</td>
<td>1051</td>
<td>996</td>
<td>990</td>
</tr>
<tr>
<td>Reservation price</td>
<td>1450</td>
<td>1391</td>
<td>1313</td>
<td>1326</td>
</tr>
<tr>
<td>Aspiration level (price goal)</td>
<td>1044</td>
<td>979</td>
<td>994</td>
<td>935</td>
</tr>
<tr>
<td>Expected seller toughness</td>
<td>5.55</td>
<td>5.30</td>
<td>5.30</td>
<td>5.25</td>
</tr>
</tbody>
</table>

* Significantly different at p<.05 by Tukey HSD test.
** Contrast of means approaches significance, ps. 10.
Table 26
Analysis of Variance and Covariance Results For Attribution Measures and Other Perceptual Variables

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Treatment</th>
<th>Expected Price</th>
<th>Expected Toughness</th>
<th>First Bid</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attribution Measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locus of Causality Scale</td>
<td>0.83</td>
<td>0.49</td>
<td>6.23&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1.72</td>
</tr>
<tr>
<td>Controllability Scale</td>
<td>0.49</td>
<td>1.85</td>
<td>0.46</td>
<td>0.01</td>
</tr>
<tr>
<td>Stability Scale</td>
<td>1.09</td>
<td>0.39</td>
<td>1.82</td>
<td>2.83&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Confidence in attributions</td>
<td>0.38</td>
<td>9.92</td>
<td>0.01</td>
<td>0.80</td>
</tr>
<tr>
<td>Locus of Causality Scale - Self</td>
<td>0.87</td>
<td>0.01</td>
<td>5.09&lt;sup&gt;d&lt;/sup&gt;</td>
<td>0.18</td>
</tr>
<tr>
<td>Controllability Scale - Self</td>
<td>1.86</td>
<td>0.36</td>
<td>2.55</td>
<td>0.23</td>
</tr>
<tr>
<td>Stability Scale - Self</td>
<td>1.21</td>
<td>0.05</td>
<td>2.04</td>
<td>0.04</td>
</tr>
<tr>
<td>Trust Scale</td>
<td>1.62</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Toughness</td>
<td>0.05</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Confidence in trust attribution</td>
<td>0.72</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Confidence in toughness attribution</td>
<td>0.19</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Trust Scale - Self</td>
<td>0.36</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Toughness Scale - Self</td>
<td>0.09</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Other Perceptual Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate of seller's limit</td>
<td>0.90</td>
<td>13.67&lt;sup&gt;e&lt;/sup&gt;</td>
<td>3.43&lt;sup&gt;c&lt;/sup&gt;</td>
<td>5.14&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td>Confidence in limit estimate</td>
<td>3.83&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.03</td>
<td>2.98&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.65</td>
</tr>
<tr>
<td>Seller's responsiveness</td>
<td>0.18</td>
<td>0.92</td>
<td>2.17</td>
<td>4.24&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td>Buyer's responsiveness</td>
<td>0.21</td>
<td>3.71&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.87</td>
<td>2.52</td>
</tr>
<tr>
<td>Satisfaction with price</td>
<td>2.10&lt;sup&gt;c&lt;/sup&gt;</td>
<td>5.34&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.77&lt;sup&gt;c&lt;/sup&gt;</td>
<td>11.73&lt;sup&gt;e&lt;/sup&gt;</td>
</tr>
<tr>
<td>Satisfaction with performance</td>
<td>0.09</td>
<td>0.92</td>
<td>1.91</td>
<td>0.52</td>
</tr>
<tr>
<td>Satisfaction with outcome</td>
<td>0.35</td>
<td>3.99&lt;sup&gt;d&lt;/sup&gt;</td>
<td>0.92</td>
<td>11.42&lt;sup&gt;e&lt;/sup&gt;</td>
</tr>
<tr>
<td>Extent of buyer's responsibility</td>
<td>0.21</td>
<td>3.71&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.87</td>
<td>2.52</td>
</tr>
<tr>
<td>Extent of seller's responsibility</td>
<td>0.18</td>
<td>0.92</td>
<td>2.17</td>
<td>4.24&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td>Comparison with average price</td>
<td>4.19&lt;sup&gt;f&lt;/sup&gt;</td>
<td>1.24</td>
<td>1.09</td>
<td>4.05&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td>Who performed better?</td>
<td>0.47</td>
<td>0.32</td>
<td>0.06</td>
<td>1.56</td>
</tr>
<tr>
<td>Negotiating skill</td>
<td>1.20</td>
<td>2.74&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.13</td>
<td>2.39</td>
</tr>
<tr>
<td>Expected settlement price</td>
<td>0.36</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Reservation price</td>
<td>1.92</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Aspiration level (price goal)</td>
<td>0.50</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Expected seller toughness</td>
<td>0.37</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<sup>a</sup> An F statistic is reported with 3 and 73 degrees of freedom for effects with covariates, 3
and 76 otherwise.
<sup>b</sup> p ≤ 0.02  <sup>c</sup> p ≤ 0.10  <sup>d</sup> p ≤ 0.05  <sup>e</sup> p ≤ 0.001  <sup>f</sup> p ≤ 0.01
Table 27
Frequencies For Various Types of Attributions By Experimental Group

<table>
<thead>
<tr>
<th>Attribution Type</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Buyer's own behavior</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>2. Seller's disposition</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>3. Seller's knowledge/skill</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>4. Profit/credit motive</td>
<td>7</td>
<td>6</td>
<td>9</td>
<td>9</td>
<td>31</td>
</tr>
<tr>
<td>5. Seller's strategy</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>6. To satisfy customer</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>7. Seeks market value</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>8. Seller's cost structure</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>9. Multiple causes</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>10. No attributions listed</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

After completing the attribution task, subjects were asked to rate the confidence with which they had made the attributions on a seven-point scale anchored by "not at all confident-very confident". Analysis of covariance revealed no significant differences across treatment groups for subjects' confidence in their attributions about the seller's behavior (F<1). Thus, Hypothesis 4 which predicted that stronger attributions would be made by subjects in the consistent cue condition than by those in the inconsistent cue condition was not supported in this study.

No attempt was made to interpret subjects' attributions in terms of underlying causal dimensions. Anyone who has attempted to interpret attributions described by subjects in thought-listing tasks or in answers to direct causal questions understands how difficult and fraught with error the interpretation process really is. Attributions are often ambiguous and multi-faceted. The probability that the researcher and the
attributor would disagree on the interpretation of a causal attribution seems quite high (Miller et al. 1981). In order to avoid this problem of interpretability and experimenter bias, Russell's Causal Dimension Scale (Russell 1982) was modified for use in a negotiating context and used to evaluate subjects' attributions along three causal dimensions: locus of causality, controllability, and stability. Following Russell's definitions, locus of causality refers to whether or not the cause was something about the actor or something outside of the actor (the familiar internal/external dimension). Controllability was defined as the extent to which the cause could be changed or affected by someone, either the actor or others. The stability dimension refers to whether or not the cause was constant or variable over time.

Subjects were asked to interpret their own attributions in Item 3. The locus of causality sub-scale consisted of Items 3a, 3e, and 3g (particular to the seller-particular to the negotiating situation, outside of the seller-inside of the seller, something about the seller-something about the you or others). The controllability sub-scale consisted of Items 3b, 3d, and 3i (under the seller's control-not under the seller's control, intended-did not intend, the seller was responsible-the seller was not responsible). Items 3c, 3f, and 3g comprised the stability sub-scale (the same-different, likely to change-unlikely to change, stable-unstable). The score on each sub-scale was derived by adding the responses on each of the three items. Cronbach's alpha coefficient was used to assess the reliability of the three sub-scales. The reliabilities proved to be quite disappointing. Reliabilities for the locus of causality scale, the controllability scale, and the stability scale were .48, .51, and .40, respectively. Examination of the inter-item correlations showed the source of the reliability problem in the locus of causality scale to be the low correlation between responses to Item 3a (particular to the
seller-particular to the negotiating situation) and the other two items. Similarly, the item-total correlations for item 3d (intended-unintended) in the control scale and item 3c in the stability scale were very low. Consideration was given to dropping these unreliable items from the scales since the reliabilities could be improved significantly (especially for the stability scale, from .40 to .71) by doing so. However, a comparison of results from analyses of variance using the original and modified scales as dependent variables revealed no differences in conclusions to be drawn from the data. Therefore, the results reported in this section were produced using all of the original scale items.

The lack of reliability could have resulted from the novelty and difficulty of the task. Subjects were asked to interpret their attributions, a task which may not be a particularly easy one. The second time the scale was applied (when subjects were asked to interpret their self-attributions in Item 7) the reliabilities were greatly improved. This suggests that subjects felt more comfortable and confident about using the scale the second time around. It is also likely that subjects found it easier to interpret self-attributions since they presumably knew the causes of their own behavior.

Recall that each subject received a message from the seller at some time during the negotiation which tried to justify the seller's inability to make further concessions by referring to the seller's high costs. Hypothesis 6 predicted that bargainers exposed to cues consistent with this explanation would tend to accept it more readily than subjects faced with inconsistent behavior. Thus, subjects in the consistent cue condition should tend to make causal attributions which view the seller's behavior as due to external, uncontrollable, and unstable factors more than subjects in the inconsistent cue conditions (Groups 2 and 3). Furthermore, it was also predicted in
Hypothesis 6 that these causal dimensions would be significantly correlated with subjects’ bargaining behavior in that external, low-controllability, low-stability attributions would be associated with greater yielding than internal, high-controllability, high-stability attributions. Finding such a relationship between causal dimensions and yielding would provide support for attributional mediation of cue and response in bargaining.

Table 26 summarizes the results of analyses of covariance in which Hypothesis 6 was tested. The consistency treatment had no effect on the dimensionality of attributions reported by subjects in this study, and Hypothesis 6 was not supported. One of the covariates, expected toughness, did exhibit a significant relationship with the locus of causality dimension ($F_{1,73}=6.23, p<.02$). Not surprisingly, the tougher subjects expected the seller to be, the more they tended to see the seller’s behavior as being caused by something about the seller rather than some aspect of the situation.

Hypothesis 7 was tested by examining the correlations between each causal dimension and the measures of bargaining behavior: value of the last bid, average amount conceded, and total concessions. The correlations ranged from .01 to .12, and none approached significance at the .05 level. Similarly, analyses of covariance in which the causal dimensions were used as covariates in models predicting the total amount conceded and the size of the average concession failed to support a role for attributions as mediators of the cue-response relationship in bargaining. None of the causal dimensions were significant covariates, nor did their inclusion in the models enhance explanatory power as reflected in $R^2$. Therefore, Hypothesis 7 was not supported.
Two other types of attributional measures were taken in the post-negotiation questionnaire: perceptions of the seller's trustworthiness and toughness. Results of analyses on these variables are included in Table 26. Hypothesis 2 proposed that subjects exposed to consistent cues would view the seller as more trustworthy than subjects negotiating with a seller whose behavior was inconsistent. A trustworthiness score was derived by adding subjects' responses to five semantic differential items (frank-deceptive, sincere-insincere, reliable-unreliable, honest-dishonest, trustworthy-untrustworthy). The scale's reliability was found to be acceptable based on coefficient alpha (alpha=.69). Analysis of covariance failed to confirm the predicted effect of consistency on buyers' perceptions of the seller's trustworthiness (F_{3,74}=1.39).

The seven-item scale used to measure subjects' perceptions of the seller's toughness in the negotiation proved to be reliable (coefficient alpha=.83). No differences in subjects' perceptions of the seller's toughness between treatment conditions were intended, and none were found. Analysis of covariance revealed subjects' perceptions of the seller's toughness covaried significantly (F_{1,76}=20.06, p<.001) with the extremity of the subjects' initial offer. The tougher the opponent was perceived to be, the greater subjects' tendency to make a low, tough initial bid themselves (r=-.53, p<.0001).

While the consistency treatment had no effect on subjects' perceptions of the seller's toughness and trustworthiness, these perceptions were likely to have varied independently from one individual to the next. Because these attributions have been shown to be important determinants of bargaining behavior in past research (e.g., Schurr and Ozanne 1985), further analyses were conducted in order to gain a better understanding of the factors contributing to subjects' behavior in this study.
Of course, since neither trust nor toughness was manipulated directly, no conclusions about causality are appropriate. However, the correlational evidence proved to be interesting and supported Schurr and Ozanne's conclusions. The trust and toughness variables and their interaction were tested as covariates in an analyses of covariance with the treatment as the independent variable and the value of the last bid and the total amount conceded as dependent variables. The trust X toughness interaction covaried significantly (p≤.05) for the total concessions variable and approached significance (p≤.07) for the value of the last bid. To gain a better understanding of these interactions, both the trust and toughness variables were categorized using a mean split to create discrete variables appropriate for use in analysis of variance. The analysis on TOTCON was run again using the trust and toughness categories as independent variables. The trust X toughness interaction approached significance (p≤.06). When the seller's toughness was perceived to be high, bargainers conceded more if the seller's trustworthiness was also perceived to be high than when perceptions of the seller's trustworthiness were low. This is the same interaction found by Schurr and Ozanne in their study in which subjects' perceptions of the seller's toughness and trustworthiness were experimentally manipulated. This interaction is depicted in Figure 12.

SUBJECTS' SELF-ATTRIBUTIONS AND BARGAINING BEHAVIOR

In addition to describing their attributions about the seller, subjects were asked to list attributions about their own behavior (item 6). Again, the causal dimension scale was used to classify subjects' interpretation of their self-attributions. As was noted in the previous section, the causal dimension sub-scales proved to be more reliable when
applied to subjects' self-attributions. The reliabilities based on coefficient alpha for
locus of causality, controllability, and stability were .72, .79, and .64, respectively. Table
28 lists the kinds of self-attributions reported by the subjects in this negotiation.

The cue consistency treatments were not expected to affect subjects' self-attributions, and no treatment effects were noted. Table 25 lists the results of analyses of covariance with the self-attribution causal dimensions as dependent variables. The only significant relationship found for any of the models was the covariation of expectations about the seller's toughness and the locus of causality dimension (p<.05): the tougher the expectation about the seller's negotiating behavior, the stronger the external attribution for the subjects' own behavior. A check of the correlations among the self-attribution causal dimensions and the total amount conceded revealed the relationships among these variables to be weak and non-significant, ranging from -.08 to -.19. Based on this information (i.e. the lack of treatment effects and the low correlations), one must conclude that the subjects' self-attributions, interpreted along the locus of causality, controllability, and stability dimensions, were not affected by the seller's behavioral consistency, nor were the self-attributions closely related to the subjects' bargaining behavior.

The subjects were also asked to evaluate their own behavior using the same trustworthiness and toughness scales on which they had previously described the seller's behavior. Both scales were reliable with coefficient alphas of .73 and .65 for the trust and toughness scales respectively. As was the case for all of the attribution measures reported in this study, there was no effect of cue consistency on subjects' perceptions of their own trustworthiness or toughness (F<1). The first bid was a significant covariate for the trust measure. Subjects who made lower initial offers
Figure 12. Plot of the interactive effects of perceptions of the seller’s toughness and trustworthiness on subjects’ total concessions.
Table 28

Frequencies For Various Types of Self-Attributions By Experimental Group

<table>
<thead>
<tr>
<th>Attribution Type</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Seller's behavior</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>2. Profit/credit motive</td>
<td>7</td>
<td>5</td>
<td>8</td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td>3. Seeking market value</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>4. Own disposition</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5. Own strategy</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>6. Own knowledge/skill</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>7. Desire to reach agreement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>8. Situational constraints</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

tended to see themselves as less trustworthy, perhaps implying a manipulative motive for their behavior.

BARGAINERS’ PERCEPTIONS OF AND AFFECTIVE REACTIONS TO THE NEGOTIATION

In Hypothesis 11 subjects were predicted to have greater confidence in their estimate of the seller’s reservation price in the high cue consistency condition (Group 1) than in the low cue consistency conditions (Groups 2 and 3). This is a prediction that consistent cues convey more information than inconsistent cues. To test this notion, subjects estimated the seller’s reservation price, then rated their confidence in that estimate on a seven-point scale anchored by “not at all confident-very confident”. Refer again to the analysis of covariance summary in Table 26. A significant main effect of cue consistency on subjects’ confidence in their estimate of the seller’s limit
was found. The mean confidence rating reported by Group 1 (i.e., soft-to-tough cues) subjects (6.15) was significantly higher (p≤0.05) than those for the two inconsistent cue conditions, Group 2 (i.e., soft-to-tough messages/tough-to-soft concessions) (5.10) and Group 3 (i.e., random cues) (5.00) based on Tukey's HSD test. Interestingly, Group 4 subjects were not significantly less confident than Group 1 subjects. This suggests that one patterned, directional cue (i.e., soft-to-tough messages) provides sufficient information to make a confident judgment so long as the other cues available do not present conflicting information (as in condition two).

Hypothesis 8 predicted that subjects would be more satisfied with their performance in the negotiation when faced with a seemingly rational seller whose behavior is highly consistent than when negotiating with an inconsistent seller. Several measures of satisfaction with various aspects of the negotiation were collected: satisfaction with the outcome, satisfaction with the price paid, and satisfaction with the subjects' performance in the negotiation. To test Hypothesis 7 subjects' satisfaction with their performance was used as the dependent variable in an analysis of covariance. No effect of cue consistency was found (F<1), and none of the covariates were significant either. The means for each experimental group hovered around the scale mid-point (i.e., 4). Cue consistency had a marginally significant effect on subjects' satisfaction with the price paid in the negotiation (F3,73=2.10, p≤.10) with subjects in the consistent cue condition (Group 1) being less dissatisfied (mean=3.16) than subjects in the random cue condition (Group 3; mean=1.95). Finally, subjects' satisfaction with the way the negotiation ended also was uniformly low (means ranged from 2.6 for Group 1 to 2.26 for Group 4) with no significant cue consistency effect. The over-all dissatisfaction with the price paid and outcome of the negotiation no doubt
reflects the seller's automatic withdrawal from the negotiation after twelve bids and may also reflect subjects' perceptions of the market value of the product.

Satisfaction with the price paid and satisfaction with the outcome of the negotiation were highly correlated constructs (r=.75, p<.0001). However, satisfaction with performance in the negotiation was unrelated to the other two types of satisfaction (r=.06, p>.44 and .11, p>.21 for performance-outcome and performance-price respectively). This suggests that satisfaction is a multi-dimensional construct as expected and that studies which measure only satisfaction with the price paid may be overlooking a significant contributor to affective response to a negotiation. In future research, it would be interesting to test the strength of the relationship of each type of satisfaction to bargainers' attitude toward the negotiation, toward the negotiating partner, and most importantly toward future interactions with the same partner (i.e., supplier, vendor, salesperson etc.). Perhaps, a buyer's willingness to continue business relations with a firm is more closely related to how a negotiation is conducted than to the final price agreed on. While this is pure speculation, the issue seems to be an important one for marketers interested in maintaining profitable, long-term relationships with customers.

Subjects were also asked to compare the seller's last bid to their estimate of the average settlement price negotiated in all of the sessions. The purpose of this task was to provide some insight into why subjects chose or did not choose to accept the seller's final offer. While no specific hypotheses were advanced concerning the effects of cue consistency on this measure, post-hoc analysis of covariance revealed a significant treatment effect ($F_{3,71}=4.19$, p<.01). Subjects faced with conflicting, directional cues (Group 2; mean=5.25) or with directional messages and non-
directional concessions (Group 4; mean=5.55) saw the seller’s final bid as higher in relation to the average settlement price than subjects’ exposed to consistent, directional cues (Group 1; mean=4.20). Both contrasts were significant at p<.05 (Tukey test). The contrast between Group 1 and Group 3 for the comparison variable was not significant. The most plausible conclusion to be drawn from this analysis is that highly consistent directional cues led the bargainers to think they were getting a better deal than they were getting in two of the three inconsistent cue conditions even though the seller’s resistance point was the same in all conditions.

However, subjects did not behave in a manner consistent with this conclusion. The correlation between the comparison variable and the type of ending to the negotiation was non-significant (r=.06). This result is surprising since it seems reasonable that subjects would have based their decision as to whether or not to accept the seller’s ultimatum on some beliefs about the reasonableness of the seller’s final offer. While subjects may indeed have made the decision using the reasonableness criterion, it is clear that their notion of reasonableness was not derived from a comparison of the seller’s final offer to an estimate of the average negotiated price. This outcome is consistent with subjects’ over-all tendency in this study toward reliance on idiosyncratic perceptions and expectations rather than on information provided by the negotiating context or by the seller.

One final check on subjects’ perceptions of the negotiation concerned their attributions of responsibility for the outcome of the negotiation (Items 11b and 11d). Subjects were asked to rate the extent to which they took most of the responsibility for what happened in the negotiation and the extent to which the seller deserved to take the credit or blame for the outcome of the negotiation. No effects of cue consistency
on these measures were hypothesized (and none were found in post-hoc analyses). Across all conditions subjects tended to attribute responsibility for what happened in the negotiation more to the seller than to themselves. This is not surprising given the well-known tendency for people to attribute success to themselves and failure to external factors. In this study 78% of the subjects failed to reach an agreement with the seller.

THE FREQUENCY OF MATCHING AND MISMATCHING BEHAVIORS

Both aspiration-level and reciprocity explanations for bargaining behavior have one key element in common in that both assume that bargainers' behavior is related to the behavior of their negotiating opponent. This interactive quality was surprisingly weak in this study. Several variables were computed from subjects' concession-making behavior in an attempt to gauge the extent of subjects' reciprocity in the negotiation. Table 29 lists the percentage of subjects who reciprocated the seller's concessions (i.e. buyer made an equal or larger concession) in each treatment condition, the ratio of subjects' average concessions to the seller's concessions in each negotiation stage, the difference between mean buyer and seller concessions by stage, and the mean number of matching and mismatching concessions in each group. For clarity of presentation and to facilitate the analysis of subjects' concession behavior, plots of the mean amount conceded by each group of buyers and the seller during the three stages of the negotiation are depicted below in Figures 13 through 16. A plot of buyer softness by stage of the negotiation is presented in Figure 17.

Following Druckman et al. (1972), analyses of covariance were conducted to test the effects of cue consistency on buyers' softness, defined as the ratio of subjects'
concessions to seller's concessions. The results of the analyses are reported in Table 30. Buyer softness was significantly affected by the consistency treatment in the first (F_{3,72}=17.50, p \leq .0001) and last stages of the negotiation (F_{3,57}=20.36, p \leq .0001). The effect of cue consistency on buyer softness during the middle of the negotiation approached significance as well (F_{3,68}=2.22, p \leq .10). Early in the negotiation subjects in Group 2 (soft-to-tough messages/soft-to-soft concessions) conceded much more (p \leq .05, Tukey test) in relation to the seller than subjects in each of the other groups. Late in the negotiation subjects in Group 1 (soft-to-tough cues) tended to concede much more (p \leq .05, Tukey test) in relation to the seller than subjects in any of the other conditions.

Similarly, the consistency treatment significantly affected the difference between mean buyer concessions and seller concessions in the first (F_{3,72}=4.00, p \leq .01) and final (F_{3,72}=25.49, p \leq .0001) stages of the negotiation. Early in the negotiation, the difference between the mean amount conceded by buyers and the amount conceded by the programmed seller was significantly greater (p \leq .05, Tukey test) for Group 2 subjects (-39.73) than for Group 1 (-3.64) or Group 4 (-6.07) subjects (i.e. soft-to-tough messages/random concessions). Late in the negotiation, Group 1 subjects tended to concede more than the seller (-24.51) while Group 2 (30.84) and Group 3 (16.00) subjects (i.e. random cues) tended to concede less than the seller. These differences in concession-making behavior between Group 1 and Groups 2 and 3 were statistically significant (p \leq .05, Tukey test).

It was expected that subjects in the high cue consistency condition (i.e. Group 1) would make more mismatched concessions in which they conceded more than the seller had on the previous bid than subjects in Groups 2 or 3 who faced inconsistent
<table>
<thead>
<tr>
<th>Concession Behavior</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of subjects who conceded as much or more than the seller - early</td>
<td>40%</td>
<td>95%</td>
<td>75%</td>
<td>45%</td>
<td>70%</td>
</tr>
<tr>
<td>% of subjects who conceded as much or more than the seller - middle</td>
<td>55%</td>
<td>50%</td>
<td>80%</td>
<td>80%</td>
<td>66%</td>
</tr>
<tr>
<td>% of subjects who conceded as much or more than the seller - late</td>
<td>95%</td>
<td>0%</td>
<td>30%</td>
<td>65%</td>
<td>48%</td>
</tr>
<tr>
<td>Buyer softness - early</td>
<td>1.07</td>
<td>15.45</td>
<td>1.72</td>
<td>1.20</td>
<td>4.85</td>
</tr>
<tr>
<td>Buyer softness - middle</td>
<td>1.91</td>
<td>1.35</td>
<td>2.74</td>
<td>1.94</td>
<td>1.99</td>
</tr>
<tr>
<td>Buyer softness - late</td>
<td>13.26</td>
<td>0.51</td>
<td>0.53</td>
<td>1.36</td>
<td>3.92</td>
</tr>
<tr>
<td>Mean difference between buyer and seller concessions - early</td>
<td>-3.64</td>
<td>-39.73</td>
<td>-21.51</td>
<td>-6.07</td>
<td>-17.69</td>
</tr>
<tr>
<td>Mean difference between buyer and seller concessions - middle</td>
<td>-9.74</td>
<td>-5.76</td>
<td>-18.67</td>
<td>-10.07</td>
<td>-11.07</td>
</tr>
<tr>
<td>Mean difference between buyer and seller concessions - late</td>
<td>-24.51</td>
<td>30.85</td>
<td>16.00</td>
<td>-12.29</td>
<td>4.05</td>
</tr>
<tr>
<td>Mismatching - high</td>
<td>5.05</td>
<td>4.25</td>
<td>5.60</td>
<td>4.80</td>
<td>4.93</td>
</tr>
<tr>
<td>Matching</td>
<td>0.65</td>
<td>0.85</td>
<td>0.35</td>
<td>0.90</td>
<td>0.69</td>
</tr>
<tr>
<td>Mismatching - low</td>
<td>5.30</td>
<td>5.90</td>
<td>5.05</td>
<td>5.30</td>
<td>5.39</td>
</tr>
</tbody>
</table>
### Table 30

**Analysis of Covariance Results For Matching/Mismatching Behavior**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Treatment</th>
<th>Expected Price</th>
<th>Expected Toughness</th>
<th>First Bid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buyer softness - early</td>
<td>17.5b</td>
<td>1.99</td>
<td>1.43</td>
<td>1.07</td>
</tr>
<tr>
<td>Buyer softness - middle</td>
<td>2.22c</td>
<td>3.37c</td>
<td>0.23</td>
<td>5.45d</td>
</tr>
<tr>
<td>Buyer softness - late</td>
<td>20.36b</td>
<td>9.63e</td>
<td>1.39</td>
<td>10.45e</td>
</tr>
<tr>
<td>Mismatching - high</td>
<td>1.22</td>
<td>1.18</td>
<td>0.54</td>
<td>16.21b</td>
</tr>
<tr>
<td>Matching</td>
<td>0.91</td>
<td>1.22</td>
<td>1.00</td>
<td>0.06</td>
</tr>
<tr>
<td>Mismatching - low</td>
<td>0.60</td>
<td>0.32</td>
<td>1.86</td>
<td>20.50b</td>
</tr>
<tr>
<td>Early difference</td>
<td>4.00e</td>
<td>5.96d</td>
<td>0.02</td>
<td>7.73e</td>
</tr>
<tr>
<td>Middle difference</td>
<td>1.64</td>
<td>3.50c</td>
<td>0.27</td>
<td>5.51d</td>
</tr>
<tr>
<td>Late difference</td>
<td>25.49b</td>
<td>14.38f</td>
<td>1.37</td>
<td>33.34b</td>
</tr>
</tbody>
</table>

*a* An F statistic is reported. Degrees of freedom for early, middle, and late softness and difference tests are 3 and 72, 3 and 68, and 3 and 57 for effect with covariates. Degrees of freedom for matching behavior are 3 and 72 for effect with covariates.

\[ b_{p \leq 0.001} \quad c_{p \leq 0.10} \quad d_{p \leq 0.05} \quad e_{p \leq 0.01} \quad f_{p \leq 0.001} \]
behavioral cues. This proposition was not supported for the negotiation as a whole \( (F_{3, 72} = 1.22, \text{N.S.}) \). However, there was a strong effect of cue consistency on the number of mismatched concessions late in the negotiation \( (F_{3, 57} = 13.34, p < .0001) \). As predicted, subjects in Group 1 tended to make more concessions which were larger than the seller’s previous concession \( (p < .05, \text{Tukey test}) \), thus providing partial support for Hypothesis 11. It is not surprising that this effect of cue consistency would not manifest itself until late in the negotiation since it takes time to perceive the directionality (or lack of directionality) of the cue patterns.

Looking at the comparisons of the subjects’ concessions with those of the seller in Figures 13 through 16, there are two striking features about the buyers’ behavior. One is the general tendency for buyers to concede more on average than the programmed seller. The other is the strong similarity in concession-making behavior across cue conditions. In each condition subjects started the negotiation with rather generous average concessions, and then hardened their positions considerably during the middle of the negotiation. Although there appears to be a softening of the subjects’ stances during the final phase of the negotiation, only one (Group 4) of the within group differences in average concessions between the middle and late stages of the negotiation is significant.

The only significant effect of cue consistency on concession-making found in this study is driven by differences between subjects’ average concession late in the negotiation in Groups 3 and 4. It is not clear why subjects in Group 4 softened their position late in the negotiation when no significant softening was exhibited by subjects in Group 1 who were presented with two consistent, directional cues rather than only
Figure 13. A plot of Group 1 subjects' concessions and seller's concessions by stage of the negotiation.
Figure 14. A plot of Group 2 subjects' concessions and seller's concessions by stage of the negotiation.
Figure 15. A plot of Group 3 subjects' concessions and seller's concessions by stage of the negotiation.
Figure 16. A plot of Group 4 subjects' concessions and seller's concessions by stage of the negotiation.
Figure 17. A plot of buyer softness during three stages of the negotiation.
one such cue.

While the significant effects of cue consistency on buyer softness depicted in Figure 17 appear impressive on the surface, it seems likely that these effects are artifacts of the way the softness measure was calculated. Subjects' concession-making behavior was essentially invariant across cue conditions; only the seller's concessions changed drastically between conditions. Since the softness measure was calculated as the ratio of average buyers' concessions (the numerator) to seller's concessions (the denominator), changes in buyer softness were confounded with changes in seller's concessions across conditions. In fact, subjects' concession-making behavior across experimental groups was nearly identical in absolute terms as well in terms of patterns over time. Based on this information, I would argue that in this study subjects' concession-making behavior was essentially independent of changes in the seller's bargaining behavior over time and across experimental treatments.

Measures of reciprocity such as the softness ratio used in this study and the study by Druckman et al. (1972) can lead to erroneous conclusions regarding the tendency of negotiators to behave in a manner consistent with aspiration-level or reciprocity theories. In the latter study, the authors claimed that differences in subjects' softness between groups which had been exposed to different concession patterns were attributable to a mismatching effect, at least so long as time pressure was low. The validity of their conclusion that social influence stimuli (e.g. concession patterns) affect bargainers' behavior seems doubtful, however. Smith et al. (1982) report having run simulations in which hypothetical subjects' concessions were fixed and the toughness of the programmed bargainer's concession pattern was varied. They found
several significant main effects and interactions for various types of behavioral measures that were measurement artifacts. Clearly, the problem of devising valid measures of behavioral response in bargaining is a difficult one. In this study an attempt was made to minimize such artifacts of measurement by making the total amount conceded by the programmed seller constant in each experimental condition. Only the pattern of concessions was varied. The conclusions of studies of the effects of different concession strategies on bargaining behavior, in which toughness was manipulated by varying the total amount conceded or in which ratio measures of responsiveness were used, must be viewed as suspect.

SUMMARY OF THE EXPERIMENTAL RESULTS

Theoretical explanations for bargaining behavior such as reciprocity and level of aspiration hypotheses which are based on behavioral interdependency find little support in this study. Manipulations of the consistency of the seller's behavior, which were thought prior to the experiment to be rather powerful, were generally perceived accurately by subject bargainers. The inaccuracies observed had been predicted and were explained in terms of perceptual biases attributable to stimulus generalization. Specifically, bargainers presented with a directional message cue and a non-directional concession cue tended to generalize the direction of the message cue to the concession cue. Additionally, subjects exposed to message and concession cues which were directionally inconsistent (Group 2) tended to perceive the message cue in a biased fashion such that the conflict between the two cues was reduced.
The inference-instruction manipulation proved to be a weak one, no significant effects of this manipulation on key behavioral, perceptual, or attribution measures were observed. Some evidence based on manipulation checks was presented to support the presence of spontaneous attributional processing in the no-instruction condition. Because no differences were found across levels of the inference-instruction manipulation, the levels of this factor were collapsed and subsequent analyses were based on a one-factor design.

While the effects of the consistency manipulation on subjects' perceptions of the cue patterns were predictable and interesting, these perceptions in turn had almost no significant effects on subjects' attributions or their bargaining behavior. Subjects' attributions as measured on the causal dimension scale were not affected by the treatment, nor were they significantly related to subjects' bargaining behavior as was hypothesized. Similar results were found for buyers' self-attributions. Buyers' attributions of the seller's trustworthiness and toughness were not affected by the consistency treatment. However, these types of attributions were found to covary significantly with bargaining behavior. Supporting the conclusions of Schurr and Ozanne (1985), bargainers who perceived the seller to be trustworthy but tough yielded the most in the negotiation.

Analyses of the buyers' concession-making behavior by stage of the negotiation supported a mechanistic model of bargaining behavior in which negotiators' behavior was strongly related to idiosyncratic factors such as their expectations about the price they would have to pay for the product and other individual difference variables such as their motivational orientations or bargaining strategies. The subjects' price expectancy and the value of their initial bid together
accounted for 68% of the variance in the value of their final offer. On the other hand, manipulations of the seller's behavior accounted for less than 1% of the variance in the final offer. While the weakness of the effects of behavioral interdependence in this study is surprising, others have speculated on the dominance of individual difference and situational variables. Bartos (1966) predicted that social interdependence would never account for as much variance in bargaining behavior as these situational and personal variables. The results of this study are consistent with the bargaining theory of Cross (1969) in which bargainers' behavior is viewed as being independent of their opponents' concessions. Even Druckman et al. (1972) in a study claimed to provide strong support for the characterization of bargaining in terms of behavioral interdependence found that subjects' total concessions were best predicted by their initial concessions. 38% of the variance in total concessions was accounted for by the value of the initial concession. In addition, total concessions in that study were largely the result of a general softening of bargaining stance in the final phase of the negotiation. The correlation between final stage concessions and total concessions was .77. It is likely that subjects greater yielding at the end of the negotiation was due to perceptions of time pressure, and Druckman et al. acknowledge this possibility. Thus, the effects of interdependence, while found to be significant in that study, were still small compared to situational and individual difference factors.
Chapter VII
THE EFFECTS OF CUE CONSISTENCY AND MOTIVATIONAL ORIENTATION
ON BARGAINING ATTRIBUTIONS AND BEHAVIOR

INTRODUCTION

The purpose of this experiment was to test the role of motivational orientation as a mediator of the effects of cue consistency on bargaining attributions and behavior. Motivational orientation (MO) in this study refers to bargainers' basic tendencies toward competitive or cooperative approaches to negotiation. Studies in the experimental bargaining literature, primarily using a Prisoner's Dilemma paradigm, have shown MO to have powerful effects on bargainers' perceptions of the other party (Kelley and Stahelski 1970a,b) and on behavior (Deutsch 1960; Krauss 1966).

Rubin and Brown (1975) have suggested that motivational orientation is closely related to another construct believed to be an important determinant of bargaining behavior, Interpersonal Orientation (IO). Cooperatively oriented bargainers should be more likely to attend to the information provided by their partners and to use that information in an attempt to understand their partners' needs and to develop integrative solutions to bargaining problems. On the other hand, competitively
oriented bargainers are similar to low IO individuals in that they are not concerned about their opponent's outcomes or needs, but focus instead on maximizing their own outcomes in the negotiation. Therefore, they are more likely than cooperative bargainers to view information provided by the other party with suspicion and to follow goal-oriented bargaining strategies which do not take into account the other's behavior. Based on this premise, it seems plausible that the failure to find effects of cue consistency in the experiment described in Chapter VI was, at least in part, due to the negotiation setting and instructions which may have caused the subjects to adopt an unreasonably competitive orientation across all of the experimental conditions. Following this line of reasoning, which has not been previously tested, the basic proposition examined in this experiment was that the effects of behavioral consistency on bargaining behavior and attributions would be observed only for cooperatively oriented negotiators.

HYPOTHESES

As noted in the introduction, cue consistency and motivational orientation are expected to interact in their effects on bargaining attributions and behavior. Thus, the effects of cue consistency on bargaining behavior which were proposed in Chapter IV are expected to occur only for bargainers who have cooperative motivational orientations. Stated formally:
H1: Bargainers will be more likely to reach an agreement in the negotiation when faced with a seller whose behavioral cues consistently move from soft to tough only when their motivational orientation is cooperative rather than competitive.

H2: Bargainers will concede more when faced with a seller whose behavioral cues consistently move from soft to tough only when their motivational orientation is cooperative as opposed to competitive.

H3: Bargainers will concede more late in the negotiation when faced with a seller whose behavioral cues consistently move from soft to tough only when their motivational orientation is competitive rather than cooperative.

H4: Subjects will perceive a behaviorally consistent negotiating partner to be more trustworthy than an inconsistent one only when subjects have a cooperative motivational orientation rather than a competitive one.

H5: Cooperatively oriented bargainers who are provided by their opponents with an external justification (e.g. cost constraints) for tough bargaining behavior will tend to attribute their opponents’ tough bargaining behavior to external factors more strongly when other behavioral cues are consistent with the external justification than when one or more of the other behavioral cues are inconsistent with the justification.
METHODOLOGY

The same bargaining simulation used in the experiment described in Chapter VI was again used in this study with one major revision. Because it seemed plausible that the instructions and reward structure provided in the previous experiment had created a strongly competitive motivational orientation among subjects, three changes in the simulation were made. First, all instructions to the subjects directing them to maximize their profits in the negotiation were deleted, except those that were part of the competitive motivational orientation manipulation. Second, the outcome-contingent class credit reward, which was also thought to have led to extremely competitive behavior, was eliminated. Third, no information concerning the market value of the product to be purchased was given to the subjects. In all other aspects, the bargaining simulation was identical to that used in the previous experiment.

The experiment was conducted in a personal computer laboratory containing twenty PC's. The room was quite large, and the computers spaced so that subjects could not communicate with each other during the negotiation. After some brief comments about the use of the computer keyboard and the importance of carefully following the instructions provided by the computer, subjects began the exercise. Subjects read the instructions provided by the computer, received the motivational orientation manipulation, and responded to a few pre-treatment questions which included measures of gender, age, negotiating experience, understanding of the instructions, and negotiating goals. After being given an opportunity to read the
instructions again if they wanted to, subjects began the negotiation. The entire session, including the completion of a post-bargaining questionnaire, lasted about an hour and fifteen minutes.

EXPERIMENTAL DESIGN

A 2 X 2 between subjects factorial design was used to test the experimental hypotheses. Two levels of cue consistency (high/low) and two levels of motivational orientation (cooperative/competitive) were manipulated. High cue consistency was created by exposing subjects to soft-to-tough message and concession patterns like the cues depicted in Figure 3. This condition is identical to the highly consistent, directional cue condition (i.e. Group 1) used in the previous experiment. The inconsistent cue condition corresponded to Figure 6 (Group 3 in the previous experiment). In this condition information value (i.e. temporal consistency) was low and directional consistency between the message and concession cues was also low (since the cues were both non-directional). However, point consistency was high in that on any given bid the message and concession were similar in terms of toughness.

This cue pattern was selected as the low consistency condition for two reasons. First, subjects in the previous experiment perceived this non-directional cue pattern to be significantly less consistent than the highly directional, high information value pattern depicted in Figure 3. No other contrast on the consistency measure between cue conditions was significant in the previous experiment. Second, while a truly random cue condition, such as the one depicted in Figure 3, would have been
preferred as a low consistency condition, to have used a new pattern would have lowered the comparability of this study with the previous experiment.

Motivational orientation was manipulated using a slightly modified version of Deutsch's (1960) classic manipulation. The exact instructions provided to the subjects in each MO condition are provided below.

**Cooperative MO**

"Before you start the negotiation, let me emphasize that in this negotiation you should consider the Ace representative to be your partner. The relationship between your firm and Ace goes back a long way, and you would like to maintain that good relationship in the future. You're interested in Ace's welfare as well as your own. You do have an interest in whether or not your partner wins or loses. You do care how the Ace representative does in the negotiation, and the Ace representative cares how you do. The Ace representative's feelings and needs make a difference to you, and your needs and feelings make a difference to him/her. You want to save as much money as you can for yourself, and you want the Ace representative to make money too. In other words, you each want to earn a profit in this negotiation, and you want your partner to earn a profit too."
Competitive MO

"Before you begin the negotiation, let me emphasize that in this negotiation your motivation should be to save as much money as you can for yourself and Greentree Paper and also to do better than the other person. You want to make rather than lose money, but you also want to come out ahead of the seller, Ace Chemical. Assume that you don't know each other and that you'll never see each other after the negotiation. The Ace representative's feelings don't make any difference to you, and your feelings don't make any difference to the Ace representative. Remember, you're out to beat the seller and the seller is out to beat you."

Eighty-one undergraduate business students participated in the negotiation exercise in exchange for a fixed amount of class credit (i.e., the credit earned was not dependent on their performance in the negotiation). The modal age of the sample was 21, and 60.5% (49/81) were female. 42% of the subjects (34/81) claimed to have had at least one negotiating experience such as haggling over the purchase of an automobile. There were no significant differences in the distribution of subjects among the experimental conditions based on gender, age, or self-reported negotiating experience. Each subject played the role of a purchasing agent for Greentree Paper Company whose task was to negotiate the purchase price per ton of a hypothetical industrial chemical called Dexene with a representative of the Ace Chemical Company. Subjects were told that the purpose of the exercise was to evaluate the effectiveness of micro-computer networks as a money-saving alternative to traditional face-to-face purchasing negotiations. The subjects were led to believe that they were
actually negotiating with another person. In fact, as in each of the previous studies reported herein, the seller was actually an interactive computer program. Subjects were randomly assigned to treatment conditions, and participated in one of six scheduled negotiating sessions held in the same laboratory during two consecutive days. After completing the negotiation, subjects filled out a ten-page questionnaire. Subjects were debriefed as a group in two classes five days later.

CHECKS ON THE CUE CONSISTENCY MANIPULATION

Several types of checks on the validity of the cue pattern manipulation were taken. These checks were identical to those used in the previous experiment, and included measures of the subjects' perceptions of the cue patterns during each of three stages of the negotiation (early, middle, late) as well as checks of perceptions of consistency both within cue and over-all. The means for each consistency condition on these manipulation checks are reported in Table 31.

The manipulation checks provide strong support for the validity of the consistency manipulation. To measure subjects' perceptions of the seller's over-all behavioral consistency, subjects were asked "How consistent was the seller's behavior? In other words, were all aspects of the seller's bargaining behavior such as the pattern of concessions and the messages sent consistent with each other?" They responded on a seven-point scale anchored by "not at all consistent/very consistent". While means for both the consistent group (5.22) and the inconsistent group (4.51) were on the same side of the scale mid-point, the difference between means was significant (p<.05) and in the expected direction. Since point consistency was high even in the
Table 31
Mean Responses to Manipulation Checks For Two Levels of Cue Consistency

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>High CC</th>
<th>Low CC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Toughness&lt;sup&gt;a&lt;/sup&gt; -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early&lt;sup&gt;c&lt;/sup&gt;</td>
<td>2.36</td>
<td>3.63</td>
</tr>
<tr>
<td>Middle</td>
<td>3.92</td>
<td>4.09</td>
</tr>
<tr>
<td>Late&lt;sup&gt;c&lt;/sup&gt;</td>
<td>5.95</td>
<td>5.09</td>
</tr>
<tr>
<td>Concession Toughness&lt;sup&gt;a&lt;/sup&gt; -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early&lt;sup&gt;d&lt;/sup&gt;</td>
<td>2.18</td>
<td>5.22</td>
</tr>
<tr>
<td>Middle</td>
<td>4.79</td>
<td>4.44</td>
</tr>
<tr>
<td>Late&lt;sup&gt;d&lt;/sup&gt;</td>
<td>6.68</td>
<td>5.25</td>
</tr>
<tr>
<td>Message Consistency&lt;sup&gt;bd&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.95</td>
<td>3.05</td>
</tr>
<tr>
<td>Concession Consistency&lt;sup&gt;bc&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.18</td>
<td>3.78</td>
</tr>
<tr>
<td>Over-all Behavioral Consistency&lt;sup&gt;be&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.21</td>
<td>4.50</td>
</tr>
</tbody>
</table>

<sup>a</sup>The higher the score, the tougher the perception of the seller.
<sup>b</sup>The higher the score, the higher the perception of consistency.
<sup>c</sup>The contrast of means is significant at p<.01.
<sup>d</sup>The contrast of means is significant at p<.0001.
<sup>e</sup>The contrast of means is significant at p<.05.
"inconsistent" cue condition, it is not surprising that subjects perceived the seller's behavior in that condition to be somewhat consistent.

Subjects were also asked to rate the consistency of the individual message and concession cue patterns. Subjects indicated the extent of their agreement with each of the following statements on seven-point scales anchored by "strongly disagree/strongly agree": (1) "The tone of the messages sent by the seller was inconsistent from one bid to the next, sometimes cooperative and sometimes uncooperative", (2) "The seller's concessions were inconsistent from one bid to the next, sometimes larger and sometimes smaller." Subjects in the high-consistency condition perceived the seller's messages (mean=4.95) and concessions (mean= 5.18) to be more consistent (p<.01) than subjects in the low-consistency condition (message mean= 3.05; concession mean= 3.78). The results of the three consistency checks are graphically depicted in Figure 18.

Because predictions concerning the effects of cue consistency on bargaining attributions depended in part on subjects' perceiving a clear soft-to-tough direction to the seller's behavior patterns in the consistent cue condition, it was necessary to demonstrate that the directionality of the cue patterns was correctly perceived. For each of three stages of the negotiation (early, middle, and late), subjects were asked to rate "the tone of the seller's messages on a seven-point scale anchored by "cooperative/ uncooperative" and "the seller's concessions" on seven-point scale anchored by "larger/smaller". Responses to these items indicate that subjects' saw the seller's behavior in the intended way. In other words, in the high-consistency condition, subjects reported a strong soft-to-tough direction to the message and
concession patterns, while subjects in the low consistency condition reported no
direction to the seller's behavior patterns. These perceptions are depicted in Figures 19
and 20. Early in the negotiation the consistent seller was perceived as being significantly
softer in his message behavior (p<.01) and concession behavior (p<.01) than the
inconsistent seller. Late in the negotiation, the consistent seller was seen as significantly
tougher in his message behavior (p<.0001) and concession behavior (p<.0001) than the
inconsistent seller. There were no differences in perceptions of toughness during the
middle stage of the negotiation.

In order to check the validity of the motivational orientation manipulation, an
MO scale was constructed consisting of six items. Subjects were asked to indicate the
extent of their agreement with each of six statements concerning their negotiation
goals and orientation on seven-point Likert-like scales. The six items were: (1) "My goal
in the negotiation was to maximize my own profit without regard for the seller's profits",
(2) "I wanted to win in this negotiation by earning more profit than the seller", (3) "My
goal in this negotiation was to reach an agreement that would satisfy both me and the
seller", (4) "In this negotiation the seller's outcomes were as important to me as my
own", (5) "In this negotiation I considered the seller to be my partner", and (6) "In this
negotiation I was out to beat the seller, and the seller was out to beat me." Items 3, 4,
and 5 were reversed scored so that a high score (based on summing the individual item
scores) indicated a competitive motivational orientation. The scale's reliability was
evaluated using Cronbach's alpha coefficient. Coefficient alpha for the scale was .76.
Figure 18. Cue consistency manipulation checks.
Figure 19. Subjects' perceptions of cue patterns in the high-consistency condition.
Figure 20. Subjects' perceptions of cue patterns in the low-consistency condition.
Analysis of variance on the scale scores revealed a strong MO treatment effect. The mean MO score for subjects in the cooperative condition was 20.39, and the mean MO score for subjects in the competitive condition was 28.59. This difference was highly significant (p<.0001).

Taken as a whole, the manipulation check measures provide strong support for the validity of the cue consistency manipulation and the motivational orientation manipulation. There were no surprises.

TREATMENT EFFECTS ON BARGAINING BEHAVIOR

On average, the negotiation lasted 9.2 bids. 47% of the subjects bargained a full twelve bids (the maximum possible length of the negotiation since the seller automatically withdrew if agreement had not been reached after twelve offers). Table 32 shows the distribution of subjects across conditions based on the length of their negotiations. There were no significant differences between treatment conditions in terms of the average length of the negotiation (overall: $F_{3,77}=1.13$, p=.34).

Table 33 lists the types of negotiation outcomes reached by participants in each experimental condition. 48% (39/81) of the subjects reached an agreement with the seller in the negotiation. This is a marked increase over the number reaching an agreement in the previous experiment (25%) and indicates that the changes made in the negotiating setting which were designed to reduce the base level of competitive behavior were effective. There were no significant differences across conditions in terms of the proportion of negotiations ending in an agreement with the seller ($X^2 = .10$, p>.75). Therefore, Hypothesis 1, which predicted that cooperative MO
subjects who were faced with a consistent seller would be more likely to reach an agreement, was not supported.

In Hypothesis 2 it was proposed that cooperative MO bargainers would concede more than competitive MO bargainers when their opponents' behavioral cues signalled a consistent soft to tough direction. Hypothesis 3 predicted that this interaction of motivational orientation and cue consistency would be particularly strong late in the negotiation when bargainers have had time to observe and interpret the seller's behavior patterns. Table 34 lists the means by experimental condition for several behavioral measures which were used to evaluate Hypotheses 2 and 3.

The results of analyses of variance performed on subjects' responses to the behavioral measures are reported in Table 35. The means in the Table reflect only those negotiations which lasted at least five bids. The exclusion of those interactions which were of extremely short duration is appropriate because one major focus of this study concerns the effects of cue patterns on bargaining behavior. These cue patterns are only observable after several bids have been exchanged. Although only the behaviors of those subjects whose negotiations lasted more than four bids are reported (n=70), the same analyses were run on the full data set. The conclusions to be drawn from these analyses on the full sample are identical to those reported for the sample subset.
Table 32

Distribution of Subjects by Length of the Negotiation and Experimental Group

<table>
<thead>
<tr>
<th>Number of Bids</th>
<th>High CC Coop. MO</th>
<th>High CC Comp. MO</th>
<th>Low CC Coop. MO</th>
<th>Low CC Comp. MO</th>
<th>Over-all</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>10</td>
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<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>3</td>
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<td>0</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td>12</td>
<td>7</td>
<td>7</td>
<td>38</td>
</tr>
</tbody>
</table>

Table 33

Distribution of Subjects by Type of Outcome and Experimental Condition

<table>
<thead>
<tr>
<th>Type of Ending</th>
<th>High CC Coop. MO</th>
<th>High CC Comp. MO</th>
<th>Low CC Coop. MO</th>
<th>Low CC Comp. MO</th>
<th>Over-all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buyer takes seller's offer ......</td>
<td>7</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>Seller takes buyer's offer ......</td>
<td>2</td>
<td>3</td>
<td>9</td>
<td>9</td>
<td>23</td>
</tr>
<tr>
<td>Seller withdraws...</td>
<td>11</td>
<td>10</td>
<td>6</td>
<td>7</td>
<td>34</td>
</tr>
<tr>
<td>Buyer withdraws...</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>8</td>
</tr>
</tbody>
</table>
Table 34
A Comparison of Treatment Means for Several Behavioral Measures*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>High CC Coop. MO</th>
<th>High CC Comp. MO</th>
<th>Low CC Coop. MO</th>
<th>Low CC Comp. MO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-total.....</td>
<td>383</td>
<td>473</td>
<td>448</td>
<td>493</td>
</tr>
<tr>
<td>-average..</td>
<td>39.1</td>
<td>49.3</td>
<td>45.1</td>
<td>53.9</td>
</tr>
<tr>
<td>Last bid....</td>
<td>1263</td>
<td>1223</td>
<td>1286</td>
<td>1363</td>
</tr>
<tr>
<td>First bid....</td>
<td>880</td>
<td>751</td>
<td>838</td>
<td>804</td>
</tr>
<tr>
<td>% of bargaining range conceded....</td>
<td>64%</td>
<td>78%</td>
<td>63%</td>
<td>88%</td>
</tr>
<tr>
<td>Stagewise, average concessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-early.....</td>
<td>62.3</td>
<td>81.8</td>
<td>78.1</td>
<td>71.6</td>
</tr>
<tr>
<td>-middle....</td>
<td>21.8</td>
<td>28.4</td>
<td>32.5</td>
<td>52.5</td>
</tr>
<tr>
<td>-late.....</td>
<td>31.0</td>
<td>33.4</td>
<td>17.3</td>
<td>24.8</td>
</tr>
</tbody>
</table>

*Only those subjects whose negotiations lasted at least 5 bids are reported.
Five dependent variables were used to evaluate the effects of cue consistency and motivational orientation on bargaining behavior: (1) total concessions, (2) value of the last bid, (3) value of the first bid, (4) size of the average concession, and (5) percent of the bargaining range conceded. This last variable was computed as the total amount conceded divided by the difference between the subject's reservation price and his first bid. Regardless of the type of behavioral dependent variable which is used to evaluate Hypotheses 2 and 3, the predicted cue consistency by motivational orientation interactions did not occur. Likewise, no main effect of cue consistency on bargaining behavior was observed (F<1 for all measures). This finding is consistent with the four previous studies described in this report. It is also worth noting that only one main effect of motivational orientation approached significance. Cooperatively motivated subjects conceded more of their bargaining range than competitively oriented subjects (85% vs. 79%, p<.07). The relationships among the behavioral measures and negotiating goals are depicted for subjects in either the cooperative or the competitive motivational orientation conditions in Figure 21.

The motivational orientation treatment also affected subjects' aspiration level (i.e., price goal), the price they expected to have to pay, and their reservation price. Cooperative MO subjects reported a higher price goal (1124 vs 917, F=9.31, p<.01), a higher reservation price (1514 vs. 1360, F=4.97, p<.03), and a higher price expectation (1074 vs. 797, F=8.61, p<.01) than competitively oriented subjects.
Table 35
ANOVA Summary for Behavioral Measures

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Cue Consistency</th>
<th>Motivation Orientation</th>
<th>CC X MO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concessions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-total</td>
<td>0.56</td>
<td>1.41</td>
<td>0.16</td>
</tr>
<tr>
<td>-average</td>
<td>0.60</td>
<td>1.91</td>
<td>0.01</td>
</tr>
<tr>
<td>Last bid</td>
<td>0.80</td>
<td>0.07</td>
<td>0.21</td>
</tr>
<tr>
<td>First bid</td>
<td>0.01</td>
<td>1.42</td>
<td>0.47</td>
</tr>
<tr>
<td>% of range conceded</td>
<td>0.12</td>
<td>3.46&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.10</td>
</tr>
<tr>
<td>Stagewise, average concessions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-early</td>
<td>0.06</td>
<td>0.31</td>
<td>1.22</td>
</tr>
<tr>
<td>-middle</td>
<td>3.38&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1.98</td>
<td>0.51</td>
</tr>
<tr>
<td>-late</td>
<td>1.25</td>
<td>0.25</td>
<td>0.06</td>
</tr>
</tbody>
</table>

<sup>a</sup>p<.07 for an F statistic with 3 and 60 degrees of freedom. The overall F statistic for this model was non-significant (F=1.23, p>.31).

<sup>b</sup>p<.10 for an F statistic with 1 and 53 degrees of freedom. The overall F statistic for this model was non-significant (F=2.00, p>.12).
Figure 21. Effects of motivational orientation on aspiration level, reservation price, first bid, and last bid.
Subjects' bargaining behavior in each stage of the negotiation was tested by dividing the negotiation into three segments. The over-all F tests for the model in each stage of the negotiation are non-significant. It appears that subjects in the inconsistent cue conditions conceded somewhat more on average during the middle part of the negotiation than subjects in the inconsistent cue conditions (42.5 vs. 24.8, F=3.38, p<.08). This may be a chance result since the programmed seller conceded the same amount ($10.75) in both the consistent and inconsistent conditions during the middle third of the negotiation. However, in the inconsistent cue condition the seller made a positional commitment ("This is my final offer; take it or leave it.") on the eighth bid that was matched with a very small concession (i.e. $1). A closer examination of subjects' behavior in this condition showed that several subjects made larger than average concessions after receiving this message and eight of them reached agreement with the seller on this bid (as opposed to none in the consistent cue condition). Apparently the threatening message and tiny concession caused the subjects to soften their position considerably. A plot of subjects' average concession during each stage is shown in Figure 22.

In order to determine if subjects' concessions changed in magnitude across time in the negotiation, their average concession in each of the three negotiation stages was treated as repeated measure in an analysis of variance. The results of this analysis are reported in Table 36. As expected there was a main effect of negotiation stage on subjects' concession making for each experimental condition.
Figure 22. A plot of the subjects' average concession during three stages of the negotiation for each experimental condition.
Table 36

ANOVA Summary for Average Stagewise Concession and Concession Patterns

<table>
<thead>
<tr>
<th>Effect</th>
<th>F value</th>
<th>Pr&gt;F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. For high cue consistency:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negotiation Stage (NS)</td>
<td>16.25</td>
<td>.0001</td>
</tr>
<tr>
<td>Linear trend</td>
<td>17.93</td>
<td>.0001</td>
</tr>
<tr>
<td>Quadratic trend</td>
<td>10.84</td>
<td>.0014</td>
</tr>
<tr>
<td>2. For low cue consistency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negotiation Stage</td>
<td>8.21</td>
<td>.0006</td>
</tr>
<tr>
<td>Linear trend</td>
<td>14.17</td>
<td>.0003</td>
</tr>
<tr>
<td>Quadratic trend</td>
<td>0.25</td>
<td>.6171</td>
</tr>
</tbody>
</table>

Within each experimental condition, subjects average concessions were contrasted across stages of the negotiation. In other words, the object was to determine if subjects' average concession was different depending on stage of the negotiation. The results of this analysis were interesting. When cue consistency was low, subjects' concessions became increasingly smaller as the negotiation proceeded. Concessions in the middle stage were significantly smaller than concessions in the early stage (p<.05), and concessions in the late stage were significantly smaller than concessions in the middle part of the negotiation (p<.05). In the consistent cue conditions, subjects' significantly reduced their concession making in the middle of the negotiation compared to early (p<.05). However, their concessions did not change significantly in size from the middle part of the negotiation to the final stage (although the direction of difference indicates a softening in subjects' position
during the final stage). This suggests that, on the average, subjects exposed to inconsistent cues hardened their positions during each stage of the negotiation. Subjects in the consistent cue conditions initially hardened their positions in the middle stage, but this trend was eliminated during the final stage of the negotiation.

The differences observed between consistency conditions in terms of concession patterns suggested another approach to testing for effects of cue consistency on bargaining behavior. In Figure 23 notice that the profiles of subjects' concessions over time appear to differ between the high and low cue consistency conditions. To test whether these patterns or profiles differed significantly in a statistical sense, analysis of variance was used to test for the significance of linear and quadratic components to subjects' concession-making behavior. The results of this analysis are reported in Table 36. When subjects faced an inconsistent seller, their concessions were characterized by a significant linear trend (p<.0003) from soft to tough (i.e. large to small), but no quadratic trend (p>.62). In contrast, subjects' concession-making behavior in the consistent cue condition exhibits a significant quadratic component (p<.0014) as well as a linear effect (p<.0001).

This statistical analysis supports the conclusion that, even though the cue consistency treatment did not affect subjects' absolute concessions measured in terms of total concessions or last bid, cue consistency did affect subjects' concession patterns. This is a reasonable conclusion. The consistency treatment relies on differences between cue patterns which are only observable over time in the negotiation. Therefore, differences in concession-making behavior between subjects exposed to high and low degrees of cue consistency should be observed only after
enough time has passed in the interaction to allow the patterns to be noticed and interpreted accurately.

In this study, a lagged effect of cue consistency is clearly visible in subjects' concession patterns. Subjects began the negotiation with no reference prices by which to judge the reasonableness of their negotiating position or the position taken by the seller. Early in the negotiation, subjects, on average, made rather large concessions regardless of cue condition ($73.43 average concession for subjects vs. $42.12 for the seller). As the negotiation progresses an orienting effect is observed in which subjects compare their concession behavior to that of the seller and realize that their concessions have been larger than the seller's. Thus, their response to the seller's behavior is lagged. In the middle stage of the negotiation, subjects in both consistency conditions significantly hardened their bargaining stances by making much smaller concessions on average ($42.49 average concession for low-consistency/24.76 for high consistency subjects vs. $10.75 for the seller). Notice that subjects' response, in terms of change from the early to middle stage of the negotiation, is greatest in the high consistency condition. This effect makes sense in that the soft-to-tough direction of the seller's behavior should be more obvious when the concession pattern is temporally consistent.

The most interesting contrast between consistency conditions occurs in the final stage of the negotiation. Subjects in the low consistency condition continue to harden their position in response to the seller's increasing toughness in the middle stage in the negotiation. This effect occurs even though the inconsistent seller actually concedes more on average in the final stage than in the middle stage ($34.33), which
again supports a lagged effect on subjects' behavior rather than an immediate one. However, in the high consistency cue condition subjects became somewhat softer ($32.06 average concession) during the final stage of the negotiation even though the seller conceded only an average of $2 per offer during the last four bids. The increase in average concession from the middle to the late stage of the negotiation was not statistically significant. However, it does represent an increase of about 25% over the size of the average concession made during the middle of the negotiation. This is exactly the effect that would be expected if subjects' behavior were being driven in part by their perceptions of the seller's behavior. Even though the seller conceded exactly the same amount during the middle third of the negotiation in both cue conditions, subjects' responses to the seller's behavior were different depending on whether the seller's behavior was highly consistent or lacking in consistency. It is interesting to speculate that the failure to find significant differences between consistency conditions in terms of average concessions during the final stage of the negotiation may have been caused by the automatic termination of the negotiation after twelve bids, regardless of the distance between price asked and price offered on the final bid. The significant quadratic trend found in high-consistency subjects' concession-making behavior suggests that those subjects would have continued to concede more, while the low consistency subjects would have continued to concede less, had the negotiation not ended abruptly.
EFFECTS OF TREATMENTS ON PERCEPTIONS OF THE SELLER

In Hypothesis 4 it was predicted that subjects would perceive a behaviorally consistent seller to be more trustworthy than a behaviorally inconsistent seller only when their motivational orientation was cooperative rather than competitive. Perceptions of the seller’s trustworthiness were measured on the same five-item scale used in the previous experiment. The five semantic differential scales were anchored by frank/deceptive, sincere/insincere, reliable/unreliable, honest/dishonest, or trustworthy/untrustworthy. Reliability of the scale was assessed using Cronbach’s alpha coefficient. Alpha for the trust scale was .65.

Table 37 lists the means for each experimental group on the trust scale. Table 38 summarizes the analysis of variance performed on these measures. There were no significant (at the .10 level) interactions or main effects on subjects’ perceptions of the seller’s trustworthiness. Therefore, Hypothesis 4 was not supported.

Consistent with the other experiments described in this report, no effects of cue consistency on perceptions of seller’s toughness were expected, and none were found (See Tables 36 and 37). The interaction of the cue consistency and motivational orientation factors and the main effect of motivational orientation on perceptions of the seller’s toughness were also not significant. Perceptions of the seller’s toughness were measured on the same seven-item scale used in the previous experiment. Each semantic differential scale was anchored by one of the following: cooperative/uncooperative, weak/strong, soft/hard, reasonable/unreasonable,
Table 37
Treatment Means For Perceptual Measures

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>High CC Coop. MO</th>
<th>High CC Comp. MO</th>
<th>Low CC Coop. MO</th>
<th>Low CC Comp. MO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust Scale</td>
<td>19.3</td>
<td>18.9</td>
<td>17.8</td>
<td>20.8</td>
</tr>
<tr>
<td>Tough Scale</td>
<td>34.2</td>
<td>37.4</td>
<td>34.8</td>
<td>35.7</td>
</tr>
<tr>
<td>Attitude toward seller</td>
<td>13.0</td>
<td>12.8</td>
<td>14.4</td>
<td>13.3</td>
</tr>
</tbody>
</table>

*Low trust scores indicate greater trustworthiness.
   High toughness scores indicate greater toughness.
   High attitude scores indicate a more favorable attitude.

Table 38
ANOVA Summary for Perceptual Measures

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Reliability</th>
<th>Cue Consistency</th>
<th>Motivational Orientation</th>
<th>CC X MO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust Scale</td>
<td>.65</td>
<td>0.03</td>
<td>1.39</td>
<td>2.26</td>
</tr>
<tr>
<td>Tough Scale</td>
<td>.81</td>
<td>0.09</td>
<td>1.58</td>
<td>0.50</td>
</tr>
<tr>
<td>Attitude toward seller</td>
<td>.72</td>
<td>1.85</td>
<td>0.81</td>
<td>0.56</td>
</tr>
</tbody>
</table>

*No effect is significant at p<.10.
submissive/dominant, generous/selfish, and easy/tough. Reliability was assessed using Cronbach's alpha statistic. Alpha for the toughness scale was .81.

One of the issues left unresolved in the previous experiment was whether or not cue consistency influences subjects' attitudes toward the seller. While no formal hypotheses concerning this question were advanced, it is interesting to speculate that people like others more when those others are consistent in their behavior. Tables 36 and 37 show that this proposition is not supported in this study. Attitude toward the seller was assessed using a three-item scale. Each semantic differential item was anchored by either good/bad, foolish/wise, or harmful/beneficial. Coefficient alpha for the attitude scale was .72.

EFFECTS OF CUE CONSISTENCY AND MOTIVATIONAL ORIENTATION ON BARGAINING ATTRIBUTIONS

As in the other studies described in this report, subjects' attributions were measured with a direct attributional question. Subjects were asked to explain "why you think the seller negotiated the way he did". Because reliability problems were experienced with the causal dimension scale by which subjects interpreted their own attributions in the previous experiment, the decision was made to drop the causal dimension scale. Subjects' attributions were interpreted by three judges who used the categorization instructions shown in Table 39. In the first phase of the coding process, two judges (marketing doctoral students) read each subject's response to the direct causal question and then interpreted the attribution listed as either internal, external, or mixed/ambiguous.
The internal/external dichotomy was defined according to the recommendations made by Miller et al. (1981) in their study of how subjects interpret the internal/external distinction. Their distinction between internal and external attributions relies primarily on differences in perceived control or freedom of action. Internal causality is inferred if the actor is believed to have chosen the action freely and deliberately, to be responsible for the action, and if the action is believed to be intentional. External causality is inferred if the actor is believed to have had little or no freedom of choice in the action, if the actor was not responsible for the action and would be unlikely to repeat it. External causality implies that the behavior was unintentional, resulting from coercive aspects of the situation which reduced the actor's control. Responses which could not be interpreted or which reflected both internal and external causality were coded as mixed/unclear/ambiguous.

In round one of the interpretation process, the judges agreed on the coding of 47% of the responses. Since this was an unacceptably low figure, a meeting was held in which the distinction between internal and external causality was further clarified without referring to the subjects' actual responses or the judges' previous interpretations of those responses. In particular, the judges were told to code the attribution as internal unless there was a clear indication that the subject believed the seller's behavior to have been driven by external factors such as cost constraints, the behavior of the buyer, instructions from the experimenter, or the negotiation setting. After this clarification, the judges recoded the responses and agreed on 70% of them. Disagreements were settled by having a third judge (a doctoral candidate) interpret those responses (blind to the previous judges' interpretations).
Hypothesis 5 predicted an interactive effect of cue consistency and motivational orientation on subjects' attributional processing. In particular, cooperatively oriented bargainers who were provided by the seller with an external justification (i.e. cost constraints) for his tough bargaining behavior were expected to be more likely to attribute that behavior to external factors when the seller's behavioral cues followed a consistent soft-to-tough pattern than when the seller's behavior was inconsistent. To test this the number of subjects' making external attributions to account for the seller's behavior in each condition was calculated as a proportion of the total. Two out of seventeen (10.5%) subjects in the high CC/cooperative MO condition and four out of nineteen (21.1%) subjects in the high CC/competitive MO condition attributed the subjects' behavior to external causes. The proportion of subjects making external attributions in the inconsistent cue conditions was surprisingly higher, seven of seventeen (41.2%) in the low CC/cooperative MO condition and two of fifteen (13.3%) in the low CC/competitive MO condition. Pairwise contrasts were made using t-tests to determine whether or not these differences in proportions were statistically significant. Only one contrast proved to be significant (t=2.17, p<.05). Significantly fewer subjects in the high CC/cooperative MO condition made external attributions than in the low CC/cooperative condition. Neither cue consistency nor motivational orientation main effects were significant (t=1.39 and t=.83 respectively).

Pearson correlation coefficients were computed as a check on the strength of the relationship between the locus of causality of subjects' attributions and their bargaining behavior. The correlations between the locus of causality of subjects' attributions and their total concessions, average concessions, and final offer were
Table 39

Attribution Coding Instructions

In this task you will be interpreting subjects' responses to direct attributional questions about the cause of their negotiating partner's behavior and the cause of their own negotiating behavior. For both the other-attribution and self-attribution measure you will need to make a judgment as to the subject's belief in the internal or external nature of the action.

After reading the attribution measure, use the definitions provided below to categorize the subject's causal statements. Attributions should be coded as internal to the extent that the subject's response indicates a belief that the actor chose the action, did so freely and deliberately, enjoyed it, was responsible for it, and was likely to do it again in order to achieve some desirable effect. Internal causality implies that the behavior was intentional and under the subject's control. Attributions should be coded as external to the extent that the subject's response indicates a belief that the actor had little or no freedom of choice in his behavior, did not enjoy the behavior, was not responsible for his actions, and would be unlikely to repeat the same behavior. External causality implies that the behavior was unintentional, resulting from coercive aspects of the situation that reduced the subject's control over his behavior.

If you judge the attribution to be internal, enter a 1 in the space provided. If you judge the attribution to be external, enter a 2 in the space provided. If you are unable to categorize the subject's response on the internal or external causal dimension, then enter a zero (0) in the space provided. If the subject did not make an attribution (i.e., did not answer the question), simply leave that item blank. After you have finished coding the responses, you will be asked to meet with the other judge and with me to discuss any problems you encountered in the interpretation process. Thank you for your help in this task.
extremely small, .00, -.01, and .02 respectively. None of these correlations was significant at the .10 level. Because it seemed possible that the strength of the relationship between attributions and behavior might depend on the experimental condition (i.e. cooperative MO's > than competitive MO's), the within-cell correlations were also examined. Two significant correlations were found. For competitive subjects facing an inconsistent seller, external attributions were associated with a lower final bid ($r = -.54, p < .04$). For cooperative subjects facing a consistent seller, external attributions were associated with larger average concessions ($r = .57, p < .01$).

Not wanting to rely entirely on the direct causal question as a measure of subjects' attributions, nine items were added to the questionnaire that asked subjects to indicate on seven-point scales the extent of their agreement with nine causal statements concerning the seller's behavior. The nine causes listed were: (1) greed, (2) seller's competitive nature, (3) the cost of making the product Dexene, (4) the seller's desire to maximize profit, (5) the seller's desire to cooperate with the buyer, (6) instructions from the negotiation coordinator (i.e. the experimenter), (7) high costs, (8) the seller's estimate of the market value of Dexene, and (9) a "none of the above" option.

Correlations were computed between subjects' agreement with these causal statements and their bargaining behavior. Table 40 summarizes the results of these analyses. Subjects who believed the seller's behavior was caused by greed tended to make lower final offers and to see the seller as tougher and less trustworthy. Bargainers
Table 40
Correlations Between Causal Statements, Bargaining Behavior and Perceptions of the Seller

<table>
<thead>
<tr>
<th>Causal Statement</th>
<th>Total Concessions</th>
<th>Last Bid</th>
<th>Trustworthiness</th>
<th>Toughness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. &quot;greed&quot;</td>
<td>-.12</td>
<td>-.34c</td>
<td>.38c</td>
<td>.54a</td>
</tr>
<tr>
<td>2. &quot;competitive nature&quot;</td>
<td>.07</td>
<td>-.08</td>
<td>.06</td>
<td>.33c</td>
</tr>
<tr>
<td>3. &quot;Dexene is expensive&quot;</td>
<td>.35c</td>
<td>.32c</td>
<td>-.00</td>
<td>.01</td>
</tr>
<tr>
<td>4. &quot;maximize profit&quot;</td>
<td>-.17</td>
<td>-.34c</td>
<td>-.09</td>
<td>.23</td>
</tr>
<tr>
<td>5. &quot;desire to cooperate&quot;</td>
<td>-.05</td>
<td>.48a</td>
<td>-.35c</td>
<td>-.68a</td>
</tr>
<tr>
<td>6. &quot;instructions&quot;</td>
<td>.01</td>
<td>.06</td>
<td>-.11</td>
<td>-.07</td>
</tr>
<tr>
<td>7. &quot;high costs&quot;</td>
<td>.38b</td>
<td>.27d</td>
<td>-.02</td>
<td>-.15</td>
</tr>
<tr>
<td>8. &quot;market value&quot;</td>
<td>.01</td>
<td>.33c</td>
<td>-.30c</td>
<td>-.18</td>
</tr>
<tr>
<td>9. &quot;other&quot;</td>
<td>-.21</td>
<td>-.01</td>
<td>-.01</td>
<td>-.19</td>
</tr>
</tbody>
</table>

\(^a\) p<.0001  \(^b\) p<.001  \(^c\) p<.01  \(^d\) p<.05

who agreed that the seller’s behavior was due to a competitive nature also perceived the seller to be tougher, but this attribution seemed to be unrelated to their bargaining behavior. Those that believed that Dexene was expensive to make (as was suggested by the seller) tended to concede more and to offer a higher price for the product on the final bid. A belief that the seller’s behavior was driven by a profit maximizing motive was associated with a lower final offer. The extent of subjects’ agreement that the seller had been following instructions from the negotiation coordinator was not significantly related to any of the behavioral or perceptual measures. Consistent with the findings for the "Dexene is expensive" attribution, subjects who agreed that the seller’s behavior
was caused by high costs tended to concede more and to make a higher final offer.
Bargainers who felt that the seller's behavior was caused by his estimate of the market
value of the product made a higher final offer and perceived the seller to be more
trustworthy.

Subjects' responses to these causal statements were not affected by either
cue consistency or motivational orientation (F<1 for each item). This is somewhat
surprising since Kelley and Stahelski (1970a) have provided some evidence that
competitively oriented bargainers tend to attribute competitiveness to others
regardless of their behavior and that cooperatively oriented bargainers use the other
party's behavior as the basis for making a judgment as to their motivational orientation.
In addition, it was expected that subjects in the high cue consistency condition would
be more likely to attribute the seller's behavior to cost constraints since the cues
provided were consistent with the explanation offered by the seller. As in the previous
study, bargaining behavior seems to be strongly related (although not necessarily in a
causal sense) to attributions about the seller; however, cue consistency had no
systematic effect on subjects' tendencies to make a particular type of attribution.

DISCUSSION

In this study some support for an effect of cue consistency on bargaining
behavior was found. However, that support was not provided by absolute measures of
subjects' total concessions or last price offered. Rather, consistent or inconsistent
patterns of behavior affected subjects' own behavior in the shape of their concession
patterns. Subjects in the low-consistency conditions exhibited bargaining behavior
which was mismatched with the behavior of the seller. During the early and middle stages of the negotiation, these subjects conceded more on average than the programmed seller. During the final stage of the negotiation, low-consistency subjects conceded less on average than the seller. Thus, in the low-consistency condition, subjects' toughness, as expressed in their concessions, increased in a linear fashion over time in the negotiation. On the other hand, the programmed seller's behavior fluctuated between softness and toughness from one bid to the next and also from one stage of the negotiation to the next. The fact that low-consistency subjects continued to harden their position in the final stage of the negotiation could be attributed to several different influences on their behavior.

First, cue consistency theory would explain this behavior by citing the lack of information provided by the seller's temporally inconsistent concession behavior. The seller's credibility was damaged by the use of positional commitments which were subsequently broken. Subjects could not predict the seller's limit and thus did not believe the negotiation was about to end. Therefore, the risk of continuing their own tough behavior was lessened. Second, the effects of low cue consistency may have led subjects to harden their position for other than reasons related to a lack of information. Instead, the low cue consistency may have led subjects to become aggravated or frustrated with the seller's erratic behavior. They hardened their position then due to a negative attitude developed toward the seller. However, as noted above, no differences between subjects' attitude toward the seller were found between subjects exposed to consistent or inconsistent sellers.
Third, subjects in the inconsistent condition could have felt compelled to
toughen their behavior because they had conceded away a greater portion of their
bargaining range by the end of the middle stage of the negotiation than had the
subjects in the consistent cue conditions. Fourth, subjects could have been following a
negotiating strategy that was independent of the seller's behavior. This explanation
seems unlikely since the idiosyncratic strategies employed by subjects would have
been different in terms of the concession patterns they produced. An "average"
concession pattern reflecting a composite of several different bargaining strategies
would be unlikely to follow a linear soft-to-tough trend over bids in the negotiation.
Rather, a concession pattern produced by averaging heterogeneous bids should be
essentially flat (i.e. non-directional) if this assumption of non-interdependence is valid.

In the consistent cue conditions, subjects initially behaved much like subjects in
the low-consistency conditions. It was only late in the negotiation that differences in
concession patterns began to manifest themselves. This observation is consistent with
a theory which states that bargaining behavior is affected by attention to and
interpretation of behavior patterns and the interrelationships among those behavior
patterns.

The failure to find effects of cue consistency on behavioral measures like total
concessions, average concession, and value of the last bid is consistent with the
results of the four previous studies described in this report. One could argue that cue
consistency, based as it is on rather complex notions like signalling and differences in
the slopes of cue patterns, may be too subtle or not sufficiently robust a phenomenon
to have a significant effect on bargaining behavior as measured by concession-
making. This argument is bolstered by the unwelcome presence of large within-cell variation in bargaining behavior in every experiment reported in this research. Clearly, there are many uncontrolled variables floating around in experiments as complex as these. A key goal of future research (and the major purpose of this study) should be to identify the sources of this nuisance variance and to understand whether these variables suppress or enhance the effects of cue consistency.

Several measures were added to the questionnaire as an aid to interpreting subjects' bargaining behavior in this experiment. One scale used three semantic differential items to measure subjects' attitude toward cooperating with the seller. Subjects were asked to complete this statement, 'In this negotiation, cooperating with the seller was ____ ' by circling the appropriate point on seven-point scales anchored by "foolish/wise", "good/bad", and "rewarding/punishing". Scale reliability as measured by coefficient alpha was .81.

Subjects' responses on this scale were not affected significantly by either treatment (F<1). However, subjects' attitude toward cooperating with the seller as measured by summing the individual item scores on the scale was significantly correlated with all three measures of bargaining behavior: total concessions (r=-.27, p<.02), average concession (r=-.31, p<.01), and last bid (r=-.38, p<.001). The more favorable subjects' attitude toward cooperating with the seller, the greater were their total concessions, average concession, and last bid. The fact that this attitude was formed apparently independent of the MO treatment lends support to the notion that
some subjects had trouble adopting an MO which conflicted with their innate motivations.

Subjects were also asked to indicate the extent of their agreement with the following statement on a seven-point scale: "I understood what the seller wanted me to do, but I simply refused to concede." Subjects who agreed with this statement describing their own behavior tended to make a lower offer on the final bid ($r=-.45$, $p<.0001$). Similarly, there was a significant negative correlation ($r=-.27$, $p<.02$) between subjects' final offer and their agreement with the following statement: "At the start of the negotiation I developed a negotiating strategy and stuck to it without paying much attention to what the other person was doing." This supports the proposition suggested in the previous study that some subjects' bargaining behavior reflects a strong goal-orientation. An emphasis on idiosyncratic strategies by negotiators in this experiment may have decreased their sensitivity to the seller's behavioral signals and heightened the heterogeneity of their bargaining behavior regardless of treatment condition.

Perhaps, the most surprising issue arising from the present study concerns the lack of an interactive effect of motivational orientation and cue consistency on bargaining behavior. Cooperatively oriented subjects were expected to be more attuned to the behavior of the seller and more likely to act on the information provided by that behavior. This proposition was not supported. The failure to find a cue consistency X motivational orientation interaction may be due to a failure of the motivational orientation manipulation. Although experimental checks indicate that the manipulation of motivational orientation was effective, during debriefing several
subjects commented that, while they understood how they were supposed to approach the negotiation, they found it difficult to overcome their true motivational orientations. In these cases, inherently cooperative or competitive types of individuals were asked to play a role which required them to ignore their true motivational orientation. To the extent to which they were unable to do so the effects of the MO manipulation would be greatly attenuated. This would explain some of the heterogeneity in subjects’ behavior within experimental conditions as some subjects in the cooperative conditions would behave competitively and vice versa.

It is difficult to draw meaningful conclusions from this study regarding the interaction of behavioral consistency and motivational orientation. Evidence for the validity of the MO manipulation is complicated by the fact that several subjects reported having found it difficult to adopt the appropriate orientation when it conflicted with their basic nature. On the other hand, the MO manipulation did significantly affect subjects’ bargaining goals, expectations, and reservation price. This result indicates that the MO manipulation initially strongly affected subjects, but that the effect was attenuated as subjects progressed through the interaction. In other words, the MO manipulation set the stage in terms of subjects’ expectations, but other, perhaps more powerful factors intervened to direct bargaining behavior. Likely candidates for these nuisance variables are something about the bargaining simulation and/or individual differences in bargaining strategy, involvement in the negotiation, etc.

The only effect of cue consistency observed in this negotiation was the difference in concession patterns between high and low consistency conditions. Subjects’ motivational orientation did not influence this result. In other words, subjects
with competitive and cooperative motivational orientations exhibited concession patterns which depended only on differences in the seller's behavioral consistency.

Another issue which must be addressed is the failure to find evidence in this research for an effect of behavioral consistency on bargaining attributions. It could be that subjects simply are not making spontaneous attributions or that those attributions which they are making are not sufficiently strong or salient to affect subjects' bargaining behavior. It is also possible that the failure to demonstrate effects on attributions in this research was due in part to problems with the measures used. An attempt was made to use a modified version of Russell's (1982) Causal Dimension Scale as a means of interpreting subjects' attributions in the previous experiment. This attempt failed due to reliability problems. Although the use of judges to classify the attributions is itself fraught with difficulties, in this experiment this more traditional method of interpreting and classifying attributions was adopted with equally disappointing results.

Another plausible explanation for the failure to demonstrate an effect of cue consistency on bargaining behavior is that subjects were simply too uninvolved with the task to behave rationally. However, this explanation is discounted by the fact that subjects' attributions (as measured by the extent of their agreement with several causal statements) were significantly correlated with their bargaining behavior. The signs of these significant correlations in each case conform with what would be expected a priori. For example, subjects who agreed that the seller's behavior was caused by greed tended to make a lower last bid. Subjects who agreed that the seller's behavior was constrained by the cost of the product tended to concede more. Thus, subjects' responses to several causal statements provided some interesting correlational data
concerning the relationship between certain types of attributions and bargaining behavior. These data make sense, and it is unlikely that uninvolved, uncaring subjects would respond to these measures in such a consistent and logical fashion. In fact, across all of the studies described in this research, subjects' involvement and interest in the task have been uniformly high. The exercise is inherently interesting. For these reasons, the "lazy subject" explanation for the failure to demonstrate an effect of cue consistency on bargaining attributions should be rejected.

The design of this research did not permit a strong test of the spontaneity of bargaining attributions. In the future, it is important to use some sort of probe methodology such as concurrent verbal protocols in order to obtain some qualitatively rich information about the thoughts subjects have while they are negotiating.

One final issue concerns the use of naive student subjects in this research. It seems plausible that experienced negotiators may differ from naive negotiators in their ability to recognize, interpret, and act on the information provided by the behavior patterns exhibited by their bargaining partners. If this ability to process information gleaned from behavior patterns is learned, then choosing a naive, student sample reduces the likelihood of observing an effect of cue consistency on bargaining behavior. For example, practicing negotiators may be capable of making much more subtle attributions based on the information provided by the other party's behavior because of the depth and richness of their experience. Because each negotiator's experience is likely to be unique in some respects, experience may increase the variance in the attributions made to account for the other party's behavior. In other words, variations in experience level in a bargaining experiment may contribute to
idiosyncratic perceptions and responses to information provided by the other party's bargaining behavior.

The following conclusions seem warranted based on the evidence provided by all of the studies reported in this paper. First, the effects of cue consistency on naive subjects' bargaining behavior are less powerful than expected. Differences in bargaining behavior attributable to differences in cue consistency were obscured by large variations in subjects' bargaining behavior within each consistency condition. Second, it is still not clear what naive bargainers infer, if anything, from patterns of concessions or messages. Third, cue consistency does not affect bargaining attributions, at least for naive negotiators. Fourth, bargaining behavior is significantly related to certain types of attributions. However, these attributions appear to be formed independently of the consistency of the other party's cue patterns. In Chapter VII some potential explanations for the weak support for cue consistency found in this research are discussed, and some interesting implications for future research are described.
CHAPTER VIII

RESEARCH IMPLICATIONS: IN SEARCH OF BEHAVIORAL INTER-DEPENDENCE IN BARGAINING

INTRODUCTION

Do bargainers use information derived from their negotiating partners' behavior in the formulation of their own bargaining behavior? The obvious answer would appear to be "yes". This perspective of bargaining as characterized by behavioral inter-dependence has considerable face validity and is supported empirically in experimental research (e.g. Druckman et al. 1972; Yuli 1974a,b) and conceptually in the works of Siegel and Fouraker (1960) and Walton and McKersie (1965). However, the strength of the inter-dependence is still uncertain. The research reported here provides some support for behavioral inter-dependence, but a perspective on bargaining in which participants' behavior is more mechanistic and goal-oriented than inter-dependent is perhaps more strongly indicated. Static approaches to bargaining behavior such as game theory which ignore the dynamic elements of behavioral
inter-dependence have been shown to be useful predictors of outcomes in experimental buyer-seller negotiations (e.g. Neslin and Greenhalgh 1983; Eliashberg et al. 1986). While static models of bargaining behavior may accurately predict outcomes in some negotiating contexts, the interest of this researcher is directed toward an understanding of the process of bargaining, not just toward the nature of the outcome. From that standpoint, it is important to address some of the limitations and implications of the current research, especially with regard to understanding why support for the effects of cue consistency on bargaining attributions and behavior was weak.

The failure to find strong support for the hypotheses which were derived from cue consistency theory may be attributed to at least six factors: (1) The complexity of the negotiating task, (2) Idiosyncratic reactions to the seller's messages, (3) idiosyncratic perceptions of market prices and alternatives outside the negotiation, and (4) variations in subjects' interpersonal and motivational orientations. Taken together, these factors represent a powerful group of nuisance variables which may have been operating during each of the experiments described in this report. Each will be discussed in turn below. The last factor represents a possible weakness in the experimental method used in this research and will be discussed in detail at the end of this chapter.

The Complexity of the Task

This negotiation was more complex than typical experimental investigations of bargaining behavior because the effects of two complex behavioral cues were on bargaining behavior and attributions were examined. Although the subjects bargained

The Complexity of the Task

This negotiation was more complex than typical experimental investigations of bargaining behavior because the effects of two complex behavioral cues were on bargaining behavior and attributions were examined. Although the subjects bargained
only over the price of the product, the negotiation could last up to twelve bids. During each bid the subject received a "real" dollar price for the product (rather than some abstract offer level as has been frequently used in previous research, e.g. Smith, et al. (1982)) and a one-line message. Subjects in return decided whether or not to accept the seller's offer, decided whether or not to withdraw from the negotiation, made offers to buy the product at some price, decided whether or not to send a message to the seller, and chose a particular message to send from a rather long list of messages. Predictions were tested concerning the effects of two patterns of behavioral cues on subjects' attributions and bargaining behavior. Thus, in order for cue consistency to affect subjects' bargaining behavior, it was necessary that they correctly perceive patterns of behavior over time and that they be able to make judgments as to the slope of the the seller's concession pattern. Thus, the theory places rather severe demands on the processing capacity of even experienced negotiators.

The length of the negotiation (up to twelve bids in all of the studies except the first, fifteen bids in the first) was unusual in the sense that few buyer-seller negotiations could be expected to last so long. The length of the negotiation was deliberately chosen so as to maximize subjects' opportunity to detect the seller's behavior patterns. However, the use of a long negotiation may have contributed to the complexity of the task and also to the large within-cell variances in behavior and attributions which were observed in all of the studies. The task was made more complex because the longer subjects negotiated, the more information they needed to remember and process. Error variance was increased because subjects' causal attributions and their perceptions of the seller are likely to have changed several times over the course of
the negotiation. Thus, behavior early in the negotiation may have been driven by impressions of the seller formed on the basis of the first few bids and messages. As the negotiation progressed, impressions of the seller are likely to be affected by the additional information received during subsequent bids. In a sense attributions and their implications accumulate over time to the point where subjects may become overloaded with information and simply tune out further information about their negotiating partner. In the future it is important to examine shorter interactions in which fewer attributions are likely to be made based on less information. Shorter negotiations should reduce the noise attributable to changing attributions and also reduce the information load placed on negotiators.

**Idiosyncratic Reactions to the Seller's Messages**

Another factor which may have reduced the effectiveness of the cue consistency manipulation involves subjects' idiosyncratic reactions to the messages which comprised the message pattern. While most of the messages were quite innocuous, several messages could be interpreted as threats. For example, during the eighth bid, buyers in the consistent cue conditions received this message: "Remember, I have other buyers that I can sell to." On the eleventh bid, they were told, "Accept this offer, or I'm very likely to sell to another buyer." Finally, on the last bid, subjects were told, "This is my final offer: take it or leave it." Clearly each of these messages could be interpreted as a threat. Subjects' bargaining behavior was probably affected by their reactions to such messages regardless of the seller's behavioral consistency.
This conclusion is supported by information obtained by observing subjects' reactions during their negotiations. Subjects were often upset, even angry, about the seller's messages. The nature of their reactions is likely to have depended on their own behavior. For example, on the tenth bid subjects in the consistent cue conditions were told, "I can't give any more because Dexene is very expensive to make." If subjects responded to this by making a larger concession, they are likely to have been frustrated when on the next bid the seller made only a $2 concession and threatened to withdraw from the negotiation.

To summarize, the message pattern provided the subjects with a very rich and complex cue. It seems likely that subjects responded differently to the tone and content of each individual message sent by the seller, regardless of the seller's behavioral consistency. The net effect of these idiosyncratic perceptions and responses to the seller's messages would have been to add noise to the data which could obscure any treatment effects. In retrospect, a more careful pretesting of the messages comprising the message pattern would have been advisable. A strong test of the effects of cue consistency on bargaining behavior and attributions would be to eliminate the messages sent by the seller altogether. In this case, only the effects of differences in the temporal consistency or directionality of the concession patterns would be expected to have a systematic effect on subjects' attributions and bargaining behavior.
Market Information and Alternatives to the Negotiation

Another factor which may have affected subjects' bargaining behavior in idiosyncratic ways concerns the amount and type of market information provided to the negotiators in the studies reported here. First, subjects' perceptions of the toughness and rationality of the seller's behavior are likely to have been strongly influenced by their expectations of what was a "reasonable price" to pay for the product. Second, subjects' willingness to concede to the seller's position was probably related to their evaluation of the attractiveness of their alternatives outside the negotiation. To the extent that subjects differed in their evaluations of market prices and their alternatives, the noise in the data would have been increased. Evidence for this was provided by the data from the main factorial experiment. In that study subjects' price expectations did not vary across treatment conditions, but varied widely within-treatment condition. Price expectation was found to covary significantly with bargaining behavior and outcomes.

Some insight into these questions can be gained from past experimental bargaining research. For example, Liebert et al. (1968) found that bargainers (buyers) who received a tough, unfavorable initial offer from their negotiating partners (sellers) tended to concede more and settle at a price more favorable to the seller than bargainers presented with a more moderate initial offer. The authors attributed this effect to aspiration-level adjustment on the part of the buyers. In other words, subjects apparently used the seller's behavior as a yardstick against which the reasonableness of their own behavior and aspirations could be judged. When the seller's opening bid was tough, subjects tended to reduce their own aspirations. This mismatching effect is
consistent with Siegel and Fouraker's aspiration-level perspective on bargaining behavior. The interesting point about this study is that the mismatching effect only occurred when subjects had no knowledge about the other party's pay-off schedule. Thus, the following proposition seems reasonable.

**Proposition 1**: Behavioral inter-dependency increases in importance as a determinant of bargaining behavior as the amount of information which is available to the negotiator about the other party, the product, and the market decreases.

In this research, the opening offer was not manipulated, and subjects were given no information regarding their opponent's profit schedule. However, during the pretests several types of information relating to the market value of the product were provided. In the first pretest, subjects were given a fixed alternative price which could be obtained by withdrawing from the negotiation. This price was very unprofitable relative to the offers of their negotiation partner, and no subjects withdrew. In Pretests 2 and 3 subjects were told that their best estimate of the market value of the product fell within a range of possible prices. In none of these experiments was a significant effect of cue consistency on bargaining behavior or outcomes observed.

Other situational factors likely to affect the extent to which bargainers are influenced in their own behavior by the bargaining behavior of their negotiating partners are the presence or absence of viable alternatives to settlement within the negotiation and the nature of those alternatives if any are available. Bargainers facing a monopoly or monopsony (i.e. those having only one supplier or customer to deal with) must be
more susceptible to the behavior of the other party than those who are fortunate enough to have outside alternatives available to them. The reason for this is simple. The risk of ignoring one's negotiating partner's behavior in the formulation of one's own bargaining behavior is much greater when no alternative outside the current business relationship exists. Strategies which are independent of the other party's behavior, needs, and aspirations are likely to lead to deadlocks, and monetary losses for both sides. Interestingly, most of the experimental bargaining literature contains research based on bilateral monopoly settings. Likewise, most of the support for behavioral inter-dependency in bargaining is found in this literature (e.g., Druckman et al. 1972; Yuki 1974a,b). However, such market conditions are quite rare in buyer-seller negotiations (Schurr and Ozanne 1985). In this research the subject buyers always had an option to buy the product from an alternative supplier. Only the relative attractiveness of the alternative price and the certainty of the alternative price were varied in the pretests.

The nature of the alternatives available to a negotiator may also be an important determinant of the influence of one bargainer's behavior on another. For example, if the outside alternatives are not very attractive for reasons such as profit considerations, reliability, the presence of significant switching or negotiating costs, and so on negotiators are going to perceive greater down-side risk associated with withdrawal from the negotiation. Again, since failure to settle is perceived as being potentially costly, bargainers are motivated to pay more attention to the cues given to them by their negotiating partners. These propositions are stated formally below.
Proposition 2: Behavioral inter-dependence is more important as a determinant of bargaining behavior when viable outside alternatives to settlement in the current negotiation are unavailable than when such alternatives are available.

Proposition 3: As the attractiveness of outside alternatives to settlement in the current negotiation increases, bargainers' responsiveness to the behavior of their negotiating partners decreases.

Proposition 4: As the level of perceived time pressure increases, the importance of behavioral inter-dependency as a determinant of bargaining behavior increases as well.

Interpersonal and Motivational Orientation

One final factor which might have an effect on the importance of behavioral inter-dependency in bargaining concerns differences between individual bargainers in terms of bargaining style and personality. This is a controversial area in bargaining research since studies of the effects of personality differences on bargaining behavior and outcomes have produced highly contradictory results (Rubin and Brown 1975; Lewicki and Litterer 1985). Rubin and Brown (1975) have proposed a construct called "interpersonal orientation" (IO) which may account for some of the confusing findings in this stream of research. Specifically, those bargainers with a high IO tend to be more responsive to the behavior of others. It is these bargainers who would be expected to use most often the behavior of their negotiating partners as input into the formulation of
their own negotiating behavior. High IO's may be either competitive or cooperative in their motivational orientation. The behavior of competitively oriented high IO bargainers is geared toward strategy, manipulation, and "winning" in the negotiation. Cooperatively oriented high IO bargainers tend to seek integrative solutions that provide mutually beneficial settlements. On the other hand, low IO bargainers could be labeled "individualistic" in the sense that they are neither interested in, nor responsive to, the behavior of others. These bargainers are motivated primarily by profit maximization without concern for the outcomes gained by the other party. It would be interesting to determine the usefulness of this interpersonal style construct in the context of buyer-seller negotiations.

It is plausible, even likely, that subjects in the research reported in Chapter VI differed in terms of their interpersonal orientations. Had a measure of interpersonal style been included as a covariate it might have been possible to demonstrate an effect of cue consistency on bargaining behavior and outcomes that was mediated by subjects' standing on this dimension. Kelley and Stahelski (1970a,b) suggest that competitive subjects with a high degree on interpersonal sensitivity should be less likely to view their negotiating partners as cooperative and trustworthy, because their own competitive behavior consistently drives others to reciprocate. Cooperative high IO bargainers should be more likely to trust their opponents and more willing to accept reasonable justifications for tough bargaining behavior by virtue of their greater open-mindedness (i.e. cooperatives expect others to be either cooperative or competitive). These ideas suggest the following propositions.
**Proposition 5:** The importance of behavioral inter-dependence as a determinant of bargaining behavior and outcomes will increase as a bargainer's interpersonal orientation increases.

**Proposition 6:** For bargainers with a high interpersonal orientation, those bargainers who are competitively oriented will tend to view opponents as untrustworthy regardless of the opponent's behavioral consistency, while those bargainers who are cooperatively oriented will tend to view opponents as trustworthy when the opponents' behavior is consistent and untrustworthy when that behavior is inconsistent.

In Chapter VII the results of an experiment designed to test the importance of motivational orientation as a mediator of the effects of cue consistency on bargaining behavior and attributions was reported. No main effects of MO or interactions between MO and cue consistency on bargaining behavior or attributions were found. In addition, an attempt was made to measure subjects' interpersonal orientation prior to the negotiation and to use IO as a covariate in subsequent analyses of the effects of motivational orientation and cue consistency on bargaining behavior. Unfortunately, the IO scale used (Swap and Rubin 1983) proved to be unreliable (alpha=.59) and multi-dimensional, and, therefore, was not reported. In Chapter VII some potential methodological explanations for the failure to find significant effects of differences in motivational orientation were discussed and won't be repeated here. The issue is still an open one.
THE VALUE OF STUDYING BEHAVIORAL CONSISTENCY

One party's behavioral consistency, or the lack thereof, is likely to have important effects on the other party's approach to the negotiation that may not be captured in measures of bargaining outcomes and concession-making. Consider the case where the seller in a purchasing negotiation displays highly inconsistent, erratic bargaining behavior during a negotiation by mixing tough and soft communications and bids in a seemingly random fashion. How is the buyer likely to react to such inconsistent behavior? First, the buyer might seek clarification of the seller's behavior by pointing out the inconsistencies. If this approach fails to resolve the problem, the buyer may seek additional information concerning the seller's status from more objective sources outside the negotiation. Failing that, the buyer may become so frustrated that he ignores the other's behavior and pursues an independent strategy or may even withdraw from the negotiation entirely and seek another supplier.

Perhaps, the most important effect of behavioral inconsistency is likely to be manifested in a negotiator's approach to subsequent negotiations with the same seller. Of course, the buyer may remove the seller from the approved vendor list, thereby making it unlikely that the inconsistent seller would be encountered again. If future interactions do take place, the buyer's behavior is likely to be influenced by beliefs that the seller is irrational, incompetent, and/or untrustworthy. The net result of the seller's irrationality in the previous negotiation may be to increase the level of conflict in the interaction, increase the likelihood of competitive behavior, and reduce the chances of reaching agreement.
An interesting complication arises when one considers the buyer's beliefs about the experience level of the seller. If the buyer believes the seller to be an experienced negotiator, then he may be more likely to attribute the seller's inconsistent behavior to a negotiating ploy or to some factors beyond the seller's control. On the other hand, if the buyer believes the seller to be inexperienced, the inconsistent behavior may be attributed to incompetence. In the latter case the buyer would be more likely to act competitively in an attempt to exploit the seller's inexperience. Thus, the buyer's reaction to the seller's inconsistency may be mediated by perceptions of the seller's experience level.

THE INFORMATION VALUE OF BEHAVIOR PATTERNS

In this research the assumption was made based on pretesting that certain types of information would be conveyed by various aspects of a bargainer's behavior. In particular, the degree to which a bargainer's behavior was consistent was expected to provide subjects with information relating to the causes of the bargainer's behavior. This assumption rests on an even more fundamental one, that bargainers are motivated and able to process information provided by the behavior of their negotiating partners as part of causal analyses. While this research provided some evidence that such causal reasoning took place, it is not clear what subjects concluded based on the information put into this attributional process. As Schurr and Ozanne (1985) have pointed out, the nature of the information bargainers derive from their partners' behavior is not well understood.
Exploratory research is needed to determine exactly what subjects infer from a pattern of concessions, a message pattern, and other types of behavioral cues. I propose simplifying the bargaining paradigm used in this research by eliminating the more complex message cue and restricting the negotiation only to an exchange of bids. In this way it is possible to eliminate the nuisance variance introduced by differences in subjects' reactions to specific messages sent by the seller. The only dimensions of cue consistency present in this case would be the temporal consistency and directionality of the concession patterns. Stripped to its bare bones, cue consistency theory would predict greater yielding when subjects face a seller whose concessions consistently move from soft to tough than when the seller's concession pattern is inconsistent and/or non-directional. A related issue concerns the information value of various types of cues and the relationships among cues. For example, do bargainers gain more information from consistent patterns of behavior than from inconsistent ones? The one-cue simulation could be used to evaluate the relative information value of these cue patterns without the complications introduced by the message pattern cue.

Are certain types of cues weighted more heavily in the attribution process? This research provided evidence for certain perceptual biases. Bargainers tended to confer directionality upon non-directional cues when the non-directional cue was accompanied by a directionally patterned cue. Specifically, bargainers tended to view a non-directional concession pattern as changing from soft to tough over time when the concessions were paired with a soft-to-tough message pattern. Some evidence for perceptual bias was also found when subjects were exposed to
directional cues which were highly inconsistent with each other. Bargainers appeared
to deal with the conflict caused by exposure to soft-to-tough messages and tough-
to-soft concessions by ignoring the directionality of the message pattern. In this case of
two directionally patterned cues, the concession cue appeared to carry greater
weight, at least perceptually. It is important to understand when such perceptual biases
are likely to occur, whether or not the importance of certain cues varies across
situations and individuals, and whether or not such perceptual biases are reflected in
bargaining behavior and outcomes.

THE DIMENSIONALITY OF CUE CONSISTENCY

While the easiest and most efficient means of assessing one bargainer's
impression of another bargainer's behavior is simply to ask a direct question
concerning that impression, it is not sufficient for the purpose of understanding how
impressions are formed in bargaining to note that one negotiator perceives another
negotiator's behavior to be either consistent or inconsistent over-all. In order to obtain
diagnostic information useful for explaining bargaining behavior and developing
effective bargaining strategies, it is also necessary to understand the process by which
bargaining attributions are made and the way in which impressions about bargainers
are formed. This research was intended to test some propositions concerning the
nature of those processes and the factors likely to influence them. In particular, it was
expected that the types of attributions made to account for a bargainer's behavior and
the impression formed about that bargainers' trustworthiness would be affected by the
nature of each behavioral cue and the relationships among those behavioral cues provided by the bargainer during the negotiation.

One important aspect of consistency in bargaining is the extent to which a cue is consistent over time. In other words, is there a discernable pattern to the behavior across bids in the negotiation? This type of consistency could be called “temporal consistency” (Kelley 1967). A cue, such as a pattern of concessions may be directional or non-directional, and still be temporally consistent. For example, the pattern of large-to-small concessions used in this research is directional and temporally consistent in that the soft-to-tough direction is consistently signalled over time. On the other hand, a bargainer who concedes the same amount on each bid is also exhibiting behavior which is temporally consistent; however, the pattern is non-directional.

Directionality can be thought of as increasing the information value of a cue. Conceding a constant amount may lead a bargainer’s partner to be quite confident about the size of her/his next concession, but such a pattern provides little information about the bargainer’s motives, intentions, or the likelihood that another concession will be made on the next bid. Non-linear, negatively accelerating concession patterns should signal a point beyond which the bargainer is unable or unwilling to concede. Positively accelerated concession patterns may signal an increasing willingness to cooperate. In all of the cases it is up to the observer to make an attribution about the reasons for the bargainer’s concession-making behavior. In this research, bargainers appeared to perceive the cue patterns correctly in most cases, but ignored the signalled settlement price. It is possible that subjects perceived little risk in their failing to reach an agreement. Alternatively, they may not have believed that the seller could
not concede beyond the signalled price, and, therefore, called the seller's bluff. As discussed above, it is also possible that subjects reacted negatively to some of the threats made late in the negotiation by the seller. This negative affective reaction could have caused the subjects to act irrationally. Again, testing cue consistency using only a concession cue and with varying degrees of risk attached to failure to reach an agreement would seem to be a viable option.

The nature of that attribution and the confidence with which it is made depends in part on the information value of each cue and the nature of the relationship between the concession cue and other cues available in the interaction. Thus, the second aspect of consistency concerns the relationships among the behavioral cues. Two types of inter-cue consistency are identifiable: (1) the consistency between two cues during any one point in time (i.e. any bid) which I will call "point consistency" and (2) the consistency between the patterns formed by the cues over time which I will call directional consistency.

Understanding the information value and the degree of consistency or congruency among behavioral cues likely to be available in a typical negotiation is a very difficult and complex task. Even simplified two-cue settings such as were used in this research prove to be much more complex than one might imagine at first glance. However, by classifying a bargainer's behavior as either high or low in terms of consistency and either high, moderate, or low in terms of information value, it is possible to identify six (2 X 3) different types of relationships between two bargaining cues. Figure 23 shows the six different ways in which two bargaining cues may be classified along the information value and consistency dimensions. Four of these cells were used in
creating the cue conditions in this research: cells 1, 2, 4, and 5. Cell 1 contains cues which are highly consistent with each other and which provide maximal information about the actor. This cell was used to create the high consistency cue patterns (Condition 1) used in the main experiment reported in Chapter 6. The cues are highly consistent because each cue moves from softer to tougher from one bid to the next and the direction of change is the same throughout the negotiation. The information value is high because both cues are patterned, signalling a consistent soft-to-tough direction over time. In Cell 2 which corresponds to Condition 2 in the main experiment, the cue patterns are inconsistent or conflicting in that one cue moves from soft-to-tough while the other changes from tough-to-soft across bids. However, the information value is still high because both cues are patterned and directional. It is only the nature of the information conveyed by each cue that is inconsistent.

In Cell 3, cross-cue consistency is high because the toughness of the concessions and messages moves together from one bid to the next (i.e. the toughness of the concession cue and toughness of the message cue is highly correlated). The information value of the cues is only moderate, however. Even though a soft-to-tough trend or direction is observable over time for each cue, the temporal consistency of the bargainer's behavior is lower than in Cell 1. Cell 4 is an interesting case where the cue patterns provide some information because they are directional, but the consistency is low due to differences in direction. Example 4a is identical to Cell 2 except that the information value is lower due to the cue patterns being less consistent over time. Example 4b corresponds to Condition 4 in this research and is a case in which one cue pattern is directional and one is not. Again, the information value
suffers because only one of the cues signals a consistent direction to the behavior over time.

Cell 5 was used in Condition 3 of the main experiment. In this case, the cues are highly consistent in terms of toughness during any bid, but are also not directional. The lack of direction lowers their information value. Finally, Cell 6 depicts cue patterns which are truly random. The correlation between concession toughness and message toughness over time is essentially zero. There are no directional patterns so the information conveyed is minimal. This cell corresponds to the inconsistent cue condition used in the second and third pretests.

This rather lengthy discussion of the nature of the relationship between two cues in bargaining was motivated by a desire to understand which aspects of these relationships are attended to by bargainers and used as input to causal analyses and subsequent behavior. By developing a classificatory scheme based on the concepts of information value and directional consistency, predictions about the effects of one bargainer's behavior on another's become easier to make and the shortcomings of the cue conditions chosen for use in this research are made more obvious. For example, the failure to find significant differences between Cells 1, 2 and 4 in terms of over-all ratings of consistency can be attributed to the multi-dimensional nature of the consistency construct. In Cell 2 both cues have a high degree of information value. However, the cue patterns are inconsistent in terms of their directional signals. If subjects cope with this conflict of signals by ignoring one of the cues or by perceiving one of the cues in a biased fashion, the over-all impression of consistency could be
quite high. Evidence for these perceptual biases in Cells 2 and 4 was found in subjects' perceptions of the cue patterns in the main study.

Use of this classification scheme also reveals that the most different cue conditions were not tested in the main experiment. Cells 1 and 2 which were thought to be at opposite extremes of the consistency dimension are shown to be quite similar along the information value (intra-cue consistency) dimension. It is now clear that the least consistent cues are found in Cell 6 in which the behavior is truly random (i.e. no pattern, no direction, no point consistency, zero correlation between cues in terms of toughness). Thus, the main experiment was limited in that only one of the endpoints of the consistency construct was manipulated. Similarly, for reasons that were discussed in Chapter VII (i.e. comparability with the original experiment), the follow-up study compared Cells 1 and 5 rather than Cells 1 and 6.

Finally, making a distinction between intra-cue (i.e. temporal) consistency which contributes to information value and inter-cue (i.e. directional) consistency makes it possible to test more effectively the relative importance of each type of consistency to attributional processing, impression formation, and behavioral response. For example, attributions may be made more confidently when both types of consistency are high than when information value and/or directional consistency are low. Thus, the prediction would be that subjects in Cell 1 would make more confident attributions than subjects in either the high-low, low-high, or low-low conditions. On the other hand, if confidence in attributions about the seller's behavior is more closely related to information value than directional consistency, significant differences in how confidently subjects' make attributions should be found for contrasts of Cell 1 with Cell 5.
but not for contrasts of Cell 1 with Cell 2. In this research these contrasts were tested but found to be non-significant in both cases.

One final interesting issue is whether or not bargainers assign greater weight in attributional processing and impression formation to some types of cues than to others. For example, if bargainers tend to see concession-making behavior as more indicative of their partner's intentions and motives than the partner's communications (i.e. if "actions speak louder than words"), then the relationship between the concession pattern and the message pattern may be of little importance. If this is the case, no differences in attributions, impressions, or behavior would be expected between Cells 1 and 4b. In other words, changing the message pattern from consistent and directional to inconsistent and non-directional would have no effect. Support for this type of perceptual bias was found in the main study in that subjects in Cell 2 (soft-to-tough messages/tough-to-soft concessions) perceived the soft-to-tough message pattern to be essentially flat (i.e. no linear trend) but correctly perceived the direction of the concession pattern. Also subjects in Cell 4 saw the random, non-directional concessions as moving from soft-to-tough.

CONCLUSIONS

This research represents a first step toward understanding the complexity of factors influencing bargainers' attributional processing, the impressions that result from those attributions, and behavior. In Chapter I I speculated about the survival value of rapid, accurate attributional processing and impression formation and about how patterns in the behavior of an actor influence the nature and strength of attributions
made to account for that behavior by an involved observer. Attributions were viewed as mediators of the way in which people respond to the signals given to them by other people in bargaining and other forms of social interaction.

Although little support for predictions concerning the effects of behavior patterns on attributional processing and bargaining behavior was found in this study, it would be premature to dismiss the theoretical concepts on which such predictions are based. Effects of cue consistency on bargaining behavior and attributions have proven more difficult to find than was anticipated. Cue consistency theory assumes that bargainers are rational, active processors of information available in a negotiation. It also assumes a certain degree of sophistication in terms of bargainers' information processing in that negotiators are required to attend to and interpret patterns of behavior. It seems plausible that some (many?) subjects in this research had no idea how to use the information provided to them by the seller's behavior, nor did they necessarily consider such information to be important.

It follows that a strong test of the effects of cue consistency on bargaining behavior could be conducted by providing a group of subjects with formal negotiating training part of which would focus on the availability and importance of the information likely to be derivable from a negotiator's behavior. Another group of subjects would be given the same training omitting the section on the relevance of the other party's behavioral cues. Thus, the presence/absence of interpersonal sensitivity training would be crossed with high and low cue consistency. Effects of cue consistency on bargaining behavior and attributions should be found in those subjects exposed to the interpersonal sensitivity training. If this interaction is observed, it would suggest that such
skills are trainable and that a class in negotiation skills should be included in our undergraduate and graduate business curricula. If it is not observed, the importance of cue consistency to bargaining attributions and behavior would have to be considered suspect.

Instead of assuming that behavioral consistency is inconsequential to attributional processes and behavior, an assumption which has little face validity, it is important to ask some more complex questions. Rather than searching for main effects of cue consistency, one of the key objectives of future research should be to identify those situational factors and individual differences that interact with cue consistency to affect bargainers' attributions, impressions, and behavior. This is no small task. However, the development of bargaining theory sufficiently rich to account for these complex interactions would greatly improve our understanding of this very important form of conflict resolution and may contribute significantly to our understanding of social interaction in general.
Figure 23. Six types of cue relationships based on relative information value and consistency. Two cues are depicted: a message pattern (M) and a concession pattern (C).
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Appendix A

Negotiation Instructions For Pretests

"Thank you for coming. Today you will be participating in a negotiation with another student. In this negotiation we are taking advantage of micro-computer technology to allow several persons to negotiate at the same time without the distractions that would be present if the negotiations were to be held face to face. This type of negotiation by telephone or videotext is likely to be in widespread use in the future as businesses try to reduce the costs of buying and selling. You will not see the person you are negotiating with. However, you will be able to exchange offers and written messages with your negotiation partner through a micro-computer communications network.

You should take this negotiation seriously because your chance to win one of the three $30 bonuses depends entirely on your performance. Your participation in this negotiation requires no special skills or computer experience. Simply follow the instructions given to you by the computer.

On these computers, the carriage return key is marked with a bent arrow and is located on the right side of the keyboard. The backspace key is marked with a straight arrow and is located just above the return key. If you can't find these keys, raise your hand. Once the negotiation has begun, it is very important that you respond to the prompts given to you by the computer carefully. When you make a bid, double check the figure you've typed into the computer to make sure that it is accurate before you press the return key. If you've made a mistake, simply erase your entry by using the backspace key, and reenter your bid. Once you send your bid by pressing the return key, you will have only one opportunity to change it. If you make a second error, the mistaken bid will be sent to your negotiating partner and may not be withdrawn. Be careful initially until you become familiar with the flow of the negotiation.

Please do not disturb your neighbor. If you have any questions during the negotiation, raise your hand and I will help you. Persons who insist on talking during the negotiation will be asked to leave.

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After I call the other lab to see if they are ready, we will begin.

Good luck!

(Subjects type "go" into the computer and read the following instructions.)

Thank you, "subject's name". Today you are going to play the role of purchasing agent for Greentree Paper Company. Your job is to buy the supplies that Greentree needs to manufacture paper products. Once every six months, it is your task to negotiate new contracts for the purchase of many types of industrial chemicals used in your paper mill.

Today you will be bargaining with a representative of Ace Chemical Co. over the price of a ton of Dexene, a liquid industrial chemical. You have a responsibility to your company, Greentree Paper, to try to buy the Dexene as inexpensively as possible. Your goal should be to lower your company's costs by minimizing the price which you agree to pay for the Dexene. Naturally, the salesperson representing Ace is interested in maximizing his or her own profits in this negotiation.

You have been given a table entitled "Payoff Schedule". This schedule clearly lists the profits you can expect to earn depending on the price you pay for the Dexene. Column 1 on the payoff schedule lists a range of settlement prices in $100 increments. The actual sale price which you negotiate may be any whole dollar amount. The profit which you earn will be rounded off to the nearest whole dollar. Column 2 of the payoff schedule shows how much cash you can earn depending upon the selling price on which you and the seller agree. Again, notice that the cash payment is larger at lower prices and smaller at higher prices. You should not assume that the seller's payoff schedule looks just like yours with the profits reversed. The seller's profits can not be calculated by subtracting your profit from the maximum profit of $20.

As a purchasing agent you know that it is very important to have more than one supplier willing to sell vital materials to you at an acceptable price. In a previous negotiation, Redstone Chemical offered to sell Dexene to you for $1800 per ton. Redstone represents an alternative supplier which is available to you at any time. To help you to remember it, this alternative price is listed on the payoff schedule. If at any time during the negotiation with Ace you should decide to buy the Dexene from Redstone, your alternative supplier, for $1800 per ton, you may do so simply by giving the appropriate response when the computer asks you if you want to buy from Redstone. You will be asked if you want to accept your alternative supplier's price before you make each bid. If you elect to buy from Redstone, you will earn $2.00. Study the information on your payoff schedule for a few moments.

You can assume that your opponent also has a payoff schedule and an alternative buyer which may be sold to if desired. If you OR the seller choose to accept a deal with another firm, the negotiation will be over. No further bargaining is possible. You will earn $2.00.
In addition to placing an offer to buy at a certain price, each turn in the negotiation you will be given an opportunity to send a message to the seller. Because of time constraints, these messages are restricted to one typed line in length. Several message choices are listed on the paper titled "bargaining messages". You may choose to send one of these messages to the seller, or you may elect to send no message at all. The computer will remind you of this option during each bid. If you decide to send a message, you will be asked to pick a message from the prepared list by typing its number into the computer. You have been given a message list. Study the list for a moment.

The seller will open the negotiation by making an offer to sell the Dexene to you at some price per ton. This offer may be accompanied by a message from the seller to you. The computer will then ask you whether or not you would like to buy the Dexene from Redstone, your alternative supplier, for $1800 per ton. If you choose to continue the negotiation with the Ace representative, the computer will then ask you to enter your counteroffer to buy the Dexene from Ace at some price per ton. This process of bid and counterbid will continue until an agreement is reached or until you or the seller elect to break off the negotiation by choosing to accept your alternative supplier's or buyer's offer.

Remember, you may offer to buy the Dexene for any price. However, you should use only whole numbers like $651 or $1807. Any whole dollar price is acceptable. If you need scratch paper for any calculations or notes, use the handouts you have been given. You will be asked to turn in these materials to the negotiation coordinator at the end of the session.

We will soon be ready to begin the negotiation. It is very important that you understand your task. If you would like to read the instructions again, you may do that now. Would you like to read the instructions again?
Appendix B

Negotiation Questionnaire - Pretest 1

Instructions

Write your negotiator number in the space provided: ________

Please take as much time as you need to complete the items in this questionnaire. If something is unclear, the negotiation coordinator will help you. Don't disturb other negotiators with your questions. When you are finished, raise your hand. The negotiation coordinator will record the credit you have earned and will pay you the money you have earned in the negotiation. Thank you for your participation in this exercise.

You may now turn the page and begin the questionnaire.
1. In the space provided below, please describe the seller's negotiating behavior in as much detail as you can.
2. In the space provided below, please describe your own negotiating behavior in as much detail as you can.
3. Please rate the seller you negotiated with on these scales:

1 2 3 4 5 6 7
cooperative competitive

1 2 3 4 5 6 7
deceptive frank

1 2 3 4 5 6 7
strong weak

1 2 3 4 5 6 7
skilled unskilled

1 2 3 4 5 6 7
thoughtful thoughtless

1 2 3 4 5 6 7
wise foolish

1 2 3 4 5 6 7
honest dishonest

1 2 3 4 5 6 7
reasonable unreasonable

1 2 3 4 5 6 7
intense mild

1 2 3 4 5 6 7
generous selfish

1 2 3 4 5 6 7
tough easy

1 2 3 4 5 6 7
professional amateurish

1 2 3 4 5 6 7
trustworthy untrustworthy

1 2 3 4 5 6 7
good bad
4. Please rate yourself on the following scales:

1 2 3 4 5 6 7
cooperative competitive
1 2 3 4 5 6 7
deceptive frank
1 2 3 4 5 6 7
strong weak
1 2 3 4 5 6 7
skilled unskilled
1 2 3 4 5 6 7
thoughtful thoughtless
1 2 3 4 5 6 7
wise foolish
1 2 3 4 5 6 7
honest dishonest
1 2 3 4 5 6 7
reasonable unreasonable
1 2 3 4 5 6 7
intense mild
1 2 3 4 5 6 7
generous selfish
1 2 3 4 5 6 7
tough easy
1 2 3 4 5 6 7
professional amateurish
1 2 3 4 5 6 7
trustworthy untrustworthy
1 2 3 4 5 6 7
good bad
5. Some successful negotiators exhibit identifiable and describable patterns in one or more aspects of their negotiating behavior, while other successful negotiators do not. We are interested in whether or not the seller in your negotiation exhibited patterned behaviors.

During your negotiation, did the seller exhibit any patterns in his or her negotiating behavior? YES______ NO______

If you answered “yes” to this question, please describe the pattern(s) you observed in as much detail as possible in the space provided below. If your answer to this question was “no”, go to the next page and continue.

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If your answer to question five on the previous page was "yes", skip this page and continue. If your answer to question five was "no", answer question six before turning to the next page.

6. Take a few moments to reflect back on the seller's negotiating behavior, then answer the following question.

Having thought about the seller's behavior, do you now recall the seller exhibiting any patterns in his or her negotiating behavior?

YES ______ NO ______

If your answer is "no", go to the next page and continue. If your answer is "yes", please describe the behavior pattern(s) the seller exhibited in your negotiation in as much detail as possible in the space provided below.

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________________________________________________________________________
7. Circle the letter of the sentence which best describes the messages sent to you by the seller.

   a. The seller's messages were all tough (firm, unyielding) and did not seem to change much as the negotiation progressed.
   b. The seller's messages were tough at the start but became much softer (cooperative, conciliatory) as the negotiation proceeded.
   c. The seller's messages seemed to be inconsistent, some tough and some soft, with no clear-cut pattern observable.
   d. The seller's messages were soft at first but became increasingly tough as the negotiation proceeded.

8. Please circle the letter of the sentence which best describes the messages sent to you by the seller.

   a. The seller's messages were all intense (agitated, forceful) and did not seem to change much as the negotiation proceeded.
   b. The seller's messages seemed to be inconsistent, some intense and some mild (calm, moderate), with no clear-cut pattern observable.
   c. The seller's messages were mild at first but became increasingly intense as the negotiation proceeded.
   d. The seller's messages were intense at first but became increasingly mild as the negotiation proceeded.

9. Please indicate the extent to which you agree with the following statement by circling the appropriate number on the scale provided.

   "The seller was more reluctant to concede late in the negotiation than early."

   1 2 3 4 5 6 7
   Strongly Disagree Strongly Agree

10. Please indicate the extent to which you agree with the following statement by circling the appropriate number on the scale provided.

    "The seller took a tougher stance late in the negotiation than early."

    1 2 3 4 5 6 7
    Strongly Disagree Strongly Agree
11. Please circle the letter of the sentence which best describes the seller's concession behavior.

a. The seller's concession behavior was consistently tough and did not seem to change much as the negotiation proceeded.
b. The seller's concession behavior was tough at the start, but became increasingly soft as the negotiation proceeded.
c. The seller's concession behavior seemed to be inconsistent, sometimes tough and sometimes soft, with no clear-cut pattern observable.
d. The seller's concession behavior was soft at first but became increasingly tough as the negotiation proceeded.

12. Please circle the letter of the sentence which best describes the seller's concession behavior.

a. The seller's concessions were all large and did not seem to change much as the negotiation proceeded.
b. The seller's concessions were small at first but became increasingly larger as the negotiation proceeded.
c. The seller's concessions seemed to be inconsistent, some large and some small, with no clear-cut pattern observable.
d. The seller's concessions were large at first but became increasingly smaller as the negotiation proceeded.

13. Please circle the letter of the sentence which best describes the amount of time taken between bids by your opponent.

a. The seller took about the same amount of time to make each offer in the negotiation.
b. The seller seemed to take an increasingly long time to make an offer as the negotiation proceeded.
c. There seemed to be no clear-cut pattern in the amount of time that the seller took to make an offer, sometimes responding quickly, sometimes slowly.
d. The seller seemed to take less and less time to make an offer as the negotiation proceeded.
14. Please indicate the extent to which you agree with the following statement by circling the appropriate number on the scale provided.

"The seller took more time to respond to my later bids than to my earlier bids."

1 2 3 4 5 6 7
Strongly Disagree
Strongly Agree

15. Please estimate what is the lowest price which would have been acceptable to the seller?

I think the lowest price acceptable to the seller was ________.

16. How confident are you in the accuracy of the price estimate that you just made in question 15? Circle the appropriate point on the scale provided below.

1 2 3 4 5 6 7
Not at all Very
confident confident

17. Please rate your own negotiating skill.

1 2 3 4 5 6 7
Not at all Very
skilful skilful

17. How much effort did you put into this negotiation?

1 2 3 4 5 6 7
Very little Very much
effort effort

18. Please rate the extent to which you found this negotiation to be a realistic bargaining experience.

1 2 3 4 5 6 7
Not at all Very
realistic realistic
19. We are very interested in making this negotiation experience as challenging as possible. If you have any comments about the negotiation or suggestions which you would like to make, please use the space provided below.

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________
Appendix C

Negotiation Questionnaire - Pretest 2

Instructions

Write your negotiator number in the space provided: ____________

Please take as much time as you need to complete the items in this questionnaire. If something is unclear, the negotiation coordinator will help you. Don't disturb other negotiators with your questions. When you are finished, raise your hand. The negotiation coordinator will record the credit you have earned and will pay you the money you have earned in the negotiation. Thank you for your participation in this exercise.

You may now turn the page and begin the questionnaire.
1. In the space provided below, please describe the seller's negotiating behavior in as much detail as you can.
2. In the space provided below, please describe your own negotiating behavior in as much detail as you can.
3. Please rate the seller you negotiated with on these scales:

1 2 3 4 5 6 7
cooperative  competitive

1 2 3 4 5 6 7
deceptive  frank

1 2 3 4 5 6 7
strong  weak

1 2 3 4 5 6 7
skilled  unskilled

1 2 3 4 5 6 7
thoughtful  thoughtless

1 2 3 4 5 6 7
wise  foolish

1 2 3 4 5 6 7
honest  dishonest

1 2 3 4 5 6 7
reasonable  unreasonable

1 2 3 4 5 6 7
intense  mild

1 2 3 4 5 6 7
generous  selfish

1 2 3 4 5 6 7
tough  easy

1 2 3 4 5 6 7
professional  amateurish

1 2 3 4 5 6 7
trustworthy  untrustworthy

1 2 3 4 5 6 7
good  bad
4. Please rate yourself on the following scales:

1 2 3 4 5 6 7
cooperative competitive

1 2 3 4 5 6 7
deceptive frank

1 2 3 4 5 6 7
strong weak

1 2 3 4 5 6 7
skilled unskilled

1 2 3 4 5 6 7
thoughtful thoughtless

1 2 3 4 5 6 7
wise foolish

1 2 3 4 5 6 7
honest dishonest

1 2 3 4 5 6 7
reasonable unreasonable

1 2 3 4 5 6 7
intense mild

1 2 3 4 5 6 7
generous selfish

1 2 3 4 5 6 7
tough easy

1 2 3 4 5 6 7
professional amateurish

1 2 3 4 5 6 7
trustworthy untrustworthy

1 2 3 4 5 6 7
good bad
5. Some successful negotiators exhibit identifiable and describable patterns in one or more aspects of their negotiating behavior, while other successful negotiators do not. We are interested in whether or not the seller in your negotiation exhibited patterned behaviors.

**During your negotiation, did the seller exhibit any patterns in his or her negotiating behavior?**

YES_______  NO______

If you answered "yes" to this question, please describe the pattern(s) you observed in as much detail as possible in the space provided below. If your answer to this question was "no", go to the next page and continue.
6. Circle the letter of the sentence which best completes the following statement. Consider the messages sent to you by the seller. Based on the seller’s messages and only on those messages,

a. the seller seemed more reluctant to make large concessions early in the negotiation than late in the negotiation.
b. the seller’s willingness to make large concessions did not seem to change much as the negotiation proceeded.
c. the seller seemed more reluctant to make large concessions late in the negotiation than early in the negotiation.
d. it is not possible to judge the seller’s willingness to make large concessions.

7. Circle the letter of the sentence which best completes the following statement. Consider the messages sent to you by the seller. Based on the seller’s messages and only on those messages,

a. the seller’s negotiation behavior seemed to be tougher early in the negotiation than late in the negotiation.
b. the toughness of the seller’s negotiating behavior did not seem to change much as the negotiation proceeded.
c. the seller’s negotiation behavior seemed to be tougher late in the negotiation than early in the negotiation.
d. it is not possible to judge the toughness of the seller’s negotiating behavior.

8. Please indicate the extent to which you agree with the following statements by circling the appropriate number on the scale provided.

"Based on the messages sent by the seller, the seller was more reluctant to make concessions late in the negotiation than early."

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

"Based on the messages sent by the seller, the seller took a tougher stance late in the negotiation than early."

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree
9. Please circle the letter of the sentence which best describes the concessions made by the seller.

a. The seller's concessions were all about the same size and did not seem to change much as the negotiation proceeded.
b. The seller's concessions were small at first but became increasingly larger as the negotiation proceeded.
c. The seller's concessions were large at first but became increasingly smaller as the negotiation proceeded.
d. The seller's concessions seemed to be inconsistent, some large and some small, with no clear-cut pattern observable.

10. Please indicate the extent to which you agree with the following statement by circling the appropriate number on the scale provided.

"Based on the concessions made by the seller, the seller took a tougher stance late in the negotiation than early."

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

"Based on the concessions sent by the seller, the seller was more reluctant to make concessions late in the negotiation than early."

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

11. Please circle the letter of the sentence which best describes the amount of time taken between bids by your opponent.

a. The seller took about the same amount of time to make each offer in the negotiation.
b. The seller seemed to take an increasingly long time to make an offer as the negotiation proceeded.
c. There seemed to be no clear-cut pattern in the amount of time that the seller took to make an offer, sometimes responding quickly, sometimes slowly.
d. The seller seemed to take less and less time to make an offer as the negotiation proceeded.
12. Please indicate the extent to which you agree with the following statements by circling the appropriate number on the scale provided.

"Based on the length of time the seller took to make each bid, the seller was more reluctant to make concessions late in the negotiation than early."

1 2 3 4 5 6 7
Strongly Strongly
Disagree Agree

"Based on the length of time the seller took to make each bid, the seller took a tougher stance late in the negotiation than early."

1 2 3 4 5 6 7
Strongly Strongly
Disagree Agree

"The seller took more time to respond to my later bids than to my earlier bids."

1 2 3 4 5 6 7
Strongly Strongly
Disagree Agree

13. Please estimate what is the lowest price which would have been acceptable to the seller?

I think the lowest price acceptable to the seller was ________ .

14. How confident are you in the accuracy of the price estimate that you just made in question 13? Circle the appropriate point on the scale provided below.

1 2 3 4 5 6 7
Not at all Very
confident confident

15. Please rate your own negotiating skill.

1 2 3 4 5 6 7
Not at all Very
skillful skillful
16. How much effort did you put into this negotiation?

1 2 3 4 5 6 7
Very little Very much effort effort

17. Please rate the extent to which you found this negotiation to be a realistic bargaining experience.

1 2 3 4 5 6 7
Not at all Very realistic realistic

18. How consistent was the seller's behavior? In other words, were all aspects of the seller's bargaining behavior such as the pattern of concessions, the time needed to make an offer, and the messages sent consistent with each other? Use the scale to rate the seller's consistency.

1 2 3 4 5 6 7
Not at all Very consistent consistent

19. We are very interested in making this negotiation experience as challenging as possible. If you have any comments about the negotiation or suggestions which you would like to make, please use the space provided below.

________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________
Appendix D

Negotiation Questionnaire - Pretest 3

Instructions

Write your negotiator number in the space provided:____________________

Please take as much time as you need to complete the items in this questionnaire. If something is unclear, the negotiation coordinator will help you. Don’t disturb other negotiators with your questions. When you are finished, raise your hand. The negotiation coordinator will record the credit you have earned and will pay you the money you have earned in the negotiation. Thank you for your participation in this exercise.

You may now turn the page and begin the questionnaire.
1. In the space provided below, please list all the thoughts that come to mind about the seller in the negotiation which you just completed.

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

2. Now list all the thoughts you have about the negotiation which you just completed.

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________
3. In the space provided below, list what you think was the cause(s) of the seller's negotiating behavior. In other words, why did the seller behave as s/he did? Please be specific.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

4. Please rate the seller you negotiated with by circling a number on each scale. Indicate your confidence in each rating by writing a number from 1 (not at all confident) to 10 (very confident) in the blanks provided to the right of each scale. Look at the sample scale item provided below:

\[
\begin{array}{cccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 \\
\text{smart} & & & & & & \text{stupid}
\end{array}
\]

In this example, the seller is rated as being very smart (1 on the seven-point scale), but the rater is only moderately confident in the belief that the seller is very smart (6 on the confidence scale). Please turn to the next page and complete this evaluation task. Remember, a 1 means that you are not at all confident and a 10 means that you are
very confident in your evaluation of the seller.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
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</tbody>
</table>

- **Cooperative** vs. **Competitive**
- **Deceptive** vs. **Frank**
- **Strong** vs. **Weak**
- **Sincere** vs. **Insincere**
- **Reliable** vs. **Unreliable**
- **Soft** vs. **Hard**
- **Honest** vs. **Dishonest**
- **Reasonable** vs. **Unreasonable**
- **Dominant** vs. **Submissive**
- **Generous** vs. **Selfish**
- **Tough** vs. **Easy**
- **Trustworthy** vs. **Untrustworthy**
- **Good** vs. **Bad**
5. Please rate your negotiating behavior on the following scales:

1 2 3 4 5 6 7
cooperative competitive

deorpetive frank

strong weak

sincere insincere

reliable unreliable

soft hard

honest dishonest

reasonable unreasonable

dominant submissive

generous selfish

tough easy

trustworthy untrustworthy

good bad
6. Please indicate the extent to which you agree with the following statements by circling the appropriate number on the scale provided.

*Based on the messages sent by the seller, the seller was more reluctant to make concessions late in the negotiation than early.*

1 2 3 4 5 6 7
Strongly Agree
Disagree

*Based on the messages sent by the seller, the seller took a tougher stance late in the negotiation than early.*

1 2 3 4 5 6 7
Strongly Agree
Disagree

*Based on the concessions made by the seller, the seller took a tougher stance late in the negotiation than early.*

1 2 3 4 5 6 7
Strongly Agree
Disagree

*Based on the concessions made by the seller, the seller was more reluctant to make concessions late in the negotiation than early.*

1 2 3 4 5 6 7
Strongly Agree
Disagree

*Based on the length of time the seller took to make each bid, the seller was more reluctant to make concessions late in the negotiation than early.*

1 2 3 4 5 6 7
Strongly Agree
Disagree
"Based on the length of time the seller took to make each bid, the seller took a tougher stance late in the negotiation than early."

1 2 3 4 5 6 7
Strongly Disagree
Disagree

"The seller took more time to respond to my later bids than to my earlier bids."

1 2 3 4 5 6 7
Strongly Disagree

7. Please estimate what is the lowest price which would have been acceptable to the seller?

I think the lowest price acceptable to the seller was ________.

8. How confident are you in the accuracy of the price estimate that you just made in question 7? Circle the appropriate point on the scale provided below.

1 2 3 4 5 6 7 8 9 10
Not at all Very confident
confident

9. Different factors can influence a negotiator's behavior. Two such factors are: (a) personal characteristics/dispositions: These include a person's personality traits, character, attitudes, personal style, and mood; and (b) characteristics of the situation: These include the constraints of the negotiating task (such as break-even point, payoff schedule, and instructions from superiors), the physical setting of the negotiation, and the actions of other people such as fellow negotiators or employers. Using these definitions, complete the following scale items:

a) The seller's negotiating behavior was ____ caused by his/her personal characteristics.

1 2 3 4 5 6 7
not at all completely
b) The seller's negotiating behavior was _____ caused by characteristics of the situation.

1 2 3 4 5 6 7
not at all completely

c) The seller's negotiating behavior was caused by _____.

1 2 3 4 5 6 7
something about the situation personal characteristics

10. Another useful way to describe a negotiator's behavior involves a judgment of the extent to which the negotiating behavior was under the control of the negotiator. Controllable behaviors are those which the negotiator desires and freely chooses. Uncontrollable behaviors are those which are forced on the negotiator by some outside circumstance such as instructions from superiors or cost constraints. Use these definitions to complete the following items.

a) The seller could have chosen to sell the Dexene to you for a lower price.

1 2 3 4 5 6 7
strongly strongly
disagree agree

b) There were no constraints preventing the seller from reaching an agreement with you earlier in the negotiation.

1 2 3 4 5 6 7
strongly strongly
disagree agree

c) Due to cost constraints, the seller could not have conceded further in the negotiation.

1 2 3 4 5 6 7
strongly strongly
disagree agree
d) Overall, the seller had little choice in the way in which he/she conducted the negotiation.

1 2 3 4 5 6 7

strongly disagree strongly agree

11. Please rate your own negotiating skill.

1 2 3 4 5 6 7

Not at all Very skilful skilful

12. How much effort did you put into this negotiation?

1 2 3 4 5 6 7

Very little Very much effort effort

13. Please rate the extent to which you found this negotiation to be a realistic bargaining experience.

1 2 3 4 5 6 7

Not at all Very realistic realistic

14. How consistent was the seller's behavior? In other words, were all aspects of the seller's bargaining behavior such as the pattern of concessions, the time needed to make an offer, and the messages sent consistent with each other? Use the scale to rate the seller's consistency.

1 2 3 4 5 6 7

Not at all Very consistent consistent

15. Please indicate the extent of your agreement with the following statements:

a) I am satisfied with the settlement price in this negotiation.

1 2 3 4 5 6 7

strongly disagree strongly agree
b) I am satisfied with the way I negotiated.

1 2 3 4 5 6 7
strongly strongly
disagree agree

c) I am more likely to make concessions when I know that my negotiating partner's tough bargaining behavior is caused by external constraints such as costs than when the tough behavior is caused by my partner's personal characteristics such as personality.

1 2 3 4 5 6 7
strongly strongly
disagree agree

d) I am more likely to make concessions when I know that my negotiating partner's tough negotiating behavior is caused by his/her personal characteristics such as personality than when the tough behavior is caused by external constraints such as costs.

1 2 3 4 5 6 7
strongly strongly
disagree agree

e) Whether or not my negotiating partner's behavior was caused by situational factors or by personal characteristics would have no effect on my willingness to make concessions.

1 2 3 4 5 6 7
strongly strongly
disagree agree

16. We are very interested in making this negotiation experience as challenging as possible. If you have any comments about the negotiation or suggestions which you would like to make, please use the space provided below:

_____________________________________________________

_____________________________________________________

_____________________________________________________

_____________________________________________________
Appendix E

Negotiation Instructions For Main Study

Thank you, "subject name". Today you are going to play the role of purchasing agent for Greentree Paper Company. Your job is to buy the supplies that Greentree needs to manufacture paper products. Once every six months, it is your task to negotiate new contracts for the purchase of many types of industrial chemicals used in your paper mills.

Today you will be bargaining with a representative of the Ace Chemical Co. over the price of a ton of Dexene, a new industrial chemical. In the past you have found Ace Chemical to be a reliable supplier of high quality industrial chemicals, but you know that there are other companies capable of supplying similar chemicals to you at a competitive price. You have a responsibility to your company, Greentree Paper, to try to buy the Dexene as inexpensively as possible. Your goal should be to lower your company’s costs by minimizing the price which you agree to pay for the Dexene.

You have been given a table entitled "Payoff Schedule". This schedule clearly lists the savings you can expect to attain depending on the price you pay for the Dexene. Column 1 on the Payoff Schedule lists a range of settlement prices in $100 increments. The actual sale price which you negotiate may be ANY whole dollar amount.

Column 2 of the Payoff Schedule shows how your firm can save depending upon the selling price which you and the seller agree on. Again, notice that your savings are larger at lower prices and smaller at higher prices. Column 3 of the Payoff Schedule lists the amount of class credit which you will earn depending on the price you agree to pay for the Dexene. Again, you will earn more credit if you buy the Dexene for a lower price. As a purchasing agent, you know that it is very important to have more than one supplier willing to sell vital materials to you. In this negotiation there are several other suppliers available to meet your Dexene needs. However, Ace is your current supplier,
and there are always costs and risks associated with switching to a new supplier. If at any time during the negotiation with Ace, you should decide to withdraw from the negotiation and seek another supplier, you are free to do so simply by giving the appropriate response when the computer asks you if you want to seek another supplier. You will be asked if you want to withdraw from the negotiation before you make each bid. Study the information on your payoff schedule for a few minutes.

Withdrawal from the negotiation has several consequences which you must consider carefully. First, the decision to withdraw is final and therefore cannot be changed. Second, if you decide to withdraw from the negotiation with Ace and seek a deal from another supplier, you will incur switching costs in the amount of $50 per ton. The reason for this charge is that switching suppliers involves substantial costs in terms of time and money for your firm. For example, you may have to gather information on new vendors, solicit bids from them, or enter into negotiations with at least one new firm. Also, your firm may suffer losses due to delays in production.

You should keep in mind that you may or may not be able to buy the Dexene for less from an alternative supplier. In fact, if you elect to buy the Dexene from another supplier, the computer will automatically buy the Dexene for you at the market price. The market price is the average of the prices agreed to in all of the Dexene purchases negotiated today.

To summarize, if you think that the Ace representative is being unreasonable, you do have the option of buying the Dexene at the market price from another supplier. However, you must remember that this market price will be no better than the average price negotiated today plus $50 per ton switching costs.

The Ace representative may also elect to end the negotiation at any time. If either you or the seller choose to withdraw from the negotiation, the computer will automatically buy the Dexene for you at the market price. You are then obligated to pay this price for the Dexene to the new supplier. Remember, you or the seller may end the negotiation at any time.

In addition to placing an offer to buy at a certain price, each turn in the negotiation you will be given an opportunity to send a message to the seller. Several message choices are listed on the paper entitled "bargaining messages" which you have been given. You may choose to send one of these messages to the seller, or you may elect to send no message at all. The computer will remind you of this option during each bid. If you decide to send a message, you will be asked to pick a message from the prepared list by typing its number into the computer. The seller also may send messages to you. You have been given a message list. Study the list for a moment.

The seller will open the negotiation by making an offer to sell the Dexene to you at some price per ton. This offer may be accompanied by a message from the seller to you. The computer will then ask you whether you would like to end the negotiation and buy on the open market for an uncertain price. If you choose to continue the negotiation
with the Ace representative, the computer will then ask you to enter your counteroffer to buy the Dexene from Ace at some price per ton. This process of bid and counterbid will continue until an agreement is reached or until you or the seller elect to break off the negotiation.

Remember, you may offer to buy the Dexene for any price. However, you should use only whole numbers like $651 or $1807. Any whole dollar price is acceptable. You cannot offer to buy the Dexene at a price lower than the offer you made previously. In other words, if you offer to buy the Dexene for $1200 per ton, you may not later offer to buy the Dexene for only $1100 per ton.

If you need scratch paper for any calculations or notes, use the handouts you have been given. You will be asked to turn in these materials to the negotiation coordinator at the end of the session.

You should try to buy the Dexene as inexpensively as possible for three reasons. First, your company, Greentree Paper, is depending on you. Second, your chances of winning one of the six $30 bonuses depend solely on your ability to buy the Dexene at the lowest price possible. After the negotiation, the six best negotiators will be announced and the $30 prizes will be presented to them. In the case of a tie, a drawing will be held to determine the winners. Finally, as listed on your Payoff Schedule, your class credit depends on the price you pay.

We will soon be ready to begin the negotiation. It is very important that you understand your task. If you would like to read the instructions again, you may do that now. Would you like to read the instructions again?

(After answering providing some personal information (e.g. sex, age, negotiating experience, etc.), the subjects began the negotiation.)
Appendix F

Orientation Instructions - Main Study

*Thank you for coming. Today you will be participating in a negotiation with another student. In this negotiation you will be bargaining over the price per ton of a liquid industrial chemical called Dexene. We are taking advantage of micro-computer technology to allow several persons to negotiate at the same time without the distractions that would be present if the negotiations were to be held face to face. This type of negotiation by telephone or videotex is likely to be in widespread use in the future as businesses try to reduce the costs of buying and selling. You will not see the person you are negotiating with. However, you will be able to exchange offers and written messages with your negotiation partner through a micro-computer communications network.

Your participation in this negotiation requires no special skills or computer experience. Simply follow the instructions given to you by the computer.

On these computers, the carriage return key is marked with a bent arrow and is located on the right side of the keyboard. The backspace key is marked with a straight arrow and is located just above the return key. If you can't find these keys, raise your hand. Once the negotiation has begun, it is very important that you respond to the prompts given to you by the computer carefully. When you make a bid, double check the figure you've typed into the computer to make sure that it is accurate before you press the return key. If you've made a mistake, simply erase your entry by using the backspace key, and reenter your bid. Once you send your bid by pressing the return key, you will have only one opportunity to change it. If you make a second error, the mistaken bid will be sent to your negotiating partner and may not be withdrawn. Be careful initially until you become familiar with the flow of the negotiation.

Please do not disturb your neighbor. If you have any questions during the negotiation, raise your hand and I will help you. Persons who insist on talking during the negotiation will be asked to leave.

GOOD LUCK!
Appendix G
Negotiation Questionnaire - Main Study

Instructions

Write your negotiator number in the space provided: ____________

Please take as much time as you need to complete the items in this questionnaire. It is very important that you read each item carefully and answer to the best of your ability. Finish each page before turning to the next page. Do not read ahead or turn back and look at your previous answers. If something is unclear, the negotiation coordinator will help you. Please don't disturb other negotiators with your questions. When you are finished, raise your hand. The negotiation coordinator will record the price you have agreed to pay for the Dexene. Thank you for your participation in this exercise.

You may now turn the page and begin the questionnaire.
1. In the space provided below, list what you think was the cause(s) of the seller’s negotiating behavior. In other words, why did the seller behave as s/he did? Don’t describe the seller’s behavior. Simply explain why you think the seller behaved the way he/she did. Please be as specific as possible.

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

2. How confident are you that the cause(s) of the seller’s behavior which you listed above is (are) accurate? Circle one number on the scale below.

Not at all confident 1 2 3 4 5 6 7 Very confident
3. Think about the cause(s) of the seller's behavior that you just described. The items below concern your impressions or opinions about these cause(s). Circle one number for each of the following scales:

a. The cause(s) of the seller's negotiating behavior was something that was:
   particular to 9 8 7 6 5 4 3 2 1 particular to
   the seller       the negotiating situation

b. The cause(s) of the seller's negotiating behavior was something that was:
   under the 9 8 7 6 5 4 3 2 1 not under the
   seller's control    seller's control

c. Considering the cause(s) of the seller's negotiating behavior, if you were to
   negotiate with him/her again, the outcome would probably be:
   the same 9 8 7 6 5 4 3 2 1 different

d. The cause(s) of the seller's negotiating behavior was something that the seller:
   intended 9 8 7 6 5 4 3 2 1 did not intend

e. The cause(s) of the seller's negotiating behavior was something that was:
   outside of the 9 8 7 6 5 4 3 2 1 inside of the
   seller        seller

f. The cause(s) of the seller's negotiating behavior was something that is "____
   ______ ______" in a future negotiation.
   "likely to change" 9 8 7 6 5 4 3 2 1 "unlikely to change"

g. The cause(s) of the seller's negotiating behavior was:
   something about 9 8 7 6 5 4 3 2 1 something about
   the seller     you or others

h. The cause(s) of the seller's negotiating behavior was something that is "____"
   from one negotiation to the next.
   "stable" 9 8 7 6 5 4 3 2 1 "unstable"

i. The cause(s) of the seller's negotiating behavior was something for which:
   the seller was 9 8 7 6 5 4 3 2 1 the seller was
   responsible    not responsible
4. Did your beliefs about the cause(s) of the seller's behavior change during the negotiation? YES _____ NO _____

5. If your answer to question 4 was YES, use the space below to explain how your beliefs about the cause(s) of the seller's behavior changed during the negotiation. Why did you change your beliefs? When did your beliefs change? What were your beliefs?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

6. What caused your negotiating behavior? In other words, why did you negotiate the way you did?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
7. Think about the cause(s) of your own negotiating behavior. The items below concern your impressions or opinions about the cause(s) for your own negotiating behavior. Circle one number for each of the following scales:

a. The cause(s) of your negotiating behavior was something that was:
   particular to 9 8 7 6 5 4 3 2 1 particular to you
   the negotiating situation

b. The cause(s) of your negotiating behavior was something that was:
   under your 9 8 7 6 5 4 3 2 1 not under your control
   control

c. Considering the cause(s) of your negotiating behavior. If you were to negotiate with the seller again, the outcome would probably be:
   the same 9 8 7 6 5 4 3 2 1 different

d. The cause(s) of your negotiating behavior was something that you:
   intended 9 8 7 6 5 4 3 2 1 did not intend

e. The cause(s) of your negotiating behavior was something that was:
   outside of 9 8 7 6 5 4 3 2 1 inside of you
   you

f. The cause(s) of your negotiating behavior was something that is "_____ _____" in a future negotiation.
   "likely to change" 9 8 7 6 5 4 3 2 1 "unlikely to change"

g. The cause(s) of your negotiating behavior was:
   something 9 8 7 6 5 4 3 2 1 something about you
   the seller or others

h. The cause(s) of your negotiating behavior was something that is "_____" from one negotiation to the next.
   "stable" 9 8 7 6 5 4 3 2 1 "unstable"

i. The cause(s) of your negotiating behavior was something for which:
   you were 9 8 7 6 5 4 3 2 1 you were not responsible
   responsible
8. In the context of this negotiation, please rate the seller you bargained with by circling a number on each scale. Indicate your confidence in each rating by writing a number from 1 (not at all confident) to 10 (very confident) in the blanks provided to the right of each scale. Look at the sample scale item provided below:

smart 1 2 3 4 5 6 7 stupid

In this example, the seller is rated as being very smart (1 on the seven-point scale), but the rater is only moderately confident in the belief that the seller is very smart (6 on the confidence scale). Take your time completing this evaluation task. Remember, a 1 means that you are not at all confident and a 10 means that you are very confident in your evaluation of the seller.

Cooperative 1 2 3 4 5 6 7 uncooperative
frank 1 2 3 4 5 6 7 deceptive
weak 1 2 3 4 5 6 7 strong
sincere 1 2 3 4 5 6 7 insincere
reliable 1 2 3 4 5 6 7 unreliable
soft 1 2 3 4 5 6 7 hard
honest 1 2 3 4 5 6 7 dishonest
reasonable 1 2 3 4 5 6 7 unreasonable
submissive 1 2 3 4 5 6 7 dominant
generous 1 2 3 4 5 6 7 selfish
easy 1 2 3 4 5 6 7 tough
trustworthy 1 2 3 4 5 6 7 untrustworthy
good 1 2 3 4 5 6 7 bad

Confidence
9. Please rate your negotiating behavior on the following scales:

- cooperative: 1 2 3 4 5 6 7 uncooperative
- frank: 1 2 3 4 5 6 7 deceptive
- weak: 1 2 3 4 5 6 7 strong
- sincere: 1 2 3 4 5 6 7 insincere
- reliable: 1 2 3 4 5 6 7 unreliable
- soft: 1 2 3 4 5 6 7 hard
- honest: 1 2 3 4 5 6 7 dishonest
- reasonable: 1 2 3 4 5 6 7 unreasonable
- submissive: 1 2 3 4 5 6 7 dominant
- generous: 1 2 3 4 5 6 7 selfish
- easy: 1 2 3 4 5 6 7 tough
- trustworthy: 1 2 3 4 5 6 7 untrustworthy
- good: 1 2 3 4 5 6 7 bad

10. Complete the following items concerning your thoughts during the negotiation.

a. During the negotiation, I tried to figure out the cause(s) of the seller's negotiating behavior.

   Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

b. During the negotiation, I concentrated on my own strategy and did not concern myself with the causes of the seller's behavior.

   Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
11. Please indicate the extent to which you agree with the following statements:

a) I am satisfied with the price I paid for the Daxene in this negotiation.
   
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree
   
   b) I take most of the responsibility for what happened in this negotiation.
   
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree
   
   c) I am satisfied with the way I negotiated.
   
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree
   
   d) The seller deserves to take a lot of the credit for the outcome of this negotiation.
   
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree
   
   e) I am satisfied with the outcome of this negotiation.
   
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree
   
12. Use the scale below to evaluate the final offer made by the seller in the negotiation. I believe that the price offered on the final bid by the seller was "_____ _____ ___" the average settlement price negotiated today.

   1 2 3 4 5 6 7
   
   "Much lower" "About equal" "Much higher"
   "than" "to" "than"

13. Please complete the following statements by circling the appropriate number on the scale provided.

a. Early in the negotiation, the tone of the seller's messages was:
   
   cooperative 1 2 3 4 5 6 7 uncooperative
   

b. During the middle of the negotiation, the tone of the seller's messages was:
   
   cooperative 1 2 3 4 5 6 7 uncooperative
   

c. Late in the negotiation, the tone of the seller's messages was:
   
   cooperative 1 2 3 4 5 6 7 uncooperative
d. The tone of the messages sent by the seller was inconsistent, sometimes cooperative and sometimes uncooperative.

   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

e. Early in the negotiation, the seller's concessions were:

   larger 1 2 3 4 5 6 7 smaller

f. In the middle of the negotiation, the seller's concessions were:

   larger 1 2 3 4 5 6 7 smaller

g. Late in the negotiation, the seller's concessions were:

   larger 1 2 3 4 5 6 7 smaller

f. The seller's concessions were inconsistent, sometimes larger and sometimes smaller.

   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

14. Please estimate the lowest price which would have been acceptable to the seller.

I think the lowest price acceptable to the seller was ______________.

15. How confident are you in the accuracy of the price estimate that you just made in question 14? Circle the appropriate point on the scale provided below.

   Not at all confident 1 2 3 4 5 6 7 Very confident

16. Please rate your own negotiating skill.

   Not at all skillful 1 2 3 4 5 6 7 Very skillful

17. How much effort did you put into this negotiation?

   Very little effort 1 2 3 4 5 6 7 Very much effort

18. Please rate the extent to which you found this negotiation to be a realistic bargaining experience.

   Not at all realistic 1 2 3 4 5 6 7 Very realistic
19. How consistent was the seller’s behavior? In other words, were all aspects of the seller’s bargaining behavior such as the pattern of concessions and the messages sent consistent with each other? Use the scale to rate the seller's consistency.

Not at all consistent  1  2  3  4  5  6  7 Very consistent

19. How consistent was your behavior? In other words, were all aspects of your bargaining behavior such as the pattern of concessions and the messages sent consistent with each other? Use the scale to rate your consistency.

Not at all consistent  1  2  3  4  5  6  7 Very consistent

20. How responsive was the seller to your negotiating behavior and the messages you sent?

Very Responsive 1 2 3 4 5 6 7 Very Unresponsive

21. How responsive were you to the seller’s negotiating behavior and the messages he/she sent?

Very Responsive 1 2 3 4 5 6 7 Very Unresponsive

22. Who performed better in this negotiation, you or the seller?

I performed better 1 2 3 4 5 6 7 The seller performed better

23. We are very interested in making this negotiation experience as challenging as possible. If you have any comments about the negotiation or suggestions which you would like to make, please use the space provided below.

________________________________________________________________________

________________________________________________________________________

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Appendix H

Negotiation Questionnaire - Follow-up Study

Instructions

Write your negotiator number in the space provided:____________

Please take as much time as you need to complete the items in this questionnaire. It is very important that you read each item carefully and answer to the best of your ability. Finish each page before turning to the next page. Do not read ahead or turn back and look at your previous answers. If something is unclear, the negotiation coordinator will help you. Please don't disturb other negotiators with your questions. When you are finished, raise your hand. The negotiation coordinator will record the price you have agreed to pay for the Dexene. Thank you for your participation in this exercise.

You may now turn the page and begin the questionnaire.
1(a). In the space provided below, describe the way the seller negotiated.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

1(b). In the space provided below, explain why you think the seller negotiated the way he did.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

2. Complete the following items.

a. How confident are you that the cause of the seller's behavior which you listed above is accurate? Circle one number on the scale below.

Not at all confident 1 2 3 4 5 6 7 Very confident

b. My understanding of why the seller negotiated the way he did made me

* _____ _____ * to make concessions.

*less willing* 1 2 3 4 5 6 7 *more willing*
3. Indicate the extent of your agreement with the following statements.

a. The seller's negotiating behavior was caused by greed.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

b. The seller's competitive nature caused him/her to negotiate the way s/he did.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

c. The seller was forced to negotiate the way s/he did because Dexene is very
   expensive to make.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

d. The seller's negotiating behavior was caused by a desire to maximize his/her own
   profit in the negotiation.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

e. The seller's negotiation behavior was caused by a desire to cooperate with the
   buyer.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

f. The seller negotiated the way s/he did because of instructions from the negotiation
   coordinator.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

g. The seller's negotiating behavior was forced by high costs.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

h. The seller's negotiation behavior was caused by his/her estimate of the market
   value of Dexene.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

i. The cause of the seller's negotiating behavior was different from any of those
   causes listed above.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree
4 (a). In the space provided below, describe the way you negotiated.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

5. Explain why you negotiated the way you did.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
6. In the context of this negotiation, please rate the seller you bargained with by circling a number on each scale. Indicate your confidence in each rating by writing a number from 1 (not at all confident) to 10 (very confident) in the blanks provided to the right of each scale. Look at the sample scale item provided below:

<table>
<thead>
<tr>
<th>Smart</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7 Stupid</th>
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In this example, the seller is rated as being very smart (1 on the seven-point scale), but the rater is only moderately confident in the belief that the seller is very smart (6 on the confidence scale). Take your time completing this evaluation task. Remember, a 1 means that you are not at all confident and a 10 means that you are very confident in your evaluation of the seller.

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7 Uncooperative</th>
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<th>7 Deceptive</th>
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<th>6</th>
<th>7 Insincere</th>
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<th>7 Hard</th>
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<th>7 Unreasonable</th>
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<th>6</th>
<th>7 Selfish</th>
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<th>6</th>
<th>7 Untrustworthy</th>
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<th>6</th>
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<th>5</th>
<th>6</th>
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7. Please rate your negotiating behavior on the following scales:

cooperative 1 2 3 4 5 6 7 uncooperative
frank 1 2 3 4 5 6 7 deceptive
weak 1 2 3 4 5 6 7 strong
sincere 1 2 3 4 5 6 7 insincere
reliable 1 2 3 4 5 6 7 unreliable
soft 1 2 3 4 5 6 7 hard
honest 1 2 3 4 5 6 7 dishonest
reasonable 1 2 3 4 5 6 7 unreasonable
submissive 1 2 3 4 5 6 7 dominant
generous 1 2 3 4 5 6 7 selfish
easy 1 2 3 4 5 6 7 tough
trustworthy 1 2 3 4 5 6 7 untrustworthy
good 1 2 3 4 5 6 7 bad

8. Circle one number on each of the scales listed below to complete this statement:

"In this negotiation, cooperating with the seller was ____ ."

foolish 1 2 3 4 5 6 7 wise

good 1 2 3 4 5 6 7 bad

rewarding 1 2 3 4 5 6 7 punishing
9. Use the scale below to evaluate the final offer made by the seller in the negotiation. I believe that the price offered on the final bid by the seller was "____ ____ ____" the average settlement price negotiated today.

<table>
<thead>
<tr>
<th>1</th>
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<th>7</th>
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<tr>
<td><em>Much lower</em></td>
<td><em>About equal</em></td>
<td><em>Much higher</em></td>
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<td><em>to</em></td>
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</table>

10. Please complete the following statements by circling the appropriate number on the scale provided.

a. Early in the negotiation, the tone of the seller's messages was:
   cooperative 1 2 3 4 5 6 7 uncooperative

b. During the middle of the negotiation, the tone of the seller's messages was:
   cooperative 1 2 3 4 5 6 7 uncooperative

c. Late in the negotiation, the tone of the seller's messages was:
   cooperative 1 2 3 4 5 6 7 uncooperative

d. The tone of the messages sent by the seller was inconsistent from one bid to the next, sometimes cooperative and sometimes uncooperative.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

e. Early in the negotiation, the seller's concessions were:
   larger 1 2 3 4 5 6 7 smaller

f. In the middle of the negotiation, the seller's concessions were:
   larger 1 2 3 4 5 6 7 smaller

g. Late in the negotiation, the seller's concessions were:
   larger 1 2 3 4 5 6 7 smaller
f. The seller's concessions were inconsistent from one bid to the next, sometimes larger and sometimes smaller.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

11. Indicate the extent of your agreement with the following statements.

a. My goal in the negotiation was to maximize my own profit without regard for the seller's profits.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

b. I wanted to win in this negotiation by earning more profit than the seller.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

c. My goal in this negotiation was to reach an agreement that would satisfy both me and the seller.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

d. In this negotiation the seller's outcomes were as important to me as my own.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

e. In this negotiation I considered the seller to be my partner.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

f. In this negotiation I was out to beat the seller, and the seller was out to beat me.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

g. At the start of the negotiation I developed a negotiating strategy and stuck to it without paying much attention to what the other person was doing.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

h. I tried to win in the negotiation by figuring out the negotiating strategy of the seller.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

i. I tried to understand the negotiating strategy of the seller so that both of us could win by cooperating.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree
j. I understood what the seller wanted me to do, but I simply refused to concede.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

k. During the negotiation I changed my opinion of what was a fair price to pay for the
   Dexene.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

l. I paid attention to the seller's messages and concessions, but I couldn't make any
   sense of them.
   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

12. Please estimate the **lowest** price which would have been acceptable to the seller.
   I think the lowest price acceptable to the seller was __________.

13. How confident are you in the accuracy of the price estimate that you just made in
    question 12? Circle the appropriate point on the scale provided below.
    Not at all confident 1 2 3 4 5 6 7 Very confident

14. Please rate your own negotiating skill.
    Not at all skillful 1 2 3 4 5 6 7 Very skillful

15. How much effort did you put into this negotiation?
    Very little effort 1 2 3 4 5 6 7 Very much effort

16. Please rate the extent to which you found this negotiation to be a realistic
    bargaining experience.
    Not at all realistic 1 2 3 4 5 6 7 Very realistic

17. How consistent was the seller's behavior? In other words, were all aspects of the
    seller's bargaining behavior such as the pattern of concessions and the messages
    sent consistent with each other? Use the scale to rate the seller's consistency.
    Not at all consistent 1 2 3 4 5 6 7 Very consistent
18. How consistent was your behavior? In other words, were all aspects of your bargaining behavior such as the pattern of concessions and the messages sent consistent with each other? Use the scale to rate your consistency.

Not at all consistent  1  2  3  4  5  6  7 Very consistent

19. How responsive was the seller to your negotiating behavior and the messages you sent?

Very Responsive  1  2  3  4  5  6  7 Very Unresponsive

20. How responsive were you to the seller's negotiating behavior and the messages he/she sent?

Very Responsive  1  2  3  4  5  6  7 Very Unresponsive

21. Who performed better in this negotiation, you or the seller?

I performed better  1  2  3  4  5  6  7 The seller performed better

22. Indicate the extent of your agreement with the following statement. "The amount of time allotted for the negotiation was adequate."

Strongly disagree  1  2  3  4  5  6  7 Strongly agree

23. How much useful information did you get from the seller's pattern of concessions?

None  1  2  3  4  5  6  7 A lot

24. How much useful information did you get from the seller's messages?

None  1  2  3  4  5  6  7 A lot

25. Think about the seller's messages, then answer these questions.

a. Did the seller ever tell you that s/he could not make further concessions?

YES _____  NO _____

If your answer to part "a" is YES, complete items "b" and "c". If NO, go to 26.
b. Did the seller tell you why further concessions were not possible?
   YES _____  NO _____

c. Complete the following statement by circling one number on each of the scales provided below.
   "I found the explanations provided by the seller for his/her behavior to be _____."

   credible 1 2 3 4 5 6 7 not credible
   unbelievable 1 2 3 4 5 6 7 believable
   reasonable 1 2 3 4 5 6 7 unreasonable

26. We are very interested in making this negotiation experience as challenging as possible. If you have any comments about the negotiation or suggestions which you would like to make, please use the space provided below.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
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