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What do people value when they negotiate?

Mapping the domain of subjective value in negotiation

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Under Review, *Journal of Personality and Social Psychology*. The authors encourage free and unlimited use of the Subjective Value Inventory (SVI) for research purposes only, and request copies of any publications or reports resulting from the use of this measure. To view an up-to-date version of the SVI instrument, go to: www.subjectivevalue.com. Please direct all correspondence to Dr. Jared R. Curhan at curhan@post.harvard.edu.

Abstract

Four studies provide support for the development and validation of a framework for understanding the range of social psychological outcomes valued subjectively as consequences of negotiations. Study 1 inductively elicited and coded elements of subjective value among students, community members, and negotiation practitioners, revealing 20 categories that negotiation theorists in Study 2 sorted to reveal four underlying dimensions: Feelings about Instrumental Outcomes, the Self, Process, and Relationship. Study 3 proposed a new Subjective Value Inventory (SVI) questionnaire and confirmed its 4-factor structure, and Study 4 presents convergent, discriminant, and predictive validity data for this SVI. Results suggest the SVI is a promising tool to systematize and encourage research on the subjective outcomes of negotiation.

What do people value when they negotiate?

Mapping the domain of subjective value in negotiation.

Negotiation – a decision-making process in which people mutually decide how to allocate scarce resources (Pruitt, 1983) – on its face, appears to involve primarily the exchange of tangible goods and services, yet it also leaves an inherently psychological imprint on those involved. Whereas conventional wisdom and decades of research have tended to portray negotiation as an economically motivated or strategic interaction best practiced by rational, unemotional actors – perhaps as a result of the origins of the field in the study of choice and expected utility within economics (Bazerman, 1983; Nash, 1950) – more recent research has attempted to challenge this rationalist assumption and to incorporate subjective, social psychological factors into negotiations research (for reviews see, e.g., Bazerman, Curhan, & Moore, 2001; Carnevale & Pruitt, 1992; Thompson, 1990). This paper presents the results of a large-scale investigation designed to add to this newer body of research, by providing a comprehensive framework of subjective outcomes in negotiation. The goal is both to contribute to the advancement of theory and to provide a tool for researchers to study subjective value in negotiations with a similar level of precision as that with which more tangible objective value has been studied for decades.

Although objective behavioral outcomes clearly represent an important aspect of negotiation performance, researchers have criticized the relative lack of attention paid to social psychological measures in negotiation. As early as 1975, Rubin and Brown argued that, “the time has come to move such measures...out of the dark recess known

as ‘supplementary analysis’ back into the forefront of researchers’ attention, where they belong” (p. 297). Since the 1960s and 70s, there has been a gradual increase in the use of perceptual and attitudinal measures as dependent variables within studies of negotiation, but even in a review of the recent ten year period from 1993-2002, such measures were included in only 16% of studies (Mestdagh & Buelens, 2003). Other studies have incorporated social psychological factors as the predictors of economic outcomes, rather than as consequential outcomes themselves (Bazerman, Curhan, Moore, & Valley, 2000; Kurtzberg & Medvec, 1999). The current paper attempts to fill this gap with a series of studies mapping the domain of subjective value in negotiation, using a combination of methods to explore and categorize the range of psychological factors that people value as the consequences of their negotiations. We also present the development and initial validation of a survey tool to measure subjective value. The aim is to be as exhaustive as possible, not to supplant related areas of research but rather to organize and pull together topics that often have been studied in separation – as diverse, for example, as procedural justice and self-efficacy – and to include them within a broad systematic framework of negotiation outcomes. In doing so, we define the concept of *subjective value* as the social and emotional consequences of a negotiation.

Social Psychological Outcomes in Negotiation

Previous conceptual frameworks of negotiation measures form a starting point for the current investigation of subjective value, which contributes in turn an empirical test and validation of these frameworks. In her 1990 review of research in negotiation, Thompson proposed that negotiation measures fall into two broad classes: economic

and social psychological. Economic outcomes refer to explicit terms or products of the negotiation, such as whether or not an agreement has been reached, how much value or joint benefit has been created, and how resources are divided or claimed by the individual parties (see also Nash, 1953). Social psychological measures in negotiation, Thompson argued, are grounded in social perception and consist of three important elements: perceptions of the bargaining situation, perceptions of the other party, and perceptions of oneself. Although Thompson's framework includes measures of negotiation process in addition to outcome variables, we argue that negotiators' feelings about process – rather than the process itself – are themselves important outcomes that help to comprise subjective value.

Thompson's first category concerns perceptions of the bargaining situation. This includes judgments and feelings about the negotiation process and its outcome, for example the norms, context, structure and scripts, communication and information sharing, and fairness or justice involved (e.g., Bazerman & Carroll, 1987; Brockner & Wiesenfeld, 1996; Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Cropanzano & Greenberg, 1997; Folger, 1977; Greenberg, 1987; Lim & Carnevale, 1990; Lind & Tyler, 1988; Murnighan, Babcock, Thompson, & Pillutla, 1999; Pinkley, 1990; Thibaut & Walker, 1975; Thompson & Hastie, 1990; Van den Bos & Lind, 2001; Weingart, Thompson, Bazerman, & Carroll, 1990). In the latter case, it is worth making the distinction between subjective value and inherent goods such as justice and voice, in that many but not all negotiators subjectively value such factors – for example, one can

imagine a negotiator who feels pleased with an outcome that is admittedly an unfair benefit.

Perceptions of the other party, Thompson's (1990) second category, involve the results of more general processes of person perception and impression formation applied to one's negotiation counterpart. Such processes result in feelings that can be classified as either individual or dyadic – that is, what negotiators think of their counterparts, and what they think of their own relationships with those counterparts, respectively – although in practice the two are dynamically linked and can be difficult to separate. This factor includes the attributions that negotiators make about counterparts based on their behavior – e.g., their ethics, tactics, and strategies, and more general trait inferences such as expertise, cooperativeness, and friendliness – and a negotiator's resulting reputation and social capital (e.g., Brandstatter, Kette, & Sageder, 1982; Fortgang, Lax, & Sebenius, 2003; Goates, Barry, & Friedman, 2004; Morris, Larrick, & Su, 1999; Robinson, Lewicki, & Donahue, 2000; Tinsley, O'Connor, & Sullivan, 2002). At the dyadic level, this factor includes the social relationship, trust, respect, liking, and concern for the other party that develops among negotiation counterparts (e.g., Kurtzberg & Medvec, 1999; Lewicki, McAllister, & Bies, 1998; Lewicki & Stevenson, 1997; McAllister, 1995; Naquin & Paulson, 2003; Pruitt & Rubin, 1986).

Thompson's third category, perceptions of the self, involves turning the person perception process inward. Negotiators judge their own traits, performance, and worth, using both their internal awareness of their motivations and values, as well as their observations of their own behavior as if from the outside (Ross, 1977). Unique to

perceptions of the self are the concerns of self-efficacy, self-enhancement and positive illusions, self-esteem and maintaining “face” (e.g., Bandura, 1977; Bazerman et al., 2001; Brown, 1968; Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004; Stajkovic & Luthans, 1998; Taylor & Brown, 1994; White, Tynan, Galinsky, & Thompson, 2004). White and colleagues (2004) argued that negotiation can be an especially face threatening experience because it often involves confrontation and assigning public tangible worth to objects and efforts of personal value. Thus, feeling comfortable with one’s performance and behavior in a negotiation can be a particularly important outcome to many negotiators.

We expand on Thompson’s (1990) framework by highlighting separately an area included within the first category, perceptions of the bargaining situation: a negotiator’s feelings about the final terms of the settlement. At the nexus of objective and subjective value is the subjective feeling of satisfaction with one’s objective outcome. Oliver, Balakrishnan & Barry (1994) argued that such outcome satisfaction is an affective comparative evaluation of a given settlement, with important implications for subsequent behavior such as willingness to continue the relationship with one’s counterpart. A negotiator perceives a settlement to be advantageous or disadvantageous via social comparison with respect to the outcomes achieved by other negotiators as well as by comparing it with prior expectations (e.g., Bazerman, Loewenstein, & White, 1992; Loewenstein, Thompson, & Bazerman, 1989; McClelland & Rohrbaugh, 1978; Messick & Sentis, 1985; Novemsky & Schweitzer, 2004; Oliver et al., 1994; Straub & Murnighan, 1995). At some level, subjective feelings of success are often

the only feedback a negotiator has for his or her performance, given that outside of a classroom exercise one might know the exact dollar value of a deal but rarely the dollar value of the best possible deal that the other side would have accepted or, indeed, the dollar value of deals that would have been achieved by peers in an identical situation.

The Value of Subjective Value

Social psychological outcomes of negotiation are not necessarily the consolation prize of a poor bargaining agreement, but rather represent an important area of study for at least three reasons. Subjective value can serve as a good in itself, as a negotiator's intuition about objective outcomes, and as a predictor of future objective value.

A good in itself. In O. Henry's classic Christmas story, *The Gift of the Magi*, a young husband and wife facing hard times each sell their most prized possession in order to buy a gift that is rendered useless by the other's parallel sacrifice. Likewise, in the real world, negotiators often choose to forfeit or limit opportunities to extract economic value, either consciously or unconsciously, in the pursuit of relational goals and norms, and in fact doing so might preserve or even strengthen relationships, and contribute to individual affect and well-being (Curhan, Neale, Ross, & Rosencranz-Engelmann, 2004). Negotiations often take place in the context of ongoing interpersonal relationships—among family members, friends, neighbors, colleagues, and long-time business associates—and the quality of the relationship can be itself important beyond the particular issues at stake and resources being divided (Gelfand, Smith, Raver, & Nishii, in press). Even in the absence of a relationship, or knowledge of a counterpart's identity, participants in ultimatum bargaining games often make

financial trade-offs in order to preserve their own subjective feelings about fairness to others (see, e.g., Bazerman & Neale, 1992; Camerer & Thaler, 1995; Guth, Schmittberger, & Schwarze, 1982). “Negotiators’ interests can go beyond the obvious and tangible,” Lax and Sebenius (1986) wrote, “Take for example, the almost universal quest for social approval or the simple pleasure one derives from being treated with respect, even in a one-time encounter” (p. 74).

Negotiator’s intuition about objective outcomes. Parties often lack the information and ability to perform a full, accurate, rational analysis of negotiation situations, and consequently can have perceptions that differ greatly from objective economic analyses (Thompson, 1990; Thompson & Hastie, 1990). How do you ever know if you succeeded in a negotiation? It would be implausible, not to mention uncomfortable, for a real-world negotiation to conclude with a full debrief allowing parties to ascertain others’ aspirations, targets, and breaking points. In many cases, it would be challenging even to quantify one’s own outcomes and to aggregate across multiple issues that are often variable and perceptual. Thus, negotiators generally rely on their subjective intuition to determine how well they did. If subjective value mirrors a negotiator’s intuitions about performance, then, it may serve as a more proximal predictor of future behavior than objective performance itself. It is a person’s perceptions, thoughts, and attitudes—rather than the objective reality of a situation—that influence behavior, even if the link is not always direct or transparent (see, e.g., Eagley & Chaiken, 1998). This implies that understanding subjective value could shed light on the motivations and action tendencies of a negotiator, as well as the process of learning from experience.

Predictor of future objective value. Finally, the subjective value resulting from a negotiation may feed back, positively or negatively, into future economic outcomes. Individuals who increase the subjective value of their counterparts may be able to develop and reap the benefits of more favorable reputations (Fortgang, Lax, & Sebenius, 2003; Goates et al., 2004; Croson & Glick, 2001). Increasing one's own subjective value could increase the perseverance and motivation to work towards effective settlements in future negotiation settings. At the relationship level, the interpersonal rapport developed in Negotiation A might foster both concern for the other party as well as information sharing and other negotiation behaviors critical to the success of Negotiation B (Drolet & Morris, 2000; Mannix, Tinsley, & Bazerman, 1995; Pruitt & Rubin, 1986). Indeed, the relationship is more likely to remain intact and Negotiation B even to take place if negotiators establish firm foundation for a relationship in Negotiation A (Oliver et al., 1994). Further, negotiators need sufficient good will to implement both the objective terms of a contract as well as the so-called social contract addressing how they work together, communicate, and resolve disputes in the future (Fortgang, Lax, & Sebenius, 2003; Walton, Cutcher-Gershenfeld, & McKersie, 1994). Thus, maintaining good relationships, which can be hindered by extracting all possible economic rewards, can be an effective strategy in maintaining the cooperation necessary for greater returns in the long run. For example, in the prisoner's dilemma game, the tit-for-tat strategy prevails over other strategies in the long term – even though it does not outperform any given counterpart – because it maintains stable cooperation over longer periods than other strategies (e.g., Axelrod, 1984; Komorita & Parks, 1995).

Although subjective value may be a precursor to future objective value, it is important to emphasize that the two frequently diverge as well – particularly, but not exclusively, in the short term. The subjective satisfaction that one derives from an objective outcome is not a linear function of that outcome, nor even in some cases necessarily a monotonically increasing function (Conlon, Lind, & Lissak, 1989; Kahneman & Tversky, 1979; Northcraft, Brodt, & Neale, 1995). Indeed, experimental manipulations such as increasing or attending to one's aspirations can drive the two in opposite directions, increasing objective negotiation performance while simultaneously reducing subjective satisfaction (Galinsky, Mussweiler, & Medvec, 2002; Thompson, 1995). Thus, it is worth studying subjective, psychological value as a distinct factor in spite of the reciprocal relationship it can have with objective, economic value.

The Value of Measuring Subjective Value

Even if the umbrella term of subjective value may be new, the concept itself is already woven into the fabric of negotiations research. The contribution of the current investigation is to develop a comprehensive framework and to validate a survey measure of subjective value. Negotiation theorists have not yet agreed upon the methods and standards for measuring subjective outcomes (Kurtzberg & Medvec, 1999; Valley, Neale, & Mannix, 1995). Thompson (1990) argued that “comparative analyses of behavior are more difficult when investigators use different measures of performance. Apparently inconclusive results and even contradictory findings may often be traced to different measures of performance” (p. 517). Thus, this research program has the potential to benefit the field by making findings from different lines of research easier

and more meaningful to reconcile. Further, creating a comprehensive, inductive framework has the potential to uncover possible blind spots within negotiations research, revealing fertile areas for future work and contributing towards the generation of theory about the role of subjective value in negotiation.

This paper presents the results of a four-study program of research designed to answer the question: What do people value when they negotiate? The research used a combination of inductive and deductive methods, and engaged participants from conventional student populations as well as community members and negotiation practitioners. We begin by attempting to map the domain of subjective value using an open-ended inductive approach to generate a wide range of elements of value based on participants' past business and personal negotiations. We continue in the second study by asking experts to delineate connections among these resulting elements of subjective value, revealing an underlying cognitive map of the construct into four broad factors. Just as Pinkley (1990) used an inductive method to examine the dimensions and schemas by which individuals conceptualize their conflicts, we aimed to conduct a similar analysis of the subjectively valued outcomes of such conflicts. The third study uses these elements and broad factors as a starting point for the development of a survey instrument designed to assess subjective value across a range of negotiation contexts. Finally, the fourth study presents initial evidence for the validity of this survey instrument, by showing its strong convergence with related constructs in the negotiations literature and lesser correlation with unrelated constructs, its divergence from personality traits, and its ability to predict negotiators' actual willingness to

engage in future relationships with their counterparts. The goal of these latter studies is to provide researchers with a systematic tool in order to include subjective value alongside objective value as a key consequence of negotiations.

Study 1: What do people value?

We begin the program of research with a broad-based empirical exploration of subjective value. Although existing theoretical frameworks and constructs within the umbrella of subjective value guide our understanding of the area, the goal of Study 1 is to provide as exhaustive and inclusive as possible an answer to the question of what people value in negotiation. Thus, rather than limiting participants to pre-conceived categories of subjective outcomes, the design of this study provides an open-ended opportunity for a wide range of participants to generate examples of their own valued outcomes, in both recent business and personal negotiation contexts.

This inductive approach is worthwhile for furthering our understanding of the types of priorities and hopes negotiators report for their interactions. Although the self-reported and retrospective nature of obtaining participants' values can leave open the question of whether participants may have additional values they are unable to access through introspection (e.g., Robinson & Clore, 2002; Silvia & Gendolla, 2001) or unwilling to report due to concerns of social desirability and self-presentation (e.g., DeMaio, 1984; Jones & Pittman, 1982; Schwarz & Strack, 1999), indeed the values that negotiators report for their interactions are deserving of research attention in themselves, even in cases where they may not be identical to the values actually held.

Given arguments that social desirability concerns are the least pronounced for participants completing self-administered confidential questionnaires, rather than face-to-face or telephone interviews (DeMaio, 1984), that is the method used in Study 1. Further, to reduce but not eliminate concerns that participants may underreport certain types of values, the coding system included a separate category for any concept mentioned even by one participant. In the absence of research that can effectively sample real-time a variety of disputes, the self-report questionnaire technique used in the current study remains a worthwhile tool for accessing the lay theories negotiators hold regarding their valued negotiation outcomes.

Method

Participants

In order to sample participants likely to represent a diversity of approaches and experiences with various negotiation contexts, a total of 103 students, community members, and negotiation practitioners were recruited to take part in the study. Forty-three undergraduate students at the Massachusetts Institute of Technology responded to campus flyers (Age $M=19.23$, $SD=0.77$; Female $n=18$, Male $n=25$; Ethnicity identified as African American $n=11$, Asian American $n=10$, Hispanic $n=10$, Caucasian $n=9$, and $n=3$ did not specify). Thirty-two community members responded to posted advertisements in major transportation stations, squares, supermarkets and stores in the Boston area (Age $M=33.45$, $SD=3.26$; Female $n=12$, Male $n=20$; Ethnicity identified as Caucasian $n=13$, African American $n=11$, Hispanic $n=4$, Asian American $n=1$, and $n=3$ did not specify). Twenty-eight union and management negotiation practitioners

attending a negotiation workshop agreed to participate (Age $M=49.96$, $SD=7.97$; Female $n=6$, Male $n=22$; Ethnicity identified as Caucasian $n=22$, Asian American $n=2$, African American $n=1$, Hispanic $n=1$, and $n=2$ did not specify). Students and community members were paid \$10 for their participation.

Procedure

Questionnaire. Each participant completed a questionnaire designed to generate specific examples of the criteria they used to evaluate their subjective value from negotiations. In order to evoke a wide range of possible contexts, the survey began with a definition of *negotiation* as “any situation in which people are trying to accomplish a goal and have to communicate with at least one other person in order to achieve that goal.” Participants were instructed to recall two such incidences in which they had taken part during the last year, one in a personal setting and one in a business setting, and to describe each briefly in writing. The order of instructions for describing the business versus personal setting was counterbalanced across participants. Following the request for a brief description of the negotiation, the survey instructed participants to generate *subjective value factors*: “Please list below what was important to you in the negotiation you just described. In other words, what are all the factors that mattered to you in this negotiation.” To encourage a thorough listing of possible factors, these instructions appeared alongside 16 blank spaces, and invited participants to continue on the backside of the page if desired. Participants completed an average of 4.43 ($SD=2.00$) subjective value factors for personal and 4.42 ($SD=2.16$) for business negotiations. Finally, following the generation of criteria, participants were instructed

to rate the *importance* to them personally of each factor they had just listed, using a scale of 1 (not very important) to 7 (extremely important).

Coding. Sixteen pilot surveys completed by students, professionals, and community members, not included in analyses below, provided sample subjective value factors used to create a coding system for examining the responses generated by the questionnaire. Four independent coders used this initial coding system to categorize each subjective value factor appearing in a random sample of 22 of the 103 questionnaires. This process served to refine the coding system, which the four coders used for the remaining questionnaires.

Results

Table 1 lists the 20 coding categories that emerged, along with their frequency among the subjective value factors, their average rated importance, and the coding reliability. Interestingly, although participants more frequently mentioned factors associated with their objective negotiation outcomes – that is, terms of the agreement that were either quantifiable (e.g., money or delivery time) or not readily quantifiable (e.g., high quality) – than any of the other factors, they did not rate such outcomes as more important than other factors. This was the case both for business negotiations (objective outcomes $M=5.38$, $SD=1.32$, all other subjective value factors $M=5.31$, $SD=1.59$, $t(47)=.91$, *ns*, based on the $n=48$ participants reporting both types of factors for business negotiations) and personal negotiations (objective outcomes $M=5.37$, $SD=1.60$, all other subjective value factors $M=5.38$, $SD=1.32$, $t(45)=.12$, *ns*, based on the $n=46$ participants reporting both types of factors for personal negotiations). In fact, even in

business negotiations, participants appeared to rate certain non-instrumental factors such as *morality*, *relationship quality*, and *listening* as more important on average than objective outcomes.

Exploratory analyses without prior hypotheses examined whether any differences emerged in the frequencies and importance ratings of subjective value factors across the various demographic categories represented in the participant sample. Female participants mentioned *morality* more often (10.8% versus 3.8%, $\chi^2(1)=3.90, p<.05$) and *legitimacy* less often (13.5% versus 25.2%, $\chi^2(1)=3.89, p<.05$) than did males. Among those participants listing such outcomes, female participants rated third party concern, and listening as more important than did male participants, $t(32)=2.24, p=.03$ and $t(11)=2.60, p=.02$, respectively. Examining ethnic group membership, groups differed in their frequency of mentioning *morality* ($\chi^2(3)=12.89, p=.005$), with participants of African American background listing moral concerns in 17.4% of their entries, Latin Americans in 9.4%, European Americans in 2.4%, and Asian Americans in 0.0%. Among those participants listing subjective outcomes associated with *effective process*, ethnic groups differed in their ratings of the importance of these outcomes, $F(3, 22)=3.91, p=.03$, with Latin American participants listing the highest ratings, $t(21)=2.63, p=.02$.

The student, community, and negotiation practitioner samples differed in their frequency of listing issues relating to the *quantifiable terms of the agreement* ($\chi^2(2)=6.83, p=.03$; students 57.0% of entries, practitioners 43.6%, and community 35.9%), *legitimacy* ($\chi^2(2)=10.94, p=.004$; practitioners 32.7% of entries, community 25.0%, and students

10.5%), and *trust* ($\chi^2(2)=11.29, p=.004$; practitioners 16.4% of entries, students 4.7%, and community 1.6%). Among those participants listing such outcomes, the occupational groups differed in their importance ratings of *impact on an outside party*, $F(2, 33)=3.97, p=.03$, with students considering such concerns more important, $t(32)=2.28, p=.03$, and practitioners considering them less important, $t(32)=2.40, p=.02$, and in their ratings of *inclusive process*, $F(2, 15)=3.92, p=.05$, with students considering such concerns more important than did other groups, $t(14)=2.86, p=.01$.

In terms of the context of the negotiation, when discussing personal negotiations, participants more often reported goals of *satisfaction* (12.7% versus 3.9%; $\chi^2(1)=5.29, p=.02$), *positive emotion* (19.6% versus 7.8%; $\chi^2(1)=6.09, p=.01$), *mutual/inclusive agreements* (12.7% versus 2.9%; $\chi^2(1)=6.89, p=.009$), and *peaceful/non-confrontational process* (3.9% versus 0.0%; $\chi^2(1)=4.12, p=.04$), and less often *impact on an outside party* (10.8% versus 22.3%, $\chi^2(1)=4.94, p=.03$) than they did when discussing business negotiations. Among those participants listing such outcomes in both cases, *resolution* was rated as more important in business than personal negotiations, $t(12)=4.03, p=.002$.

Discussion

Study 1 was an inductive examination of the components of subjective value. Participants provided an unconstrained reporting of the factors important to them in previous business and personal negotiations, and reported their level of importance. One strength of this empirical approach was the wide sampling of participants, and the broad definition of negotiation presented, likely to result in a range of approaches and experiences with various negotiation contexts. Perhaps accordingly, it is noteworthy

that the issues addressed by the 20 resulting categories spanned from religious concerns to saving face to making more money. Metrics of objective performance, the typical focus of much research on negotiations, were also the most salient to participants in terms of frequency of reporting. Even so, fully half of the participants did not list *any* factors describing the objective terms of the agreement. And, surprisingly, for participants reporting such objective metrics, they in fact rated them as no more important than many other factors highly personal and subjective. These findings suggest that subjective outcomes in negotiation may be dramatically underrated in their real-world importance.

Study 2: Mapping the domain

The first study generated 20 different categories of subjective value, but left open the question of how these various categories relate to each other. Thus, the goal of Study 2 is to examine the higher-order groupings and constructs that emerge when mapping out the domain of subjective value.

In order to provide such a mapping, we engaged experienced negotiators in a sorting task designed to illustrate the emergent conceptual groupings among the factors. Such sorting techniques are well established for studying a variety of cognitive and perceptual phenomena where the purpose is to provide measures of similarity versus distance between concepts or ideas (Rosenberg, 1982).

Whereas Study 1 explored the negotiation outcomes valued by a wide range of participants, Study 2 relies on the expertise of negotiation theoreticians, members of a

distinguished research center. Those who have themselves negotiated frequently or who have assisted multiple individuals with their negotiations may possess a more clearly articulated or nuanced conception of negotiation outcomes, drawing on this greater experience. Indeed, Neale and Northcraft (1986) reported that practitioners generally held a more integrative and collaborative view of the process of negotiation, which suggests that they would likely hold a deep and comprehensive perspective on the topic of subjective value. “Seen as the embodiment of the best subjective beliefs and laws of life that have been sifted and selected through the experience of succeeding generations,” Seligman and Csikszentmihalyi (2000) wrote, “Wisdom is defined as an expert knowledge system concerning the fundamental pragmatic issues of existence” (p. 11). Study 2 aimed to tap into this wisdom and sifting of subjective beliefs, in order to examine the constructs and cognitive mapping that may emerge within the larger umbrella of subjective value.

Method

Participants

Participants were professional members of the Program on Negotiation (“PON”) at Harvard University, which describes itself as an “inter-university consortium committed to improving the theory and practice of negotiation and dispute resolution” (Source: <http://www.pon.harvard.edu/>). The first author sent a letter of invitation for a one-hour interview to 116 PON members whose addresses appeared on the organization’s mailing list, of whom 24 (21%) agreed to participate. The first 15 of these respondents were included in the study. Their professions included university

professors, ombudspersons, mediation trainers, negotiation consultants, and other negotiation-related professional roles.

Stimuli

In order to serve as stimulus materials representing the various factors of subjective value that emerged in Study 1, a series of 40 index cards were prepared containing two exemplars each for the 20 coding categories. The exemplars were first selected among samples of the coded items on the basis of being archetypes, in that the items represented frequent examples of the types of statements coded into that category. The examples were then rephrased in order to apply generally to the widest range of negotiation settings, preserving participants' own words where possible but eliminating the need to understand the specific context in which the statement was generated. For example, in the *relationship* category, "if things ended, we'd still be friends" was rephrased as "parties' relationship is not affected." In the *listening* category, "that my dad was listening to what I had to say" was rephrased as "party feels counterpart is listening." This process yielded 40 4-inch by 6-inch index cards, with one exemplar printed on each card. Figure 1 lists the content of these exemplars.

Procedure

Participants were told that the set of 40 index cards, appearing in a random order differing for each participant, listed factors that participants in an earlier study had mentioned as important outcomes in their negotiations. Instructions requested participants first to "sort the cards into conceptual categories that make sense to you,

based on the similarity or dissimilarity of the items, making as many or as few piles as you wish." Participants created an average of 7.13 categories (sd=2.20).

Results

Analyses used the results of the sorting procedure in order to assess the conceptual distance between each pair of items among the collection of 40 (Rosenberg, 1982), and subsequently the number of dimensions necessary and sufficient to describe the variations in subjective outcomes generated in Study 1. In order to do this, a 40 x 40 dissimilarity matrix generated for each participant contained a 0 for pairs of cards that were sorted into the same pile and a 1 for pairs sorted into different piles. The 15 participants' distance matrices were summed together, so that each cell in the matrix contained a number between 0 and 15, representing the count of times that pair of cards appeared in different piles. Such distance measures are the basis of input for the multivariate techniques of clustering and multidimensional scaling (Rosenberg, 1982). In order to provide converging evidence, and to be certain that the results are robust in elucidating the underlying structure by which experts grouped the subjective value factors, the analyses below employ both of these multivariate techniques.

Cluster Analysis. Cluster analysis is a classification technique for forming homogeneous groups using variance minimization techniques to provide the most coherence within groups and the greatest distance between groups (Blashfield, 1976; Borgen & Barnett, 1987; Kuiper & Fisher, 1975; Lorr, 1983). Using the CLUSTER procedure in the SPSS statistical software package, a four-cluster solution emerged as the optimal grouping on the basis of the criteria outlined in Tunis, Fridhandler, &

Horowitz (1990) of (a) providing clusters that were conceptually meaningful and interpretable, and (b) stability, in that the content of the clusters changed only minimally when the four-cluster solution was compared with the other possible solutions. Figure 1 presents the tree diagram or dendrogram, which illustrates the extent to which items clustered together into categories. Based on the content of the individual items falling into each category, we named them *Feelings about the Instrumental Outcome* (“Instrumental”), *Feelings about the Self* (“Self”), *Feelings about the Relationship* (“Relationship”), and *Feelings about the Negotiation Process* (“Process”). The Relationship and Process clusters also appeared to be sub-clusters of a larger factor that we named *Rapport*.

Multi-dimensional scaling. Multi-dimensional scaling (MDS) provided a converging technique to examine the robustness of the underlying categorical factor structure. MDS uses the proximity among objects to generate a graphical representation of the configuration of points to reflect the “hidden structure” in the data (Kruskal & Wish, 1978). Such a technique allows researchers to derive a representation of a cognitive structure without the participant necessarily being aware or able to report the implicit dimensionality, and without prompting by pre-conceived experimenter notions, thus making it particularly suitable for exploratory research and theory development (Pinkley, 1990; Rusbult & Zembrodt, 1982).

In order to determine the appropriate number of dimensions in which to represent the data, we used the recommended criteria of (a) no significant increase in variance explained (R^2) upon addition of further dimensions, (b) an “elbow” or bend in

the plot of stress values where lower numbers indicate goodness of fit (values .404, .234, .151, .124, .103, and .083 for dimensions 1 through 6, respectively), suggesting that the four-dimension solution did not appear substantially to reduce the stress beyond that of the three-dimension solution, and (c) yielding a parsimonious and conceptually interpretable solution (Kruskal & Wish, 1978). Balancing these three criteria provided the three-dimensional solution illustrated in Figure 2, with $R^2=.74$. Conceptually, the MDS solution also revealed the same four groupings that were identified in the cluster analysis, with Instrumental, Self, and Rapport factors, of which Process and Relationship appeared to be sub-factors of Rapport, which provided converging evidence for the domains of subjective value identified by the sorting task.

Discussion

The current study examined the conceptual groupings that emerged among the wide range of factors reported by earlier participants as important to them in their negotiations. The goal was to develop a comprehensive and inductively derived typology of subjective value.

Based on the empirical results, negotiation theorists appear to group these outcomes into four broad factors representing a comprehensive yet parsimonious description of subjective value. One resulting factor was Feelings about the Instrumental Outcome, or the belief by a negotiator of having had a strong objective settlement, represented for example by elements such as “winning” a negotiation, receiving a refund for a defective product, and obtaining a product of high quality. A second resulting factor was positive Feelings about the Self, for example represented by

elements such as saving face and doing the “right thing.” The third and fourth factors addressed Negotiation Process and Relationship issues, respectively, under a larger concept of Rapport. Process included, for example, elements such as being listened to by the other party. Relationship issues included, for example, elements such as trust, and not damaging the parties’ relationship with each other.

Although these categories emerged inductively from the data generated by participants in Studies 1 and 2, deductively they bear strong resemblance to previous conceptual frameworks for classifying subjective outcomes in negotiation. Thompson’s (1990) outline of social psychological measures of negotiation performance focused on perceptions of the negotiation situation (similar to our Process factor), perceptions of the other party (similar to our Relationship factor), and perceptions of the self (similar to our Self factor). Following Oliver, et al. (1994), we further expanded Thompson’s framework to emphasize the nexus of economic and perceptual outcomes, in the form of subjective beliefs and feelings about the tangible outcome of a bargaining encounter (similar to our Instrumental factor). Thus, our current empirical results support these models, using a data-driven approach that converged with results of theory-driven approaches.

Study 3: The Subjective Value Inventory

Studies 1 and 2 identified and classified areas of subjective value relevant and important to negotiators, but did not provide a means for researchers to incorporate these areas into further work in the field. The goal of Study 3 is to take the results of the

first two studies as a starting point to create a questionnaire, the Subjective Value Inventory (SVI). By generating a relatively large initial pool of questions representing the four factors of subjective value identified in Study 2, selecting items for inclusion based on their psychometric properties, and confirming that the resulting questionnaire accurately portrays the four factor model, our intention is to provide a relatively efficient yet broad tool for the inclusion of subjective value as a key outcome in future negotiations research.

Method

Questionnaire

The results of Studies 1 and 2 were used to generate a questionnaire intended to measure the degree of subjective value experienced in a negotiation. Inductively, the subjective value factors that were generated in Study 1 and subsequently examined in Study 2 formed the core basis for generating survey items. Study 1 generated 20 different coded categories of subjective value, which distilled into 4 different factors in Study 2. For use in the questionnaire, the first and second authors drafted 14, 8, 19, and 20 survey items for the categories Feelings about the Instrumental Outcome, Feelings about the Self, Feelings about the Relationship, and Feelings about the Negotiation Process, respectively, inductively using the subjective value factors and coding derived from Study 1 and deductively making use of the research literature on subjective outcomes in negotiation in order to guide the amount of coverage for each of the four factors. For example, given the extensive research focus on negotiation process (e.g., Brockner & Wiesenfeld, 1996; Greenberg, 1987; Lind & Tyler, 1988; Thibaut & Walker,

1975), a greater number of items were included for this factor. Wording attempted to make each item clear, vivid, and applicable to the widest range of possible negotiation contexts. In order to reduce the effects of fatigue, response sets, and question ordering, the 66 total questions appeared in one of six different random orders, counterbalanced across participants.

Questionnaire instructions requested participants to consider a recently experienced negotiation and to describe it briefly, with one-quarter of a page provided for the description, before continuing to respond to the 66 questions with respect to that particular negotiation. As in Study 1, in order to evoke a wide range of possible contexts, the survey began with a definition of *negotiation* as “any situation in which people are trying to accomplish a goal and have to communicate with at least one other person in order to achieve that goal.”

Participants

Given the volume of research on negotiations taking place with student samples, for the sake of consistency in creating and testing the properties of a survey instrument we elected to work with student samples for this phase of the research program.

In order to conduct exploratory and confirmatory analyses on separate data sets, two distinct samples were recruited (e.g., Moore & Neimeyer, 1991, Church & Burke, 1994). The exploratory sample consisted of 141 undergraduate and master’s level business students at the University of California, Berkeley, who participated for course credit. The confirmatory sample consisted of 272 master’s level business students at the University of California, Los Angeles, who completed the survey as part of a course on

negotiations and conflict management. In order to sample participants drawing on real-life experiences as well as those responding in real-time without the need to recall events from past memory, of these 272 participants, half were assigned at random to complete the survey based on an in-class exercise just completed, simulating a salary negotiation (Schroth, Ney, Roedter, Rosin, & Tiedmann, 1997), and the other half based on a real-life negotiation in which they had taken part outside of the class.

Results

An exploratory factor analysis was conducted in order to identify the four best items exemplifying each of the four components of subjective value, resulting in a more manageably sized 16-item Subjective Value Inventory that could be used in subsequent confirmatory analyses. Because the goal was to examine item loadings as one heuristic for selecting survey items, rather than for the purpose of exploring the factor structure of the SVI itself, our analytic strategy was to examine each factor of subjective value separately in a Principle Component Analysis (PCA) with Varimax rotation containing only the items intended for that factor. The heuristic for item selection was to balance three criteria: (a) high loading on its intended factor, (b) content assessing unique aspects of the category (McCullough, Emmons & Tsang, 2002), and (c) maximum inter-item correlations. Table 2 contains the resulting items selected for each factor.

Structural Equation Models (SEM) examined the structure and coherence of the resulting 16 items, using Analysis of Moment Structure (AMOS) software (Albuckle, 1997; Byrne, 2001), substituting the sample's mean value in cases where participants did not complete all 16 items. We compared the fit of three models: (1) one factor

containing all 16 items, (2) a three-factor model (Instrumental, Self, and Rapport), and (3) the “three-two” model predicted based on the results of Study 2, with three factors (Instrumental, Self, and Rapport) and two sub-factors (Relationship and Process) within the larger factor of Rapport. Given the variation and lack of consensus among researchers for norms regarding the optimal fit statistics to evaluate SEM models, we tested and present a wide range of absolute and relative fit indices (Bentler, 1990; Brown & Cudeck, 1993; Church & Burke, 1994; Diamantopoulos & Siguaaw, 2000; Kelloway, 1998; Mulaik et al., 1989; Steiger, 1990). These are: (a) absolute indices: chi-square and chi-square/degree of freedom, Goodness-of-fit index (GFI), root mean square error of approximation (RMSEA), root mean square residual (RMR), and standardized RMR, and (b) relative fit indices: Bentler and Bonett’s (1980) Normed Fit Index (NFI), Bollen’s (1989) Incremental Fit index (IFI), and Bentler’s (1990) Comparative Fit Index (CFI).

Table 3 lists the values of each of these indices for each model. For the sake of providing converging evidence for the factor structure, we include models and fit statistics for both the original exploratory participant sample ($n=141$) used to select the survey items as well as the independent confirmatory sample ($n=272$). In both cases, the single-factor model is a relatively poor fit compared with the 3-factor model, and the 3-2 factor model provides a significantly better fit to the data than either of the other two. As support for merging data from the two different types of respondents in the confirmatory sample – those completing the survey based on an in-class exercise versus those based on a negotiation outside of class – a chi-square test revealed no differences

between the factor structures based on responses from each group ($\chi^2 (13) = 12.994, ns$). Figure 3 illustrates this factor structure for the Subjective Value Inventory. Table 4 lists the resulting correlations among the four factors, as well as the reliability of each factor. The factor referring to feelings about the Self appears to have the least internal cohesion among items – suggesting, perhaps, a more multifaceted nature – and the lowest level of association with other scale factors.

Discussion

The goal of the current study was to create a general-use questionnaire instrument to measure subjective value in negotiations. We used the psychometric properties of individual questions in order to select test items, and confirmed that the resulting survey follows the four-factor structure for subjective value that was derived in Study 2.

The 16-item Subjective Value Inventory appears to meet these goals. There are two clearly separate factors of Feelings about the Instrumental Outcome and Feelings about the Self. In addition, as in the second study, the two factors Feelings about the Negotiation Process and Feelings about the Relationship appeared to be sub-factors of a larger construct of rapport. This convergence of results between analyses based on negotiations experts and student participants provides greater confidence in the generalizability of the subjective value classification and the SVI instrument, suggesting that both populations appear to use similar implicit categorizations of subjective value. For theoretical reasons, we elect to retain the two rapport sub-factors as separate constructs rather than to combine them together into a single survey factor. Although

the present research derived these sub-factors deductively, we note – iterating inductively – that each corresponds closely to an existing concept in the research literature. Whereas negotiation process is concerned largely with “cold cognition” issues such as productive discourse, techniques for reaching appropriate settlements, and other related areas, relational concerns draw more emphasis on the “hot” interpersonal and affective processes (Thompson, Medvec, Seiden, & Kopelman, 2001; Thompson, Nadler, & Kim, 1999).

Study 4: Initial Validation of the SVI

The fourth study aims to validate the new Subjective Value Inventory as a worthwhile tool for researchers interested in measuring the outcomes of negotiations. In addition to basic psychometric properties, we focused on establishing the SVI’s convergent, divergent, and predictive validity.

Convergent validity of the SVI would suggest that relevant factors within the instrument correlate positively with the tools researchers have used previously to examine related areas broadly under the umbrella of subjective value. For this purpose, we included the specific constructs of trust, satisfaction, and justice, examining a mixed-motive negotiation with multiple issues and integrative potential, in which issues of justice, relationship building, and satisfaction had the potential for substantial variability across negotiators.

McAllister (1995) defined trust as “an individual’s belief and willingness to act on the basis of the words, actions, and decisions of another” (p. 25). Trust is a critical

element of negotiators' development of an effective working relationship (Lewicki, Saunders, & Minton, & Barry, 2002; Lewicki & Stevenson, 1997). Thus, Hypothesis 1 is that trust in a negotiation counterpart converges with rapport as measured by the Process and Relationship factors of the SVI. Likewise, developing effective rapport in a working relationship implies greater willingness to work again together in the future, which is Hypothesis 2.

Satisfaction with a negotiation is a critical element of subjective value. Oliver et al.'s (1994) subjective disconfirmation framework uses expectancy and social perception theories to argue that negotiator satisfaction is driven by comparison of actual outcomes with those expected prior to a negotiation. They describe the process as a "better-than/worse-than' heuristic" (p. 256) in which negotiators match settlements with their prior expectations. Within their framework, then, are two related values: first, satisfaction with an outcome, and second, subjective disconfirmation, the latter being a matter of the degree to which the negotiation outcome exceeded prior expectations. Because their framework focuses on a negotiator's satisfaction with the bargaining settlement itself, Hypothesis 3 is that both outcome satisfaction and subjective disconfirmation converge with the Instrumental factor of the SVI.

Justice has been the focus of an extensive research literature within negotiations and organizational behavior more widely. Within the larger construct of organizational justice, Colquitt (2001) found evidence for four distinct dimensions. Procedural justice refers to fairness in the decision-making processes that lead to decision outcomes, and thus Hypothesis 4 is that procedural justice converges with the Process factor of the SVI.

Distributive justice refers to fairness in the allocation of outcomes or resources, and thus Hypothesis 5 is that distributive justice converges with the Instrumental factor of the SVI. Interpersonal justice refers to fairness in people being treated with respect and sensitivity, and thus Hypothesis 6 is that interpersonal justice converges with the Relationship factor of the SVI. The final factor of justice, informational justice, refers to justice in being provided with appropriate communication about the procedures of decision making, and thus Hypothesis 7 is that informational justice converges with the Process factor of the SVI.

Divergent validity of the SVI would suggest that the tools researchers have used previously to capture specific constructs within subjective value would have lesser correlations with those factors of subjective value that are less directly relevant based on theory. Thus, Hypothesis 8 is that the largest magnitude of correlations among the four factor scores on the SVI and the measures of trust, satisfaction, and justice should be for the specific predictions made in Hypotheses 1-7, and that the other correlations, not specified in advance by theory, should be of lesser magnitude.

Further, divergent validity of the SVI would suggest that the instrument should be largely uncorrelated with personality traits, which is Hypothesis 9. Traits are conceptualized as stable differences at the individual level (John, Donahue, & Kentle, 1991; McCrae & John, 1992). By contrast, the SVI addresses a relational construct regarding the outcomes of an interpersonal interaction. It seems plausible that, over time and in dynamic, reciprocal, and self-selected situations, an association could develop in which personality traits could guide the types of situations and quality of

interpersonal interactions that one experiences chronically in negotiations. However, the current research setting is a one-time negotiation with a randomly assigned partner, in which the setting is explicitly delineated and fixed across participants. Thus, in this study, in the absence of supportive theory, strong relationships between personality traits and the SVI would be particularly vulnerable to critique that they suggest common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), in which individuals would perhaps report subjective value differently based on stable temperamental traits. In order to sample a range of traits, we test the big five personality factors (McCrae & John, 1992) as well as a trait often linked with research on personality in negotiation, Machiavellianism (Christie & Geis, 1970).

Predictive validity of the SVI would imply that responses to the instrument at the time of a negotiation would correspond to important, face-valid, criteria at a later point in time. In order to provide such a test, we draw from Thompson's (1990) argument grounding social psychological measures of negotiation in the concepts of social perception (Allport, 1955), and thus look for predictive validity in the form of future perceptions of counterparts, in a context where those perceptions have real consequences for negotiators. Oliver et al. (1994) argued that the willingness to negotiate again with one's counterpart in the future is a key consequence of subjective outcomes. Drawing from the research literature on job satisfaction (e.g., Schneider, 1985), they note an extensive body of findings in which satisfaction levels predict greater retention and intention to retain current working relationships. Relying on the same logic, Hypothesis 10 is that greater subjective value following a negotiation

predicts greater subsequent willingness to engage in cooperative interactions with the same negotiation counterpart. We test this hypothesis in two ways. First we used a real behavioral measure. As part of participants' introductory course on negotiations, a course in which bargaining outcomes were the sole determinant of students' grades, we specified to participants that there would be a further exercise for which their recorded preferences indeed determined the assignment of a future teammate in a team-against-team negotiation. Our second test of Hypothesis 10 used semi-behavioral intentions, in the form of participants' opinions of their counterpart's worthiness for further professional contact. To enhance realism, we used questions designed to sample from the type of networking activities common to the alumni of highly rated MBA programs. Thus, the current study aimed to document the potential value of subjective value.

Method

Participants

One hundred and four master's-level business students participated in this study as part of a half-semester intensive course on negotiations and conflict management at the Massachusetts Institute of Technology (Male $n=77$, Female $n=27$).

Procedure

Personality Instruments. At the beginning of the semester, the students completed self-report personality questionnaires. The big five personality inventory (15-item measure, Langford, 2003) assessed the five dimensions of: Agreeableness, Conscientiousness, Extraversion, Neuroticism, and Openness. Christie and Geis' (1970) scale assessed Machiavellianism.

Mixed-Motive Negotiation Exercise. Students negotiated with a randomly paired partner in a scorable mixed-motive negotiation exercise called Riggs-Vericomp, in which they attempted to reach a deal for the fictional transfer of recycling equipment from an engineering firm to a manufacturing firm (Wheeler, 2000). The exercise included a number of distributive issues, in which gain to one partner was at the other's equal expense, compatible issues, in which both parties received the same number of points for a given option and thus were best served by the same option (Thompson & Hrebec, 1996), and integrative issues, for which participants could logroll in order to increase the total points score available to both parties (Froman & Cohen, 1970; Pruitt, 1983).

Following the exercise, participants recorded the details of their agreement, providing the information from which to compute the number of points earned by each party. In order to make comparable the number of points earned by participants across the two different roles, points were converted to standardized Z-scores using a comparison group of the other participants sharing the same role. These Z-scores served as the *Instrumental Outcome*, also known as the *Objective Value*, for analyses below.

Post-Negotiation Questionnaires. Participants also completed a series of post-negotiation questionnaires. The Subjective Value Inventory contained the 16-item version developed in Study 3. The instructions for the SVI appear in Appendix 1. Colquitt's (2001) justice scales addressed issues of *Procedural Justice*, *Distributive Justice*, *Interpersonal Justice*, and *Informational Justice*. Items from Lewicki, Saunders, & Minton, & Barry (2002) assessed the *Trust* between parties (see Lewicki & Stevenson, 1997). Additionally, participants recorded their *Settlement Satisfaction* (7-point scale ranging from "Extremely dissatisfied" to "Extremely satisfied"), *Willingness to negotiate again with same partner* (7-point scale ranging from "No, prefer another" to "Yes, prefer this partner"), and *Subjective Disconfirmation* (7-point scale ranging from "Much worse than expected" to "Much better than expected"), using single-item measures from Oliver, et al. (1994).

Behavioral Measures. Just before the end of the course, participants completed two measures that served as behavioral and semi-behavioral assessments of their negotiation counterparts from the mixed-motive exercise. First, participants recorded their *Teammate Preference Rating*, which was a rating participants provided for all three previous in-class exercise negotiation counterparts in order to provide the instructor with their preferences for actual use to determine the student's teammate in a team-on-team exercise, the results of which contributed towards their course grade. Thus, participants voted "with their feet" to indicate interest in working with their counterpart in a future cooperative venture, to negotiate together against another student team. At the same time, participants were asked to make a series of *Behavioral*

Intention ratings of each of their previous counterparts, recording their opinion of the counterpart's worthiness for further professional contact using questions designed to represent networking activities typical among the alumni of top business schools: (a) Would you want to have this person as your business partner? (b) If you were considering whether or not to join a firm, and you found out that this person works there, would that make you more or less likely to join? (c) If a friend asked your advice about whether to engage in a business transaction with this person, would you recommend doing so? (d) Years from now, if you ran into this person at a professional meeting, would you be likely to approach him or her? (e) How likely is it that you will seek to remain in contact with this person? (Scale of 1 to 7; $\alpha = .91$).

Results

Convergent and Divergent Validity

Table 5 shows the relationship between the Subjective Value Inventory and the mixed-motive negotiation exercise results in terms of objective points scored as well as post-negotiation questionnaires. Addressing the validity of the SVI, the objective Instrumental Outcome correlated significantly with the factor Feelings about the Instrumental Outcome – suggesting that participants had a sense of their performance, albeit an imperfect sense – but did not correlate with the Self, Process, or Relationship factors of the SVI. This indicates that the SVI does not merely tap common method bias relating to a global satisfaction factor anchored in perceived negotiation performance.

Relationships between the 4 factors of the SVI and additional post-negotiation questionnaires also suggest strong convergent and acceptable divergent validity. As

predicted by Hypothesis 1, Trust correlated most strongly with the Process and Relationship factors of the SVI. Likewise, addressing Hypothesis 2, willingness to negotiate again with the same partner correlated most strongly with the Process and Relationship factors, falling under the larger construct of rapport. In support of Hypothesis 3, both Subjective Disconfirmation and Outcome Satisfaction were most strongly related with the Instrumental factor. As predicted by Hypotheses 4, 5, 6, and 7, respectively, Procedural Justice was most strongly related with the Process factor, Distributive Justice with the Instrumental factor, Interpersonal Justice with the Relationship factor, and Informational Justice with the Process factor. In support of Hypothesis 8, the above correlations were all the largest in magnitude for the theoretically related factor of the SVI, rather than factors of the SVI not specifically predicted to converge. Taken together, these patterns suggest that the particular factors of the SVI, although correlated with each other, appear to have non-overlapping variance that addresses distinct constructs previously represented in the research literature on negotiations.

As further evidence for the validity of the SVI, in support of Hypothesis 9, Table 6 presents correlations between SVI factors and personality traits. Because these traits are individual differences, and the SVI addresses a relational construct regarding the outcomes of an interpersonal interaction with a randomly assigned partner, the lack of significant correlations in Table 6 is noteworthy and suggests that the SVI does not merely tap common method bias relating to a global factor such as agreeableness or scale usage tendencies (Podsakoff et al., 2003).

Predictive validity

The behavioral measures indicated the extent to which participants provided actual and intended expressions of interest in working again together with their counterparts in the future. Table 7 summarizes the results of ordinary least squares linear regression models predicting two different measures of intended relationship continuation, on the basis of the participant's subjective and objective outcomes, as well as the corresponding outcomes of their counterparts. Providing support for Hypothesis 10, participants reporting higher subjective value gave significantly higher teammate preference ratings requesting to work together in the future on a cooperative task. By contrast, the participants' actual objective outcome of the negotiation had no such impact on the teammate preference ratings. There was a marginal trend in which greater subjective value reported by the counterpart reduced the teammate preference rating given to them. For behavioral intention ratings, similarly, participants reporting greater subjective value expressed greater intentions to maintain a positive professional connection with their counterpart. By contrast with subjective value, achieving greater objective value actually predicted marginally lower intentions for further professional contact. Thus, for both measures, subjective value was a better predictor than objective value of participants' preferences for future interaction with their negotiation partners.

Discussion

The current study provides preliminary data demonstrating that the new Subjective Value Inventory is a worthwhile and valid tool to assess the subjective element of negotiations. The SVI's four factors – feelings about the Instrumental

Outcome, the Self, Negotiation Process, and Relationship – appear to converge as predicted with theoretically relevant constructs examined in prior negotiations research (e.g., Colquitt, 2001; Lewicki & Stevenson, 1997; Oliver et al., 1994). The inherently relational and situational SVI also diverges from stable individual difference measures such as Machiavellianism (Christie & Geis, 1970) and the big five personality traits (Langford, 2003; McCrae & John, 1992).

Particularly noteworthy were the predictive validity findings demonstrating that greater subjective value following a negotiation predicts greater subsequent willingness to engage in cooperative interactions with the same negotiation counterpart.

Participants responding with higher values to the SVI were more likely to choose their counterpart as a partner with whom to work together against another team when part of their own grade was at stake. In fact, subjective value was a *better* predictor of inclination towards such future interaction than instrumental value. This finding speaks to the great value of subjective value, an element often overlooked in negotiations research that focuses strictly on bargaining agreements. The finding also speaks to the enduring nature of subjective value over time – apparently, more enduring than objective outcomes. Participants completed the SVI shortly after the negotiation yet recorded their teammate preferences weeks later. Finally, this finding speaks to the validity of the SVI as a survey instrument – both in terms of participants' ability to introspect about subjective value as well as their willingness to report these feelings – in that the SVI strongly predicted a later rating that had real consequences for the participants.

Two unexpected trends emerged with marginal significance. First, there was a suggestive effect whereby participants recorded lesser preference to be teammates with those counterparts who themselves had reported greater subjective value. Thompson, Valley, and Kramer's (1995) inverse affect model argues that negotiators tend to use the emotional states of counterparts as signals, and that the common perception of negotiation as a fixed pie leads them to experience affect in opposition to that of their counterpart, through a social comparison process (e.g., Loewenstein, Thompson, & Bazerman, 1989; McClelland & Rohrbaugh, 1978; Straub & Murnighan, 1995). For example, one might interpret a happy counterpart as cause for disappointment and a disappointed counterpart as cause for cheer. We speculate that such a mechanism could explain this marginal trend – put simply, experiencing high subjective value may have leaked through to a counterpart as gloating. A second trend was that participants who achieved greater objective rewards in the negotiation reported lesser intentions to maintain professional interaction with their counterpart. We speculate that those individuals who were able to extract great amounts of value away from their counterpart may have devalued that person as a future business contact.

General Discussion

The current studies contribute towards a comprehensive framework of social psychological outcomes in negotiation. Using a combination of inductive and deductive methods, and involving participants ranging from students to community members and negotiation practitioners, we attempted to answer the question: What do

people value when they negotiate? Whereas the study of subjective value is not itself new to the field of negotiation, this is the first attempt to connect together this range and breadth of concepts, to probe inductively for possible blind spots, and to provide future researchers with a valid and efficient tool to standardize the measure of non-instrumental consequences of negotiation. The four-factor model of subjective value that emerged included (a) feelings about instrumental outcomes – e.g., outcome satisfaction and distributional fairness, (b) feelings about the self – e.g., saving face and living up to one's own standards, (c) feelings about the negotiation process – e.g., fairness and voice, and (d) feelings about the relationship – e.g., trust and a good foundation for the future. The relationship and process clusters also appeared to be sub-clusters of a larger factor of rapport. This model also served as an empirical validation of previous conceptual frameworks used to describe social-psychological measures in negotiation (Thompson, 1990; Oliver et al. 1994).

Empirical findings suggested, intriguingly, the understated value of subjective value. First, subjective value was less salient but no less important to negotiators than were objective metrics of their performance. Participants in Study 1 reported a diverse range of goals for their negotiations. Although they mentioned the tangible terms of agreements more frequently than other factors, in these open-ended responses fully half of all participants did not mention tangible outcomes at all. Even those participants listing objective terms rated them as no more important than other – more subjective – factors. These findings suggest that researchers may dramatically underrate subjective outcomes in negotiation given their real-world importance. Second, in Study 4

subjective value was a better predictor of negotiators' future behaviors and intentions than was objective performance. Participants reporting high subjective value were more likely weeks later to choose their counterpart for a future cooperative interaction that had real stakes, and were also more likely to report plans to maintain a professional relationship. This finding also speaks to the validity of the Subjective Value Inventory instrument, given that participants were able and willing to self-report responses that later correlated strongly with choices that had real consequences. A third particularly noteworthy finding concerns the significant – yet low – correlation between feelings about instrumental outcomes and those outcomes themselves. This suggests the difficulty, even in the controlled setting of an in-class negotiation exercise, of gathering and processing accurate information about one's objective performance. Thus, subjective value is much of the gain we realize from a negotiation.

Limitations

The biggest limitation of this research program is, simply put, whether people value what they say that they value in their negotiations. We relied on self-report in the open-ended generation of subjective value factors in Study 1, their mapping in Study 2, and the use of Likert scales in Studies 3 and 4. We address this concern in two ways, first conceptually and second empirically. Conceptually, we argue that what people say they value in a negotiation itself is important. The accuracy of such accounts could not truly be evaluated without losing meaning (e.g., Ross, 2001; Ross & Nisbett, 1991). To obtain an immediate and direct method to ascertain a participant's accuracy in reporting subjective value would represent a paradox – that of providing an objective

criterion against which to compare inherently subjective value. Indeed, the question of how to measure and track subjective experience is a current focus of a growing volume of research on well-being and hedonic science (Diener, 1984; Kahneman, Diener, & Schwarz, 1999; Schwarz & Strack, 1999), grappling with similar issues of self-report, such as self-presentation and social desirability.

That said, the burden falls upon us to demonstrate that participants are willing and able to report their subjective value, and we do so empirically with the results of Study 4. To maintain that participant responses are driven by more than declarative knowledge and folk beliefs that may be internally valid but not valid with respect to actual future behaviors, we present initial data demonstrating the SVI is a strong predictor of future behaviors with consequences for participants. Their choice of a teammate for a team-against-team negotiation had genuine stakes in a class for which objective point scores in in-class exercises were the sole determinants of students' grades. Thus, the strongly positive findings demonstrate participants were capable and willing to report accurately about their subjective value. Self-reports, whatever underlying attribution process represented, have an inherent validity or interest to researchers when they predict important consequences for individuals.

A second limitation of the current research program was the use of student samples in Studies 3 and 4, which examined the factor structure of the SVI instrument and provided initial data on its reliability and validity. Although such samples are representative of the body of negotiations research conducted with student participants, given the evidence in Study 1 that students may differ in the focus and importance they

place on various factors of subjective value, more research would be worthwhile to include practitioners and community members before assuming that the SVI instrument generalizes unchanged for use with wider populations.

Future Research

The results of these studies suggest a number of avenues for further research. First, the systematic approach taken by the current investigation points to the relatively less investigated areas within subjective value. Notably, feelings about the self emerged as a strong independent factor, and its relatively lower inter-item consistency suggests it to be complex and multidimensional. Yet, of the four components of subjective value, the Self encompasses the smallest existing research literature within negotiations. Newer work on the role of face threat and stereotype threat and confirmation (e.g., Kray, Thompson, & Galinsky, 2001; Walters, Stuhlmacher, Meyer, 1998; White et al., 2004) attempts to remedy this gap, and more research in this and related areas would be worthwhile.

Likewise, the field would benefit from greater understanding of feelings about instrumental outcomes. It is a critical question how you know whether you succeeded in a negotiation. The current empirical findings suggest that such knowledge is imperfect, revealing only a modestly sized correlation of $r = .25$ with the objective outcomes themselves. Yet such knowledge is crucial for learning: experience can be a lousy teacher if one's conclusions about that experience are flawed. Research on counterfactual thinking finds that individuals engage in counterfactuals as a result of negative affect and misfortune, and that their resulting elaboration of causal inference

mechanisms is adaptive (e.g., Galinsky, Seiden, Kim, & Medvec, 2002; Lipe, 1991; Roese, 1997). But what if negotiators aren't able to diagnose accurately their own misfortunes? If subjective feelings about success and failure trigger counterfactual reasoning, then a greater understanding of subjective value is a critical component underlying theories of feedback and negotiator learning and training.

More research exploring the consequences of subjective value would be worthwhile. Earlier, we speculated that one value of subjective value is that it may feed back positively into future economic outcomes. Such a speculation awaits more complete testing than the preliminary results presented in Study 4. A basic question is whether the suggestive finding, that subjective value was a stronger predictor than objective value of important future consequences, would replicate in contexts with greater personal stakes for negotiators. A more detailed question concerns the boundary conditions of such an effect: under what circumstances should subjective value be a good predictor of future instrumental outcomes?

Further, more research should explore the precursors of subjective value. What leads to greater feelings of personal reward from a negotiation? Among the factors to be explored could include cognitions – such as norms, expectations, aspirations, and preferences – structural issues – such as the relationship among the parties, including the likelihood of future interaction, the subject and setting of the negotiation, the issues to be decided, and the medium of communication – and individual differences – such as personality factors, culture, and other demographic background characteristics. Even for researchers who do not focus on subjective value per se, including it as an outcome

measure provides the potential to observe the consequences of particular experimental manipulations on subjective experience. In examining how subjective value arises in a negotiation, it is also important to take a process orientation and to examine the behaviors that take place, for example the strategies and tactics used, whether parties are cooperative versus competitive, how they share information, and other factors.

Practical implications and interventions

Given the widespread importance of effective negotiating, how can we put to use an understanding of subjective value? Study 1 suggests that the objective terms of an agreement may be more salient, but perhaps no more important than other factors. This raises the question of what might happen by focusing negotiators' attention on subjective value. However, we argue that more work would be necessary to validate any intervention approach. For example, evidence suggests that merely focusing on one's subjective value can have a counterproductive impact on it. Conlon and Hunt (2002) found that representing outcomes to participants in terms of smiling and frowning faces – rather than numerical payoff grids – resulted in greater emotional involvement, but that this involvement in turn resulted in longer negotiation times and higher impasse rates. Conlon and Hunt argued that the high rates of disagreement in real-world negotiations are consistent with greater emotional involvement outside of controlled research settings. This observation is consistent with our finding in Study 1 that real-world negotiators appear to place great importance on subjective factors. We speculate that interpersonal skills such as emotional intelligence (EI; e.g., Mayer, Salovey, & Caruso, 2000; Mayer, Salovey, Caruso, & Sitarenios, 2001) may serve to

moderate such findings – in which the conventional wisdom that emotional involvement is detrimental for reaching agreements (e.g., Bazerman & Neale, 1992) holds in the case of low EI, but that focusing on subjective value and increasing emotional involvement could benefit negotiators with high EI. We hope that the promising findings of the current paper serve as a call for research that can develop and support nuanced recommendations about the methods and contexts in which negotiators should focus on their subjective value in order to improve the outcomes and experience of their interactions.

Conclusion

The purpose of this article has been to present a comprehensive framework of the range of inherently social psychological outcomes in negotiation, which serves as a compliment to more tangible, instrumental, or economic outcomes. It is our hope that such a framework serves to encourage, systematize, and facilitate research that looks beyond economic exchange as the consequence of interpersonal negotiations. The field of negotiations has been a uniquely interdisciplinary pursuit, eagerly incorporating perspectives from economics, law, organizational behavior and industrial relations, sociology, as well as psychology. The current research aimed to put a social psychological stamp on the study of negotiation outcomes.

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We are indebted to Corinne Bendersky, Joel Cutcher-Gershenfeld, Gordon Kaufman, Robert McKersie, Nancy Peace, and Phyllis Segal for collecting data in their classrooms and workshops. For helpful comments, we thank Paul Berger, Joel Brockner, John Carroll, Rachel Croson, Martin Evans, Roberto Fernandez, Adam Galinsky, James Gross, Sheena Iyengar, Jerome Kagan, Thomas Kochan, Donald Lessard, Bertram Malle, Hazel Markus, Victoria Medvec, Steven Mestdagh, Jennifer Mueller, Drazen Prelec, and Michele Williams. For research assistance, we thank Edward Carstensen, Ken Coelho, Zachary Corker, Kate Dowd, Scott Edinburgh, Ray Faith, Marc Farrell, Pooja Gupta, Adnan Qadir, Shayna Schulz, and Philip Sun. Finally, we thank the members of the Program on Negotiation at Harvard University who generously volunteered their time.

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Table 1

Frequencies, Ratings, and Coding Reliability of Subjective Value Factors Reported in Business and Personal Negotiations

Coding Category	<i>Business</i>			<i>Personal</i>			Coding Reliability
	<i>Frequency</i>	<i>Importance</i>		<i>Frequency</i>	<i>Importance</i>		
	%	M	SD	%	M	SD	
Non-quantifiable terms of the agreement	15.8%	5.4	1.4	13.3%	5.3	1.6	.94
Quantifiable terms of the agreement	9.2%	5.4	1.3	8.3%	5.4	1.6	.89
Legitimacy	4.2%	5.5	1.7	5.0%	4.5	1.7	.94
Impact on an outside party	3.8%	5.3	1.4	1.9%	6.1	1.2	.80
Respect	3.1%	5.2	2.0	3.3%	5.6	1.4	.83
Fairness /equity	1.8%	5.9	1.6	0.7%	6.1	1.2	.98
Good attitude	1.5%	5.2	1.5	0.7%	5.0	1.8	.92
Positive emotion	1.3%	6.2	1.2	2.5%	5.6	1.4	.94
Effective process	1.2%	4.8	1.4	1.5%	5.2	1.9	.85
Morality/ethics/religious	1.1%	6.7	0.7	0.3%	5.7	2.4	.98
Resolution	1.0%	6.2	0.8	0.7%	3.6	1.6	.95
Relationship quality	0.9%	5.8	1.7	1.4%	5.3	1.7	.91
Trust	0.9%	6.3	0.4	1.0%	5.3	1.2	.94
Listening	0.6%	5.7	1.6	0.9%	6.0	1.0	.96
Satisfaction	0.5%	5.4	1.1	2.0%	5.8	1.3	.84
Acknowledgement of wrongdoing /remedy	0.5%	6.6	0.5	0.1%	7.0	-	.98
Saving face	0.4%	3.3	2.2	0.2%	3.5	3.5	1.00
Compromise/mutual agreement	0.3%	5.3	1.5	1.9%	6.1	0.9	.82
Winning	0.2%	5.5	2.1	0.3%	4.7	1.5	.88
Peaceful/non-confrontational	N/L	-	-	0.4%	2.0	7.4	.67
Unclear or other	2.6%	0.5	2.0	2.6%	0.8	2.1	.89
Overall	50.8%			49.2%			.87

Note: N/L indicates that no participant in that condition listed a subjective value factor falling under the particular coding category.

Table 2

16-item Subjective Value Inventory

Question	Wording	Factor Loading
A. Feelings about the Instrumental Outcome		
1	How satisfied are you with your own outcome – i.e., the extent to which the terms of your agreement (or lack of agreement) benefit you? (1="Not at all satisfied", 4="Moderately satisfied", and 7="Perfectly satisfied"; Includes an option "NA")	.879
2	How satisfied are you with the balance between your own outcome and your counterpart(s)'s outcome(s)? (1="Not at all satisfied", 4="Moderately satisfied", and 7="Perfectly satisfied"; Includes an option "NA")	.878
3	Did you feel like you forfeited or "lost" in this negotiation? (1="Not at all", 4="A moderate amount", and 7="A great deal"; Includes an option "NA") [Reverse]	.783
4	Do you think the terms of your agreement are consistent with principles of legitimacy or objective criteria (e.g., common standards of fairness, precedent, industry practice, legality, etc.)? (1="Not at all", 4="Moderately", and 7="A great deal"; Includes an option "NA")	.674
B. Feelings about the Self		
5	Did you "lose face" (i.e., damage your sense of pride) in the negotiation? (1="Not at all", 4="Moderately", and 7="A great deal"; Includes an option "NA") [Reverse]	.657
6	Did you behave according to your own principles and values? (1="Not at all", 4="Moderately", and 7="A great deal"; Includes an option "NA")	.635
7	Did this negotiation make you feel more or less competent as a negotiator? (1="It made me feel less competent", 4="It did not make me feel more or less competent", and 7="It made me feel more competent"; Includes an option "NA")	.625

8	Did you feel as though you behaved appropriately in this negotiation? (1="Not at all", 4="Moderately", and 7="A great deal"; Includes an option "NA")	.608
 C. Feelings about the Process		
9	Did your counterpart(s) consider your wishes, opinions, or needs? (1="Not at all", 4="Moderately", and 7="Very much"; Includes an option "NA")	.844
10	Do you feel your counterpart(s) listened to your concerns? (1="Not at all", 4="Moderately", and 7="A great deal"; Includes an option "NA")	.834
11	Would you characterize the negotiation process as fair? (1="Not at all", 4="Moderately", and 7="A great deal"; Includes an option "NA")	.736
12	How satisfied are you with the ease (or difficulty) of reaching an agreement? (1="Not at all satisfied", 4="Moderately satisfied", and 7="Perfectly satisfied"; Includes an option "NA")	.708
 D. Feelings about the Relationship		
13	What kind of "overall" impression did your counterpart(s) make on you? (1="Extremely negative", 4="Neither negative nor positive", and 7="Extremely positive"; Includes an option "NA")	.851
14	Did the negotiation make you trust your counterpart(s)? (1="Not at all", 4="Moderately", and 7="A great deal"; Includes an option "NA")	.791
15	How satisfied are you with your relationship with your counterpart(s) as a result of this negotiation? (1="Not at all satisfied", 4="Moderately satisfied", and 7="Perfectly satisfied"; Includes an option "NA")	.789
16	Did the negotiation build a good foundation for a future relationship with your counterpart(s)? (1="Not at all", 4="Moderately", and 7="A great deal"; Includes an option "NA")	.786

Table 3

Structural Equation Models of the Subjective Value Inventory

	Absolute fit						Comparative fit			Model comparison	
	χ^2	df	χ^2/df	GFI	RMSEA	RMR	SRMR	CFI	NFI	IFI	χ^2 difference
Exploratory Sample, $n=141$											
1-factor	355.147	104	3.415	.723	.131	.24	.0915	.786	.826	.789	-
3-factor	216.017	101	2.139	.837	.09	.199	.0756	.902	.833	.904	139.13***
3-2 factor	176.887	98	1.805	.861	.076	.174	.0639	.933	.863	.934	39.13***
Confirmatory Sample, $n=272$											
1-factor	403.238	104	3.877	.831	.103	.128	.0699	.860	.821	.861	-
3-factor	300.753	101	2.978	.879	.085	.139	.0722	.906	.866	.907	102.485***
3-2 factor	269.574	98	2.751	.89	.08	.102	.0535	.920	.880	.920	31.179***

Notes: The 1-factor model contains all 16 items, the 3-factor model contains items grouped into the factors Perceived Instrumental Outcome, Self, and Rapport, and the predicted 3-2 factor model groups items into three factors (Perceived Instrumental Outcome, Self, and Rapport) with two sub-factors (Relationship and Process) contained within larger factor of Rapport.

CFI - Comparative Fit Index, GFI - Goodness-of-fit index, NFI - Normed Fit Index, IFI - Incremental Fit index, RMSEA - Root Mean Square Error of Approximation, RMR - Root Mean Square Residual, SRMR - Standardized RMR.

* $p < .05$, ** $p < .01$, *** $p < .001$; all values two-tailed.

Table 4

Reliability and Correlations among the four Factors of the Subjective Value Inventory

Factor	1.	2.	3.	4.
1. Instrumental	(.86)			
2. Self	.54***	(.63)		
3. Process	.70***	.49***	(.85)	
4. Relationship	.72***	.49***	.83***	(.88)

Notes: Reliabilities appear in parentheses on the diagonals.

~ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$; all values two-tailed.

Table 5

Correlations between the Subjective Value Inventory and Point Scores and Post-Negotiation Scales Completed for a Mixed-Motive Negotiation Exercise

	Total SVI	Feelings about the			
		Instrumental Outcome	Self	Process	Relation- ship
Instrumental Outcome	.12	.25**	-.06	.16	.05
Trust	.45***	.38***	.16	.64***	.57***
Willingness to negotiate again	.63***	.55***	.31***	.68***	.71***
Subjective Disconfirmation	.73***	.76***	.46***	.70***	.56***
Outcome satisfaction	.81***	.83***	.53***	.71***	.61***
Justice	.72***	.63***	.44***	.75***	.72***
Procedural justice	.66***	.56***	.48***	.67***	.61***
Distributive justice	.58***	.62***	.34***	.57***	.45***
Interpersonal justice	.54***	.41***	.34***	.55***	.63***
Informational justice	.56***	.45***	.26***	.65***	.66***

Notes: Items in boldface indicate predicted convergent scales.

~ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$, all values two-tailed.

Table 6

Correlations Illustrating Divergent Validity between Personality Traits and the Subjective Value Inventory Completed for a Mixed-Motive Negotiation Exercise

	Feelings about the				
	Total SVI	Instrumental Outcome	Self	Process	Relationship
Machiavellianism	-.11	-.08	-.15	-.02	-.07
Openness	.14	.05	.12	.13	.20~
Conscientiousness	.06	.08	.11	-.05	-.06
Extraversion	-.04	.05	-.17~	-.08	-.03
Agreeableness	.03	-.02	.04	.02	.04
Neuroticism	.11	.07	.20~	.00	.03

~ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$, all values two-tailed.

Table 7

Prediction of Behavioral Measures from the Subjective and Objective Outcomes of a Mixed-Motive Exercise

	<i>Model 1: Teammate Preference Ranking</i>	<i>Model 2: Behavioral Intention Ratings</i>
<i>Participant's Outcomes</i>		
Subjective Value	.42***	.55***
Objective Value	.05	-.18~
<i>Counterpart's Outcomes</i>		
Subjective Value	-.19~	-.02
Objective Value	.11	.05
<i>Model diagnostics</i>		
N	94	93
F-test of model	<i>F</i> (4, 89)	<i>F</i> (4, 88)
Value of F	4.07***	9.50***
R-squared	.15	.30
Adjusted R-squared	.12	.27

Notes: All terms other than model diagnostics are standardized regression coefficients (beta).

~ $p < .10$; * $p < .05$; ** $p < .01$; all values two-tailed.

Figure 1
Cluster Analysis Tree Diagram Illustrating the Conceptual Distance among Subjective Value Factors

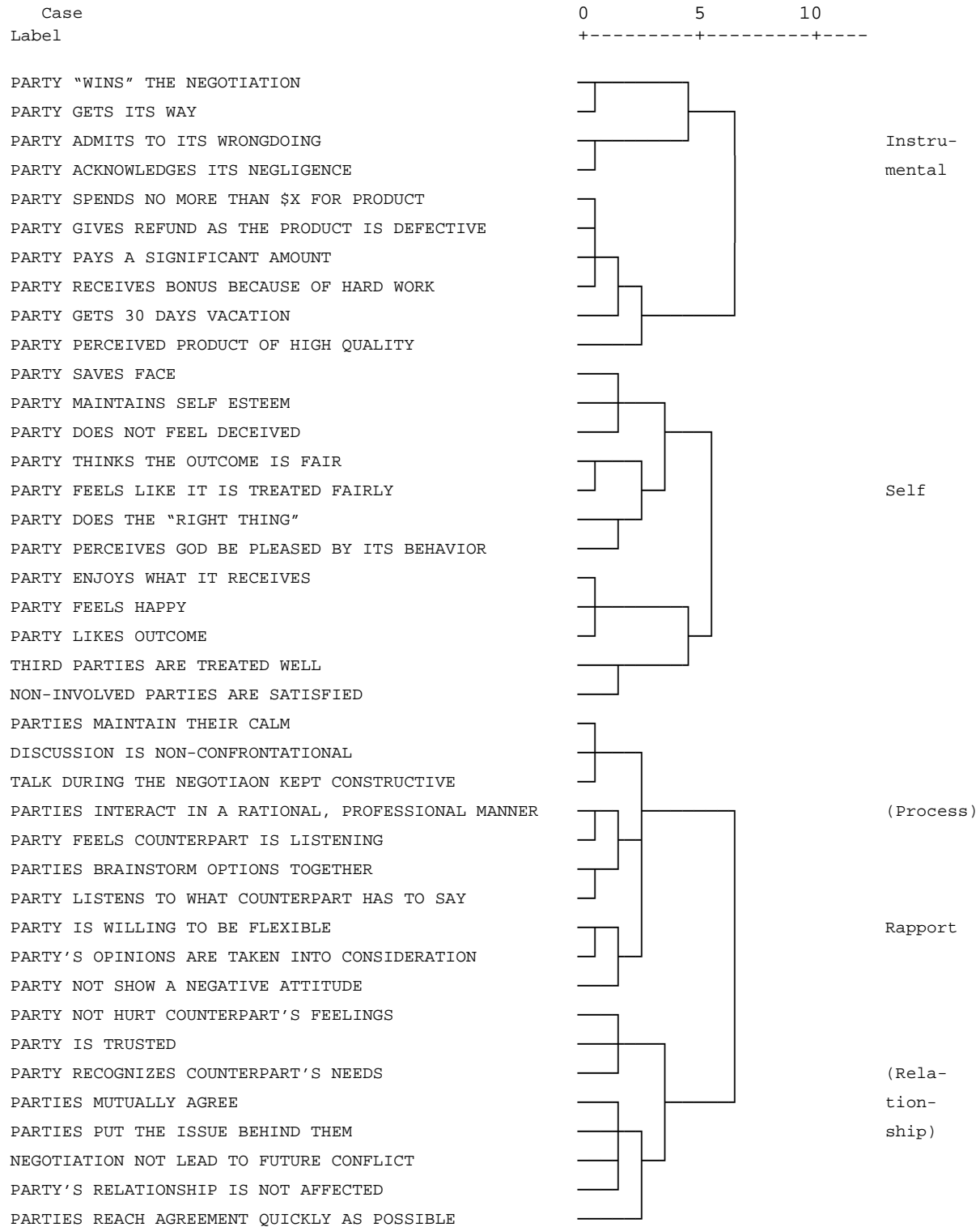


Figure 2

Multi-dimensional Scaling Analysis Illustrating the Conceptual Distance among Subjective Value Factors

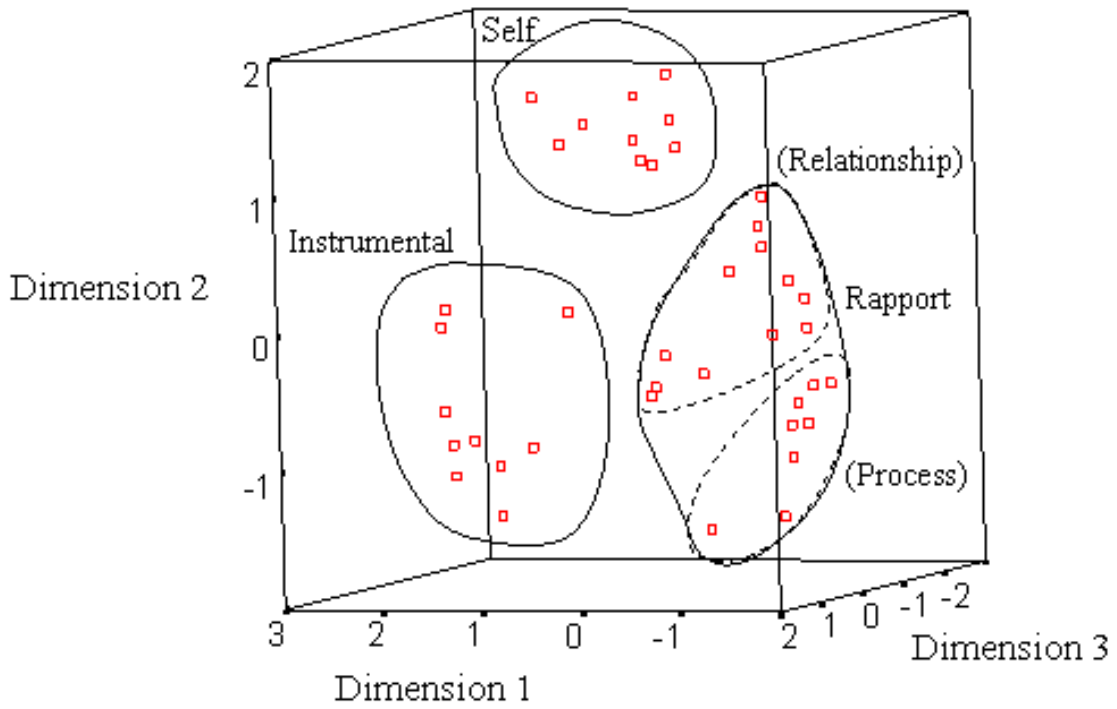
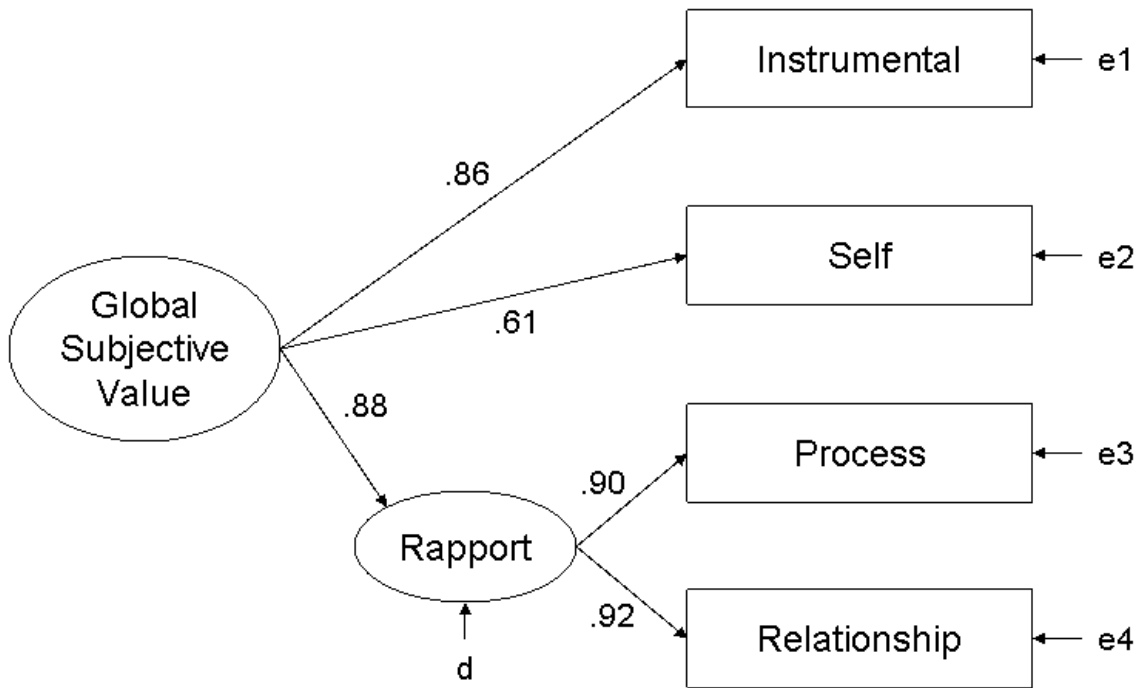


Figure 3

Factor Structure of the Subjective Value Inventory



Appendix 1

Instructions for The Subjective Value Inventory 16-item Questionnaire

General Instructions: For each question, please circle a number from 1-7 that most accurately reflects your opinion. You will notice that some of the questions are similar to one another; this is primarily to ensure the validity and reliability of the questionnaire. Please simply answer each question independently, without reference to any of the other questions.

Important: If you encounter a particular question that is not applicable to your negotiation, simply circle "NA." Even if you did not reach agreement, please try to answer as many questions as possible.