Negotiation in All Its Phases: Theory and Data on Behavior Before, During, and After Bargaining.

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Negotiation in All Its Phases:
Theory and Data on Behavior Before, During, and After Bargaining.
by
Daisung Jang

A dissertation presented to the
Graduate School of Arts & Sciences
of Washington University in
partial fulfillment of the
requirements for the degree
of Doctor of Philosophy

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Negotiation consists of a sequence of activities that occur before, during, and after the bargaining process of exchanging offers and counteroffers (Geertz, 1978; Williams, 1985; Zartman & Berman, 1983). It is a central process in many social contexts, especially those that involve exchange of goods or resources or redefining patterns of interdependence, such as when making sales, or business acquisitions. Because of its importance in social life, expert practitioners and social scientists have been attempting to investigate and understand this process for a very long time. The resulting prescriptive theories of negotiation serve to guide the thoughts and actions of negotiators who follow the advice contained within.

The first aim of this dissertation is to examine those prescriptive theories, in particular the prescriptive theories generated using social science methods. Such theories are used in the training of students in business schools, and so are influential in shaping the thoughts and actions of business professionals. But such theories may be incomplete, as some critics have noted that
research focuses around the bargaining aspect of negotiations (Barley, 1991; Pruitt & Carnevale, 1993). Although those comments were based on narrative reviews of the literature, they pose important reflexive and practical questions. Was the organizational research on negotiation focused too narrowly on measuring only one aspect of negotiations?

To address this question, I conduct two studies in Chapter 1. In Study 1, I aim to systematically examine empirical research on negotiations, to formally test Barley and Pruitt and Carnevale’s hypothesis. In Study 2, I compare prescriptive theories generated from social scientific research to prescriptive theories generated by experts in different domains of practice, in order to test whether prescriptions generated using social science focus on bargaining aspects as compared to prescriptions generated by experts in a variety of social contexts, such as mergers and acquisitions, sales, and law enforcement. Preliminary evidence in these studies provide support for the hypotheses; results for Study 1 suggest social scientific research on negotiations overwhelmingly measures behavior in the bargaining aspect of negotiation, and results in Study 2 suggest a significant concentration of advice in the bargaining phase of negotiation in books authored by social scientists as compared to expert practitioners.

Although much has been learned by studying the bargaining process, many consequential negotiation behaviors that occur before and after the bargaining process have been left largely unexamined. For example, diplomats report spending 75% of their time in preparation for negotiations (Zartman, 2006). Poor performance following mergers and acquisitions have inspired books that solely target the post-merger integration process (e.g., *After the Merger: Managing the Shockwaves*; Pritchett, 2014). Few methods exist to measure behavior in pre- and post- bargaining phases. Progress in describing and theorizing about these aspects, will require
the development of theory that can be used to motivate future inquiry, and methodological tools researchers can deploy to study those aspects.

Studies in Chapter 2 outline efforts to develop theory and measurement tools that address the extended negotiation process. Study 3 utilizes a novel approach to generating theory about the individual differences antecedents to effective negotiation behaviors. To sample insights from field research, I sample prescriptions about effective negotiation behaviors from a wide range of expert sources. To utilize elements of formal theory, I recruited individual differences experts to provide ratings of the extent of correlation that should exist between the Big Five personality factors and effective behaviors. Results showed a clear role for conscientiousness across phases of negotiation.

Study 4 outlines the development of the Negotiation Behavior Inventory (NBI) – a theory based measure of negotiation that samples effective behaviors from prescriptive theories of expert practitioners in a variety of social contexts, as well as from psychological research. This tool may facilitate measurement of behaviors in negotiation phases underemphasized in scientific studies. Studies that detail its development, and validation are outlined, as is a study of individual differences on negotiation behaviors. The NBI has the potential to contribute to the development of scientific theory on pre- and post- negotiation processes. It also has potential to influence organizational outcomes, namely in enhancing the capability to select and train people for effective negotiation.

Study 5 demonstrates the role of individual differences in creating and claiming value in negotiation. In the context of a complex simulation, the study demonstrated that higher levels of conscientiousness were related to larger value claimed (i.e., individual gain), while high levels of
conscientiousness and reasoning ability combined were related to greater joint value generated by a dyad.

Overall, this work yields important insights about the study of negotiation, and addresses important gaps in the understanding of negotiation processes. Chapter 1 compares and contrasts organizational researchers’ insights about negotiation to other domains of negotiation study to reveal significant gaps in understanding preparation and implementation phases of negotiation. Chapter 2 generates theory and tools that can be used to study those aspects, and reveals conscientiousness and reasoning ability to predict effectiveness.
Chapter 1: Examining Social Science and Practitioner Theories of Negotiation

“I believe that more training is desperately needed in the art and science of negotiating, and in the art and science of intervening. Such training would be appropriate for diplomats, military officers, lawyers, politicians, businessmen, and ordinary citizens who may expect at some time or another to be embroiled in situations with serious conflicts of interest among contending parties.” (Raiffa, 1982, p. 8-9)

1.1 The Demand for a Social Science of Negotiation

Effectively navigating social contexts that require conflict resolution, or allocation of resources is a timeless pursuit, and so Raiffa’s recommendation for greater training in negotiation effectiveness remains relevant today. Being effective in negotiations means having an ability to avoid undesirable outcomes, such as avoiding harm and loss of life when law enforcement officers interact with the public (Police Executive Research Forum, 2015), an unsuccessful merger or acquisition of a firm is associated with significant loss of value, (Agrawal & Jaffe, 2000; Buono & Bowditch, 2003), and the escalation of international disputes can lead to open conflict (Zartman & Berman, 1983). Prescriptive theories of negotiation generated by social scientists represent a growing source of practical advice. The authors aim to deliver evidence-based recommendations from observing and describing behavior in the context of formal studies (Thompson, 2006). In this chapter, I analyze how negotiation scholars within the field of organizational behavior conduct empirical research and generate prescriptive theories of
negotiation, in order to understand the nature of the prescriptive theories negotiation scholars assert will be effective in resolving real disputes. I further compare prescriptive theories generated by negotiation scholars to those generated by expert practitioners in law enforcement, sales, mergers and acquisitions, marriage counseling, or social contexts in which negotiations skills are required. The aim will be to compare the conceptualization of effectiveness as espoused in the two sources of prescriptive theories.

1.1.1 Attempts to Generate Prescriptive Theory Using Psychological Research
A stated goal of organizational research on negotiation is to serve as the basis for a universal prescriptive theory applicable across social contexts. In a handbook of negotiation research Thompson states: “We think that it is the cry for best practices and ways to improve performance that helps negotiation theory to be stronger.” (2006, p. 3). Indeed, scientists have been active in generating prescriptive theories on the topic, as evidenced by the publication of books of negotiation marketed to the general public. They contain advice, and claim applicability of the advice in a number of domains. For example, Bazerman and Neale in their book Negotiating Rationally, state: “We’ve summarized why managers make these errors, and how you can avoid them to become a more rational negotiator.” (Bazerman & Neale, 1992, p. vii).

Despite the progress made, surveys of empirical scholarship on negotiation reveal researchers have made design choices that are unrepresentative of negotiations in the field. In reviewing decades of marketing negotiations research, Eliashberg, Lilien, and Kim (1995) demonstrate that social scientists assume characteristics about negotiations that diverge significantly from many negotiations in the field. For example, 28% of research articles they examine feature zero sum games, yet only 3% of case studies of real negotiations had such features. Similarly, Bendersky
and McGinn (2010) demonstrate a striking pattern of assumptions about the nature of the negotiation process. In reviewing 16 years of organizational research on negotiation in management journals, they reveal 51% of articles studied negotiations in the context of a single shot interaction. This assumption may be unrealistic, because many negotiations take place in the context of a continuing relationship (Barley, 1991; Greenhalgh & Chapman, 1995). As an example, colleagues at work might engage in negotiations to divide responsibility for shared duties that arise in the workplace.

For organizational research to provide useful prescriptions about negotiations, it must have as its foundation an accurate description of the negotiation process. In the next section, I draw from scholarship outside of organizational research that describe negotiation to be an ordered sequence of actions. Then I draw on commentaries of organizational scholarship to formulate hypotheses about the limitations in the way negotiation is studied.

1.1.2 Convergence on A Multi-Phase Theory of Negotiations
Negotiation is defined as a process by which people resolve disputes, set the terms of exchange, or jointly plan for the future (Bazerman & Neale, 1992; Lewicki & Litterer, 1985; Raiffa, 1982). Moreover, negotiated agreements require action from the self and counterpart to fulfill the agreement, and are often accompanied by a fixed, or implied timeframe for the act of implementation. This means that not every exchange is a negotiated one. For instance, parties may engage in exchange in which debts or obligations are only implied (Befu, 1977; Fiske, 1992). For example, friends may engage in an unplanned exchanges of favors, or even provide a one-way flow of resources to another without any direct expectation of repayment. Likewise, parenting may involve a one-way provision of support for the child, with little concrete
expectation of return. Social contexts or processes that feature such generalized exchange are unlikely to involve explicit negotiation of terms.

Theories of negotiation derived in social scientific fields outside of the organizational field describe a converging description of the negotiation process. Scholars in fields as diverse as anthropology, legal studies, and international relations have generated descriptive theories of negotiation derived from observation of that arise from attempts at dispute resolution or exchange within a fixed or implied timeline. Those descriptive theories converge on a three-phase structure to negotiation, which provides initial evidence for an ordered structure to the negotiation process. In the following paragraphs, I provide brief outlines of the processes they describe.

Philip H. Gulliver, an anthropologist who observed labor management and land disputes using inductive methods, describes multiple phases to the dispute resolution process (Gulliver, 1979). For a dispute to occur, at least one party must first recognize a dispute to be resolved, such as grievances over working conditions, or a perception of a debt that remains unpaid. Parties then decide on a location in which negotiations will take place. Once gathered, parties then discuss the nature of the dispute itself, in order to establish a common understanding of the dispute. Once parties agree there is a dispute to be resolved, they establish maximal limits to the dispute, in terms of what can be negotiated, then state their initial positions. Negotiators in these phases may hold hostile dispositions toward each other, or express hostility when describing the slights, harms, and insults that led to the dispute itself. That is, considerable effort is expended by the parties to legitimate the need to negotiate to their counterpart.
Once a substantive first offer is made, negotiators behave in a more cooperative manner as they attempt to find solutions to resolve the dispute. An offer is substantive if it is perceived as an attempt to bridge the differences in the initial positions. Parties further discuss the list of issues to be bargained over, and through further exploration, may discover a viable bargaining range. The parties may be able to reach an agreement by making incremental concessions to converge with the counterpart’s last offer. Substantive bargaining (i.e., making and exchanging offers) occurs only after an extensive process of coordination between parties.

If an agreement is reached, parties are said to maintain their cooperative stance, as they work to implement the terms of agreement. A ritualistic affirmation of the terms, such as a ceremony, or the signing of a contract follows the agreement. Such acts lend legitimacy to the agreement. Finally, the promised goods and services are exchanged.

Gulliver’s description outlines a sequence of events, marked by key transitions. First are the set of actions required to begin bargaining process. Contacting the counterparty, establishing the procedural elements of the negotiation, coming to a shared understanding of the nature of the dispute, and establishing maximal limits to the dispute, are actions that occur prior to the first offer, and facilitate the bargaining process to follow. These actions are described to be contentious, since parties are discussing harms inflicted by the counterpart.

Second are the set of bargaining activities that comprise substantive offer making, deciding on a list of issues to be negotiated, and then engaging in final bargaining to bring about agreement. These actions are said to be conducted in a more cooperative manner than before the first offer is made, because parties are involved in a joint decision making process in an attempt to resolve the dispute.
Following an agreement are actions that facilitate its implementation. Rituals conducted to affirm the deal could be viewed as an attempt to build commitment to implementing the deal. It stands to reconcile parties negotiating peace after violence, or for parties who have a history of conflict. Implementation of the deal requires cooperative actions from the counterpart, and marks the end of the negotiation process, although it may not necessarily mark the end of an interdependent relationship with the counterpart.

The process Gulliver observed consists of three distinct phases that comprise of actions prior to, during, and following the bargaining process. Theories of negotiation derived from the observation of business and international relations also converge on a three-phase structure.

I. William Zartman is an international relations scholar who has significant experience in researching international negotiations. He conducted interviews with 85 high level diplomats and one head of state about international negotiations (Zartman & Berman, 1983). The first phase concerns diagnosing the problem to be resolved. This stage is significant in influencing subsequent phases and negotiation outcomes, and so diplomats report spending 75% of the total time spent negotiating on this initial phase (Zartman, 2006). Diagnosis involves defining the nature of the conflict or opportunity, comparing the current situation to similar cases, gathering information about precedents, attempting to discover each party’s interests, and to understand the counterpart’s affective state regarding the situation. The second phase involves formulating a solution to the conflict or problem. A process of problem solving with a counterparty involves establishing a shared understanding of the problem, and defining its solution in general principles. The third stage involves translating the agreement into specifics, so that it can be implemented by the parties. Agreements are not seen to be the end of the process, because even
if agreements are reached, disagreements about the specific details of the agreement may derail the execution of the agreement.

Gerald Williams (1985) is a legal scholar who interviewed parties involved in 150 legal negotiations, including the lawyers, clients, along with opposing counsel as well as their clients. He describes a three phase structure to legal negotiations. In the first phase, lawyers are concerned with preparing for the initial acts of bargaining. Lawyers establish relationships with the opposing counsel, and state their opening positions to each other. This entails describing the dispute as claimed by each party, and a suggestion to remedy the dispute. The second phase involves bargaining. Lawyers attempt to move their counterpart from their opening positions, engage in a pattern of compromise or concession making, and attempt to persuade their counterpart to accept a solution that may satisfy both parties’ interests. In the third phase, parties must decide to either reach a settlement outside of court or continue their conflict in a courtroom. If an agreement is reached, lawyers work to specify the agreement in detail, in order to ensure the agreement is implementable.

All three models of negotiation are derived from observation of negotiations as manifested in different field settings. They provide evidence for conceptualizing negotiations as an ordered sequence of processes\(^1\). The start of bargaining (i.e., the first offer), and the reaching of an agreement represent salient events that change the nature of the interaction between the parties. Pre-bargaining processes are dominated by attempting to collect information and to establish conventions for further discussion. Parties state their perception of the dispute or opportunity, but

---

\(^1\) Despite proposing sequential models, both Zartman and Gulliver posit that it is possible for negotiators to backtrack to an earlier process/phase, or to skip ahead. It is certainly possible for negotiators to realize that they do not share a common definition of the dispute when they are bargaining, necessitating a redefinition of the agenda. They can also skip bargaining and move to implementation if initial offers are accepted.
little effort is taken to persuade or to make substantive demands. Once a first offer is made, the parties engage in a collective process to reach an agreement that could satisfy their collective interests. Reaching an agreement does not end the process. An agreement reveals the terms of an agreement but does not specify how they will be carried out by each party. Planning and discussing the details to ensure agreements are implemented mark the processes in the post-bargaining phase.

1.2 Empirical Studies of Negotiation in Organizational Behavior

Examining the descriptive theories derived from real negotiations reveals that it consists of a sequence of activities that unfold over time. But narrative reviews of the empirical research on negotiations within organizational behavior suggests a narrow focus on the bargaining phase. Barley (1991), in commenting on the state of conflict management research, posits that empirical studies often characterize conflict management as a process that occurs free of context. That is, researchers often place individuals in conflict situations, but without a meaningful prior relationship with the counterparty, as would be the case if participants negotiate with a counterpart with whom they were randomly assigned in an experimental study. In addition, it is rare for researchers to study the interdependent relationship between parties after agreements have been reached. Pruitt and Carnevale (1993) made similar observations, commenting that the psychological study of negotiations have little to reveal about processes that occur in the pre-negotiation phase: “There has been very little research on pre-negotiation activities” (p. 201). Pruitt and Carnevale (1993) also comment that post-bargaining activities are rarely examined: “… we are woefully ignorant about the post-negotiation period.” (p. 201). Suggesting
implementation processes are rarely modeled or studied. Mislin, Campagna, and Bottom (2011) reiterated this claim in a more recent narrative review.

If organizational research on negotiation does not measure behavior in the pre- or post-bargaining phases, that may highlight a problematic bias in the program of organizational research on negotiation. A lack of theory and measurement on those phases signals the inability to provide effective prescriptive theory about much of the negotiation process, because bargaining may only comprise a minority of the time spent. Zartman (2006) reports that diplomats can spend 75% of their time on pre-bargaining activities.

Empirically testing the conclusions of both Barley’s (1991) and Pruitt and Carnevale’s (1993) narrative review will contribute to more fully understanding the nature of negotiations research, and the potential it has to generate useful prescriptive theories. Stated formally:

**Hypothesis 1.** Empirical studies of negotiation will focus measurement on the bargaining phase of negotiations.

In particular, I examine social psychological studies of negotiation, because that has been the most prolific discipline in producing empirical research on the topic. It is responsible for 70% of empirical research in top tier management journals published between 1990 and 2005 (Bendersky & McGinn, 2010). If empirical studies of negotiation truly place emphasis on the bargaining phase, it implies that scientific efforts to measure, and describe processes that occur outside of the bargaining phase may be skewed, and thus identify avenues for new research initiatives and improved prescription.
1.3 Study 1 – Research Methods Used in Psychological Studies of Negotiation

Do negotiations researchers focus on the bargaining phase of negotiations? Pruitt and Carnevale’s (1993) claim that social psychological studies of negotiation reveal little about pre- and post-bargaining processes reflects a narrative review of the state of research almost 20 years ago. Systematically testing this question with an updated set of studies would serve to illuminate the pattern of research since that original claim. If methods and measures used to study negotiation do not sufficiently sample the complete negotiation process, the ability to theorize about, and derive prescriptions for negotiations may be constrained.

A study’s ability to reveal information about each of the negotiation phases should be indicated by the list of measures in the study. Measurement underlies the ability to make inferences about the constructs under study. If organizational researchers all make similar methodological choices that result in measurement of the bargaining phase of negotiations, but relatively few, or no measurement of the pre- or post-bargaining phase of negotiations, one can infer that the collection of research can make fewer, or no statements about the nature of the processes that are measured with less frequency. Thus, tallying the relative frequency of the measurements made about each phase will serve as a means to operationalize Pruitt and Carnevale’s claims about the extent to which social psychological studies can shed insight into negotiation phases.

The observationally derived descriptive theories of negotiation by Gulliver (1979), Williams (1985), and Zartman and Berman (1983) provides a general conceptual framework for classifying behaviors in each negotiation phase. Their descriptive theories point to three distinct phases, separated by transition points. The first substantive offer separates the pre-bargaining and bargaining phases. Before a first offer is made, parties can engage in preparatory behavior, such
as researching the facts around the dispute or opportunity, and set goals and priorities for the negotiation (Williams, 1985; Zartman & Berman, 1983). Parties may convince the counterpart that a negotiation is necessary, and make arrangements to prepare the venue in which future bargaining will take place (Gulliver, 1979).

A substantive first offer serves as a transition point to the bargaining phase. In this phase, parties decide on a final list of issues to negotiate, and make and exchange proposals (Gulliver, 1979; Williams, 1985; Zartman & Berman, 1983). An agreement concludes the bargaining process, and serves as the transition point which reorients parties to legitimating and implementing the deal (Gulliver, 1979; Zartman & Berman, 1983). Measures that match characteristic behavior in each negotiation phase, or described to occur before or after a transition point serve as cues that can form the basis of classifying each measure as belonging to a negotiation phase.

For the purposes of identifying the pattern of research focus on each negotiation phase, not all measures may be equally informative. Research designs that selectively model aspects of the negotiation process can nonetheless produce measurements that take place outside the bounds of the phase being measured. For example, the Subjective Value Inventory (SVI; Curhan, Elfenbein, & Xu, 2006), a self-report measure of one’s satisfaction with the bargaining process and outcomes, refers to events in the bargaining phase, yet measurement typically takes place in the post-bargaining phase, because retrospective accounts serve as the basis for measurement. To be sure, these retrospective accounts are important, as perceptions of the bargaining process affect future behavior (Curhan, Elfenbein, & Kilduff, 2009). But measures that sample expectations of future events, or rely on retrospective accounts, such as measures of attitude, emotion, and individual differences, may not be attempting to measure the phase in which the
measurement takes place, but refer instead to past or future phases. As such they may be less informative as indicators of measurement of a particular phase.

In contrast, measures of behavior, such as the value of negotiated agreements, communication patterns (Weingart, Prietula, Hyder, & Genovese, 1999), and implementation effort (Bottom, Holloway, Miller, Mislin, & Whitford, 2006) may be more indicative of measurement within a given negotiation phase, because they capture performative aspects of behavior in a given negotiation phase. For this reason, measured behaviors, or recordings of actions, are the focus of this study.

An additional goal of the study is to examine the methodological practices exhibited in empirical organizational scholarship. In addition to the focus on the bargaining phase, Pruitt (2012) notes that much of the social psychological studies of negotiation have adopted an experimental method, operationally defining the negotiation process in terms of a stylized task adapted from Pruitt and Lewis (1975). The original task consisted of an experimental simulation conducted in a laboratory setting. Participants were randomly assigned instructional material for a buyer or seller role, the core of which included information about a fictional company each of the roles represented, and a payoff matrix which specified issues (iron, coal, sulfur), with each issue further decomposed to 9 levels (levels A-I). Each gradient within an issue was assigned a level of profit. Pruitt and Lewis used this experimental paradigm to test the effects of various manipulations regarding interpersonal styles pertaining to communication styles, aspiration levels, and problem solving orientation.

Pruitt (2012), in a more recent narrative review, suggests that variants and developments of this experimental paradigm appear to have dominated empirical research on negotiations. If this
claim is true, it has implications for the aspects of the phenomena negotiation scholars are able to examine. The use of a single methodology limits the extent to which the scientists can understand a complex phenomenon (McGrath, 1981). In particular, experimental methods maximize the opportunity for precision in measurement, but sacrifice understanding of contextual factors and generality over actors (Deutsch & Krauss, 1965; McGrath, 1981). If similar methodological choices to adopt an experimental paradigm are made across most negotiation studies, then organizational researchers may be creating theories that lack relevance to instances of negotiation in social contexts, and also generate theory that may not be generalizable across actors.

To examine patterns of measurement and research paradigms employed by negotiation scholars, I aim to systematically examine negotiation studies in ‘top-tier’ management journals in Study 1.

1.3.1 Methods
Article Sampling Procedure
In order to sample social psychological papers on negotiation, I utilized an existing list of articles, compiled by Bendersky and McGinn (2010). Bendersky and McGinn’s selection of journals were based on Starbuck’s ranking of ‘top tier’ business journals. Starbuck’s designation of top tier journals depends on a journal’s impact factor, or the ratio of the number of times articles a journal has published compared to the total number of articles published in that journal. A high impact factor does not necessarily indicate higher levels of contribution, rigor, or standards of articles in a particular article, but does indicate the visibility of articles in that journal (Starbuck, 2011), or the extent to which academic scholars consume and cite research in those journals. Research questions and methods published in journals with high impact factors are consequential because they reflect the type of research questions and methodologies
researchers deem publishable, and thus guides the direction of future research (Judge, Cable, Colbert, & Rynes, 2007).

Within the scope of journals considered by Bendersky and McGinn, I examined those in the domain of organizational psychology (Organizational Behavior and Human Decision Processes, OBHDP; Journal of Applied Psychology, JAP; Journal of Experimental Social Psychology, JESP) or social psychology (Journal of Personality and Social Psychology, JPSP; Personality and Social Psychology Bulletin, PSPB). These journals not only represent the majority of the articles in the time period (157 articles out of 225, or 70% of total research output), but also represent the group of researchers Pruitt and Carnevale refer to in their claims.

Bendersky and McGinn applied a number of criteria to generate a list of articles within those journals. They first searched within those journals for articles that contained the words “negotiat”, “bargain”, or “conflict”, in the title, key words or abstract. To retain empirical articles on negotiation, the list was further refined by dropping articles that contained only reviews or theory, referred to the efficacy of software packages, and examination of negotiations outside of an organizational context. The authors then read the abstract of each article, using Walton and McKersie’s (1965) definition of negotiation (“interaction of two or more complex social units which are attempting to define or redefine the terms of their interdependence”, p. 3) to assess whether negotiation was the focus of each article. Using this criteria, the authors dropped articles in which no human parties were involved, and articles pertaining intrapsychic identity negotiation, team decision making in which there was no mixed motive component were also dropped.
The criteria either refer to methodologies used or the social context in which negotiation occurs. But they do not select on articles on the basis of their measurement of negotiation phases, qualifying the sample for hypothesis testing.

Studies were the unit of analysis. Two articles, both meta-analyses (De Dreu & Weingart, 2003; Stuhlmacher & Walters, 1999), were excluded from analyses because they did not contain primary data collection. A meta-analysis represents the aggregation of research designs and choices made primarily by researchers other than the original authors. Its inclusion would entail implicitly incorporating the studies sampled for the meta-analysis, or studies which I would not examine directly. It could also result in double sampling of behaviors if the meta-analysis included articles already sampled by Bendersky and McGinn. A total of 287 studies in 156 articles were retained for analysis.

Behaviors measured in each study were recorded. ‘Behaviors’ were defined as actions, or reports of actions during a negotiation. Such performative measures consisted of behaviors that were interpersonally directed (e.g., number of offers made, level of expressed affect toward counterpart, cooperative utterances), or the creation of plans. I included third party (e.g., research assistant coding of utterances, computer program reports of number of offers), second (i.e., counterpart report), and first party (i.e., self) reports of behaviors. Furthermore, I only counted behaviors that were of interest to the researcher. Variables collected for the sole purpose of conducting manipulation checks, or not reported in the results section were excluded from analyses. An exception to this rule was in coding negotiated outcomes. Because negotiated outcomes could be calculated in many ways – for example, a number of variables could be constructed using the outcomes of a study using a two party multi-issue payoff table, such as impasse rates, value of overall agreement, extent of logrolling, difference in outcome between
dyad members—negotiated outcomes were counted as a single instance of behavior. Variables such as affective states (e.g., felt anger/happiness), cognitions/attitudes (e.g., satisfaction with the agreement), individual differences (e.g., gender, personality), or behavioral intentions (e.g., intention to negotiate with the same counterpart in the future) were not counted as behaviors, and not retained in analyses.

I classified each behavior as belonging to the pre-bargaining, bargaining, and post-bargaining phases, as guided by their measurement with respect to the first offer and the agreement. That is, behaviors measured before a first offer were classified as belonging to the pre-bargaining phase, and behaviors measured after an agreement were classified as belonging to the post-bargaining phase. This decision rule is consistent with the three phase negotiation structure derived from descriptive theories of negotiation (Gulliver, 1979; Williams, 1985; Zartman & Berman, 1983). Classification conducted by a single rater not naïve to expectations about the distribution of measurement efforts of organizational researchers may produce data of unknown reliability. Thus, a remaining task for future development of this study will be to recruit a coder blind to the hypotheses to classify a random sample of behaviors to test for the reliability of the data generated.

In addition, I coded for the methodology used in each paper. Experimental designs that feature random assignment of participants, or studies in which the researcher manipulates the participant’s experience in either a laboratory, or online settings without random assignment procedures (e.g., a scenario study with no manipulated factors) were coded as being experimental. The specific type of experimental design was also recorded. Pruitt (2012) reveals a number of experimental approaches to studying negotiation, including prisoner’s dilemma games, distributive tasks, integrative bargaining tasks modeled on the Pruitt and Lewis (1975)
paradigm, and scenario studies, used to detect biases in judgment and decision making. In addition, designs in which participants were surveyed about their personal experiences, such as being asked about their cognitions, affect, and outcomes of employment negotiations were coded as survey designs. These categories served as the basis for classification of research designs.

1.3.2 Results
Research Designs Used to Study Negotiations

The distribution of study designs are shown in Figure 1. Out of the 287 studies, 27% featured a single issue negotiation task, with another 4% consisting of ultimatum games (a special case of a single issue negotiation task)\(^2\). Twenty-nine percent of studies featured a variant of a multi-issue payoff chart game developed by Pruitt and Lewis (1975). Prisoner’s dilemma games, coalition games, and public goods games comprise another 13% of designs. Scenario studies comprised 9% of study designs, with an additional 14% that used other experimental paradigms (e.g., responding to videos of negotiations, Thompson, 1995; third party intervention of disputes, Conlon & Ross, 1993). In all, 95% of study designs were experimental in nature, while the remaining 5% relied on survey designs.

Behaviors Measured
Six hundred and sixteen behaviors were measured across 287 studies. Classification of behaviors with reference to their measurement to the first offer and agreement revealed that 93% of behaviors (575 of 616) could be categorized as belonging to the bargaining phase (Figure 2).

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\(^2\) An ultimatum game simulates a two-person bargaining task (Güth, Schmittberger, & Schwarze, 1982). In the game, Person A presents two proposals to Person B regarding the division of a sum of money. One proposal is to accept a division of money proposed by Person A. The other is to reject the proposed division, in which case both Person A and Person B receive nothing.
Behaviors studied in the bargaining phase consisted of actions that relate directly to issues or point values, such as the value of offers, counteroffer, agreement value, logroll value, number of offers, and concessions. Examples included tactic use (e.g., use of threats in negotiations; O’Connor & Carnevale, 1997), and utterances during bargaining (e.g., appeasing verbal utterances; Ohbuchi, Chiba, & Fukushima, 1996), and time spent negotiating (e.g., Bowles, Babcock, & McGinn, 2005).

By way of contrast, 5% of behaviors (30 of 616) studied involved pre-bargaining behaviors. Examples include creation of negotiation goals (Stevens, Bavetta, & Gist, 1993) preparing
questions to be asked in the upcoming negotiation (De Dreu & Van Kleef, 2004), stated strategies for the upcoming social dilemma task (Chen & Komorita, 1994). Finally, 2% of behaviors were classified to belong in the post-bargaining phase (11 of 616). Examples of behavior included those related to implementation processes, such as honoring vs. defecting from an agreement (Morgan & Tindale, 2002), job performance following employment negotiations (Ashford & Black, 1996), actual points pledged in a social dilemma game following stated pledges (Wit & Kerr, 2002).

Hypothesis 1 was supported by the data. Social psychological studies have focused to a great extent on the bargaining phase of negotiations. Subjecting the counts of behaviors in each phase
to a Chi-squared test revealed a significant result $\chi^2(2): 999.16, p < 2.2 \times 10^{-16}$, with inspection of counts revealing a strong preference for measuring behaviors in the bargaining phase of negotiations.

**Discussion**

A survey of 16 years of empirical papers in *JPSP*, *PSPB*, *JESP*, *OBHDP*, and *JAP* reveal a strong monoculture of experimental research examining the bargaining phase of negotiations. 95% of study designs were experimental in nature. When examining the variables measured and used for analysis, the results revealed a focus on the bargaining phase, with 93% of behaviors analyzed taking place during that phase. In most studies examined, there were strong indications that researchers exogenously determined the dispute/opportunity to be negotiated, the content of issues, maximal limits to issues, payoffs structures, conventions of negotiating, and partner selection before participants begin to bargain via the use of simulation methods.

To my knowledge, this study is among the few to attempt a large scale survey of the research methods in the organizational scholarship of negotiation. A similar attempt to examine the way in which negotiation was operationally defined in empirical studies was Elishaberg and colleagues’ (1995) comparison of the characteristics of real marketing negotiations compared to the characteristics of negotiations research in marketing research. Those comparisons revealed a discrepancy between the two, suggesting limitations in the generality of the applications of the academic research on real marketing negotiations. Bendersky and McGinn’s (2010) investigation of organizational scholarship on negotiation resulted in similar conclusions, with the characteristics of academic research on organizationally relevant negotiation articles to show systematic similarity in assumptions, such as tendency to conceptualize negotiations as a single
shot interaction, which limits their applicability to real organizational settings. These prior studies have addressed the external validity of the research. The contribution of Study 1 was to examine how fully and representatively organizational scholarship has modeled negotiation processes with respect to descriptive models of negotiation derived from qualitative and observational methods. This study shows that at the level of measurement, organizational scholars systematically excluded behaviors relevant to pre- and post-bargaining phases of negotiation. Without measurement of behaviors in those phases, the creation of empirically supported theories of preparation and implementation – some of the most consequential behaviors in negotiation – will not be possible. Negotiation scholars will need to redress this imbalance in research practice in order to generate a more complete understanding of the negotiation process.

A limitation of this study is that the classification of behavior to negotiation phase is currently completed by a single coder. To establish reliability in ratings, a second coder who is blind to the hypothesis will be needed to code a random sample a significant portion (20%) of the behaviors. Consistency in the ratings across raters will lend confidence to the reliability of the ratings, and estimates of the consistency of the classification method.

Despite these limitations, the implications of similar methodological choices across studies is clear. This program of research can yield limited insight into pre- and post-bargaining behaviors. This observation is not made to suggest that such research, or the conclusions from such research are not internally valid or are somehow less useful. Indeed, this research has produced many valuable insights into how the pattern of offers and proposals shape the value of agreements (Galinsky & Mussweiler, 2001; Larrick & Wu, 2007). Such research has produced relevant
implications for how people should behave with respect to thinking about and acting on proposals.

In their narrative review, Pruitt and Carnevale’s (1993) asserted that the psychological study of negotiation available at the time revealed little about preparation and implementation processes, thought to be critical by observers of negotiations that occur in legal (Williams, 1985), domestic (Gulliver, 1979), and international relations contexts (Zartman, 2006). This study demonstrates that their assertion would apply to studies more than a decade after their comment. A systematic approach to the study of negotiation variables suggests a persistently strong concentration of research focus on the bargaining phase. These observations also support Barley’s (1991) more general observation that conflict resolution is studied within a narrow bracket of interaction defined by tasks that exclude the possibility of modeling contextual factors leading up to a dispute or opportunity, or model the set of interactions following the resolution of the conflict. Although these observations have been made in narrative reviews, this study quantifies the extent of the narrow bracketing that has occurred in research design. A lack of modeling and measurement of the pre- and post-bargaining phase should limit the extent to which organizational theories can provide generalizable implications for effectiveness in those phases. This is a testable hypothesis investigated in Study 2.

1.4 Study 2 – Comparison of Prescriptive Theories of Negotiation Generated by Organizational Scholars and Expert Practitioners
Being a central activity in resolving disputes and opportunities in numerous interpersonal, intergroup, and international contexts, the need to negotiate effectively is ubiquitous and enduring. An aim of organizational scholars to meet this need (Thompson, 2006), by producing
theories of negotiation that could be used to inform negotiators across social contexts. Intentions to produce such theories are evident in books about negotiations produced by organizational scholars for negotiators across a variety of social contexts. These intentions are evident in the covers and introductory sections of books written by organizational scholars. For example, in their book *Negotiating Rationally*, Bazerman and Neale (1992) suggest that “Whether you run a corporation, buy a used car, or sometimes disagree with a colleague or your spouse, you need to know how to negotiate.” (p. vii). Thompson (2013), in *Truth about Negotiations*, displays on the cover “Crack the code, and use it with anyone at any time”. Similarly, in *Negotiation*, Lewicki and Litterer (1985) suggest that the book’s approach was to “bargaining as a basic, generic human activity – a process that is often used in labor-management relations, in business deals like mergers and acquisitions and sales, in international affairs, but also in many different everyday activities. ... The structure and processes of negotiation are fundamentally the same at the personal level as they are at the diplomatic and corporate level” (p. 1). Organizational scholars have aspired to generate universal prescriptive theories of negotiation that can apply across social contexts.

For such assertions about the generality of their theories to be valid, organizational scholars’ assumptions about the nature of the negotiation process must resemble those found in those social contexts. Given the results of Study 1, which shows the overwhelming majority of the measurements are made on the bargaining phase, such assumptions may not be accurate. More specifically, empirical studies focused measurement efforts on the bargaining phase, indicating the relative importance of that phase in the minds of organizational researchers. Yet descriptive theories of negotiation reveal expert negotiators to focus much of their efforts in the pre-bargaining phase (Zartman, 2006). A more formal test of the proposition that the prescriptive
theories of negotiation generated by organizational scholars would not reflect the best practices of expert negotiators across various social contexts is the aim of this study.

It is worth noting that because the need to negotiate has been ubiquitous and enduring, researchers in academic fields are not the only source of prescriptive theories about negotiations. Expert negotiators for centuries have been producing prescriptive theories of negotiations as they apply to particular social contexts. An example is de Callières’ (1716) *On the Manner of Negotiating with Princes*, which argues for the need to establish a program of training to produce a corps of diplomats. Derived from direct experience, it lays out prescriptions for negotiating in the European international relations context of that era. Similarly, prescriptive theories have been produced by experts in social contexts such as law, marriage counseling, law enforcement, mergers and acquisitions, and sales. These theories indicate how skilled negotiators should resolve conflicts in particular applied settings. Prescriptive theories generated by those experts in a specific social context are important. If they are influential, they not only guide the behavior of people in those social contexts, they also serve as indicators of effective behaviors in the specific social contexts that feature negotiations. In the section to follow, I argue for the value of expert generated theories of negotiation, despite the potentially informal and non-systematic methods used to arrive at the theory, by drawing analogies from general ability research.

1.4.1 The Value of Tacit Knowledge in Generating Useful Theory

Sternberg and colleagues (Sternberg, 1999; Sternberg, Conway, Ketron, & Bernstein, 1981) argue that the scientific method is not the only route to creating useful knowledge about social phenomena. Instead, they argue for the existence and importance of tacit knowledge. Sternberg and colleagues define tacit knowledge as knowledge structures that feature a series of if-then statements that guide action in a given situation. Thus, tacit knowledge is procedural in nature,
and instrumental, in that it facilitates achieving desired outcomes. Finally, tacit knowledge is thought to be acquired without assistance from others.

This form of knowledge generation stands in contrast to scientific notions of intelligence. The original intent of intelligence testing was to discriminate between children who are likely to succeed in academic settings (Binet & Simon, 1916), in order to appraise their chances of benefitting from the newly created public school system in France. Although, intelligence tests have become refined over time, the basic tenet of such testing has not changed: the tests measure abilities in analyzing abstract problems with defined solutions, something valued in academic settings (Sternberg, Wagner, Williams, & Horvath, 1995). Such measures only modestly correlate with work performance, predicting around 4% of variance (Wagner & Sternberg, 1985).

People can and do develop expertise through the formation of knowledge structures developed through direct experience. Wagner and Sternberg (1985) showed empirical support for this proposition by constructing a method to measure tacit knowledge. They first created work related scenarios. Each scenario presented a goal the respondent must accomplish, in the presence of task or social conflicts. In their method, the scenario is followed by a number of possible behaviors (6 to 20) one could conceivably enact in that situation to achieve the goal. Respondents used a Likert-type scale to indicate which of the listed behaviors would be most important in reaching the goal. Wagner and Sternberg found significant differences in responses between more or less experienced academics, and business people. Tacit knowledge as revealed by these scenario choices proved to be predictive of consequential outcomes (e.g., for academics - number of publications; for business people - level in company, salary, work performance).
Moreover, tacit knowledge predicted work performance after controlling for scores on various measures of intelligence (Sternberg et al., 1995). Theories of negotiation, even if they are constructed through informal means can be informative because they have the potential to describe effective behaviors not modeled by social psychologists. They may be informative in revealing effective behaviors that occur prior to, and following bargaining, which prescriptive theories about negotiation may systematically undersample. Next, I argue that what Sternberg and colleagues refer to as ‘tacit knowledge’ can be codified, disseminated, and learned, without people directly having experience with a social context.

1.4.2 Codification of Tacit Knowledge
Sternberg and colleagues’ (1995) argue that tacit knowledge is acquired without the help of others (“low environmental support for acquisition”, p. 917), but this may not be an accurate view. People share task relevant knowledge among peers during informal interactions (Conlon, 2004). Moreover, there is anecdotal evidence that effective behaviors in social contexts are increasingly codified when jobs become professionalized. Noesner (2010) notes that the increasing professionalization of crisis negotiation has produced training programs, manuals, and organizational guidelines for people engaged in negotiations in a law enforcement setting. As people in a profession share or face similar situations, the need to develop and share knowledge that increases effectiveness appears to drive people to codify and distribute tacit knowledge. So although Sternberg conceptualized academic work to require individuals to develop their own

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3 The parallels between the psychological study of intelligence and negotiations share striking similarities. Both efforts to study the phenomenon appear to have adhered to a limited definition of the construct. As Sternberg (1999) notes, the development of intelligence testing has focused on precision of measurement, at the expense of modeling and measuring the phenomenon as manifested in social contexts. A similar argument could be made for the study of negotiation, with the dominance of experimental paradigms facilitate precision in measurement, at the cost of understanding the phenomenon as manifested in social contexts.
stores of tacit knowledge, guidebooks exist to guide academics through various challenges unique to academic jobs (e.g., *The Compleat Academic*; Darley, Zanna, & Roediger, 2004). Noteworthy is that Sternberg himself has a chapter in *The Compleat Academic* aimed at helping academics obtain research grants. A similar process of codification of tacit knowledge is described in the distinct fields of marriage counseling and (Gottman, 1998), and sales (Rackham, 2004).

### 1.4.3 Social Contexts that Require Negotiation Ability

Given initial evidence for the usefulness and the existence of codified theories of negotiation effectiveness in social contexts, what are the appropriate social contexts from which theories should be sampled? One pointer is the almost boilerplate list of activities social psychologists claim that their theories apply to: marriage counseling, legal settings, sales, mergers and acquisitions, and law enforcement (Bazerman & Neale, 1992; Lewicki, Barry, & Saunders, 2010; Lewicki & Litterer, 1985; Pruitt & Carnevale, 1993; Thompson, 1990, 2012). In the following sections, I discuss how each specific social context requires negotiation abilities in order people to be effective in that context.

Marriages represent a public, contracted agreement regarding the level of intimacy and interdependency between two people, who publicly claim they will maintain a lifelong bond in in front of family, friends, and religious figures. In this relationship, couples must navigate the sharing of “emotional, intellectual, and economic assets” (Scott & Scott, 1998, p. 1254). Thus, relationship maintenance requires defining patterns of interdependence, and is analogous to what the industrial relations researchers Walton and McKersie (1966) described as 'attitudinal restructuring' in the process of collective bargaining between unions and management. They
defined it as a "system of activities instrumental to the attainment of desired relationship patterns between the parties" (p. 5).

Legal work requires negotiations: “It is simply something lawyers do as part of their day’s work” (Williams, 1985, p. 1). Despite the stereotype that lawyers engage in a power contest in the courtroom, the vast majority of legal are settled outside the courtroom via negotiation (Alexander, 1991). Indeed, it would be a misnomer to classify negotiation as an “alternative” dispute resolution mechanism, given that it is increasing the norm for handling disputes (Honeyman & Schneider, 2006). In practice, lawyers must generally resolve differences on behalf of their client with one or more counterparties. Negotiation remains an important process for realizing opportunities for initiating, continuing, and terminating transactions in business, or resolving disputes (Williams, 1985).

Mergers and acquisitions involve combining the operations and assets of two parties which have idiosyncratic cultural and operational differences. Thus, merging two or more business organizations requires substantial negotiation over the planning and execution of merging human resources, hierarchies, culture, and practices (Buono & Bowditch, 2003; Ernst & Young, 1994). That entails a complex, possibly recursive sequence of planning, bargaining, and implementation efforts to redefine the terms of interdependence between parties at an organizational level.

A critical function of for-profit organizations is to sell. Whether the potential customer is an end consumer or other organizations, negotiated exchanges are important for generating revenue. As a result, many organizations have specialized experts in their workforce to engage in sales. Selling is more than haggling over quantity, quality, or price. Instead, effective sales involve building rapport with the counterpart, investigating the counterpart’s preferences, demonstrating
that the object for sale meets those needs, obtaining commitment for the proposed exchange, as well as monitoring satisfaction after the completed sale (Rackham, 1988). This description implies an extended sequence of activities that include pre- and post-negotiation activities as described by Gulliver (1979).

Law enforcement involves public administration attempts to enforce rules and regulations set by elected governments, whether municipal, state, or federal. Although officers can use force to ensure compliance with laws, de-escalation techniques have become emphasized in the light of recent policing crises in which have resulted in fatalities (Police Executive Research Forum, 2015). De-escalation techniques may be more effective in ensuring public safety and preventing injury, partly because they lead to increased rapport with the public (Police Executive Research Forum, 2015). One such method of policing used by the Manchester Police in the United Kingdom involves training them to gather information, ask questions, and to engage members of the public to solve problems: “It’s not just about ‘stop barking commands.’ It’s about communicating and trying to establish a connection, trying to engage, to break through whatever it is, to start some kind of negotiations.” (Police Executive Research Forum, 2015, p. 7).

The social contexts described above reflect not only those organizational researchers claim their theories extend to. If the theories generated by organizational researchers are indeed applicable and appropriate for these contexts, the pattern of prescriptions in both organizational researcher and experts of social contexts should result in a similar proportion of prescriptions made about each phase. This argument assumes that the relative frequency of prescriptions about each phase indicates the importance of behaviors in each phase (i.e., more prescriptions in a given phase reflects greater importance of that phase). Similar to the logic that citation counts reflect the extent to which researchers consume and disseminate particular journals or journal articles.
(Starbuck, 2011), I argue that the more that a phase is mentioned, differentiated, and prescribed behaviorally, the more likely it is that the phase is important from the viewpoint of an organizational researcher or expert. But as I describe in the following section, there are reasons to believe that patterns of prescriptions in the two sets of theories should differ.

1.4.4 Comparing Prescriptive Theories by Organizational Researchers and Experts of Social Contexts
The results of Study 1 suggest that if organizational researchers inform their theories of negotiation from the empirical research they generate, one can expect that much of the prescription to be made about behaviors in the bargaining phase of negotiations. Not only do organizational researchers tend to assume parties in a negotiation tend to negotiate in a single-shot interaction (Barley, 1991; Bendersky & McGinn, 2010; Greenhalgh & Chapman, 1995), design choices that serve to dull the mundane realism of an experimental study may influence the pattern of prescriptions that can be drawn from studies. For example, a participant assuming an experimenter imposed role via instructions in a briefing information results in a logically plausible way to model relational factors between parties. But participants in a laboratory setting typically do not have existing relationships with their counterparts (unless researchers explicitly recruit people with existing relationships; c.f. Fry, Firestone, & Williams, 1983). Such participants also do not have existing disputes, nor do they have expectations of a profitable continuing relationship with their negotiation counterpart outside the bounds of the sequence of interactions designed by an experimenter. Under such conditions, one can assume participants will conceive of their counterpart as a neutral, potentially anonymous party. But negotiations that occur in standing social contexts can arise out of a need to settle a dispute or by the prospect of a mutually beneficial profitable exchange.
Negotiations that occur in law enforcement or marriage counseling settings are typically the result of conflict between parties. Parties experience perceived and real harms, but engage in negotiation to address outstanding issues. Significant work to build trust and repair relationships may be required before substantial bargaining can occur in those contexts (Noesner, 2010; Gottman & Silver, 1994), which suggest additional prescriptions made about the pre-bargaining phase of negotiation.

Although driven by different concerns, experts of sales and mergers and acquisitions may also emphasize the importance of pre-bargaining research. In the sales context, researching the needs of a sales prospect is important to the sales process; knowing about and satisfying those needs lead to completed sales (Rackham, 1988). In the context of mergers and acquisitions, considerable work must be performed after merger/acquisition bargaining is complete, to bring about the merging of institutional cultures, work practices, organizational hierarchies, and to cope with employee uncertainties about their future (Buono & Bowditch, 2003).

These patterns contrast with the measurement efforts of organizational scholars, who have focused their efforts on the bargaining phase of negotiations. The premise of hypothesis 2 is that prescriptive theories generated by organizational scholars will commit a greater proportion of advice to the bargaining phase.

*Hypothesis 2: Prescriptive theories of negotiation generated from psychological theories will result in a greater proportion of advice given in the bargaining phase of negotiations.*

1.4.5 Methods

Overview of Procedure
The unit of analysis is advice in texts authored by organizational scholars or experts from contexts of marriage counseling, crisis negotiations, mergers and acquisitions, sales, and legal negotiations. Advice provides an indicator of underlying prescriptive theories about negotiation, or negotiation in a particular social context that requires negotiation ability to be effective. Advice contains recommendations about how to behave, think, or evaluate stimuli in a way thought to maximize effectiveness. I sampled advice by generating a list of influential books authored by organizational scholars as well as authors from social context. I transcribed and classified the advice given to either the pre-bargaining, bargaining, or the post-bargaining phase, as described in Study 1. I then compared the distribution of advice applicable to each phase across social contexts.

**Prescriptive Theory Sampling Procedure**

Books were selected as the medium from which prescriptive theories were sampled. Books were chosen over other media, such as instructional videos, conference presentations, op-ed columns, brochures, and journal articles, because books represent a well-established, general purpose text medium used by both organizational scholars as well as expert practitioners in a very wide range of social contexts. Although I know of no data, theory, or sources that support this assertion, book publication has been used by experts (e.g., de Callières, 1716) and organizational scholars to disseminate prescriptive theory to the general public. Moreover, books can be made to sufficient length to fully disseminate the implications of complex theories. Other types of media, such as a brochure or conference presentation constitute short form, abbreviated formats that may only have sufficient bandwidth to house narrowly selected aspects of theories. Thus, books were chosen as the media from which to sample prescriptive theories.
In order to enumerate a list of books on each context, I surveyed lists of books enumerated by professional associations, or by surveying book reviews. A ‘book’ could be an instructional text (i.e., textbook or manual), as well as other monograph-type text. For books on the social psychological study of negotiation, the International Association of Conflict Management lists books written by its members (http://www.iacm-conflict.org/Publications/books). From that list, I identified a list of 33 books on negotiation by reading their descriptions on Amazon.com. To ensure sampling on books authored by social psychologists, I verified each author’s membership in one of the three major social psychological associations: Society for Experimental Social Psychology, Social Psychology Network, and Society for Personality and Social Psychology. Books were included in the sample if they are authored or co-authored by a social psychologist.

In addition, books authored by researchers who have authored or co-authored an Annual Review of Psychology on the topic of negotiations were also included in the sample.

To sample prescriptive theories of negotiations in legal contexts, I sampled books classified as being relevant to negotiations from the American Bar Association’s bookstore, yielding 34 books.

For the remaining contexts, professional associations provided neither a list of books by members nor had a publishing division of the association that puts out books. For these contexts, I searched for book reviews in journals or databases that focused on the social context. Book reviews published by professional associations or in outlets consumed by practitioners are likely to feature books of interest to its members and guide its audience about the quality of the book.

In the absence of a list or repository of books on any one subject matter, or a way to screen the quality of the book, book reviews served to guide selection based on relevance and quality. Thus, review content guided inclusion in the sample. Any book that received neutral or approving
review was retained in the sample. Books that received negative review as well as those that did not appear to contain advice were excluded from the sample. The latter set included historical accounts of particular instances of negotiation phenomena (e.g., case studies), biographies, and books that largely presented data. To insure conservatism about selection in sampling, whenever insufficient information was provided in the book review, the book was retained in the sample. All of the sampling procedures detailed below were conducted in February and March of 2015. The goal of this sampling method was to select on books that received tacit or explicit approval from subject area experts.

For books on marriage counseling, I searched for all reviews contained in the journals of the National Council on Family Relations (Journal of Marriage and Family, Journal of Family Theory & Review, and Family Relations: Interdisciplinary Journal of Applied Family Studies). A pool of 1347 book reviews of books on marriage were found, of which 55 received approval in reviews and appeared to contain advice.

For books on law enforcement, I searched for book reviews in ProQuest’s Criminal Justice Periodicals database. The database indexes journals on corrections, criminal justice, criminal law, and related topics. Using the keywords “crisis negotiations”, “police negotiations”, and “hostage negotiations”, a pool of 230 book reviews on law enforcement negotiations were found, of which 12 received approval and appeared to contain advice.

For books on sales and mergers and acquisitions, I searched for book reviews on EBSCOhost’s Business Source Complete. Business Source Complete indexes both academic journals on business topics, including marketing, sales, and accounting. In addition, trade magazines and periodicals aimed at business professionals, such as the Economist, and MIT Sloan Management
Review, and newspapers such as the Wall Street Journal are also indexed. I used the keywords “sales” and “mergers and acquisitions” to search among book reviews. A pool of 1347 book reviews on sales revealed 221 books that received approval from reviewers and appeared to contain advice, and a pool of 233 book reviews on mergers and acquisitions revealed 67 books that received approval from reviewers and appeared to contain advice.

**Sample Reduction**

To sample from the list generated by the procedure above, I obtained the sales rank achieved by each book on Amazon.com, a major online retailer, during February and March of 2015. Top selling status provides evidence of the extent to which the bodies of advice are influential among its practitioners. I sampled advice from the top ten books in each category.

To determine sales rank, I visited every listing of the candidate books on Amazon.com. Amazon may sell the same book under multiple listings since private sellers can independently generate a listing of a used book, and ranks are calculated for each listing or version of a book (i.e., electronic audiobook, audio CD, electronic, hardcover, paperback). To ensure comparison across ranks, I only examined ranks for hardcover and paperback versions of the books. Electronic books have a separate ranking system, which is not directly comparable to book rankings for the other formats. Those books with multiple editions, either through revision, or with different introduction dates across countries were counted as separate listings, each with a separate International Standard Book Number. To avoid bias in sampling, I first selected the most recent edition of the book, and recorded the lower of the sales ranks (i.e., higher selling) between the hard and softcover versions. Doing so ensures that older books are not unfairly disadvantaged in achieving a higher sales rank than current textbooks, and higher selling reprint editions are not
excluded from consideration. Because Amazon does not disclose the actual sale number for each version of a book, aggregation/averaging of ranks across book versions was not possible.

Amazon sale ranks have been used in past research as indicator of past sales. Amazon sales ranks have been shown to correlate with real sales (Deschâtres & Sornette, 2005); they appear to be relatively stable over time (Chevalier & Mayzlin, 2006). One caveat is that for the very top selling books (i.e., books with sales ranks of 10,000 or lower), ranks may change on an hourly basis, whereas books with ranks greater than 10,000 are likely to reflect accumulated long term sales (Deschâtres & Sornette, 2005). Such instability in ranks are unlikely to affect large portion of books in the current sample, with substantial stability observed in one-year test retest of Amazon sales ranks ($r = .85, p < .001$). Moreover, only four sales ranks in 2015 were below 10,000, and only 3 sales ranks were below 10,000 in 2016. Measures of central tendency showed that books in this sample did not achieve really high sales (mean rank in 2015 = 5,102,214; median rank in 2016 = 4,722,563). Overall, the ranks showed high stability, indicating little change in relative influence over time.

It should be noted that Amazon sales rankings are one of a few indicators of book sales. Yearly industry reports, such as the Library and Book Trade Almanac (e.g., Turock, 2013), provide bestselling books of a particular year, but books must sell at least 100,000 copies to make the list. Nielsen Bookscan provides point-of-sales data for books, but is costly to obtain (subscription fee reported to be one hundred thousand dollars; Kellogg, 2010). The New York Times bestsellers list is unlikely to contain books on very specific contexts, such as law enforcement; their searchable index extends only from 2008 to present day. Amazon.com represents one of the few vendors that provide indicators of book sales for the variety of books sampled in this study.
Advice Coding Procedure
Each book in the sample was coded using the form in Appendix A. Features of the book, such as author affiliation, source of expertise (scientist or expert practitioner) were recorded. I also noted the means by which the advice was generated (social science or expert opinion), relying on the descriptions in the preface, introduction, author’s notes, and initial chapters. If available, I attempted to locate the author’s descriptive theory of the social context or negotiation process.

Since there is no compulsory format for writing books of prescriptive advice, there was no standardized section in which all of the advice could always be found. This necessitated a stepwise procedure to sample advice, by attempting to select book sections most likely to contain advice. I first searched for advice in sections that contained a summary of the book’s contents, such as sections titled: “Executive summary: the top ten lessons” in Braun (2013), or “Final thoughts” in Pinkley and Northcraft (2003). If no such section(s) existed, I collated advice contained in summaries at the end of each chapter. If neither features were present in a particular book, I read the book in its entirety for advice, aiming to select actions mentioned in section headings, breakout boxes, or bulleted points in the text.

I classified each piece of advice to a particular negotiation phase with reference to its conduct to the first offer and agreement/impasse, as in Study 1. If no such guides were present, I used Gulliver’s (1979) inductive theory to guide its classification to a negotiation phase, because it was the most detailed in describing behavior belonging to a particular negotiation phase. As with Study 1, a single coder produces classifications of unknown reliability and bias. Future development of this study will necessitate hiring an independent coder, blind to the hypothesis but familiar with Gulliver’s theory, to classify a random subset of the advice to establish reliability of the classification of advice.
If a book ultimately contained no advice, I selected the next bestselling book until ten books were sampled within a social context, or until the list of books was exhausted.

### 1.4.6 Results

#### Descriptive Statistics

The final sample consisted of eight books authored by psychologists, ten marriage counseling books, nine law enforcement books\(^4\), ten sales books, ten mergers and acquisition books and ten legal negotiations books. The full set is listed in Appendix B.

Table 1 shows the total advice counts, as well as the means, and standard deviation of the percentage of advice devoted to each negotiation phase in the social contexts sampled. Figure 3 displays the distributions of the advice using boxplots.

#### Hypothesis Testing

Hypothesis 2 posited that organizational researchers would make greater numbers of prescriptions about the bargaining stage compared to experts in social contexts. This hypothesis was supported. I regressed the percentage of the advice in the bargaining phase of negotiation on dummy variables that represented the social contexts from which the advice originated. I then compared the organizational researcher dummy to dummies comparing each of the social contexts sampled. The mean percentage of bargaining advice in the social psychology books was higher than those from mergers and acquisitions (\(t = 5.30, p < .001\)), marriage counseling (\(t = 3.40, p < .001\)), law enforcement (\(t = 2.77, p < .01\)), sales (\(t = 2.62, p = .01\)), and legal negotiations books (\(t = 2.96, p < .01\)).

\(^4\) The list of books containing advice was exhausted after 9 books.
Table 1. Advice Counts and Percentage of Advice in Pre-Bargaining, Bargaining, and Post-Bargaining Phases across Social Contexts.

<table>
<thead>
<tr>
<th>Social Context</th>
<th>Total Advice Count</th>
<th>Pre-Bargaining</th>
<th>Bargaining</th>
<th>Post-Bargaining</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Legal</td>
<td>647</td>
<td>.66</td>
<td>.22</td>
<td>.31</td>
</tr>
<tr>
<td>Law Enforcement</td>
<td>1396</td>
<td>.59</td>
<td>.32</td>
<td>.11</td>
</tr>
<tr>
<td>Mergers &amp; Acquisitions</td>
<td>571</td>
<td>.31</td>
<td>.40</td>
<td>.07</td>
</tr>
<tr>
<td>Marriage Counseling</td>
<td>405</td>
<td>.72</td>
<td>.20</td>
<td>.25</td>
</tr>
<tr>
<td>Sales</td>
<td>417</td>
<td>.55</td>
<td>.34</td>
<td>.34</td>
</tr>
<tr>
<td>Organizational Researchers</td>
<td>384</td>
<td>.36</td>
<td>.19</td>
<td>.61</td>
</tr>
</tbody>
</table>

Note. Percentage of advice were first calculated within books, then averaged across books.

As secondary analyses, I compared the mean percentage of advice in pre-bargaining phases across the social contexts. In comparing advice in social psychology books to other social contexts, mean level of advice in social psychology books were not significantly different to those in mergers and acquisitions (t = .41, p = .68), law enforcement (t = -1.76, p = .08), or sales (t = -1.44, p = .16). But social psychology books contained less advice about the pre-bargaining phase compared to books on marriage counseling (t = -2.73, p = .01), or legal negotiations (t = -2.30, p = .03).

Analysis conducted on the post-bargaining advice reveals that mergers and acquisitions books contained more advice about the post-bargaining phase than social psychology (t = -5.97, p < .001). But the percentage of post-bargaining advice in organizational researcher books were not different to those found in marriage counseling (t = .02, p = .99), law enforcement (t =
Figure 3. Distribution of Advice Applicable to Negotiation Phases across Sources of Prescriptive Theory.
-.58, p = .56), sales (t = -.84, p = .41), and legal negotiations (t = -.09, p = .93).

1.4.7 Discussion
Analyses reveal a concentration of prescriptions for the bargaining phase in the prescriptive theories of organizational researchers. These results complement the pattern observed in Study 1. Empirical research conducted by organizational researchers concentrates on the bargaining phase with limited explanation or exploration of in the other phases. These results further reinforce the claims made by Pruitt and Carnevale (1993) that negotiation theory yields little insight about the pre- and the post- bargaining phases of negotiation.

There were notable differences in the distribution of advice across sources. With the exception of mergers and acquisition and organizational researcher sources, more than 50% of the advice in negotiation texts pertained to the pre-bargaining phase. Proportions of pre-bargaining phase advice were significantly higher in legal negotiation and marriage counseling theories compared to the organizational researcher theories. These differences potentially reflect the underlying nature of the negotiation processes – both legal negotiations and marriage counseling can arise as a result of dispute between parties, with parties potentially reflecting the extensive preparation required to research the nature of the dispute, and also to repair relationships to the point where bargaining is a feasible exercise. For example, pre-bargaining advice in the marriage counseling context pertained to building rapport between partners. Gottman and Silver (1994) recommend “Ask your spouse what he or she is feeling and then sit back and listen non-defensively for a while.” (p. 222). Without a working relationship in which parties can make arrangements for joint outcome, a third-party intervention, such as mediation, becomes necessary (Love & Stulberg, 2006).
In contrast, prescriptions about relationship building processes prior to bargaining was rare among books authored by organizational researchers. Instead, much of the pre-bargaining advice focused on obtaining information about the bargaining constraints, such as one’s goals, learning about the counterpart’s preferences, and developing a strong alternative to negotiated agreement. The difference in the types of prescriptions may be due to assumptions made in the methodology employed by organizational researchers. Studies that use experimental methods, especially those that utilize a variant of the multi-issue payoff chart developed by Pruitt and Lewis (1975), often require simplifying assumptions. Key among them is a lack of interaction between parties before bargaining occurs. Without such a history, one can assume the state of relations are neutral, or dependent upon the emotional state/expectations of the each participant. In contrast, parties who experience conflict to the point where they require counseling may need to harmonize relations before contemplating further efforts to define their pattern of interdependence with each other. In law enforcement contexts, there may be little or no rapport between an officer attempting to enforce the law and a person alleged to have broken it. Rapport building could be central in such negotiations, as it may prevent reneging on terms of the deal (Misino, 2004). Future extensions of this work that examines the nature of the advice given will further illuminate qualitative differences in the type of advice. That will enhance understanding of the nature of effective behaviors in these contexts.

Prescriptive theories of mergers and acquisitions focused on the post-bargaining phase. Worth noting is that some of the most influential books on mergers and acquisitions were about the post-merger integration process (e.g., After the Merger: Managing the Shockwaves, Mergers & Acquisitions Integration Handbook: Helping Companies Realize The Full Value of Acquisitions), highlighting the importance of the post-bargaining process. A commonly cited reason for lack of
post-merger/acquisition organization performance is the failure to successfully manage human resources following the merger or acquisition agreement (Buono & Bowditch, 2003). That is, much of the projected value in joining two or more organizations can be compromised by the failure to successfully integrate the hierarchies, management philosophies, work practices, resources, and organizational cultures. This demonstrates not only the fragility of the perceived value represented in agreements, but the substantial efforts required to successfully implement agreements. The need to successfully navigate the post-bargaining phase of the agreement is further heightened by the significant value represented in the deals of this nature. In 2004, 30,000 merger and acquisitions were struck globally, collectively worth $1,900 billion (Cartwright & Schoenberg, 2006).

Overall, the pattern of prescriptions about negotiation phases suggest that theories of negotiation informed by empirical research and authored by organizational researchers reflects research practices. Although I do not have a formal way to establish a concrete link between the organizational researcher author books sampled to empirical research, such books typically contain citations, references, or appendices that list academic studies. The reliance on those empirical research studies have produced a pattern of prescriptions that diverge significantly from theories derived by experts in social contexts in which negotiation effectiveness is a necessity. Moreover, examining the distribution of prescriptions across social contexts indicates significant variability in the distribution of proportions of advice across phases. Prescriptions about mergers and acquisitions does not resemble the distribution of prescriptions seen in legal negotiations, nor in law enforcement contexts. So although it is suggested by some organizational researchers that many negotiations feature similar characteristics and a single set of behaviors should be effective across contexts (Bazerman & Neale, 1992; Lewicki & Litterer,
1985), some negotiations may place greater or less emphasis on a particular phase. That implies that negotiators in different social contexts may require competency with distinct sets of behaviors to be effective.

Organizational scholars have aimed to create theories of negotiation that can apply across social contexts. But examining the patterns of prescriptions reveals that their prescriptive theories reflect research practices, not necessarily how negotiation is practiced in any given field context. Behaviors in the bargaining phase of negotiations were emphasized in their theories, while most domain specific theories of negotiation described by practitioners emphasized behaviors in the pre-bargaining phase. Mergers and acquisition theories emphasized behaviors in the post-bargaining phase. There were also some indications of qualitative differences in the type of prescriptions given. Organizational scholarship generated theories emphasized behaviors pertaining to the issues/economic outcomes. Other theories emphasized the relational aspects of negotiation.

1.5 General Discussion
Negotiation effectiveness is required to be effective in many social contexts, particularly those that require joint decision making or group coordination. It is a pervasive process that shapes how we form relationships, facilitate exchange with others, resolve disputes, and plan for the future. Given an enduring need to negotiate well, observers, expert practitioners, and social scientists have applied their efforts into understanding the phenomenon and providing advice to others.

Gulliver (1979) derived a universal theory of the negotiation process using inductive theory, derived from contextually diverse case studies involving land disputes among the Arusha people, and disputes among the Process Workers of America (union) and the Industrial Processing
Company (management). Gulliver used the commonalities in the dispute resolution process between the two cases to derive a universal theory consisting of an ordered sequence of activities across time. The theory outlines the substantive first offer and agreement as key transition points during a dispute. Theories based on observational methods in the international relations (Zartman & Berman, 1983) and legal contexts (Williams, 1985) – particularistic theories of negotiation generated from specific social contexts provide converging support for a three phase model of negotiation, with substantive first offers and agreements serving as transition points.

Organizational scholars have also sought to produce theories of negotiation that could be universal in nature, or at least have aimed to produce universal theories. But systematic examination of this program of research has revealed striking similarities in the research methods used, and the phase of negotiation investigated – a monoculture of experimental research focusing on the bargaining phase of negotiations. Narrative reviews of this research have pointed out the potential limitations of this shared similarity. Carnevale and Pruitt (1993) claimed such a program would produce limited insights into the pre- and post-bargaining phases of negotiation. Along similar lines, Barley (1991) and Greenhalgh and Neslin (1995) have posited that bracketing organizational research to focus on the bargaining phase limits its potential to generalize to the understanding of negotiations that occur as part of ongoing relationships. The narrative reviews suggest that theories of negotiation that arise from this program is limited in its generality. The contribution of Study 1 was not only to empirically test the propositions embedded in those narrative reviews, but also to highlight the extent to which organizational researchers may have focused their efforts in studying negotiations through a stylistic lens.

The very widespread practice of using experimental methods that operationally define negotiations as a bargaining would task appear to have shaped and constrained psychological
theories of negotiation. Exclusive reliance on such methods may have re-cast organizational researchers’ complete understanding of the wider phenomenon. For example, two theories of individual differences in negotiation do not conceptualize how individuals act outside the bounds of bargaining. In the theory of individual differences in conflict handling (Kilmann & Thomas, 1977; Ruble & Thomas, 1976), the way in which people approach conflicts in their life is thought to be represented by the extent to which they engage in cooperative and assertive behavior. Missing from this theory is how and why people enter into conflicts in the first place, or their behavior towards the counterpart if and when the conflict is resolved – crucially important background information for those involved in land disputes, pay disputes, legal disputes, and international relations disputes. Similarly, theories of social value orientation (Messick & McClintock, 1968), suggest people have a preference about how value should be divided between the self and the other. But missing from this theory is who the counterpart might be, or more precisely, how friendly or contentious their counterpart is as a result of prior relations.

In general, the reliance on any one method produces a truncated, and potentially skewed view of the phenomenon, with experimental research producing results particular to the sample and procedures deployed (McGrath, 1981). Such methods are thought to produce results with limited generality over actors and contexts (McGrath, 1981). Despite this feature of the dominant research paradigm, organizational scholars explicitly seek to articulate widely generalizable theory. When indicators of prescriptive theories of organizational researchers and experts in social contexts were compared, significant differences emerged. Reflecting the research emphasis on the bargaining phase of negotiations, much of the prescriptive theory actually articulated by organizational scholars focused on the bargaining phase. The contribution of Study
2 was to highlight how dominant research practices can generate prescriptive theorizing decoupled from the actual practice of the activities it claims to assist.

Raiffa’s (1982) call for research-based prescriptions to negotiate effectively did not express a novel sentiment. Expert negotiators for centuries have recognized the need to disseminate best practices in social contexts that require negotiation ability. The response to Raiffa’s call – a large and growing body of empirical research – has indeed produced numerous and useful findings. But few have yet questioned the implications of using research paradigms that model only a restricted segment of the negotiation process. Until organizational scholars redress this balance by deploying more diverse methodologies suitable for studying pre- and post- bargaining phases of negotiation, a comprehensive theory of negotiation will remain an aspiration.

Further development of the social science of negotiation depends on theorizing about and measuring the three phases of negotiation. Indeed, one of the plausible reasons for the lack of attention paid to the pre- and post- bargaining phases could be driven by a lack of theoretical impetus, namely that current theory does not emphasize a need to measure those phases. A complementary reason could be that there are no methodological tools that can be deployed to measure behavior in those phases. Without such tools, organizational researchers face the challenging task of creating novel means to measure behavior in those phases. Creating a comprehensive theory of negotiation, and a suite of measurement tools to capture those phases are beyond the scope of a single research paper. But an initial step to develop theory and measurement tools that look outside the bargaining phase is outlined in Chapter 2.
Chapter 2: Effective at Every Phase: The Impact of Conscientiousness in the Negotiation Process

Chapter 1 demonstrated that the program of empirical research on negotiation has left the pre- and post-bargaining phases of negotiation largely unexamined. To facilitate the development of a comprehensive, social scientific theory of negotiation, theories and measurement tools that address those phases are required. Chapter 2 aims to make an initial impression towards this goal. Toward the aim of generating a new individual differences theory of negotiation effectiveness, I posit and provide support for the role of conscientiousness in predicting effective behavior across the three phases and negotiation outcomes in Studies 3, 4, and 5. Toward the aim of developing measurement tools, Study 4 outlines the initial development of a theory-based survey instrument designed to measure effective behaviors across the three phases.

2.1 The Role of Individual Differences in Negotiations

The ability to negotiate is central to many organizational contexts. Thus, ability to identify those who are more or less able to negotiate has important implications for both selection and training within organizations. To this end, the growing literature on the individual differences antecedents of negotiation effectiveness has produced key findings, such as the positive correlation between cognitive ability and negotiation effectiveness (Barry & Friedman, 1998; Sharma, Bottom, & Elfenbein, 2013). In this body of work, a large number of traits and characteristics have been studied, ranging from background characteristics such as gender and culture, to attitudes such as negotiations self-efficacy, to traits such as the Big Five personality factors, to beliefs such as
ethical appropriateness. The aim of this chapter is to examine the association between individual differences, with particular focus on conscientiousness, and effective negotiation behaviors and negotiation outcomes.

Research on individual differences implicate conscientiousness as a correlate of achievement across multiple social domains. By logical extension, it should be a predictor of negotiation effectiveness. Being conscientiousness – the degree to which a person is predisposed to act in organized and diligent ways (Costa & McCrae, 1992) – correlates with achievement across a variety of social contexts. Conscientiousness is positively associated with desirable workplace outcomes, such as individual (Barrick & Mount, 1991; Mount, Barrick, & Stewart, 1998), and team performance (Barrick, Stewart, Neubert, & Mount, 1998; English, Griffith, & Steelman, 2004). It also correlates positively with outcomes in other domains of life that require substantial planning and execution skills including academic and health outcomes (Borghans, Duckworth, Heckman, & Ter Weel, 2008; Molloy, O’Carroll, & Ferguson, 2013), and asset accumulation (Letkiewicz & Fox, 2014). In addition, conscientiousness is correlates with preparation behaviors, such as career (Rogers & Creed, 2008) and financial planning (Letkiewicz & Fox, 2014).

In the negotiation context, being thorough and achievement oriented implies extensive preparations, such as researching one’s own needs, the counterpart’s needs, contemplating alternatives to negotiated agreement, and the context in which negotiations take place. During the bargaining process, conscientiousness could be correlated with behaviors such as tracking the sequence of offers as they take place, and comparing received offers/proposals against aspirations. At the conclusion of bargaining, conscientious individuals could be expected to work more diligently to implement the negotiation, as well as to review the negotiation to check if
goals were satisfied, and to seek feedback about the process. The predisposition to behave in
diligent and achievement directed ways should be an antecedent to these behaviors.

Despite the logically expected positive correlation, no consistent empirical relationship has been
found. A large-scale meta-analysis that examined the correlation between individual differences
and negotiation outcomes found the average correlation between conscientiousness and a range
of individual outcomes (e.g., economic outcomes, social-psychological outcomes) to be near
zero, and not significant (Sharma et al., 2013). Thus, the conclusion that can be drawn from
Sharma, Bottom, and Elfenbein’s (2013) analysis is a paradoxical one: that highly conscientious
individuals would not make more effective negotiators than their non-conscientious counterparts.

But examining the studies included in the meta-analysis revealed a pattern previously observed
in Chapter 1, and a potential clue to the reasons for the non-association. All of the studies I was
able to examine (i.e., published articles) involved the use of an experimental paradigm either
featuring a multi-issue payoff chart, or a distributive simulation with one issue (Barry &
Friedman, 1998; Dimotakis, Conlon, & Ilies, 2012; Elfenbein, Curhan, Eisenkraft, Shirako, &
Baccaro, 2008; Elfenbein, Foo, White, Tan, & Aik, 2007; Foo, Elfenbein, Tan, & Aik, 2004). I
argue that rather than being authoritative tests of the theory that conscientiousness should be
related to negotiation effectiveness, results from these prior studies may have made
methodological tradeoffs that obscure the observation of a genuine association. Commonly
deployed research designs may be sampling a limited aspect of the full negotiation process,
yielding a distorted picture of the general determinants of effective practice.
2.1.1 Limitations of negotiation simulations in revealing individual differences influences

Simulation methods may constrict the observation of the conscientiousness-negotiation effectiveness relationship. Simulations have proved to be a popular method study of studying negotiations (Pruitt, 2012). One potential reason for their popularity may be that real negotiations can extend for months, if not years (James, 2011; Zartman & Berman, 1983), and can potentially involve a changing set of parties, making their study difficult. But simulations that can be run in laboratory or classroom settings can truncate that process to hours, if not minutes, while restricting the number and set of parties involved. This saving in time typically is realized in a manner that also greatly compresses and simplifies the preparation phase. They also do not model aspects of negotiation that would be influenced by conscientiousness.

Simulations typically define a bargaining context, by specifying the number and role of participants, and the set of information relevant to the bargaining process. Moreover, a necessary methodological choice is to quiz the participants in the simulation about the information in the simulation briefings, such that all parties with the same role have parity in information. Parity in information about the simulation ensures comparability in responses within a particular role, which reduces noise attributable to confusion about experimental roles. In such simulations, highly conscientious individuals cannot prepare for the negotiation to any greater extent than less conscientious individuals (Sharma et al., 2013). However, the investment in time and effort associated with the preparation process is one of the aspects of negotiation most likely influenced by predispositions to be diligent and achievement seeking. Empirical research and practical negotiation wisdom point to the idea that having more accurate and pertinent information to the negotiation serves to benefit the party that holds it, and contributes to effectiveness as a
negotiator (Lewicki & Litterer, 1985; Zartman & Berman, 1983). Moreover, preparation is not a small nor inconsequential aspect of the overall negotiation process. Despite the stereotype that negotiation begins when the first offer is made, and ends when an agreement is struck, experienced negotiators may spend much of their time – up to 75 percent in the case of diplomats – in preparation for the bargaining process (Zartman, 2006). Equalizing the information held by parties enables precise tests of the impact of other variables but obscures the relevance of important preparation behaviors that conscientious people may engage in to a greater extent than less conscientious people.

2.1.2 An alternative conceptualization of negotiation effectiveness

A related limitation is that negotiation effectiveness is often measured by examining the value of agreements in simulations. In the briefing materials provided to participants, participants are typically provided with a payoff matrix, or a list of outcomes that matches a point value to each discrete gradient of issue with a small finite number of these gradients (Pruitt, 2012). Alternatively, they may be assigned to buyer and seller roles that implicitly assume higher performance for buyers (sellers) who negotiate a lower (higher) price. Negotiation effectiveness is taken to be the value of the agreement reached by the parties. Other variables measured once the agreement is reached, such as one’s own, or counterpart’s satisfaction from the negotiation may also be treated as effectiveness metrics.

This approach assumes that the value of negotiated agreements, and people’s perceptions of their agreements are the proper metrics by which negotiators should be evaluated. This may be an incomplete view of negotiation effectiveness. Although agreements are an important milestone in the negotiation process, the value of agreements (or impasses) may not comprehensively capture a negotiator’s abilities. A negotiated agreement represents a promise to be fulfilled by future
actions, such as an exchange of goods or services for money, mutual exchange of favors, or an open-ended commitment to an interdependent relationship. In implementing these promises, counterparts may under-deliver on such promises, or a focal negotiator may over-deliver on their promises. Thus, actions to ensure implementation of the agreed upon terms can be just as important as the agreement itself (Mislin et al., 2011). Negotiators can also engage in learning processes after the completion of the process, by reviewing and seeking feedback about the negotiation process just experienced, facilitating their progress in becoming a better negotiator in the future. And as previously mentioned, negotiators can also further effective practice even before the negotiation begins, by preparing well for the bargaining process.

Negotiation effectiveness is not only reflected in the negotiated agreements or the exchange that occurs during the implementation process. Negotiation effectiveness is reflected also in the extent to which individuals engage in behaviors associated with a higher probability of more favorable outcomes generated through the wider stream of social exchange between the parties. Instead of relying solely on the value of agreements as the index of negotiator effectiveness, I conceptualize the best negotiators as those who enact actions that maximize the probability of favorable outcomes across the long-term spectrum of bargaining, which include not only reaching favorable outcomes, but the quality of relationships between parties during and following implementation (Curhan et al., 2006; Sharma, 2015). Negotiating parties often engage in repeated exchange, with social capital built in prior exchanges used to inform future actions (Gelfand, Major, Raver, Nishii, & O Brien, 2006).
A more general way of stating this idea is to propose that understanding the wide range of behaviors is central to negotiation effectiveness. These include actions as widely varying as researching the counterpart’s preferences, making a favorable first offer, or creating an implementation plan, which all feed into outcomes. I expect the effectiveness of negotiation behaviors to vary, such that some behaviors will be more effective than others in maximizing a particular outcome. As an example, making a first offer near one’s own reservation level should usually be less effective in securing greater levels of value with respect to the issues being negotiated, as compared to making a first offer that is vastly preferable compared to one’s reservation level. The likelihood of engaging in any behavior should be influenced by a range of factors, including individual differences. Differences such as personality traits are predispositions to enact certain behaviors over others (Fleeson, 2004). In addition, situational factors idiosyncratic to a particular negotiation (e.g., time pressure), or contextual factors (e.g., social norms, culture, precedents) could also influence which behaviors negotiators enact.

### 2.1.3 Conscientiousness as Antecedent to Effective Behaviors

The observed absence of correlation between conscientiousness and negotiation outcomes in previous studies may reflect considerable similarity in methodological design choices across the empirical studies. If these choices limited variance in relevant negotiation behaviors most associated with conscientiousness then the absence of observed correlations may be misleading. In particular, similar methodological choices that concentrates measurement on the bargaining phase of negotiation would not detect the influence of conscientiousness in the phases of negotiation where they are most likely to be apparent – the pre- and post-bargaining phases. A diligent and detail oriented behavioral disposition should be most apparent in behavior related to planning, research, and follow through. Such behaviors increase the probability of favorable
outcomes flowing from a negotiated agreement, but are rarely modeled in the experimental simulations most often deployed.

### 2.1.4 Overview of Studies

Studying the role of conscientiousness requires taking a novel approach, which combines qualitative and quantitative methods and draws from the perspectives of experts in negotiation and personality theory while also including conventional research participants. In the first two studies, I sample effective behaviors from sources that contain advice – i.e., prescriptive theories of negotiation effectiveness – to derive theoretical and empirical correlations between conscientiousness and effectiveness. Study 3 establishes theoretical associations between conscientiousness and effective negotiation behaviors by recruiting individual differences experts to rate the extent to which the Big Five factors should correlate with particular negotiation behaviors. In Study 4, I describe the development of the Negotiation Behavior Inventory (NBI), a theory-based measure of effective negotiation behaviors. I administered the measure to a large online sample, report its basic psychometric properties, and its empirical association with the Big Five factors. In Study 5, I test the correlation between conscientiousness and negotiation effectiveness in a complex simulation likely to favor parties who prepare well.

### 2.2 Study 3 – Implicit Theories of Negotiation Behaviors and Effectiveness

The aim of Study 3 is to examine the theoretical association between conscientiousness and effective negotiation behaviors. While I posit that much prior research is suggestive of a positive association, these are assertions based primarily on past research on organizational and individual differences psychology, streams of research that have not directly investigated individual differences in negotiations. If one were to examine the prior research by negotiation
scholars, it would show considerable evidence to suggest a non-correlation. But those studies share methodological similarities that may limit the generalizability of the results obtained within them.

The first step toward creating a generalizable theory of individual differences influences on negotiation effectiveness requires using methodologies with characteristics that are more suited to generalizing over actors and over contexts. McGrath (1981) notes that no single study would have all of those characteristics. Formal theory maximizes the ability to generalize over actors, but because there is no empirical basis for the method, there is no concept of measurement precision. In addition, because there is are no specific features of a social context to model in formal theory, the ability to generalize to specific contexts are limited. In contrast, field studies maximize the ability to generalize to specific contexts, by sampling from real settings. But they lack precision, attributable to the lack of control over research process. Field studies also lack generality over actors because of the limited ability to sample diverse populations in any given social context.

I propose a hybrid approach that contain elements of theory building and field research in order to support a generalizable individual differences theory of negotiation behavior. Hybrid approaches do not ameliorate the limitations of the constituent methods. But a combination of formal theory and field study methods provide a starting point from which generalizable theories can be entertained. The hybrid method I propose consists of two steps. I first plan to draw from elements of field research, by sampling negotiation behaviors thought to be effective across a variety of contexts. Such behaviors are the products of efforts to understand effectiveness in the field, and speak to the range of possible effective behaviors during negotiation. The second step consists of drawing from elements of formal theory, by recruiting individual differences experts
to derive point estimates of the relationship between each negotiation behavior and a limited range of individual differences, namely the Big Five factors as well as the facets of the each factor. Facets capture more specific aspects of the dispositions represented factors, in that they represent different manifestations of a factor (Costa, McCrae, & Dye, 1991). For example, high levels of conscientiousness could be indicated by both propensity to avoid taking risks (i.e., high levels of the cautiousness facet), or the propensity for diligent work (i.e., high levels of achievement striving). Understanding the theorized associations between facet level constructs of the Big Five with respect to effective behaviors could yield more detailed insight as to what aspects of a factor could drive the association.

This hybrid method aims to facilitate a general theory of individual differences by addressing a key limitation of the experimental research on negotiations – that to a large extent only examines the subset of behavior allowable within the bounds of a simulation designed or employed by the researcher. Moreover, by recruiting experts to provide point estimates of the association between behavior and individual differences constructs, I aim to generate an individual differences theory not specific to a select sample of actors, but generalizable across actors.

### 2.2.1 Method

**Prescriptive theory sampling procedure**

I sampled prescriptive theories of negotiation in texts about negotiation, as well as those from a wide range of social contexts that require negotiation: international relations, legal, sales, mergers and acquisitions, marriage counseling, and law enforcement. Although many outlets for prescriptive theories exist, I targeted published book length texts, because they are likely to be authored by experts and social scientists alike, are available for examination because of its highly
codified nature, and are written in the extended fashion that yields clear recommendations. Twenty-six texts in total were sampled, with the full list shown in Appendix C.

For each book, I searched for sections that explicitly listed advice, such as in summary chapters, or in summary sections at the end of chapters, as in Study 2. If no such section existed, I read the book in its entirety to search for prescriptions. 232 pieces of advice were sampled. These behaviors were screened for clarity or double barreled language, by exposing them to graduate students and research assistants (N = 6). Ambiguous advice was removed and double barreled advice was transformed to separate items, leaving 205 distinct behaviors. The behaviors covered a wide range of actions one could engage in during the negotiation process. Behaviors ranged from efforts to prepare for the negotiation, actions during the bargaining process, and those taking place after negotiated agreements. These behaviors broadly conform to a three phase structure of negotiation composed of pre-bargaining, bargaining, and post-bargaining phases. Marking the transitions between these phases are key events that change the nature of the interaction between parties: the first substantive offer and agreements (Gulliver, 1979; Williams, 1985; Zartman & Berman, 1983). Prior to the first substantive offer, parties may spend relatively little time in direct contact with the counterpart. Namely, they may spend time preparing for a negotiation, such as generating and learning about a list of sales prospects, or spend time convincing the counterpart that negotiation is necessary to resolve a dispute or realize an opportunity. Following the first substantive offer, parties may engage in an interactive process where alternative proposals are discussed. Following the conclusion of bargaining, the parties engage in less problem solving, but engage in behaviors to implement the terms reached.

I used theories by Gulliver (1979), Williams (1985), and Zartman and Berman (1983) to guide the categorization of each behavior to a phase, as described in Study 1. Being generated from
prescriptive theories, the behaviors sampled represent face valid actions that negotiation experts believe will increase the probability of obtaining and securing favorable negotiation outcomes. Examples are given in Table 2.

**Expert rating procedure**

I presented the 205 behaviors to individual difference experts (N = 9). The criteria for selecting experts depended on their experience with individual differences constructs. I purposefully limited the search to PhD level students of psychology who successfully completed graduate level coursework on individual differences, have experience in conducting individual differences research, and familiar with the Big Five constructs. The initial call for experts was circulated by Dr. Hillary Anger Elfenbein, who emailed researchers in individual differences laboratories. The email advertised paid employment for PhD level students who would code stimulus items for an individual differences research study. Total time commitment was advertised as approximately 20 hours. The experts recruited had considerable experience in conducting individual differences research. At the time of their providing ratings, they had collectively published 28 papers in peer reviewed journals, most directly related to the topic of individual differences. Experts were compensated at a rate of $25 dollars an hour for completing the rating task.

Before providing them with a list of behaviors to evaluate, experts were provided with instructive readings about the negotiation process: six introductory chapters and papers on negotiation (Appendix D) that explained key concepts including distributive and integrative bargaining, and negotiation behaviors in the pre-bargaining, bargaining, and post-bargaining phases. After completing the readings, each expert was given a link to a web survey which listed the behaviors along with a rating scale for each behavior (list of behaviors and details in Appendix E). Behaviors were presented one at a time, and the sets of behaviors were arranged
such that they mirrored the sequential three-phase structure, with behaviors in the pre-bargaining phase presented first, and behaviors in the post-bargaining phase presented last. This ensured experts were not switching between frames of reference, and potentially introducing noise into the ratings as a result.

For each behavior presented, experts rated the extent to which a given behavior should be associated with each of the Big Five factors (0 = none, 1 = low, 2 = medium, 3 = high). Thus, each behavior obtained five scores from each expert, one for its theoretical correlation with openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. If an expert rated a behavior as being a manifestation of a personality factor (i.e., provided a rating of “low” or greater), I additionally asked which facet of that factor would be associated to the behavior, on the same 4 point scale. Facet labels from the International Personality Item Pool (Goldberg et al., 2006) were used (listed in Appendix F). Any facet that did not receive a score due to it not being displayed to the expert (i.e., facets of factors rated to have no association with the behavior) were coded as receiving a rating of zero.

### 2.2.2 Results

**Interrater Agreement**

The appropriate interrater reliability model was an intraclass correlation (ICC) using a two-way mixed, consistency, average-measures design. Each expert rated all of the behaviors, and I assumed the experts were drawn a random population. The average score of the experts were the unit of analyses, so their reliability was the metric of interest. Separate ICCs were calculated for each of the Big Five factors. Moderate to high levels of consistency were observed for all factors, according to guidelines cited by Hallgren (2012), who indicated fair agreement for ICC values
.40 or higher: openness (ICC(2, K) = .72), conscientiousness (ICC(2, K) = .68), extraversion (ICC(2, K) = .73), agreeableness (ICC(2, K) = .83), and neuroticism (ICC(2, K) = .53).

Theory Driven Correlations between the Big Five and Negotiation Behaviors

Given observed consistency, I averaged ratings across judges to form a single theoretical correlation between each of the Big Five factors and negotiation behaviors within each phase. Dimension reduction via factor analysis was not possible, given the high number of items (205) and the low number of judges (N = 9).

To test the hypothesis that conscientiousness would be associated with negotiation effectiveness, I estimated a series of regression models. Results are shown in Table 3, and displayed graphically in Figure 4. Unstandardized coefficients are shown, which reflect the mean ratings on a 0-3 scale. At every phase, conscientiousness proved to be a stronger correlate of effective behaviors than the average of the other factors. Planned contrasts showed the coefficient for conscientiousness to be larger than the average of the coefficients of the remaining four factors at the pre-bargaining phase [t = 26.58, p < 10^{-15}], bargaining phase [t = 11.59, p < 10^{-15}], and at the post-bargaining phase [t = 9.96, p < 10^{-15}]. Similar results were obtained when conscientiousness was compared to each of the other Big Five factors using a post-hoc contrast test procedure (Tukey’s Honestly Significant Difference tests; Tukey HSD). Tukey HSD procedures control for experiment-wise type I error rate, and thus is a suitable method for assessing significance when performing multiple comparisons (Abdi & Williams, 2010). In every phase, conscientiousness received ratings that were significantly higher than each of the other personality factors.
Table 2. Behaviors Sampled from Books Containing Prescriptive Theories of Negotiations.

<table>
<thead>
<tr>
<th>Example Behaviors</th>
<th>Pre-Bargaining</th>
<th>Negotiation Phase</th>
<th>Post-Bargaining</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Making and exchanging offers</td>
<td>Creating commitment</td>
</tr>
<tr>
<td>Understanding the self prior to bargaining</td>
<td>e.g., “Research what issues you should negotiate.”</td>
<td>e.g., “Make the first offer extremely favorable to you.”</td>
<td>e.g., “Craft a deal that creates value and improves the relationship.”</td>
</tr>
<tr>
<td></td>
<td>“Maintain competence in the skills needed to analyze the deal (e.g., technical evaluation, accounting, developing relationships, etc...).”</td>
<td>“If you make a concession, insist that your counterpart also make a concession.”</td>
<td>“Check that you have addressed your counterpart’s key concerns.”</td>
</tr>
<tr>
<td>Understanding the counterpart prior to bargaining</td>
<td>e.g., “Spend time thinking about your counterpart’s interests.”</td>
<td>“Create and maintain a positive atmosphere while negotiating.”</td>
<td>Implementation</td>
</tr>
<tr>
<td></td>
<td>“Spend time studying your counterpart’s tactics and patterns of behavior in similar situations.”</td>
<td>“Create situations where trust can be offered or demonstrated (e.g., handshakes, bows, gestures of trust).”</td>
<td>e.g., “Agree to a procedure to handle questions about implementing the deal.”</td>
</tr>
<tr>
<td>Other preparation behaviors</td>
<td>e.g., “Persuade the counterpart that negotiation is necessary.”</td>
<td>Evaluating the negotiation</td>
<td>Seeking feedback</td>
</tr>
<tr>
<td></td>
<td>“Prepare persuasive arguments to present to your counterpart.”</td>
<td>e.g., “Actively update your assumptions about your counterpart’s no-deal option as more information becomes available.”</td>
<td>e.g., “Systematically analyze the negotiation to review what happened and what was learned.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Check for signs of progress by monitoring the content of the offers across time.”</td>
<td>“Develop a plan to improve the weak aspects of your negotiation skills.”</td>
</tr>
</tbody>
</table>

| Number of behaviors | 73 | 107 | 25 |

*Note.* Types of behaviors are listed in bold, with examples of each type listed below each type.
Figure 4. Expert Generated Associations between Big Five Factors and Negotiation Behaviors.

Note. C = Conscientiousness, O = Openness, E = Extraversion, A = Agreeableness, N = Neuroticism. The elevation of each letter represents the average theorized strength of association between a Big Five factor and effective behavior in that phase.
Table 3. Theoretical Associations between Big Five Factors and Effective Negotiation Behaviors.

<table>
<thead>
<tr>
<th></th>
<th>Pre-Bargaining</th>
<th></th>
<th>Bargaining</th>
<th></th>
<th>Post-Bargaining</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Beta</td>
<td>B</td>
<td>Beta</td>
<td>B</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.41 **</td>
<td>.10 *</td>
<td>.91 **</td>
<td>.37 **</td>
<td>1.02 **</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>2.07 **</td>
<td>.88 **</td>
<td>1.32 **</td>
<td>.60 **</td>
<td>1.88 **</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.21 **</td>
<td>.00</td>
<td>.42 **</td>
<td>.09 †</td>
<td>.39 **</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.20 **</td>
<td>-</td>
<td>.26 **</td>
<td>-</td>
<td>.44 **</td>
</tr>
<tr>
<td>Openness</td>
<td>.73 **</td>
<td>.25 **</td>
<td>.65 **</td>
<td>.22 **</td>
<td>.38 **</td>
</tr>
<tr>
<td>Observations</td>
<td>365</td>
<td>365</td>
<td>555</td>
<td>555</td>
<td>125</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.81</td>
<td>.68</td>
<td>.64</td>
<td>.28</td>
<td>.75</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.81</td>
<td>.68</td>
<td>.64</td>
<td>.27</td>
<td>.74</td>
</tr>
<tr>
<td>F Statistic</td>
<td>1109.37 **</td>
<td>191.30 **</td>
<td>477.47 **</td>
<td>51.43 **</td>
<td>236.32 **</td>
</tr>
</tbody>
</table>

Note. The dependent variable was the average rating each behavior received from the individual differences experts. Independent variables represent factor labels. The first column for each phase (labeled ‘B’) report unstandardized coefficients from no-intercept regression models. The five factors were treated as a categorical variable, thus unstandardized coefficients reported above indicate the mean ratings indicated by experts. Ratings reflect theorized strength of correlation between a big five factor and negotiation behavior within a phase (0 = none, 1 = low, 2 = medium, 3 = high). The second column for each phase (labeled ‘Beta’) report standardized regression coefficients from no-intercept regression models. Each Big Five factor label was treated as a dummy variable. No coefficients are available for neuroticism due to collinearity with other dummy variables. † p < .10, * p < .05, ** p < .01

To further examine the role of conscientiousness on negotiation behaviors, I examined the theoretical association between conscientiousness facets and negotiation behaviors across phases.
Table 4. Theoretical Associations between Conscientiousness Facets and Negotiation Behaviors

<table>
<thead>
<tr>
<th>Expert Ratings</th>
<th>Pre-Bargaining</th>
<th>Bargaining</th>
<th>Post-Bargaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievement-striving</td>
<td>2.09 **</td>
<td>1.47 **</td>
<td>1.96 **</td>
</tr>
<tr>
<td>Cautiousness</td>
<td>2.10 **</td>
<td>1.39 **</td>
<td>1.99 **</td>
</tr>
<tr>
<td>Dutifulness</td>
<td>2.23 **</td>
<td>1.40 **</td>
<td>1.88 **</td>
</tr>
<tr>
<td>Orderliness</td>
<td>2.03 **</td>
<td>1.29 **</td>
<td>1.83 **</td>
</tr>
<tr>
<td>Self-discipline</td>
<td>2.22 **</td>
<td>1.38 **</td>
<td>1.91 **</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>2.14 **</td>
<td>1.39 **</td>
<td>1.84 **</td>
</tr>
<tr>
<td>Observations</td>
<td>438</td>
<td>642</td>
<td>150</td>
</tr>
<tr>
<td>R²</td>
<td>.94</td>
<td>.82</td>
<td>.91</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.94</td>
<td>.82</td>
<td>.90</td>
</tr>
<tr>
<td>F Statistic</td>
<td>1,109.37 **</td>
<td>477.47 **</td>
<td>236.32 **</td>
</tr>
</tbody>
</table>

Note. No-intercept regression models reported. Unstandardized coefficients reported above indicate the mean ratings indicated by experts. Ratings reflect theorized strength of correlation between a conscientiousness facet and negotiation behavior within a phase (0 = none, 1 = low, 2 = medium, 3 = high). † p < .10, * p < .05, ** p < .01

Results are shown in Table 4. Unstandardized coefficients are reported. The means do not indicate that any one facet of conscientiousness should be more strongly associated with effective behaviors. This is supported by Tukey’s Honestly Significant Difference contrasts which show that no two pairs of conscientiousness facets received ratings significantly different from each other. Table of means and results of comparisons for the facets of other factors are reported in Appendix G.

2.2.3 Discussion

Using a novel hybrid method that incorporated elements of field studies and formal theory, I attempted to generate data that could be used as a basis for creating theory based on the relationship between individual differences and negotiation effectiveness. The procedures, which
aimed to produce a guide for the expectation about the role of the Big Five in predicting negotiation effectiveness, sampled behavior not typically explicitly modeled in empirical studies of negotiation, in particular those that occur before the first offer and after the agreement or impasse.

Far from a non-association, conscientiousness was evaluated by individual difference experts to be a predictor of negotiation effectiveness in every phase of negotiation. This pattern is consistent with studies of organizational and individual differences psychology that show conscientiousness to positively correlate with achievement across many social contexts (Barrick & Mount, 1991; Borghans et al., 2008). It is inconsistent with prior findings in organizational scholarship that finds a non-association between conscientiousness and negotiation outcomes. The disparity in conclusions could be attributed to the methodologies used. In studying the process within the confines of a simulation within which people have little opportunity to express individual differences, organizational researchers may have unwittingly made methodological tradeoffs that make it difficult to observe the true correlation between individual differences and outcomes. Moreover, a notable pattern in the data was that the theoretical association was lowest for the bargaining stage – the stage most consistently studied by organizational researchers. The influence of conscientiousness is most likely to be apparent before the first offer is made, and after parties reach agreement or impasse.

The contribution of this study is that it contributes to a universal theory of individual differences in negotiation behaviors across multiple phases of negotiation, and personality factors. Prior to this research, organizational researchers relied almost purely on empirical results – Sharma and colleague’s (2013) meta-analysis for example – to guide their expectations about the role of individual differences in negotiation effectiveness. But similarities in the methodologies used in
those empirical studies, which represents a near perfect confound across methods and non-associations. When methods and effects are confounded, the true pattern of results may not be represented in the observed data (Roberts, MacCann, Matthews, & Zeidner, 2010). By using alternative methodologies that deliberately aim to sample and account for a wide variety of effective behaviors, this study shows much promise for the role of individual differences beyond the narrow bracket of simulation studies.

By widening the scope of negotiation effectiveness to include a wide range of effective behaviors, I present a theory-driven argument for the predictive role of conscientiousness across negotiation phases. But a limitation of these data are that they are driven entirely by the implicit theories of individual difference experts. I conducted Study 4 to develop a methodology that could serve to facilitate measuring correlations between the constructs using other methods.

2.3 Study 4 – Development of the Negotiation Behavior Inventory (NBI)

The results of the studies in Chapter 1 demonstrate a monoculture of experimental research that focused measurement on the bargaining phase of negotiation. Many important insights have been gained by using the experimental method to study the bargaining process. But pre- and post-bargaining phases remain virtually unmeasured. The lack of methodological tools limit potential for empirical investigations of behavior in those phases, and also by implication, the creation of evidence based theory to guide negotiators in those phases. Advances in understanding the extended negotiation process cannot be achieved until we develop flexible tools investigators can readily deploy across multiple contexts. Some extant experimental methods are designed to
measure behavior across multiple phases (c.f. Bottom, Holloway, Miller, Mislin, & Whitford, 2006; Mislin et al., 2011), but they require extensive laboratory preparation and elaborate computer interfaces to track and measure behavior within the context of an experimental simulation. In addition, such methods are unsuited to measuring and understanding negotiation behavior as they manifest in social contexts. Chapter 1 demonstrated empirical measurement and theory about these contexts was lacking in organizational research. The aim of this study is to outline the development of a theory-based measure of negotiation effectiveness that samples effective behaviors at each negotiation phase.

The aim for the NBI is to serve as a survey instrument that facilitates measurement of behaviors prior to bargaining, during bargaining, and following the bargaining process. To accomplish this, I relied on the list of effective behaviors complied in Study 3. The list represents behavioral manifestations of prescriptive theories of negotiation across a variety of social contexts that require negotiation ability, and derived from both academic and practitioner investigation. To guide the scale development process, I followed the initial sequence of steps in Hinkin’s (1998) guideline.

**Theoretical construct definitions**

Effective negotiators enact distinct sets of behaviors during each phase, because the demands on negotiators change across phases (Zartman, 2006). The contingent nature of the behaviors justify construction of three separate scales to represent behaviors prior to bargaining, during bargaining, and following any agreement from bargaining.

Despite the diversity of sources, the behaviors were largely consistent with existing prescriptive theories of the effective negotiator. Theories about effective negotiating developed in legal, law
enforcement, and international relations contexts (McMains & Mullins, 2013; Williams, 1985; Zartman & Berman, 1983) outline the behaviors expected in each phase. Prior to the bargaining process, theories suggest the effectiveness of preparation, such as setting a goal for the negotiation, developing a prioritized list of one’s own needs, researching the counterpart, understanding the implications of an impasse, and understanding the context surrounding the dispute or opportunity with the counterpart. In the bargaining phase, engaging in behaviors that contribute to reaching one’s goals, such as making a favorable first offer, discovering and satisfying the counterpart’s needs, adopting a strategy/deploying tactics to secure favorable terms, and ensuring that there is clear communication with the counterpart. In the post-bargaining phase, theories suggest effectiveness of behaviors that ensure implementation and professional development.

Correlations with the Big Five

Study 4 enabled calculation of an observed correlation between negotiation effectiveness, as captured by the NBI, and the Big Five personality factors. If the implicit theories of the individual differences experts in Study 3 are reflective of the true underlying association between conscientiousness and negotiation effectiveness, conscientiousness should correlate with the NBI scales positively. The largest correlations should be observed for pre- and post-bargaining phases. Based on the results observed in Study 3, I hypothesized that conscientiousness would be a stronger correlate of NBI scales compared to the average of the other four factors.

Gender differences

As secondary analyses, I plan to examine gender differences on the NBI. Gender differences, in particular the tendency for women to achieve lower levels of outcomes in negotiation outcomes, have been the topic of much investigation (Kennedy & Kray, 2015). Some researchers have
implicated observed differences in negotiation outcomes as a source of the disparities in promotions and compensation in the labor market (Gerhart & Rynes, 1991; Stuhlmacher & Walters, 1999). Many of the studies investigating gender differences have implicated the role of gender stereotypes, or how the expectations that men and women have about women negotiators impact the behavior of the counterparts of women negotiators (e.g., Ayres & Siegelman, 1995; Bowles & Flynn, 2010). That is, much of the research on gender differences in negotiation has been studied through the lens of how women negotiators are treated by their counterparts. But far fewer in number are studies that directly examine gender differences negotiation behaviors. Thus, exploratory analyses that examine men and women’s reports of negotiation differences on the NBI may elucidate potential gender differences in behavior across the negotiation process.

2.3.1 Methods

Item Generation Process

To generate a list of effective behaviors in each phase, I drew potential items from the list of effective behaviors compiled in Study 3. Fifty behaviors that most closely represented the conceptual definition were selected, and transformed into questionnaire items. Because effective negotiation behaviors are thought to be appropriate to a specific phase (Zartman, 2006), I grouped together items belonging to the pre-bargaining, bargaining, and post-bargaining phases. The full list of items are shown in Table 5a, b, and c.

Participants and procedure

N = 500 participants were recruited from an online pool (Prolific Academic; https://prolific.ac). Prolific Academic is an online participant pool, solely intended for researchers advertising paid behavioral studies, and participants wishing to participate solely in such studies. The pool aims to provide participants with an ethical level of compensation to participants, stipulating payment
of at least 5 GBP / 7.50 USD per hour. This participant pool is composed of a more culturally diverse participant pool (Woods, Velasco, Levitan, Wan, & Spence, 2015), but for the purposes of this study, only US citizens were recruited to ensure cultural homogeneity across participants. The average age of participants was 29.67 (SD = 10.30) and 231 were females. They were mostly white (77%), employed (69% employed either full or part time), and 40% were students. All participants were US citizens, were compensated at a rate of 7.50 USD an hour, and took an average of 26 minutes to complete the study.

Participants were recruited as part of a larger study advertised as an investigation of personality. The larger study aimed to study how individual differences variables in the National Longitudinal Study of Adolescent to Adult Health project relate to the Big Five constructs. After an initial collection of data revealed that participants could complete the NBI within the time allocated for the larger study, the NBI was added to the battery of measures. The measures included in the larger study involved a scale of network perceptions currently under development, the Life Orientation Scale-revised (Scheier, Carver, & Bridges, 1994), the Domain-Specific Risk-Taking scale (Blais & Weber, 2006), Self-Monitoring Scale (Lennox & Wolfe, 1984), the facet level measures of the Big Five in the Analogue to Multiple Broadband Inventory items (Yarkoni, 2010), and individual differences questions from Wave I and Wave II of the National Longitudinal Study of Adolescent to Adult Health (Harris et al., 2009), in addition to the measures below.

Four hundred and thirty-nine participants provided complete responses on the NBI. Participants provided ratings for the NBI on a 7-point Likert-type scale (1 – Would not do this at all to 7 – Would do this a great deal). Participants were shown pre-bargaining, bargaining, and post-bargaining items on separate screens, with each set of items given preambles to indicate their
phase (e.g. “The questions below refer to behaviors involved in preparing for a negotiation. To what extent would you do the following behaviors to prepare for a negotiation?”), in addition, participants were provided with a glossary for terminology they may be unfamiliar with (Appendix H). Thus the instructions requested participants to refer not to a specific negotiation, but how they would negotiate in general. Future validation of the scale will need to examine if the NBI is sensitive to variability of behavior in a particular negotiation.

Participants also completed the Big Five Inventory (BFI; John & Srivastava, 1999), which assessed levels of openness ($\alpha = .83$), conscientiousness ($\alpha = .88$), extraversion ($\alpha = .89$), agreeableness ($\alpha = .82$), and neuroticism ($\alpha = .91$). Participants provided ratings for the BFI on a 5-point Likert-type scale (1 – Very inaccurate to 5 – Very accurate).

2.3.4 Results

**Data Treatment Overview**

The sample was split into two halves. A test sample ($N = 219$) was generated for purposes of exploratory factor analyses (EFA) to observe the initial factor structure. A confirmatory sample ($N = 220$) was generated to attempt replication of the factor structure using confirmatory factor analysis (CFA). The sample was split randomly, using a random number generator. Items representing behaviors in the pre-bargaining, bargaining, and post-bargaining phases were analyzed separately for factor structure because prior theory suggested a discrete sets of behaviors being relevant to the three phases.

**EFA on pre-bargaining items**

Examination of pre-bargaining behavior items indicated evidence of underlying factors. The Kaiser-Meyer-Olkin (KMO) statistic examines the factorability of a set of items by examining the correlations between items partialing out the influence of other variables. If a common factor
among variables is present, one would expect small partial correlations between variables. A KMO value of .60 or greater is considered acceptable for investigating the factorability of a set of variables (Tabachnick & Fidell, 2013). For the pre-bargaining items, this value was high (.91).

In addition, Bartlett’s test of sphericity was conducted on the pre-bargaining items to examine factorability. Bartlett’s test examines if the correlation matrix of the variables under study departs significantly from an identity matrix. The reproduction of an identity matrix among a set of variables would indicate no correlation among items, and thus, evidence of no underlying factors. Bartlett’s test was significant ($\chi^2(231) = 2584.43, p = 0$), indicating the presence of common factors.

The items were then subjected to a parallel analysis to determine the numbers of factors to extract. Parallel analysis determines the number of factors by comparing the eigenvalues of factors extracted from the data to the number of factors from a random permutation of the dataset (Revelle, 2015). The number of factors with eigenvalues that exceed those derived from the random permutation of the data are the number of factors to be extracted. Analyses suggested a 4 factor solution for pre-bargaining phase. An ordinary least squares minimum residual factoring with oblimin rotation was conducted. I retained items with loadings greater than .30 on a given factor and cross-loadings of no greater than .30 were retained (Kline, 1994). The items and factor loadings are shown in Table 5a. Table 6a displays the factor intercorrelations.

The four factors reflected unique aspects of pre-negotiation effectiveness: Setting the arena (Cronbach’s $\alpha = .86$), researching the counterpart ($\alpha = .88$), understanding the impasse ($\alpha = .78$), and preparing the self ($\alpha = .83$). Items in the setting the arena factor consisted of behaviors that contribute to information gathering, preparing the counterpart to negotiate, and ensuring negotiations can take place without obstructions (16% of variance accounted). Items in the
repeating the counterpart factor consisted of behaviors that contribute to understanding the
counterpart, such as their goals, past behavior, emotional state, and their interests (15% of
variance accounted). Items in the understanding the impasse factor consisted of behaviors
attuned to understanding the implications of an impasse and one’s bottom line (11% of variance
accounted). Finally items in the preparing the self factor consisted of behaviors that contribute to
explicitly outlining one’s goals for the negotiation, and ensuring one has the resources and
competence to negotiate effectively (11% of variance accounted).

CFA on pre-bargaining items

A CFA model that tested the fit of the four factor model suggested by the EFA fit the data
suggested acceptable fit ($\chi^2 (210) = 2560.89$, $p = 0$; TLI = .81; RMSEA = .10; SRMR = .08). All
of the loadings from the items to their respective factors were positive and significant (all $p$-
values below $p = .001$). The four factor model represented a superior fit to the model as compared
to a one factor model in which all of the items loaded onto a single latent variable ($\Delta \chi^2 (6) =
314.84$, $p < .001$).

EFA on bargaining items

Bargaining behavior items showed factor adequacy (Kaiser-Meyer-Olkin statistic = .89;
Bartlett’s test of sphericity $\chi^2 (171) = 1550.60$, $p < 10^{-19}$). Parallel analysis suggested a four
factor solution. The same EFA procedures for the pre-bargaining items were applied to these
items. The items and factor loadings are shown in Table 5b, and factor intercorrelations are
shown in Table 6b.
Table 5. Pattern Matrices Generated from Exploratory Factor Analyses of the Negotiation Behavior Inventory.

(a) Pre-bargaining items

<table>
<thead>
<tr>
<th>Item</th>
<th>Setting the Arena</th>
<th>Researching the Counterpart</th>
<th>Understanding the Impasse</th>
<th>Preparing the Self</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaust every source of information at your disposal (including, but not limited to family, friends, co-workers, institutions, the library, and the Internet).</td>
<td>.55</td>
<td>.13</td>
<td>-.06</td>
<td>-.00</td>
<td>.37</td>
</tr>
<tr>
<td>Research alternative outcomes that satisfy the need of the parties - (i.e., find alternative arrangements that meet you and your counterpart's needs).</td>
<td>.64</td>
<td>.06</td>
<td>.06</td>
<td>-.04</td>
<td>.48</td>
</tr>
<tr>
<td>Communicate in advance your intention to negotiate.</td>
<td>.65</td>
<td>-.07</td>
<td>.07</td>
<td>.06</td>
<td>.46</td>
</tr>
<tr>
<td>Make sure all relevant parties will be included in the negotiation.</td>
<td>.67</td>
<td>-.10</td>
<td>.11</td>
<td>.17</td>
<td>.61</td>
</tr>
<tr>
<td>Establish a shared perception of the situation that requires resolution.</td>
<td>.60</td>
<td>.07</td>
<td>-.04</td>
<td>.26</td>
<td>.60</td>
</tr>
<tr>
<td>Attempt to remove or minimize distractions that could draw attention away from the negotiation.</td>
<td>.54</td>
<td>.11</td>
<td>.02</td>
<td>.08</td>
<td>.45</td>
</tr>
<tr>
<td>Spend time researching the events leading to the negotiation.</td>
<td>.68</td>
<td>.19</td>
<td>-.05</td>
<td>-.15</td>
<td>.53</td>
</tr>
<tr>
<td>Investigate how your counterpart values you or the resources you have.</td>
<td>.11</td>
<td>.45</td>
<td>.05</td>
<td>.28</td>
<td>.53</td>
</tr>
<tr>
<td>Spend time thinking about your counterpart's goals.</td>
<td>-.07</td>
<td>.54</td>
<td>.18</td>
<td>.18</td>
<td>.49</td>
</tr>
<tr>
<td>Spend time studying your counterpart's tactics and patterns of behavior in similar situations.</td>
<td>.02</td>
<td>.78</td>
<td>.00</td>
<td>.08</td>
<td>.68</td>
</tr>
<tr>
<td>Spend time studying the counterpart's emotional state as they enter into negotiations.</td>
<td>.03</td>
<td>.74</td>
<td>-.10</td>
<td>.01</td>
<td>.52</td>
</tr>
<tr>
<td>Spend time researching if your counterpart might value things differently than you.</td>
<td>.01</td>
<td>.75</td>
<td>.02</td>
<td>.05</td>
<td>.61</td>
</tr>
<tr>
<td>Spend time researching the counterpart's point of view on the situation.</td>
<td>.08</td>
<td>.76</td>
<td>.13</td>
<td>-.11</td>
<td>.70</td>
</tr>
<tr>
<td>Decide what your bottom line will be.</td>
<td>-.01</td>
<td>-.03</td>
<td>.63</td>
<td>.24</td>
<td>.56</td>
</tr>
<tr>
<td>Understand your no-deal options.</td>
<td>.04</td>
<td>-.03</td>
<td>.88</td>
<td>.00</td>
<td>.79</td>
</tr>
<tr>
<td>Understand your counterpart's no-deal options.</td>
<td>.00</td>
<td>.15</td>
<td>.80</td>
<td>-.04</td>
<td>.74</td>
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<tr>
<td>Spend time thinking about your goals.</td>
<td>.02</td>
<td>.04</td>
<td>.02</td>
<td>.75</td>
<td>.62</td>
</tr>
<tr>
<td>Prioritize the goals for the negotiation.</td>
<td>.08</td>
<td>.09</td>
<td>.02</td>
<td>.70</td>
<td>.62</td>
</tr>
<tr>
<td>Create a table or list of what you value most to what you value least.</td>
<td>.15</td>
<td>.03</td>
<td>.03</td>
<td>.41</td>
<td>.28</td>
</tr>
<tr>
<td>Ensure that you have the necessary resources to follow through with the deal that you reach.</td>
<td>.06</td>
<td>.03</td>
<td>.15</td>
<td>.52</td>
<td>.43</td>
</tr>
<tr>
<td>Maintain competence in the skills needed to analyze the deal (e.g., technical evaluation, accounting, developing relationships, etc…).</td>
<td>.23</td>
<td>.15</td>
<td>.18</td>
<td>.34</td>
<td>.49</td>
</tr>
<tr>
<td>Decide whether third parties, such as a mediator or facilitator should be involved.</td>
<td>.42</td>
<td>-.05</td>
<td>.36</td>
<td>-.11</td>
<td>.36</td>
</tr>
</tbody>
</table>

*Note.* Retained items are indicated with loadings in bold.
(b) Bargaining items

<table>
<thead>
<tr>
<th>Item</th>
<th>Interest Based Bargaining</th>
<th>Concern for Counterpart</th>
<th>Bargaining Factor 3</th>
<th>Bargaining Factor 4</th>
<th>Communalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you make a concession, insist that your counterpart also make a concession.</td>
<td>.33</td>
<td>-.14</td>
<td>.12</td>
<td>.27</td>
<td>.27</td>
</tr>
<tr>
<td>Try to discover your counterpart's underlying interests.</td>
<td>.54</td>
<td>-.10</td>
<td>.28</td>
<td>.06</td>
<td>.50</td>
</tr>
<tr>
<td>Try to reach a deal that touches on all of the issues involved.</td>
<td>.58</td>
<td>.18</td>
<td>.07</td>
<td>-.04</td>
<td>.51</td>
</tr>
<tr>
<td>Compare your counterpart's offers against your aspirations.</td>
<td>.77</td>
<td>-.08</td>
<td>.10</td>
<td>.02</td>
<td>.65</td>
</tr>
<tr>
<td>Review the final terms with your counterpart to confirm mutual agreement about their interpretation.</td>
<td>.78</td>
<td>.15</td>
<td>-.09</td>
<td>-.02</td>
<td>.66</td>
</tr>
<tr>
<td>Create and maintain a positive atmosphere while negotiating.</td>
<td>.12</td>
<td>.60</td>
<td>.05</td>
<td>.11</td>
<td>.51</td>
</tr>
<tr>
<td>Try to genuinely help your counterpart as well as to meet your own objectives.</td>
<td>.12</td>
<td>.70</td>
<td>.09</td>
<td>-.10</td>
<td>.64</td>
</tr>
<tr>
<td>Allow your counterpart to fully express what they want to say.</td>
<td>.18</td>
<td>.56</td>
<td>-.01</td>
<td>.23</td>
<td>.54</td>
</tr>
<tr>
<td>Have plans in advance to deal with counterproductive (e.g., negative, extreme, irrational) behavior from your counterpart.</td>
<td>.21</td>
<td>.11</td>
<td>.35</td>
<td>.12</td>
<td>.36</td>
</tr>
<tr>
<td>Spend time inventing options for mutual benefit.</td>
<td>.08</td>
<td>.22</td>
<td>.55</td>
<td>-.07</td>
<td>.49</td>
</tr>
<tr>
<td>Keep track of how much value is created by systematically evaluating each offer against previous offers.</td>
<td>.08</td>
<td>-.15</td>
<td>.67</td>
<td>.13</td>
<td>.53</td>
</tr>
<tr>
<td>Avoid telling your counterpart your bottom line.</td>
<td>-.02</td>
<td>.03</td>
<td>-.03</td>
<td>.59</td>
<td>.34</td>
</tr>
<tr>
<td>Make the first offer extremely favorable to you.</td>
<td>.19</td>
<td>-.30</td>
<td>.11</td>
<td>.33</td>
<td>.24</td>
</tr>
<tr>
<td>Make sure that you were fully understood.</td>
<td>.47</td>
<td>.35</td>
<td>-.02</td>
<td>.13</td>
<td>.54</td>
</tr>
<tr>
<td>Ask questions to learn about your counterpart.</td>
<td>.17</td>
<td>.34</td>
<td>.42</td>
<td>-.09</td>
<td>.53</td>
</tr>
<tr>
<td>Test your understanding of what your counterpart was trying to say by repeating what</td>
<td>.05</td>
<td>.31</td>
<td>.40</td>
<td>-.12</td>
<td>.37</td>
</tr>
<tr>
<td>Avoid using evaluative language (e.g., good, bad, favorable, unfavorable) to describe offers or issues.</td>
<td>-.17</td>
<td>.30</td>
<td>.40</td>
<td>.10</td>
<td>.26</td>
</tr>
<tr>
<td>Try to focus on satisfying your underlying needs rather than a specific list of requirements.</td>
<td>.14</td>
<td>-.01</td>
<td>.25</td>
<td>.22</td>
<td>.21</td>
</tr>
<tr>
<td>Do not let emotions dictate the way you negotiate.</td>
<td>-.06</td>
<td>.32</td>
<td>.15</td>
<td>.43</td>
<td>.35</td>
</tr>
</tbody>
</table>

*Note.* Retained items are indicated with loadings in bold.
(c) Post-Bargaining items

<table>
<thead>
<tr>
<th>Item</th>
<th>Implementation</th>
<th>Review Agreement</th>
<th>Seek Feedback</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Express your commitment to the agreement.</td>
<td>.66</td>
<td>.18</td>
<td>-.04</td>
<td>.61</td>
</tr>
<tr>
<td>Check that you have addressed your counterpart's key concerns.</td>
<td>.66</td>
<td>-.05</td>
<td>.14</td>
<td>.49</td>
</tr>
<tr>
<td>Agree on a plan to implement every aspect of the agreement.</td>
<td>.80</td>
<td>.00</td>
<td>.03</td>
<td>.65</td>
</tr>
<tr>
<td>Investigate if the agreement was really as good as you thought it would be.</td>
<td>-.08</td>
<td>.75</td>
<td>.05</td>
<td>.51</td>
</tr>
<tr>
<td>Communicate your implementation plan to the people affected by the deal.</td>
<td>.07</td>
<td>.69</td>
<td>.05</td>
<td>.59</td>
</tr>
<tr>
<td>Systematically analyze the negotiation to review what happened and what was learned.</td>
<td>.08</td>
<td>.54</td>
<td>.17</td>
<td>.49</td>
</tr>
<tr>
<td>Periodically seek advice about negotiating from a more experienced negotiator.</td>
<td>-.04</td>
<td>.08</td>
<td>.85</td>
<td>.76</td>
</tr>
<tr>
<td>Periodically seek advice about negotiating from peers.</td>
<td>.10</td>
<td>.05</td>
<td>.77</td>
<td>.63</td>
</tr>
<tr>
<td>Try to make sure both parties are accountable for the implementation of the deal.</td>
<td>.36</td>
<td>.53</td>
<td>-.10</td>
<td>.62</td>
</tr>
</tbody>
</table>

Note. Retained items are indicated with loadings in bold.
The two interpretable factors, *interest based bargaining* (α = .76) and *concern for counterpart* (α = .76), describe unique domains of effectiveness in the bargaining process. Items in the *interest based bargaining* factor reflect efforts to craft an agreement that includes all of the issues being negotiated, understand the counterpart’s needs, and review offers against one’s needs (16% of variance accounted). Items in the *concern for counterpart* factor indicate behaviors that contribute to maintaining a positive atmosphere and to ensure that the counterpart’s needs are met (12% of variance accounted).

**CFA on bargaining items**

A CFA model that tested the fit of the two factor model suggested by the EFA fit the data suggested adequate fit (χ² (28) = 463.51, p < .001; TLI = .89; RMSEA = .09; SRMR = .06). All of the loadings from the items to their respective factors were positive and significant (all p-values below p = .001). The two factor model represented a superior fit to the model as compared to a one factor model in which all of the items loaded onto a single latent variable (Δχ²(1) = 37.41, p < .001).

**EFA on post-bargaining items**

Post-bargaining behavior items showed factor adequacy (Kaiser-Meyer-Olkin statistic = .87; Bartlett’s test of sphericity χ² (36) = 856.49, p < 10⁻¹⁵⁵). Parallel analyses suggested a three factor solution. The same EFA procedures for the pre-bargaining items were applied to these items. Two interpretable factors emerged. The items and factor loadings are shown in Table 5c. The factors yielded behaviors that assessed implementation and feedback seeking: *implementation* (α
Table 6. Intercorrelations among NBI factors.

(a) Pre-bargaining factors

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Setting the Arena</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Researching the Counterpart</td>
<td>.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Understanding the Impasse</td>
<td>.52</td>
<td>.42</td>
<td></td>
</tr>
<tr>
<td>4. Preparing the Self</td>
<td>.48</td>
<td>.39</td>
<td>.43</td>
</tr>
</tbody>
</table>

(b) Bargaining factors

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Interest Based Bargaining</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Concern for Counterpart</td>
<td>.49</td>
<td></td>
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<tr>
<td>3. Bargaining Factor 3</td>
<td>.55</td>
<td>.34</td>
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<td>4. Bargaining Factor 4</td>
<td>.32</td>
<td>.06</td>
<td>.27</td>
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</tbody>
</table>

(c) Post-bargaining factors

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Implementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Review Agreement</td>
<td>.49</td>
<td></td>
</tr>
<tr>
<td>3. Seek Feedback</td>
<td>.32</td>
<td>.06</td>
</tr>
</tbody>
</table>

Note. In the tables above, factor intercorrelations from EFA analyses are reported.
reviewing the agreement (α = .72), and seeking feedback (α = .79). Implementation items related to expressing commitment for the agreement, checking to have met the counterpart’s concerns, and forming a plan to implement the agreement (21% of variance accounted).

**Reviewing the agreement** items addressed behaviors related to comparing the implemented deal to the agreement (21% of variance accounted). **Seeking feedback** items related to periodically consulting peers and from more experienced negotiators about one’s negotiation abilities (16% of variance accounted).

**CFA on post-bargaining items**

A CFA model that tested the fit of the three factor model suggested by the EFA fit the data suggested mediocre fit ($\chi^2$ (28) = 531.10, p < .001; TLI = .80; RMSEA = .13; SRMR = .07). All of the loadings from the items to their respective factors were positive and significant (all p-values below p =.001). The two factor model represented a superior fit to the model as compared to a one factor model in which all of the items loaded onto a single latent variable ($\Delta \chi^2(3) = 104.24, p < .001$).

Table 7 shows the means and standard deviations of the subscales of the NBI and the Big Five factors, and their correlations for the full sample. The subscales correlate positively, demonstrating that a person likely to engage in one effective behavior is likely to engage in other effective behaviors. Correlations between the retained factors and the Big Five demonstrate positive correlations between conscientiousness and effective behaviors across negotiation phases. With the exception of one instance, conscientiousness correlated positively with all subscales, with the exception being a marginally significant positive correlation. Among the strongest correlations in were between conscientiousness and behaviors in the pre- and post-
Table 7. Means, Standard Deviations, and Correlations among NBI Subscales and the Big Five. \( N = 439 \)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>6</th>
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<th>10</th>
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<tbody>
<tr>
<td>1. Setting the Arena</td>
<td>5.18</td>
<td>1.02</td>
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<tr>
<td>2. Research the Counterpart</td>
<td>4.80</td>
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<td>.62 **</td>
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</tr>
<tr>
<td>3. Understanding Impasse</td>
<td>5.38</td>
<td>1.14</td>
<td>.52 **</td>
<td>.47 **</td>
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<tr>
<td>4. Preparing the Self</td>
<td>5.36</td>
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<td>.54 **</td>
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<tr>
<td>5. Interest Based Bargaining</td>
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<td>.58 **</td>
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<td>6. Concern for Counterpart</td>
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<td>.56 **</td>
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<td>7. Implementation</td>
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<td>8. Review Agreement</td>
<td>5.38</td>
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<td>.55 **</td>
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<td>9. Seek Feedback</td>
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<td>10. Openness</td>
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<td>.64</td>
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<td>13. Agreeableness</td>
<td>3.56</td>
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<td>.18 **</td>
<td>.04</td>
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<td>.15 **</td>
<td>.35 **</td>
<td>.26 **</td>
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<tr>
<td>14. Neuroticism</td>
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<td>.54</td>
<td>-.09 †</td>
<td>-.08</td>
<td>-.18 **</td>
<td>-.13 **</td>
<td>-.07</td>
<td>-.10 *</td>
<td>-.13 **</td>
<td>-.10 *</td>
<td>-.01</td>
<td>-.15 **</td>
<td>-.48 **</td>
<td>-.46 **</td>
<td>-.41 **</td>
</tr>
</tbody>
</table>

*Note.* † \( p < .10 \), * \( p < .05 \), ** \( p < .01 \)
negotiation phases, providing evidence consistent with the ratings of individual difference experts observed in Study 3. In addition, openness and extraversion correlated moderately with effective behaviors across phases.

To further study the associations between the Big Five factors and the NBI subscales, I repeated the analyses conducted in Study 3. In a series of regressions displayed in Table 8, I regressed each of the eight NBI subscale scores on the Big Five factors, and then estimated planned contrasts. The contrasts tested for differences between the coefficient for conscientiousness, and the average of the remaining coefficients. Out of nine contrasts (i.e., one for each NBI subscale), the coefficient for conscientiousness was higher than the average of the remaining coefficients in six cases (setting the arena \( t = 2.07, p = .04 \); understanding the impasse, \( t = 4.02, p < 10^{-4} \); preparing the self \( t = 4.08, p < 10^{-4} \); interest based bargaining \( t = 3.59, p < .001 \); implementation \( t = 2.51, p = .01 \); reviewing the agreement \( t = 2.66, p = .01 \)). For the remaining three subscales, the coefficient for conscientiousness was either non-significantly different, or lower than the average of the remaining coefficients (subscales for researching the counterpart, \( t = 1.89, p = .06 \) and concern for counterpart, \( t = -2.6, p = .04 \); seek feedback \( t = -2.02, p = .04 \)).

**Gender differences**

I examined gender differences in NBI subscale scores. Two significant differences emerged. Men reported higher levels of researching the counterpart in the pre-bargaining phase (Male \( M = 4.97, SD = 1.12 \); Female \( M = 4.60, SD = 1.23 \), \( t = 3.29, p = .01 \), Cohen’s \( D = .32 \)), but the difference was small in magnitude. The only other difference in subscale scores was on reports of comprehensiveness in the bargaining phase, with women reporting higher levels of concern
Table 8. Regression of NBI Subscales on Big Five Factors.

<table>
<thead>
<tr>
<th></th>
<th>Pre-Bargaining</th>
<th></th>
<th></th>
<th></th>
<th>Bargaining</th>
<th></th>
<th></th>
<th>Post-Bargaining</th>
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<tr>
<td></td>
<td>Setting the</td>
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<td>Understanding</td>
<td>Preparing the</td>
<td>Interest Based</td>
<td>Concern for</td>
<td>Implementation</td>
<td>Review Agreement</td>
<td>Seek Feedback</td>
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<td></td>
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<td>Impasse</td>
<td>Self</td>
<td>Bargaining</td>
<td>Counterpart</td>
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<tr>
<td>Extraversion</td>
<td>.08 †</td>
<td>-.08</td>
<td>.00</td>
<td>.08 †</td>
<td>.02</td>
<td>.38 **</td>
<td>.17 **</td>
<td>.06</td>
<td>.13 *</td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.28 **</td>
<td>.23 **</td>
<td>.27 **</td>
<td>.39 **</td>
<td>.30 **</td>
<td>.16 **</td>
<td>.30 **</td>
<td>.27 **</td>
<td>.02</td>
<td></td>
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<tr>
<td>Conscientiousness</td>
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<td>.15 **</td>
<td>.01</td>
<td>.17 **</td>
<td>-.01</td>
<td>-.03</td>
<td>.11 **</td>
<td>.09 †</td>
<td>.21 **</td>
<td></td>
</tr>
<tr>
<td>Neuroticism</td>
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<td>.12 *</td>
<td>-.03</td>
<td>.21 **</td>
<td>.11 †</td>
<td>.15 **</td>
<td>.16 **</td>
<td>.12 *</td>
<td>.16 **</td>
<td></td>
</tr>
<tr>
<td>Openness</td>
<td>.26 **</td>
<td>.30 **</td>
<td>.13 **</td>
<td>.23 **</td>
<td>.21 **</td>
<td>.20 **</td>
<td>.18 **</td>
<td>.17 **</td>
<td>.08 †</td>
<td></td>
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<td>Observations</td>
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<td>R²</td>
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<td>.11</td>
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<td>.22</td>
<td>.19</td>
<td>.13</td>
<td>.06</td>
<td></td>
</tr>
<tr>
<td>F Statistic</td>
<td>22.39 **</td>
<td>21.43 **</td>
<td>10.95 **</td>
<td>35.29 **</td>
<td>13.08 **</td>
<td>25.40 **</td>
<td>21.89 **</td>
<td>13.60 **</td>
<td>6.98</td>
<td></td>
</tr>
</tbody>
</table>

Note. Standardized coefficients are reported. † p < .10, * p < .05, ** p < .01
for counterpart (Male M = 5.39, SD = 1.01; Female M = 5.66, SD = 1.10, t = -2.65, p = .01, D = -.26), but again, the difference was small in magnitude. Examining gender differences while controlling for the Big Five factors in a series of regressions resulted in a largely similar pattern, with men reporting higher levels of researching the counterpart (Beta = -.18, t = -3.98, p <.001), with no other significant differences observed.

2.3.5 Discussion

Supporting and replicating the results of Study 3, conscientiousness showed sizable correlations with effective behaviors in all phases. The empirical correlations in Study 4 also revealed an additional role for openness to experience and extraversion in influencing effective behaviors that the individual experts did not predict. But the consistent and sizable influence of conscientiousness across phases of negotiation was replicated.

The contribution of this study was to highlight the development of a theory-based measure of negotiation effectiveness. A survey instrument has the potential to be deployed with minimal cost and effort, facilitating measurement and subsequent theory building about phases of negotiation often left unexamined by organizational researchers. Organizational researchers have typically made methodological choices that limited the breadth of measurement but increased precision of measurement. Doing so has left much of the research examining ever finer gradients of behavior within the parameters set by researchers, or more often the case, the parameters set by previous researchers who designed the particular simulation. Missing from such research is the ability to describe and theorize about negotiations as they occur in social contexts. Although the NBI represents a sampling of only the behaviors theorized to be effective, the potential to study their influence across a broad variety of contexts still represents a considerable increase in capability to measure behavior.
A second contribution was to provide further clues for resolving the *conscientiousness paradox* (Sharma et al., 2013). As observed in Study 3, the influence of conscientiousness were most apparent in aspects of the pre-bargaining and post-bargaining phases. Conscientiousness is likely to be the individual differences antecedent to many consequential behaviors away from the bargaining table. This raises a larger question of the generality of the individual differences effects observed in the context of stylized negotiation tasks. In general, the personality effect sizes (effective behaviors) observed in Study 4 are largely moderate and mostly significant, whereas personality effect sizes on outcomes (individual and joint economic value, subjective value) observed by Sharma and colleagues (2013) are largely small and non-significant. If conscientiousness is not an exceptional personality factor with respect to its apparent restricted influence when studied within the bounds of a simulation study, this suggests much of what we know about personality influences through negotiations is likely to be misleading. Future research will need to systematically address this issue.

There are many limitations of this initial scale development study. Although the initial steps of the NBI’s development was outlined, future extensions to this work will be necessary to better understand and enhance the psychometric properties of the NBI. For example, assessment of the convergent and divergent validity of the NBI will be needed (Hinkin, 1998). A lack of measurement tools designed to assess behavior in the pre- and post- bargaining phases will prove to be a barrier to obtaining such forms of validity. Currently, I am only aware of one measure which could plausibly correlate with any NBI subscale: the integrative self-efficacy scale (ISE; Sullivan, O’Connor, & Burris, 2006). The ISE measures the extent to which people perceive they can engage in integrative behaviors (establishing rapport, find tradeoffs, exchange concessions, maximize both parties’ interests), which should positively correlate with the *working for mutual*
benefit subscale of the NBI. In contrast, the distributive self-efficacy measure (DSE; Sullivan, O’Connor, & Burris, 2006), assesses one’s efficacy beliefs in dominating the negotiation (convince other to agree with you, prevent other from exploiting weakness, gain the upper hand, persuade other to make most concessions), which should correlate negatively with the working for mutual benefit subscale. Those measures are the only measures that approximate negotiation behavior, but are limited to the scope of the bargaining phase.

Demonstrating the criterion validity of the NBI will be necessary to demonstrate its use as a valid tool to measure negotiation behavior. To that end, it is worth considering what might be a plausible criterion to evaluate the predictive power of the NBI. Because of a lack of validated self-report measurement tools to measure behavior in each phase of negotiation, one approach might be to rely on peer or supervisor reports of negotiation effectiveness in a particular context. That is, peers or supervisors are able to observe the negotiation behaviors of focal individuals. To the extent that those peers and supervisors can be considered competent judges or experts of negotiating in a particular context, people’s efforts to negotiate while attempting to fulfill their role as an organizational member charged with a negotiation role. For example, lawyers within a firm may be in a position to evaluate each other’s behavior when attempting to resolve a dispute for a client, observe the bargaining tactics of a fellow lawyer, and to observe their implementation efforts. If effective behaviors in each phase contribute to the realization of a valued outcome, then peers or supervisors who observe both the focal person as throughout the negotiation process should be able to incorporate such observations into an appraisal of a focal negotiator. Sharma’s (2015) supervisor measure of negotiator evaluation may serve this purpose. The measure aims to assess a focal supervisor’s perception of a subordinate’s integrative and attitudinal structuring, distributive behaviors, and internal consensus building behaviors. The
items also incorporate elements of pre-bargaining preparation (*How effective is the employee... In planning systematically a sequence of activities prior to negotiations?*), and bargaining tactics (*How effective is the employee... In leveraging their alternative as a source of power during negotiations?*). Future studies to validate the NBI using Sharma’s (2015) measure is currently in its planning phase, with connections with law enforcement officers made.

Examination of gender differences on the NBI revealed only small differences on tendencies for men to report a higher level of researching the counterpart and for women to report higher levels of attempting to reach a comprehensive deal. Neither difference was large. In analyses not reported, item level differences between genders was examined. Most significant differences occurred with items that belonged to the factors listed above, with differences in the direction indicated at the subscale level score. Again, the two effect sizes associated with significant differences were small when the Big Five were not accounted for (absolute value of Cohen’s D = .26 ~ .32), and only one significant difference remained when the Big Five were accounted for. This pattern is suggestive of minor differences in negotiation behavior, but not a large disparity in enacting (or, more accurately, claiming to enact) effective negotiation behaviors. Future research, with the criterion validated NBI, will be required to replicate this pattern. But if these results do emerge in a future study, it would suggest that the negotiation behaviors of men and women in the field are more similar than they are different, replicating a previous finding that when men and women are evaluated for negotiation ability in an employment setting that requires negotiation ability (i.e., legal profession), no differences in effectiveness were observed (Tinsley, Cheldelin, Schneider, & Amanatullah, 2009). These results contrast with findings that show gender differences in outcomes (e.g., Stuhlmacher & Walters, 1999), but a recent large-scale review shows many studies that show the effect could be a symptom of the research
paradigms typically deployed. Many studies involve single-shot interactions between parties (experimental simulations). When negotiation effectiveness is measured in a relational context – one that affords repeated interactions between parties that serve to ameliorate the effects of stereotypes that might be relied upon in situations of zero acquaintance – gender differences may be less or not apparent (Kennedy & Kray, 2015).

### 2.4 Study 5 – Conscientiousness and Negotiation Outcomes in a Complex Simulation

Studies 3 and 4 revealed converging evidence that conscientiousness correlates with effective behaviors, especially those relating to the pre- and post-bargaining phases. Both studies share a limitation in that they relied on self-reported data, which are potentially affected by common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In Study 5, I aimed to demonstrate the correlation between conscientiousness and negotiation effectiveness through the use of a complex simulation.

Although a consistent argument made throughout the thesis is that organizational scholars may have over-relied on the simulation method, the criticism is made with reference to its use to study the bargaining phase almost exclusively. Similar methodological choices among organizational scholars limit the ability of the field to reveal aspects of the phenomenon, but the same method could still be used to study all three phases of negotiation. For example, Mislin and colleagues (2011) conducted and experimental study of negotiation using a simulation that explored the consequence of behavior across negotiation phases. In Study 1 of their paper, part of the simulation involved the opportunity of the participants to engage in verbal communication via instant messaging on a computer workstation. Dyads then engaged in a simulated labor contract in which participants assigned to employee and employer roles negotiated over the
payment structure and amount. If an agreement was struck, employees chose a level of costly expenditure, which modeled the implementation of a labor contract. This design tested the effect of pre-bargaining rapport building on post-bargaining implementation effort. Thus, simulation studies can be used to yield insights about multiple phases of negotiation. In Study 5, I aim to leverage a complex simulation that could be used to study the impact of pre-negotiation preparation process on negotiated outcomes.

*Moms.com* (Tensbrunsel & Bazerman, 2012) is a two-party, multi-issue simulation regarding the syndication of a television show. Briefing materials specify a buyer and seller role. Participants assigned to these roles must negotiate three key issues: the *licensing fee* per episode, *runs per episode* (i.e., number of times an episode can be shown), and *financing terms* (i.e., the amounts to be paid over a 5 year period). The *licensing fee* is a distributive issue, with higher fees benefiting the seller. The remaining issues can be traded in an integrative way. The buyer prefers more *runs per episode*, whereas the seller prefers *financing terms* with upfront payment.

*Moms.com* offers innovations not commonly featured in other simulations. First, despite being a multi-issue negotiation, a payoff matrix is not provided to participants. This is because the issues are interdependent. Payoff from the negotiation depends on the combination of all issues, since the *financing terms* modify the percentage of the value gained from the *licensing fee* – the value of proposals are not a simple additive function of payoffs on individual issues. To determine the value of any proposal requires the application of a formula. Without prepared electronic spreadsheets, or pre-calculation of possible offers, the value of proposals are far more difficult to evaluate than when a payoff matrix is utilized. Those who make such preparations should be in an advantageous position compared to those who may have little idea about the value of the proposals they make or evaluate.
Second, the briefing materials mention, though do not mandate or even emphasize, the possibility of making a deal on the syndication of an additional show (Juniors). Making a trade involving this additional show can benefit both negotiators, but parties must spend time discussing and considering this possibility in order to find the positive zone of agreement. Specifically, the reporting template for the exercise does not explicitly ask about terms for this sale, it provides only a vaguely worded open-ended response field: “Other terms of the agreement (specify):”. Unless at least one of the parties examined the briefing information carefully enough to realize a deal on Juniors could be profitable, the chances of the dyad giving it sufficient attention and knowing how to structure terms of a transaction involving the program are low.

Finally, the briefing materials state that profit from any deal represent the forecasted profit based on expectations of program ratings that determine advertising revenues. Buyers and sellers received very different ratings expectations for the program: briefing notes for buyers are less optimistic about ratings (i.e., lower ratings expectations) than sellers. This discrepancy in assigned forecasts is not common knowledge. The discrepancy introduces a source of disagreement between the parties but one that could be resolved through the development of a somewhat more complex contingent agreement with payments dependent on realized ratings for the program when aired. The formula could involve profit/revenue sharing, surcharge/rebate payments, or some other terminology that makes payment dependent upon rating. Unless parties have carefully read through and considered the information offered in the briefing materials, these more sophisticated forms of contracting would be difficult to reach. Moms.com does not feature a post-bargaining component in which ratings are actually realized so ultimately profits remain forecasts only.
This simulation features a level of complexity that should favor people who spend more time and effort preparing for the task. It is far more complex than simulations that feature a single issue, or a simulation that features multiple issues but provide a payoff matrix. A payoff matrix informs the participants of all of the potential outcomes in a simulation, and the value associated with each outcome. Such a device obviates the need for extensive preparations because it allows participants to readily compare the attractiveness of offers with very little effort prior to bargaining. In real negotiations, preparation behaviors require considerable effort, and are important because they influence the outcome of subsequent phases (Lewicki & Litterer, 1985; Zartman, 2006). In the context of the Moms.com simulation, preparation entails preparing questions and evaluating alternatives prior to the bargaining process, which should greatly facilitate the value of agreement reached in the bargaining phase. Evidence from Studies 3 and 4 indicated that conscientious negotiators will engage in more of these behaviors than non-conscientious negotiators. Thus, I hypothesize that higher levels of conscientiousness will be associated with higher levels of individual gain as represented in the agreement.

2.4.1 Methods

Participants and Procedure

Executive MBA (EMBA) students enrolled in a mid-sized Midwestern university took part in the study (N = 408, Age M = 39.16, SD = 8.00, 25% female). The Moms.com simulation was completed as part of a two or three day course on negotiations and conflict management. Responses across 16 such classes were aggregated to a single dataset. This course is usually taken towards the start of the EMBA program. Participants were provided with the briefing materials on the first day of the course then instructed, to spend extra time preparing in advance of the simulation due to its greater complexity. The actual simulation was usually conducted on
the last day of the course. No one monitored participant preparation so they had discretion in how much or how little time to prepare for it.

**Measures**

The Hogan Personality Inventory (HPI; Hogan & Hogan, 2007) was used to measure conscientiousness as well as other aspects of the Big Five. The HPI represents the Big Five factors in seven scales, with conscientiousness represented by the *prudence* factor ($\alpha = .71$), agreeableness represented by the *interpersonal sensitivity* factor ($\alpha = .57$), openness to experience represented by the *inquisitive* ($\alpha = .80$) and *learning approach* factors ($\alpha = .78$), neuroticism represented by the *adjustment* factor ($\alpha = .82$), and extraversion represented by the *ambition* ($\alpha = .80$) and *sociability* factors ($\alpha = .83$). Alphas reflect those reported in the 2007 HPI manual, since I did not have access to the raw data. Personality data were collected midway through the EMBA program, so a few months after completing the negotiation and conflict management course. The HPI was completed by 326 of the participants.

The Hogan Business Reasoning Inventory (HBRI; Hogan Assessment Systems, 2014) was used to measure reasoning ability. The HBRI assesses tactical reasoning, described as an index of problem solving ability, and strategic reasoning, described as an index of a person’s ability to identify problems. Both tactical and strategic reasoning assess people’s ability to process and solve problems with verbal, quantitative, and graphic information, likely to be present in a business setting. Items, reliability, and validity information are currently not available. The data Hogan Assessments provided were not raw scores, but percentiles. An overall score that combines strategic and tactical reasoning was also available. I used this combined score in the analysis as an indicator of overall reasoning ability. The HBRI was completed by 101 participants.
Participants also completed the Subjective Value Inventory (SVI; Curhan, Elfenbein, & Xu, 2006) after the simulation ended. The SVI assesses people’s perceptions following negotiation, with subscales measuring the subjective appraisal of the instrumental outcome, relationship with the counterpart, the negotiation process, and the way one conducted themselves during the negotiation. An overall score that sums across the four subscales was computed. During data collation, I discovered that the number of response options for the Likert-type scales used varied slightly across different classes. Thus, I standardized each item within each version of the scale deployed, then aggregated scores across versions. The overall score demonstrated high internal consistency ($\alpha = .90$). The SVI was completed by 283 participants.

### 2.4.2 Results

To calculate an index of effectiveness comparable across buyer and seller roles, I standardized the raw scores using a Z-score transformation. In addition, a joint value variable, which represents the total value generated by the dyad, was calculated by summing the dyad members’ raw scores. This value was also standardized using a Z-score transformation. Table 9 shows the bivariate correlations between the negotiation outcomes, subjective value, and individual differences.

Examining bivariate correlations between personality factors and negotiated outcomes reveals that the only significant correlation between personality and individual outcome is with the HPI factor of prudence, an indicator of conscientiousness. The HBRI, an indicator of reasoning ability, also correlated positively with individual outcomes.
Table 9. Descriptive Statistics and Correlations between Negotiation Outcomes and Individual Differences. N = 53~334

|                  | Mean | SD  | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    |
|------------------|------|-----|------|------|------|------|------|------|------|------|------|------|
| 1. Individual Outcome | 1,901,954 | 1,268,055 |    |      |      |      |      |      |      |      |      |      |
| 2. Joint Value    | 3,814,954 | 988,638 | .39** |      |      |      |      |      |      |      |      |      |
| 3. SVI            | -    | -   | .22** | .13* |      |      |      |      |      |      |      |      |
| 4. C: Prudence    | 18.83 | 4   | .14* | -.01 | .14* |      |      |      |      |      |      |      |
| 5. O: Inquisitive | 15.97 | 4.35 | .05  | .03  | .12† | -.13* |      |      |      |      |      |      |
| 6. O: Learning Approach | 8.78  | 2.99 | -.08 | .07  | -.05 | .07  | .28** |      |      |      |      |      |
| 7. N: Adjustment  | 25.14 | 6.56 | .03  | .02  | .20** | .45** | .11* | .08  |      |      |      |      |
| 8. E: Ambition    | 23.47 | 4.24 | .02  | -.01 | .18** | .16** | .21** | .11* | .52** |      |      |      |
| 9. E: Sociability | 14.79 | 4.73 | .01  | -.01 | -.27** | .40** | .07  | .04  | .35** |      |      |      |
| 10. A: Interpersonal Sensitivity | 18.44 | 2.95 | .01  | -.04 | .13* | .26** | .16** | -.03 | .50** | .37** | .28** |      |
| 11. HBRI          | 63.96 | 24.97 | .20* | .34** | .00  | -.15 | .09  | .10  | -.18† | .00  | .02  | -.30** |

*Note. SVI = Subjective Value Inventory, C: Prudence = Conscientiousness/Prudence, O: Inquisitive = Openness/Inquisitive, O: Learning Approach = Openness/Learning approach, N: Adjustment = Neuroticism/Adjustment, E: Ambition = Extraversion/Ambition, E: Sociability = Extraversion/Sociability, HBRI = Hogan Business Reasoning Inventory. † p < .10, * p < .05, ** p < .01
To formally test the association between conscientiousness and negotiation outcomes, I used dyadic data analysis approach (Kenny, Kashy, & Cook, 2006). Because participants in our sample negotiated with one other counterpart, both one’s own and the counterpart’s individual differences could affect outcomes – i.e., data in one row can affect the outcomes in another row. Thus the data may not be independent, violating assumptions for ordinary least squares analysis. Empirically, the data were highly interdependent, with correlations between the individual outcomes of the actor (i.e., a focal negotiator), and the partner (i.e., the counterpart) being large in magnitude and significant (r = -.69, p < .001). High levels of interdependence substantially increases Type I error if not accounted for. Kenny and colleagues (2006) suggest a consequential level of noninterdependence to be .45, which would increases the probability of Type I error from .05 to .10. Thus, dyadic data analyses were necessary to account for the noninterdependence.

To estimate the dyadic model, I used R commands generated by David Kenny’s (2015) dyadic data analysis server (http://davidakenny.net/DyadR/DyadRweb.htm). To test if conscientiousness would correlate with individual outcomes, I estimated an initial model in which actor and partner levels of prudence was used to predict individual outcomes. 159 dyads were included in the analyses. A test of distinguishability was conducted to see if accounting for negotiator role (i.e., seller vs buyer) would improve model fit. A comparison in which a model that included dummies for buyer and seller roles vs. a model without such dummies yielded a non-significant difference, $\chi^2(4) = 2.66$, p = .62, suggesting a parsimonious model that does not distinguish between buyer and seller roles was appropriate.
Figure 5. Dyadic Analysis of the Role of Conscientiousness on Negotiation Outcomes.

Note. Coefficients reported are based on standardized variables.

Results are shown in Figure 5. The actor effect of prudence was .13 and significant (p = .02), as was the partner effect of prudence -.13 (p = .01). The direction of the coefficients suggested a contrast model in which the magnitude of the actor and partner effects are equal, but in opposite directions. The ratio of the partner effect to the actor effect was $k = -1.04$ (95% CI = -2.96 ~ -.29), suggesting that the gain in individual outcome achieved through one’s own level of conscientiousness comes at the cost of a lowered outcome for the counterpart. The $R^2$ for the overall model was .03, and explained 5.44% of the total nonindependence.

To further test the robustness of the result, I estimated a second model that included covariates for the remaining HPI factors, age, and gender for both actors and partners, using the same analysis strategy. Controlling for the additional variables resulted in an analysis that included 112 dyads. The actor effect of prudence was .30 (p <.001), and the partner effect was -.25 (p < .01). Again, the ratio of the actor to partner effect suggested a contrast model ($k = -.84$; 95% CI = -1.41 ~ -.41). The $R^2$ for the overall model was .09, and explained 23.68% of the total nonindependence. Dummies for EMBA classes were not entered because of collinearity issues – for one class, there are no gender or age data.
variable, resulting in perfect correspondence between the dummy for that class and both demographic variables. Full results for this model are shown in Appendix I.

I also tested for the association between reasoning ability on individual outcomes using a similar dyadic analysis strategy. This resulted in an analysis that included 49 dyads. I estimated a model that considered actor and partner reasoning ability and their association with individual outcomes. The actor effect of reasoning ability was .20 and marginally significant (p = .07), while the partner effect was .04 and not significant (p = .70). The $R^2$ for the overall model was .02. Reasoning ability does not appear to predict individual outcomes.

I estimated a second model that controlled for actor and partner HPI factors, age, and gender, which resulted in an analysis that included 31 dyads. The actor effect of reasoning ability was -.19 and not significant (p = .23), while the partner effect was .38 and significant (p = .02). The $R^2$ for the overall model was .24. According to this model, the counterpart’s reasoning ability contributes to increasing one’s own individual outcomes. But this result should be viewed tentatively, given the large number of coefficients estimated (20) to the number of observations (62). This result should be replicated using a larger sample before being given much weight. Full results for this model are shown in Appendix I.

To estimate the effects of conscientiousness and reasoning ability on joint outcomes, I estimated an ordinary least squares model. A dyadic data analysis strategy was not possible since dyad members share a common outcome, resulting in no variance across dyad members. I regressed individual and joint outcome on reasoning ability, conscientiousness, and their interaction. In additional models, I also controlled for the age and gender variables and EMBA class dummies. Results are shown in Table 10. The pattern of results indicate reasoning ability to predict joint, but not individual
Table 10. Reasoning Ability and Personality Correlates of Negotiation Outcomes

<table>
<thead>
<tr>
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<th>Individual Outcome</th>
<th>Joint Outcome</th>
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<td>.12</td>
<td>.19 †</td>
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<tr>
<td>Partner Reasoning Ability</td>
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<td>.22 *</td>
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<tr>
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<td>-.18 †</td>
</tr>
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</tr>
<tr>
<td>Partner other Big Five</td>
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<td>No</td>
</tr>
<tr>
<td>Actor Reasoning*Conscientious</td>
<td>.18 †</td>
<td>.22 *</td>
</tr>
<tr>
<td>Partner Reasoning*Conscientious</td>
<td>.01</td>
<td>.23 *</td>
</tr>
<tr>
<td>Constant</td>
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<td>.05</td>
</tr>
<tr>
<td>Observations</td>
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<td>86</td>
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<tr>
<td>R²</td>
<td>.14</td>
<td>.36</td>
</tr>
<tr>
<td>Adjusted R²</td>
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<td>.30</td>
</tr>
<tr>
<td>F Statistic</td>
<td>1.53</td>
<td>5.48 **</td>
</tr>
</tbody>
</table>

Note. HBRI = Hogan Business Reasoning Inventory, C: Prudence = Conscientiousness/Prudence. † p < .10, * p < .05, ** p < .01.

outcomes. Moreover, reasoning ability and conscientiousness had a multiplicative effect on joint outcomes. Simple slopes analysis of the interaction (Figure 6) using the model reported in column 3 of Table 10 revealed that reasoning ability impacted joint value for negotiators one standard deviation above the mean in conscientiousness (B = 16.164.18, t = 3.47, p < .001), but not for those one standard deviation below the mean on conscientiousness (B = -1031.67, t = -.17, p = .87).

Conscientious and intelligent people are those likely to grow the size of the pie available to divide.
2.4.3 Discussion

Conscientiousness was found to predict individual negotiation outcomes in a complex simulation which should have favored individuals who spent time and effort in preparation. Dyadic data analyses reveal conscientiousness to positively influence not only one’s own outcomes, but also to negatively influence the counterpart’s outcome. Conscientiousness appears to shape the amount of the total value negotiators are able to claim. But conscientiousness also plays a secondary role in shaping that total value. This is because conscientiousness and reasoning ability jointly predict the joint value of the agreement. Those high in both conscientiousness and reasoning ability are able to create a significantly larger pool of value to split. The interactive effect of conscientiousness and reasoning ability is a novel one, as no study to my knowledge has attempted to study their joint influence on negotiation in the context of a complex negotiation.

Figure 6. Simple Slopes Analysis of Conscientiousness and Reasoning Ability interaction

Note. HBRI = Hogan Business Reasoning Inventory
These results complement the findings of Studies 3 and 4, in that conscientiousness is shown to be a positive correlate of negotiation outcomes, and indirectly demonstrates the role of conscientiousness in shaping behavior across negotiation phases. This result also consistent with many studies that demonstrate a positive correlation between conscientiousness and consequential outcomes across a variety of social contexts (e.g., Barrick & Mount, 1991; Borghans et al., 2008).

The pattern of results also potentially indicate the role of conscientiousness for different aspects of negotiation. Negotiation has been characterized as a balancing act in which one must simultaneously aim to generate as much value as possible through a collaborative problem solving process, and to claim as larger portion of that value as possible (Fisher, Ury, & Patton, 2011). The results of Study 5 point to conscientiousness as playing an important role in both value generation and value claiming. This conclusion is consistent with an old observation: people prefer negotiating with experienced (i.e., more skilled) negotiators because experienced negotiators are able to create better agreements (Fisher et al., 2011). Future studies will need to replicate this finding, but the fact that a single individual difference contributes to contrasting tasks highlights the potential importance of this characteristic in the context of negotiation.

Moms.com is a complex simulation that requires effort in parsing the detailed briefing notes. Evaluation of offers, multi-issue offers in particular, required calculation that would have been difficult to conduct during the bargaining process. Performance on this task would have been facilitated by preparation, an investment in effort that conscientious negotiators likely engaged in. In real organizational contexts, the deals are likely to be more complex than the simulation deployed in this study. Mergers and acquisitions, for example, are likely to involve due diligence efforts that span detailed study of an organization’s operations over multiple past years, and
projections of long term performance post integration. Although anecdotal, internal Sony documents released by Wikileaks (2015), show that a negotiation between a promoter and Sony counsel required 27 distinct issues to negotiate, presenting a considerably more complex deal than afforded by the simulation. Although the effect size of the effect observed in the dyadic analysis may be small in absolute terms, their influence may be important with extremely complex negotiations such as ones being negotiated by Sony’s counsel.

These results also point toward a potential resolution for the conscientiousness paradox in the extent literature. Here, defying the paradox, conscientious negotiators achieved more favorable outcomes than their less conscientious counterparts. This result indicates that negotiation complexity most likely functions as a moderator of the relationship between the trait and the outcomes. Complex deals necessitate marshalling effort and resources to prepare for the negotiation. So the influence of conscientiousness will be more apparent with more complex deals. To be clear, I did not directly examine preparation, but could only indirectly infer that it took place. Participants in any given class had equal time to prepare, equal time to negotiate, but considerable discretion about how to use that time. Advantages could not have been gained through additional endowment of time. The only choice available was how one would use it.

2.5 General Discussion

Across three studies, I presented evidence that conscientiousness correlates with negotiation effectiveness. To arrive at this conclusion, I adopted methodological approaches that aimed to sample from a wider range of behavior than typically examined in experimental studies of negotiation. In addition, instead of relying on the value of agreements as the sole indicator of effectiveness, I argued that the enactment of effective behaviors should be conceptualized as an indicator of effectiveness. To negotiate well requires a sequence of activities across multiple
phases of negotiations (Zartman, 2006). Before an offer is even mentioned, effective negotiators prepare for the bargaining process. Once bargaining begins, negotiators must maintain efforts to benefit not only themselves but their counterparts. If an agreement is reached, negotiators must work to implement the terms of the agreement, and can develop as better negotiators by seeking feedback from peers and more experienced negotiators. A common thread among many of these behaviors is that they appear to be behavioral manifestations of conscientiousness in a negotiation context.

Consistent with this argument, in Study 3, the ratings provided by individual difference experts proved indicative of a positive correlation between conscientiousness and effective negotiation behaviors. In Study 4, I reported on the initial development of the Negotiation Behavior Inventory, a theory based measure of negotiation effectiveness, which showed consistent correlation with conscientiousness, as well as openness. In Study 5, the use of a simulation that favors prepared parties revealed higher performance for conscientious individuals.

Prior studies may not have detected the association between conscientiousness and effectiveness due to the deployment of simulation methods that emphasized the measurement of cognitions, behavior, and affect in the bargaining phase. Most empirical studies of negotiation appear to share this design feature as observed in Study 1. But the expression of conscientiousness in negotiation is most likely to appear during pre- and post-bargaining phases. The mismatch between the phase investigated in most empirical studies, and the phase in which the influence of conscientiousness is most evident could have obscured the observation of a positive association.

Furthermore, I argued that the value of negotiated outcomes calculated at the time of agreement does not sufficiently measure negotiation effectiveness. Negotiation requires carrying out a
complex sequence of tasks, achieved through enacting behaviors. The extent to which people engage in these behaviors should increase the chances of obtaining a favorable outcome and thereby determines effectiveness. A program of research that aims to observe, catalogue, describe, and explore the antecedents to these behaviors has strong implications for negotiation theory and practice. Many academic theories of negotiation are informed by findings generated using a form of simulation that models the bargaining process. There are few, or potentially no theories that describe what expert negotiators in at least one substantial context (i.e., international relations) spend the much of their time actually doing – preparing for and implementing agreements (Zartman, 2006). The study of individual differences in the context of prescriptive theorizing about negotiations, as in the current set of studies, is one attempt to expand upon existing theory and findings.

To further expand and enrich negotiation theory to describe and predict behavior in the pre- and post-bargaining phases will require examining negotiation processes typically not modeled with simulation methods, such as relationships that exist prior to and following the bargaining process. Theories of negotiation have pointed to social capital as being an indication of effectiveness (Gelfand et al., 2006; Rubin & Brown, 1975), yet few attempts have been made to describe and measure such capital in the negotiation context, with some notable exceptions (Bottom et al., 2006; Curhan et al., 2009; Mislin et al., 2011). Describing and measuring such social capital, identifying their individual difference antecedents, as well as finding the conditions under which they are built, maintained, and lost, will be key to developing a more detailed theory of negotiation outcomes.

The organizational implications for a research program that focuses on the antecedents of effective behaviors, and a multi-dimensional notion of effectiveness are many. It will facilitate
efforts to locate the best negotiators, and to develop training that focuses on behaviors that maximize obtaining material value as well as to increase social capital. The current research is suggestive of the benefits of selecting conscientious and intelligent negotiators to assist with value generation process, and selecting the conscientious negotiators to claim the value generated. Conscientious negotiators are also most likely to display their effectiveness at the pre- and post- bargaining phases.

Negotiation processes and outcomes are influenced by individual differences factors, interpersonal factors, contextual factors, and situational factors, among others. For the social science of negotiation to provide useful prescriptions for organizations and people who have any interest in coordinating, collaborating, and exchanging with others, it must theorize about and be able to measure those factors. Despite forewarning from early social psychologists (Deutsch & Krauss, 1965) and methodologists (McGrath, 1981), organizational scholars, influenced by the typical pattern of unwitting trend following precedents in existing research, have pursued a concentrated study of a particular phase of negotiation using a small set of highly similar methods and measures. Despite continued warnings from various active scholars and critics of the field (Barley, 1991; Greenhalgh & Chapman, 1995; Pruitt & Carnevale, 1993) about the limiting potential of the research methodologies typically deployed, these practices continue. (Study 1; Bendersky & McGinn, 2010). Jang and Bottom (2016) noted in their experiments on anger expression that methods may actually be narrowing still further. They noted that the many recently published studies on this subject relied exclusively on one-subject designs whereby each subject reacted to manipulated but predetermined sequences of messages sent by the experimenter. This much further narrowing of the methodology and measurement excludes any reciprocal interdependence that is the essence of negotiation.
The result of methodological monoculture will be a field potentially unaware that many of the findings reported will not generalize beyond the laboratory context. Prescriptions that ignore this generalizability issue may prove counterproductive when recipients attempt to put them into practice.

To highlight the contributions of this thesis, much of Chapter 1 was aimed at highlighting the imbalance in the approach organizational researchers have chosen to study the phenomenon, and to demonstrate how theories generated by negotiation scholars diverge from observation of the process in the field and from practitioner reports of effective practice. Without this demonstration, negotiation scholars may not realize that a critical phase in organizational research is to iterate theory by grounding it in real problems (Van de Ven, 2007). The high stakes challenges and complexities of law enforcement negotiations, marriage counseling, mergers and acquisitions, international relations, and legal negotiations appear to be seldom, if ever, modeled in academic studies of negotiations, with researchers instead opting for methods that facilitate greater precision in measurement, at the cost of producing results particular to the parameters of simulations and populations sampled (cf. Henrich, Heine, & Norenzayan, 2010). Largely absent from this program of research were aspects of negotiations of critical importance to real negotiators – preparation and implementation. To be able to state with some confidence that there are no evidence-based theories of preparation is a troubling outcome of that program of research.

Much of Chapter 2 was devoted to taking the first steps toward an individual differences approach to negotiation effectiveness and developing methodological tools to further negotiation theory. Study 3 was conducted to show that the intuitions of many negotiation scholars, who appear to view the phenomenon through the lens of the dominant methodologies they use,
contrast with the views of individual differences experts. Namely, in the absence of definitive evidence on the topic, negotiation scholars have repeatedly dismissed the role of individual differences in negotiation (Bazerman, Curhan, Moore, & Valley, 2000; Thompson, 1990, cf. Sharma et al., 2013). In contrast, individual differences experts produced ratings consistent with findings in organizational psychology that show a consistent role for conscientiousness in correlating with effectiveness. The implicit theories of individual differences experts were replicated in Study 4, with empirical results replicating the result. Study 4 also outlined the development of the Negotiation Behavior Inventory, a survey tool with potential to be applied in a wide variety of contexts to measure behavior in the field. Further demonstrating its psychometric properties, by demonstrating its convergent, divergent, and predictive validity will remain key points for future development of the measure. If the measure proves to be valid and reliable, it has the potential to furnish researchers with a tool to measure those neglected aspects of negotiation. Study 5 provided further evidence for the role of conscientiousness, which help negotiators claim value in complex negotiations, and help grow value in combination with general ability.

This dissertation aimed to reveal gaps in the organizational scholarship on negotiation. To address these gaps, I introduced theoretical and methodological developments to redress imbalance in research practices. Further work along these lines will furnish not only researchers, but also practitioners with evidence based theories that answer Raiffa’s (1982) call for useful negotiation advice.
References


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http://doi.org/10.1037/0021-9010.76.2.256

http://doi.org/10.1016/j.jrp.2005.08.007


http://doi.org/10.1177/0146167297235006

http://doi.org/10.1177/01461672962210007


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http://doi.org/10.1016/0030-5073(76)90010-6


Appendix A. Negotiation Advice Coding Sheet

Description of the book

Full citation of book/book section (APA style):

Social activity given in the book (e.g., legal/marriage/mergers and acquisitions):

Instructions: Read sections of books that introduce the concept of the book, such as the preface or the introduction in order to answer the questions below.

Does the author have graduate level training (PhD or Masters)?

Yes/No

If yes, in what field?

Does the author claim expertise in the social activity they give advice in?

Yes/No

If yes, what is the nature of the expertise? Provide a quote/s and page numbers.

Does the author claim to have a description of the negotiation process, either by mentioning a “theory” or “model” or indicate via other means that some description exists?

Yes/No

If yes, list the page numbers where the model is described.

Was the advice generated using social science?

Yes/No

If yes, provide a quote and page number that indicates this.

Was the advice generated using expert knowledge?

Yes/No

If yes, provide a quote and page number that indicates this.

Coding the advice

Procedure: To locate advice, search the content section to locate a “best/recommended practices” chapter or its equivalent. If such a chapter is not explicitly found, read through the book in its entirety to look for advice.

Advice is any behavior that the author recommends a person to do to increase their effectiveness in negotiation. It may be in the form of an overt action or internal thoughts or feelings.

<table>
<thead>
<tr>
<th>Page No</th>
<th>Advice</th>
<th>Pre-bargain?</th>
<th>Bargain?</th>
<th>Post-bargain?</th>
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## Appendix B. Books Retained for Advice

### Coding in Study 2

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<tr>
<th>Author</th>
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<th>Publisher</th>
<th>Sales</th>
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<tr>
<td>Pritchett, D. P.</td>
<td>After the Merger: Managing the Shockwaves</td>
<td>3rd</td>
<td>Homewood, Ill.: Pritchett, LP</td>
<td>695,567</td>
<td></td>
</tr>
<tr>
<td>Mitchell, J.</td>
<td>Hug Your Customers: The Proven Way to Personalize Sales</td>
<td>1st</td>
<td>New York: Hachette Books</td>
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<td>Rackham, N.</td>
<td>SPIN Selling</td>
<td>1st</td>
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<td>Girard, J., &amp; Brown, S. H.</td>
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<td>New York: Fireside</td>
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<td>Maslansky, M.</td>
<td>The language of trust: selling ideas in a world of skeptics</td>
<td>1st</td>
<td>New York: Prentice Hall Press</td>
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<tr>
<td>Tuleja, T., &amp; Miller, R. B.</td>
<td>proven method for face-to-face sales planning</td>
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<td>Futrell, C.</td>
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<td>Shell, G. R., &amp; Moussa, M.</td>
<td>The Art of Woo: Using Strategic Persuasion to Sell</td>
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<td>words and strategies from the world’s top sales</td>
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<td>experts.</td>
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Appendix C. Books Sampled for Advice Coding in Study 3


Appendix D. List of Negotiation Readings Provided to Experts in Study 3


Appendix E. List of Behaviors Rated by Individual Differences Experts in Study 4

Individual differences experts received a list of 205 behaviors to evaluate for their association with the Big Five factors and facets, detailed below.

To prevent fatigue and to allow individual differences experts to complete the task at their own pace, the list of behaviors were categorized on the basis of their classification to negotiation phases, and by similarity to other behaviors (within-phase categories listed below). Separate online surveys were created for each category of negotiation behavior. Experts were instructed to complete the series of tasks in sequence, such that pre-bargaining behaviors were rated first, bargaining behaviors rated second, and post-bargaining behaviors last.

Before rating each online survey, they were provided with the following instruction: “Click below to start the rating task. In the task, a negotiation related behavior will be presented to you. Read each behavior, and provide your opinion on which individual difference/personality aspect the behavior seems to reflect.” Individual differences experts then provided their name then continued on to the task, to facilitate matching responses across surveys, and to track time spent on the task, required for remuneration. Experts spent an average of 15.62 hours on the task.

For each behavior, experts were reminded of the category of behavior, phase of negotiation behavior, and provided with a free response box to list possible individual difference variables that could be correlated with the negotiation behavior shown (see example screenshot below):
Experts were then asked to indicate if the behavior displayed appeared to be a manifestation of a Big Five factor (see example screenshot below):

Does the behavior above appear to be a manifestation of any of the big five factors? If so, please check the factor(s) that appear relevant.

(Check any that apply.)

☐ Openness to experience
☐ Conscientiousness
☐ Extraversion
☐ Agreeableness
☐ Neuroticism
☐ None of the above

A non-response to a factor was coded as a “none” (i.e., “0”) response. Clicking on any of the factors populated a Likert-type scale that asked experts to indicate the extent (low/medium/high) of association between a factor and the behavior displayed. Selecting a factor also populated the list of facet labels for that factor. Experts were asked to list the extent of extent (low/medium/high) of association between the facets and the behavior displayed. The cascading format of the ratings was implemented to reduce expert fatigue. Displaying all possible questions (i.e., factor/facet rating questions) for every behavior would have entailed experts having to provide 37 responses per behavior (5 factor ratings + “none of the above” + 5*6 facets of each factor + free response for other relevant individual differences), or 37 responses *205 behaviors
= 7585 active responses in total. A cascading task reduces substantially the amount of effort associated with the task, with required responses varying in proportion to the number of relevant factors experts observe to be relevant to behaviors. Below, the 205 behaviors are listed in full.

**Pre-bargaining behaviors**

*Understanding the self*

Spend time thinking about your goals  
Spend time thinking about your interests  
Research what issues you should negotiate  
Spend time thinking about how your bargaining style affects the negotiation process  
Attempt to adjust your bargaining style to match the negotiation context  
Spend time finding out what authorization you have for making deals  
Prioritize the goals for the negotiation  
Create a table or list of what you value most to what you value least  
Develop a rationale for why you want certain outcomes from the negotiation  
Ensure that you have the necessary resources to follow through with the deal that you reach  
Consider how the goals of the current negotiation fit in with your existing plans  
Spend time considering how you will reap the value achieved by the deal  
Investigate how your counterpart values you or the resources you have  
Spend time anticipating the ways in which you may have to change yourself or your plans to accommodate the goal you would like to achieve.  
Maintain competence in the skills needed to analyze the deal (e.g., technical evaluation, accounting, developing relationships, etc...)  
Consider how each of the issues will impact you in the short term  
Consider how each of the issues will impact you in the long term  
Spend time identifying your aspirations  
Decide what your bottom line will be

*Understanding the counterpart*

Spend time thinking about your counterpart's goals  
Spend time thinking about your counterpart's interests  
Spend time studying your counterpart's credentials  
Spend time getting information about your counterpart from their peers  
Spend time studying your counterpart's negotiating history  
Spend time studying your counterpart’s tactics and patterns of behavior in similar situations  
Spend time studying the counterpart’s emotional state as they enter into negotiations  
Attempt to select the best counterpart for the negotiation by comparing them against others  
Spend time studying how the deal you intend to reach will impact your counterpart  
Spend time researching if your counterpart might value things differently than you
Spend time researching the counterpart's point of view on the situation

*Understanding the bargaining situation*

Understand your no-deal options
Understand your counterpart's no-deal options
Compare your no-deal option against their no-deal option
Attempt to identify if there is a long-term relationship at stake with the counterpart
Decide on the rules and conventions for negotiating
Attempt to uncover if the different options and issues are related to each other
Research potential barriers to reaching a deal such as policies, procedures, rules or conventions
Decide whether third parties, such as a mediator or facilitator should be involved
Identify and label the assumptions you made prior to negotiation
Consider what a really good offer would be, given what you know about your situation and the counterpart's situation
Determine if the negotiation stems from a dispute (disagreements about the past)
Determine if the negotiation stems from a need to make a transaction (arrangements about the future)
Consider how similar deals, or events related to this negotiation could influence the deal
Exhaust every source of information at your disposal (including, but not limited to family, friends, co-workers, institutions, the library, and the Internet)
Research alternative outcomes that satisfy the need of the parties - (i.e., find alternative arrangements that meet you and your counterpart's needs)
Research the ways in which value from the deal could be undermined
Research creative ways to achieve the goals of the negotiation
Consider all of the alternative resources your counterpart might be willing to accept
Calculate the difference between the objective value of your goals and the amount that you would be willing to pay for it
Consider actions third parties could take to influence the price you are willing to pay to achieve your goals

*Preparing for the negotiation*

Communicate in advance your intention to negotiate
Persuade the counterpart that negotiation is necessary
Reach an agreement on what overall goals the negotiations will achieve
Form a plan that details your intentions and behaviors as the negotiations progress
Plan out opening statements
Prepare persuasive arguments to present to your counterpart
Engage in role plays or simulations to deduce counterpart's possible positions, logic, and arguments
Plan a sequence of bargaining activities to achieve your goal
Seek to understand what might influence you
Plan concessions you might make during the negotiation
Plan questions you might ask during the negotiation
Think about objections your counterpart might raise based on what you're going to say
Look for the best ways to obtain the resources you need to secure your goals
Resolve to be flexible in meeting your goals
Plan out what positions you might take
Research if an intermediary is worth the expense for some parts of the negotiation process (e.g., brokers, fact finders, etc…)
Consider how the rules by which negotiations proceed can be used for your advantage
Plan to be persistent in negotiating to achieve the goals that you and your counterpart set out to achieve
Test to see if your counterpart is serious about negotiating a solution with you
Make sure all relevant parties will be included in the negotiation
Establish a shared perception of the situation that requires resolution
Attempt to remove or minimize distractions that could draw attention away from the negotiation
Spend time researching the events leading to the negotiation

Bargaining behaviors

Making and exchanging offers

Make the first offer extremely favorable to you
Resist being influenced by extreme offers from your counterpart
Test the flexibility of your counterpart
Make commitments your counterpart would take seriously
If you make a concession, insist that your counterpart also make a concession
Make offers that touch on multiple issues
Evaluate offers against your bottom line
Consider both the benefits and the downsides of your counterpart's offers
Try to discover your counterpart's underlying interests
Try to discover if your offer meets your counterpart's interests
Make smaller and smaller concessions as negotiations progress
Try to reach a deal that touches on all of the issues involved
Justify each offer with persuasive arguments or convincing logic
Find differences in the way you and your counterpart value the issues
Request that your counterpart's offers be made in a way that shows their commitment (e.g., getting the offer in writing)
Avoid insulting or offending the counterpart by making extreme offers
Consider if your interests are met by an offer your counterpart made
Consider being flexible in how you achieve your goals
Consider what can be learned by studying the pattern of offers made by your counterpart
Consider the information you conveyed with the pattern of offers you made
Compare your counterpart's offers against your aspirations
Respond to an offer with questions in order to understand why the offer was made.
Consider obtaining additional resources necessary to reach a deal
Make concessions that are meaningful to your counterpart
Make sure the value you stand to gain from the deal is greater than the price/resources paid for it.
Ensure that the agreement you reached was cemented in an indisputable way
Review the final terms with your counterpart to confirm mutual agreement about their interpretation.

Engage in a trial-and-error process to see what specific details are acceptable.

Spend time thinking of the specific pieces of the deal that would satisfy your goals.

Propose multiple offers that achieves your goals in different ways.

Successively isolate issues that do not belong in the agreement.

Add inducements to the offer so your counterpart is likely to accept it.

Attempt to resolve roadblocks by exploring creative options (e.g., exchanges, side payments, and/or compensation).

Obtain promises on actions on which your counterpart is motivated to carry out anyway.

Attempt to understand the reasons underlying your counterpart's actions.

Evaluate how true your counterpart's statements are.

Deliberately seek to go with the ebb and flow instead of following a tight script.

**Relationship building**

Have plans in advance to deal with counterproductive behavior from your counterpart.

Create and maintain a positive atmosphere while negotiating.

Pave the way for productive relationships in the future.

Reduce the adversarial stance between parties by building goodwill.

Explain your actions before acting in ways that could influence the negotiation.

Create situations where trust can be offered or demonstrated (e.g., handshakes, bows, gestures of trust).

Try to genuinely help your counterpart as well as to meet your own objectives.

Evaluate your counterpart based on their actions during the negotiation.

**Communication during bargaining**

Make sure that you were fully understood.

Listen carefully to understand what your counterpart is trying to say.

Ask questions to learn about your counterpart.

Test your understanding of what your counterpart was trying to say by repeating what they said.

Ask questions that become progressively more specific to fine tune your understanding.

Avoid using evaluative language (e.g., good, bad, favorable, unfavorable) to describe offers or issues.

Acknowledge your counterpart's emotions by pointing it out to them (e.g., point out if they appear to be happy with the an offer, point out if they appear anxious when you mention a particular issue).

Reward positive actions from your counterpart with encouragement.

Only express desired outcomes.

Be consistent in communicating your intentions to your counterpart.

Maintain a direct line of communication with your counterpart.

Consider what you need to communicate to your counterpart so that they can help you reach your goals.

Keep allies or affected parties informed about the proceedings.

Inform your counterpart of the value you bring to the table.
Make sure there is open communication about the issues
Make use of all the possible ways of communicating (direct, indirect, public, private) in order to accomplish your objectives
Communicate strategically in order to obtain the information you need to achieve your goal
Observe your counterpart's actions in order to learn about them
Consider what your counterpart is trying to tell you in an indirect way
Give away information only when you intend to
Allow your counterpart to fully express what they want to say
Encourage your counterpart to communicate with you

*Evaluating the negotiation*
Try to determine if the negotiation is distributive (limited resources to divide) or integrative (you and your counterpart's goals are not necessarily at odds with each other)
Attempt to match your strategies and tactics with the kind of negotiation you are involved in
Actively update your assumptions about your counterpart's no-deal option as more information becomes available
Actively update your assumptions about your counterpart's bottom line as more information becomes available
Attempt to broaden the scope of the negotiation by introducing more issues
Be open to rethinking your original goals as new information becomes available
Check for signs of progress by monitoring the content of the offers across time
Check for signs of progress by monitoring the quality of communication across time

*Strategies and tactics*
Remind your counterpart that you have a good no-deal option
Weaken their no-deal option with persuasive arguments
Try to focus on satisfying your underlying needs rather than a specific list of requirements
Attempt to gracefully break a commitment that won't work
Allow others to gracefully break a commitment that may not work
Spend time inventing options for mutual benefit
Attempt to transform a distributive negotiation (where goals are at odds with each other) into an integrative one (where goals are not necessarily at odds with each other)
Attempt to make conditional exchanges - deals where the agreement can change depending on a future event (e.g., penalties for delay or bonuses for early completion)
Keep track of how much value is created by systematically evaluating each offer against previous offers
Attempt to use influence tactics to persuade your counterpart
Attempt to resist influence tactics from your counterpart
Propose breaking up an issue into multiple pieces
Walk away from a negotiation if an agreement is not possible
Split the difference between positions or offers
Allow the counterpart to believe they succeeded while obtaining what you want
Avoid telling your counterpart your bottom line
Appear committed to the position or offer you proposed
Attempt to claim as much of the value created during the negotiation process
Spend time during negotiation working toward your goals
Keep yourself informed of new developments that could affect the negotiation
Spend time during negotiation finding faults with your counterpart
Let emotions dictate the way you negotiate
Keep a record of the negotiations, including offers, demands, and promises made
Organize all of the information gathered
Spend time anticipating what your counterpart's next actions will be

*Managing the self*

Remain aware that your perceptions and thoughts might appear biased to others
Strive to be consistent in the way you negotiate with others
Be prepared to counter "dirty" or unethical tactics in a principled way
Attempt to act within the guidelines you must follow (e.g. industry standards, expectations of others, professional guidelines)
Remain positive about getting a better offer than the one initially offered
Engage only in ethical behavior
Appear confident of reaching a desirable outcome

*Post-bargaining behaviors*

*Creating commitment*

Express your commitment to the agreement
Build momentum to close the deal
After coming to an agreement, continue to look for deals that leave both parties better off
Craft a deal that creates value and improves the relationship
Check that you have addressed your counterpart's key concerns
Stop to check whether the outcome would be good for you and your counterpart before finalizing the deal

*Professional development*

Seek feedback from others about how the negotiation went
Systematically analyze the negotiation to review what happened and what was learned
Periodically seek advice about negotiating from a more experienced negotiator
Periodically seek advice about negotiating from peers
Systematically analyze your strengths and weaknesses
Develop a plan to improve the weak aspects of your negotiation skills

*Implementation*

Keep communication channels open throughout the implementation process
Agree to a procedure to handle questions about implementing the deal
Agree on a plan to implement every aspect of the agreement
Try to make sure both parties are accountable for the implementation of the deal
Create plans to protect yourself should your counterpart fail to implement the deal
Agree to a procedure to resolve disputes about the agreement
Research ways to extract all of the value created in the deal
Investigate if the agreement was really as good as you thought it would be
Communicate your implementation plan to the people affected by the deal
Stay flexible in order to make the agreement work
Work to implement the deal immediately after coming to agreement
Set specific and realistic goals for the implementation process
Monitor the status of the ongoing relationship
## Appendix F. Big Five Facet Labels Used in Study 3.

<table>
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<tr>
<th>Big Five Factor</th>
<th>Facets</th>
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<td>Conscientiousness</td>
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<tr>
<td>Neuroticism</td>
<td>Anxiety&lt;br&gt;Anger&lt;br&gt;Depression&lt;br&gt;Self-consciousness&lt;br&gt;Immoderation&lt;br&gt;Vulnerability</td>
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<tr>
<td>Extraversion</td>
<td>Friendliness&lt;br&gt;Gregariousness&lt;br&gt;Assertiveness&lt;br&gt;Activity level&lt;br&gt;Excitement-seeking&lt;br&gt;Cheerfulness</td>
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<tr>
<td>Agreeableness</td>
<td>Trust&lt;br&gt;Morality&lt;br&gt;Altruism&lt;br&gt;Cooperation&lt;br&gt;Modesty&lt;br&gt;Sympathy</td>
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<tr>
<td>Openness</td>
<td>Imagination&lt;br&gt;Artistic&lt;br&gt;Emotionality&lt;br&gt;Adventurousness&lt;br&gt;Intellect&lt;br&gt;Liberalism</td>
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Note. A post-hoc multiple comparison procedure (Tukey HSD) revealed no significant differences between facet ratings for given factor within a phase.
Appendix H. Glossary Provided to Participants in Study 4.

- **Counterpart** - The person you have negotiated with (e.g., your employer)
- **Goals** - What you hoped to achieve from the negotiation (e.g., to renegotiate an employment contract)
- **Interests** - Your underlying need or set of needs you hope to satisfy (e.g., pay for a vacation)
- **Position** - Specific offers or stance you take during a negotiation (e.g., demanding a $5000 dollar raise)
- **Issue(s)** - The specific topic or set of topics to be negotiated (e.g., salary, vacation days, bonus amount)
- **Aspiration** - Your most optimistic expectations for the negotiation (e.g., getting a $7000 raise with 5 extra vacation days)
- **Resources** - Things you can bring to a negotiation to use to your advantage (e.g., performance record)
- **Implementation** - The process of translating an agreement into concrete actions to finalize the deal (e.g., finalizing the new employment agreement by turning it into a formal employment contract)
- **Power** - The extent to which someone has influence over the negotiation
- **Value** - ‘Value’ can refer not only to monetary value, but also intangible sources of value, like friendship, trust, and goodwill
- **Bottom line** - The least you would be willing to accept before walking away from the negotiation
- **No-deal option** - The option available to you if you cannot reach agreement on this negotiation
### Appendix I. Supplementary Dyadic Data Analyses for Study 5.

(a) Dyadic effects of Conscientiousness on Individual Outcomes Controlling for Big Five and Demographic Variables.

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*Note. † p < .10, * p < .05, ** p < .01*
(b) Dyadic effects of Reasoning Ability on Individual Outcomes Controlling for Big Five and Demographic Variables.

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*Note. HBRI = Hogan Business Reasoning Inventory. † p < .10, * p < .05, ** p < .01*