Culture and Negotiator Cognition: Judgment Accuracy and Negotiation Processes in Individualistic and Collectivistic Cultures

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In this paper, we argue that judgment biases in negotiation are perpetuated by underlying cultural values and ideals, and therefore, certain judgment biases will be more prevalent in certain cultural contexts. Based on theory in cultural psychology (Markus & Kitayama, 1991; Triandis, 1989), we considered the notion that fixed pie error, a judgment bias in which negotiators fail to accurately understand their counterparts’ interests (Pruitt & Lewis, 1975; Thompson & Hastie, 1990), would be more prevalent at the end of negotiations in the United States, an individualistic culture, than Greece, a collectivistic culture. The results of a 2-week computer-mediated intercultural negotiation experiment, which took place between American students in Illinois and Greek students in Athens, supported this view. Theoretical implications of culture and cognition in negotiation are also discussed. © 1999 Academic Press

In this era of globalization, there is a great need to understand how culture influences all aspects of organizational behavior. As the world becomes increasingly interdependent, it is common for products to be designed in one culture, manufactured in another, and sold in yet another (Adler, 1991). Along with

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these structural transitions, there has been an increase in the frequency of
cross-cultural business interactions both inside and outside the organization,
from the executive suite to the shop floor, and among customers and competitors
alike (Triandis, Kurowski, & Gelfand, 1994). Not surprisingly, many companies
depend on successful cross-cultural business operations for their profitability
in today’s global work environment. In the United States, for example, more
than 100,000 companies conduct business overseas, and at least one-third of
American profits are derived from international business dealings (Erez, 1994).
Undoubtedly, organizations that adopt a global perspective, and understand
how culture influences selection, motivation, leadership, negotiation, marketing,
and other human resource functions, will have a tremendous competitive
advantage in the emerging world marketplace (Harris & Moran, 1991).

In addition to this practical impetus, at a theoretical level, there is a great
need for organizational psychology to become more global. The science of psy-
chology in the United States, which dominates the research literature, is still
parochial, and is based within a historical tradition that promotes liberal indi-
vidualism (Erez, 1994; Triandis, 1994a). Indeed, there are estimates that more
than 90% of social and organizational theories have been developed and tested
in largely Western contexts (Triandis, 1994b). As a result, there is a pressing
need for theory and research to examine what is universal (etic) and culture-
specific (emic) about behavior in organizations. In the area of behavioral negoti-
ation theory, the focus of this paper, the cultural context has been largely
ignored (Pruitt & Carnevale, 1993), and there is an implicit assumption that
existing theories apply universally. However, universal laws are only logically
tenable if variables are derived from common biological factors, common ecologi-
cal pressures, or exposure to the same fundamental social structure (Pepitone &
Triandis, 1987). Since behavioral theories of negotiation do not normally include
concepts derived from these origins, there is a need to explicitly address whether
negotiation theories are universal, or are laden with assumptions derived from
our own cultural context.

The Current Research

The current research examines aspects of negotiator cognition across cultural
contexts. The general proposition advanced in this paper is that judgment
biases in negotiation are perpetuated by cultural values and ideals, and there-
fore, certain judgment biases will be more prevalent in certain cultural contexts.
We considered the possibility that fixed pie error, a judgment bias in which
negotiators fail to accurately understand their counterparts’ interests (Pruitt &
Lewis, 1975; Thompson & Hastie, 1990), would be more prevalent at the end
of negotiations in the United States, an individualistic culture, as compared
to Greece, a collectivistic culture.

To preface the following discussion, since cultural ideals and values in indi-
nualistic cultures emphasize separating from others and promoting one’s own
internal attributes (Markus & Kitayama, 1991; Triandis, 1989), we expected
that negotiators’ cognitions in these cultures would be directed to their own
interests during negotiations, which would inhibit an accurate understanding of their counterparts' interests, and would enhance fixed pie judgments at the end of negotiations. By contrast, since cultural ideals and values in collectivist cultures emphasize maintaining relatedness and fitting in with relevant others, we expected that negotiators' cognitions in these cultures would be directed to the needs of others during negotiations, which would enhance an accurate understanding of their counterparts' interests, and reduce fixed pie judgments at the end of negotiations. Additionally, as will be described below, we expected that these cultural ideals and values would also be manifested in negotiator processes (i.e., offers and behavioral strategies) during the negotiation.

Below, we first describe the cognitive tradition in negotiation research, and review previous research on the nature and prevalence of fixed pie judgments in negotiation. Next, we discuss the cultural dimension of individualism and collectivism, and review research on the nature of the self and cognition in cultures varying on this dimension. Based on this discussion, we describe an intercultural negotiation experiment which examined cross-cultural differences in fixed pie judgments and negotiation processes.

THE COGNITIVE TRADITION IN NEGOTIATION

Negotiation has been defined as the process by which two or more parties try to resolve perceived incompatible goals (Carnevale & Pruitt, 1992). According to the cognitive tradition (Bazerman & Neale, 1983; Thompson, 1990), negotiation processes and outcomes can best be understood when negotiations are viewed as a cognitive decision-making task in which individuals construct mental representations of the conflict situation, the issues, and their opponents. Research in this tradition typically examines negotiators' information processing capabilities and how they influence judgments, behavioral processes, and outcomes in negotiations. In this respect, one goal of the cognitive tradition is to identify faulty assumptions that negotiators have during negotiation situations (Bazerman & Carroll, 1987; Pruitt & Carnevale, 1993; Thompson, 1990). Perhaps the most pervasive of errors identified is the fixed pie error, which is the judgment that one's own interests are diametrically opposed to one's opponent (i.e., that parties have opposite preferences on each issue), and that the issues that are most important to oneself are also the most important to one's opponents (i.e., that parties have the same priorities on each issue). In other words, negotiators often assume that their counterparts place the same value on the issues as they do (Bazerman & Neale, 1983). However, many real-world negotiations involve issues on which there are differences in priorities, thus creating the potential for mutually beneficial outcomes for both parties (Thompson & Hastie, 1990). To the extent that negotiators fail to realize that their counterparts' interests and priorities differ from their own, this is considered to be a judgment bias.

Despite the fact that many negotiation situations involve differences in priorities, research has consistently shown that negotiators fail to recognize this
because they make inaccurate judgments of the other party's interests (Carnevale & Isen, 1986; Lewis & Fry, 1977; Neale & Northcraft, 1986; Pinkley, Griffeth, & Northcraft, 1995; Pruitt & Lewis, 1975; Thompson & Hastie, 1990). That is, negotiators often assume that their counterparts have similar priorities as themselves and, in such cases, often fail to make trade-offs, which tends to lower their outcomes. For example, Thompson and Hastie (1990) found that individuals enter negotiation situations with fixed pie perspectives and often fail to realize that their counterparts have priorities opposite to theirs by the end of negotiations.

Furthermore, these judgments are very difficult to change. Perhaps most compelling is that even after negotiators are presented with accurate information about their counterparts' interests, biased judgments tend to persist (Pinkley et al., 1995; Thompson, 1995). For example, Pinkley et al. (1995) found that a substantial number of experts and novices still failed to accurately perceive their counterparts' interests after being given full information. Likewise, in their meta-analytic review, Thompson and Hrebec (1996) demonstrated that negotiators often do not recognize when they have perfect compatibility on issues (i.e., both negotiators have the same exact preferences on an issue), and this error is exacerbated when negotiators are involved or accountable (Thompson, 1995).

In sum, negotiators are often susceptible to fixed pie judgments, and this error tends to persist even in the face of accurate information. One of the goals of this study was to examine the possibility that this judgment bias, which has been examined extensively in the United States, would be attenuated among negotiators in other cultures. Next, we review research in cross-cultural psychology which has relevance for this phenomenon.

**CULTURE**

In a broad sense, culture consists of socially created mechanisms through which groups enact a fit with their environments (McCusker & Gelfand, 1997). Such mechanisms run the spectrum from structural elements (e.g., laws, institutions, and organizations) to process elements (e.g., norms, roles, values, metaphors).

**Individualism and Collectivism**

Cultural mechanisms can be organized around a theme, and form what Triandis (1989) called a “syndrome.” The most widely examined syndrome is undoubtedly individualism and collectivism (Hofstede, 1980; Triandis, 1995). This theme has also been referred to as self-emphasis and collectivity (Parsons, 1949), Gesellschaft and Gemeinschaft (Toennies, 1957), individualism and collaterality (Kluckhohn & Strodtbeck, 1961), and agency and community (Bakan, 1966). While there are subtle differences in meanings of these terms, they all relate to a theme which contrasts the extent to which people are autonomous individuals or embedded in their groups.
In individualistic cultures, a variety of cultural mechanisms, both formal and informal, highlight the importance of developing one's own distinct preferences and potential. For instance, in the United States, a culture which is highly individualistic (Hofstede, 1980), institutions select, promote, and reward employees based on their individual accomplishments. Legal procedures guarantee the protection of individual rights and allow individuals the opportunity to voice their opinions. Cultural “heroes” are those individuals who are able to achieve their own desires and dreams, often through competition (e.g., Bill Gates, Michael Jordan). Indeed, popular proverbs emphasize the importance of achieving one's distinct potential (e.g., “Just do it”; “Be all that you can be”), and advertisements often appeal to individual preferences, personal success, and independence (Hans & Shavitt, 1994).

Not surprisingly, at a micro level, self-construals reflect the focus of individuality in these cultures (Markus & Kitayama, 1991; Triandis, 1989). Triandis (1989), for instance, noted that the private self, which consists of cognitions that involve the traits, states, or behaviors of the person (e.g., “I am a hard worker”; “I prefer beach vacations”), is sampled more in individualistic cultures than the collective self, which consists of cognitions that concern how some collective (family, organization) views the self (“My family thinks I am a hard worker”). Along similar lines, Markus and Kitayama (1991) argue that in individualistic cultures, independent self-construals become highly developed, whereby the self is construed as separate, unique, and detached from collectives. The cultural ideal is to separate from others, promote one's own goals, and feel positive about oneself (Markus & Kitayama, 1991; Shweder & Bourne, 1982), and there is an emphasis on values of autonomy, freedom, independence, self-reliance, and privacy (Triandis, McCusker, & Hui, 1990).

As a result of these values and ideals, cognitions in these contexts are directed toward one's inner attributes and what makes one distinct from others (e.g., one's attitudes, abilities, interests, and preferences) (Greenwald & Pratkanis, 1984; Markus & Kitayama, 1991). In support of this, in individualistic cultures, the content of the self includes more information about one's abilities, preferences, and personal characteristics than information about the groups to which one belongs (Triandis, 1995), and cognitive structures have been found to have more elaborated self-knowledge than knowledge about others (Kitayama, Markus, Tummala, Kurokawa, & Kato, 1990).

By contrast, in collectivistic cultures, formal and informal mechanisms promote the importance of one's interdependence with others. In collectivistic cultures, constitutions reflect an emphasis on groups as well as individuals (Massimini & Calegari, 1979). Many organizations are structured around cohesive groups wherein individual jobs are de-emphasized (Kashima & Callan, 1994), and the use of mediation and negotiation is preferred to adjudication in order to maintain harmony in groups (Leung, 1997). Cultural “heroes” are those who advocate sacrificing their own interests for the benefit of the group (e.g., Confucius). Similarly, proverbs reflect the importance of groups (e.g., “The nail that sticks out gets hammered down,” Japan; “If one finger is sore, the
whole hand will hurt,” China), and advertisements often make more appeals to in-group benefits and harmony than to independence (Hans & Shavitt, 1994).

Not surprisingly, the interdependent and collective self is highly developed in collectivistic cultures (Markus & Kitayama, 1991; Triandis, 1989), and in particular, the self is conceived as part of a larger collective. As Markus and Kitayama (1991) explain, “experiencing interdependence entails seeing oneself as part of an encompassing social relationship and recognizing that one's behavior is determined, contingent on, and to a large extent, organized by what the actor perceives to be the thoughts, feelings and actions of others in the relationship” (p. 226). In these contexts, cultural ideals focus on maintaining relatedness, adjusting oneself to the relationship in which one is embedded, and promoting the needs of others (Shweder & Bourne, 1982). Also, there is an emphasis on values of conformity, maintaining harmony, preserving face, and modesty (Triandis et al., 1990).

As a result of these values and ideals, cognitions in these contexts are directed to the degree of relatedness with others, the needs and interests of others, and how others view the self (Markus & Kitayama, 1991). In other words, in contrast to individualistic cultures, wherein cognition focuses on one's own internal attributes (i.e., increased self-awareness), in collectivistic cultures, there is a pervasive attentiveness to relevant others in the social environment (i.e., increased social awareness). Consistent with this, in collectivistic cultures, the content of the self includes as much information about the groups to which one belongs as one's personal attributes (Triandis, 1995), and individuals can have more elaborated knowledge about others than knowledge about themselves (Kitayama et al., 1990).

**CULTURE AND JUDGMENT BIASES IN NEGOTIATION**

Based on the previous discussion, we postulated that negotiator cognitions and behaviors in individualistic cultures will be focused on the promotion of personal needs and interests, whereas negotiator cognitions and behaviors in collectivistic cultures will be focused on maintaining relatedness and attending to the interests of others with whom the negotiator is interacting.

More specifically, we expected that (while negotiators in all cultures may assume similarity in their priorities at the beginning of negotiations due to naive realism; i.e., fixed pie judgments may be universal at the beginning of negotiations), because of differing cultural values and ideals, fixed pie judgments would be more pronounced at the end of negotiations in individualistic cultures than in collectivistic cultures. Implicit in this argument is the notion that in individualistic cultures, cultural ideals of attending to one's own internal attributes, such as one's interests and priorities in negotiations, inhibit an accurate understanding of others' interests during negotiations, and perpetuate fixed pie judgments. However, in collectivistic cultures, in which there is more

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1 Naive realism refers to the tendency to assume that others share one's attitudes or ways of viewing the world (Ross & Ward, 1996).
of an emphasis on assessing the needs and interests of others in relationships, the tendency to have inaccurate judgments of another's interests at the end of negotiation should be attenuated.

This general proposition was investigated through a comparison of negotiators in the United States, a highly individualistic culture (Hofstede, 1980, 1991; Triandis, 1995), and negotiators in Greece, a highly collectivistic culture (Georgas et al., 1997; Hofstede, 1980, 1991; Triandis & Vassiliou, 1972; Vassiliou & Vassiliou, 1973). Hofstede (1980, 1991), for example, found that the United States was the most individualistic culture out of his sample of 39 countries, receiving a score of 91. By comparison, Greece was much more collectivistic, receiving a score of 35 (the average being 51). Recent research by Georgas et al. (1997) also supports these findings. Based on the previous discussion, the following prediction was made:

**HYPOTHESIS 1.** Culture will affect judgment accuracy (accurate judgments of others' priorities in negotiation). Negotiators in Greece will gain more knowledge about their opponents' priorities in negotiations, as compared to negotiators in the United States.

In addition, we reasoned that the same psychological processes which underlie the predicted differential understanding of an opponent's interests in individualistic and collectivistic cultures (namely attending to one's own interests and needs versus maintaining relatedness and understanding the interests of others, respectively) would also be apparent in behaviors which are exhibited throughout the negotiation. Specifically, we expected that cultural ideals in individualistic cultures, which emphasize promoting one's own goals and achieving one's desires, would be reflected in the amount of value claimed for oneself throughout the negotiation.

**HYPOTHESIS 2.** Negotiators in the United States will claim more value for themselves throughout the negotiation when making offers, as compared to negotiators in Greece.

In essence, while previous research has demonstrated that in the United States high first offers and overbidding are commonly used to signal high aspirations (i.e., wherein demands are far above goals and limits; Lewicki, Litterer, Minton, & Saunders, 1994), we did not expect this “door-in-the-face” technique to be utilized as much by negotiators in Greece, given that claiming value to oneself would likely interfere with maintaining relatedness in interactions.

Finally, consistent with the culture theory presented, we expected that negotiators in individualistic cultures would be more likely to promote themselves, and therefore, would make more self-enhancing statements during negotiations (i.e., those which place the self above others), as compared to negotiators from collectivistic cultures.

**HYPOTHESIS 3.** Negotiators in the United States will be more likely to engage in more behaviors to promote the self (e.g., use of threats, warnings, comparisons, and putdowns), as compared to negotiators in Greece.

In sum, based on differing values and ideals which are cultivated in individualistic and collectivistic cultures, we expected to find cultural differences in negotiators’ judgment accuracy, offers, and behaviors in negotiations.
AN OVERVIEW OF THE CURRENT RESEARCH

In choosing a method to test these hypotheses, we had three priorities. First, given the practical impetus of understanding how Americans negotiate with people from other cultures, this study examined culture and cognition within the context of intercultural negotiations between negotiators from the United States and Greece. In addition, in order to control for acculturation, we conducted negotiations over electronic mail between Americans and Greeks who had not left their respective countries. Second, we examined judgment accuracy, offer behavior, and behavioral processes over an extended period of time, since we deemed this to be more characteristic of real world negotiations. Finally, given that it is difficult to study intercultural negotiations in the field, we developed an experiment which had cultural relevance, and, in particular, was derived from cultural differences we established a priori in negotiation preferences between Greeks and Americans. In sum, given these goals, we tested the above hypotheses through a 2-week computer-mediated intercultural negotiation experiment between American students in Illinois and Greek students in Athens.

METHOD

Part I

Participants

One hundred twenty students from a large University in Illinois (N = 60) and a large University in Athens, Greece (N = 60), participated in a pretest for the current study. All participants received course credit for participating in the study. Participants in Greece spoke English as a second language, and all materials were given in English.

Procedure

In order to ensure that the negotiation task had realism in both cultural contexts, we conducted a pretest in the United States and Greece to determine the issues to be negotiated, the values assigned to each possible settlement level within the issues, as well as the priorities for the negotiation issues. Participants in the United States and Greece were asked to fill out a questionnaire with the following instructions: “Imagine you are a young business person and are setting up a new company, which will model the ideal American (Greek) company. You must decide how to hire and select new employees, and also choose what benefits and policies will be governing the organization. In the statements that follow, please circle the number that reflects your opinion of what the ideal American (Greek) company will be.” Participants were then asked to answer questions regarding hiring strategies (i.e., weight given to different types of recommendations, the size of the company) and policies and benefits (i.e., weeks for maternity leave, vacation time, work schedules, number
of days to inform workers of layoffs, etc.). The participants were also asked to rank value the issues in order of importance.

From this pretest, we chose three issues on which Greeks and Americans had different preferences, namely, Vacation Time, Work Schedules, and Layoffs. For instance, on average, Greeks indicated that employees should be allowed 4 weeks Vacation Time, whereas American participants indicated that employees should be allowed 2 weeks Vacation Time. For Layoffs, on average, Greek participants indicated that workers should be given 40 days advanced notice, whereas Americans indicated that workers should be given 24 days. With respect to Work Schedules, the pretest demonstrated that on average, Americans desired workers to be available to work on more Saturdays during the year as compared to Greeks. In addition, the latter two issues were also prioritized differently in the two cultures. Specifically, Layoffs were prioritized higher than Work Schedules in the United States, whereas the reverse was the case in Greece. Compared to these issues, both samples ranked Vacation Time as a lower priority. This provided integrative potential in the negotiation (Carnevale & Pruitt, 1992), and also ensured that the task was culturally relevant (see the Appendix and a full description of the task below).

Part II

Participants

A new sample of seventy-two students participated in the second part of the study, which included 36 Greeks and 36 Americans. Over the course of the 2-week study, several individuals dropped out, resulting in a total of 29 pairs in the analysis. There were 15 males and 39 females (and 4 unidentified). The ages of students ranged from 18 to 21 in both cultures. All participants were recruited through advertisements posted throughout the universities. All participants had no former classes on negotiation and were paid $5.00 for their participation.

Procedure

U.S. participants were asked to take on the role of a manager of a U.S. company, and Greek participants were asked to take on the role of a manager in a Greek company. Participants were then asked to enter into negotiations with a manager from the other country (i.e., U.S. participants were told they would be negotiating with a Greek manager and vice versa). The negotiation took place over electronic mail over a 2-week period and was conducted in English.

Negotiation task. All participants were told that they would communicate through a computer network with another student located in the United States (Greece). Participants in the United States were told that they were employed by “Environmental Solutions Inc.,” and participants in Greece were told that they were employed by “Nefas Control.” All participants were instructed that
they were attempting to form a joint venture, named “Pollution Controls Inc.,” a company that would operate in a third country. They were told that they had to negotiate over policies that would govern the new company. Based on the pretest described above, the three issues on which participants were instructed to negotiate were: (1) Work Schedule: How many Saturdays should the employees be asked to work if needed? (2) Layoffs Procedures: If an employee has to be laid off, how many days ahead of time should s/he be informed? and (3) Vacation Time: How much vacation time should the employees get the first year?

Each participant was given a payoff schedule which demonstrated all of the possible settlements that could be reached and how many points they could earn under each settlement scenario (Appendix). The task was a variation of those used in previous research on integrative bargaining (Pruitt, 1981; Pruitt & Carnevale, 1993). There were five offer levels for each issue, and each offer level had assigned points which represented the value that level had for the negotiator. These values were based on the actual pretest values for each issue, and the pretest rank values for each issue. The maximum number of points available was 280 for each negotiator. On the Greek schedule, the Work Schedule issue had the highest potential for points, the Layoffs issue the next highest, and the Vacation issue the least. On the American schedule, the Layoffs issue had the highest potential for points, the Work Schedule issue the next highest, and the Vacation issue the least.

All of the participants were told to maximize the number of points they received for themselves. The participants were informed that $50.00 cash prizes would be awarded to four individuals, and that this award was contingent upon the number of points earned. As an incentive to reach agreement, participants were told that they would receive only 80 points if they did not reach an agreement with their partners.

Electronic mail. Participants were randomly assigned an e-mail account which had been preprogramed to send messages to the manager in the other country, as well as to the researcher in case of any problems with the system. This resulted in 12 pairs of females, 11 mixed pairs, 2 pairs of males, and 4 pairs in which the gender of at least one negotiator was unknown. All participants received a 30-min training in the use of e-mail, and were asked to log on every other day until an agreement was reached, or until 2 weeks had passed. They were also encouraged to write any messages and send them with their negotiation offers. All participants then engaged in a practice run to ensure that the instructions were clearly understood. The first message was sent by the U.S. participants. Before leaving the laboratory, participants were given instructions of what to do after the completion of the negotiation (i.e., where to obtain a post-negotiation questionnaire). All participants were instructed not to discuss the experiment with anyone except the experimenters.

Analyses were also conducted to examine if the gender composition of the dyad affected the dependent variables. There were no significant effects of gender composition on Americans’ or Greeks’ judgment accuracy before or after the negotiation, on exchange of information and insight during the negotiation, or on individual or joint profit achieved.
Measures

Judgment accuracy. Participants were given measures of fixed pie judgments at the beginning and end of the negotiation. Following Thompson and Hastie (1990), at the beginning of the negotiation, participants were given a blank payoff schedule and were given the following instructions:

This is a blank payoff schedule similar to the one that you were given earlier. We would like you to “fill-in-the-numbers” in the schedule according to what you think the other negotiator’s payoff schedule looks like. You may look at your own payoff schedule as a reference. You must use numbers ranging from 0 to 160.

Scores were obtained through a comparison of negotiators’ judgments and the actual values on the Greek or American schedule. The absolute deviations between the negotiator’s estimate with the actual payoff schedule was computed on all of the issues. Those who believed that the other prioritized the issues in the same way, and had opposite preferences, had low judgment accuracy (or high “fixed-pie error”). For instance, negotiators who believed that the other party had the same exact priorities assigned to the issues (i.e., the Greek assumes that the American values work schedule first and layoffs second; the American assumes that the Greek values layoffs first and work schedule second), and assumed the other party had the opposite preferences on all issues, were given an error score of 400. Individuals who recognize differences in values in the first and second issues had an error score of 0.

At the end of the negotiation, all participants were given this measure again, as well as Pruitt and Lewis’ (1975) measure of fixed pie error. This latter measure consisted of asking participants which issue was the most important to the other manager, the second most important, and the least important, along with a confidence rating (1–7) for each issue. Each score was computed by assigning either a 1 for correct or a 0 for incorrect for the perceived importance of the issues, which was then multiplied by the confidence rating for the particular issue. Thus, the scores ranged from 0 to 21, where 21 was the highest accuracy. To examine perceptions of judgment accuracy, participants were also asked to indicate their opinion of how much they understood the priorities of the other negotiator on a Likert scale (1 = totally; 5 = not at all) at the end of the negotiation.

Negotiation process. All of the negotiation interactions were recorded by the computer, and each message was coded for specific negotiation offers, information exchanged, expressions of accurate insight into the others’ priorities, threats and warnings, and comparisons and putdowns. Information exchange was assessed through two codes: give numerical information, which included any statements in which negotiators gave specific point values for their negotiation issues (i.e., “I get 160 points for Saturdays”), and give priority information, which included any statements in which the negotiator gave information about their priorities, but did not state them by point value (i.e., “I am not as concerned with Layoffs as I am with Saturdays”). The accurate insight code included any statements which explicitly indicated an accurate understanding of the other party’s priorities on the profit schedule. For instance, it included statements such as “Since we both maximize our points with you getting what you want
on Saturdays and me on Layoffs, we should probably settle there,” and “I see that Vacation Time is the last priority for both of us.” The threats and warnings code was defined by statements which indicated that speakers would impose harm on their counterparts if they failed to comply or persisted in their intent. This code included statements such as “If you don’t agree with my proposal, I will set up my own company,” “It’s a question of whether I can continue the negotiation,” and “If you really want a deal and not end this without one, you should suggest something in line with what I have sent you.” Finally, the comparison and putdown code was defined as statements which placed the self in a more favorable position than the other person. For instance, it included statements such as “I compromised with you; you don’t seem to be compromising with me,” “You obviously do not know how to negotiate well,” and “You are being so stubborn.”

Consistent with previous research (Carnevale & Conlon, 1988; Carnevale & Henry, 1989; Keenan & Carnevale, 1989), each individual electronic mail message was conceived of as a speaking turn, and was the unit of analysis. Accordingly, coders were instructed to apply a specific code only once to a particular message. However, given that messages could include more than one idea, multiple codes could be applied to the same message. In order to compare statements across dyads, the number of statements in each category was divided by the number of total messages. Thus, scores reflect the percentage of Greek and American messages that contained each code, on average. A Greek and an American coded the transcripts, each of whom was blind to the hypotheses. Interrater reliability was .96. Only the latter two codes (i.e., threats and comparison/putdowns) were correlated, and thus, they were summed for an overall score of self-enhancement.

Negotiator perceptions. Based on the underlying assumption that Greek negotiators would be more concerned about their counterparts than would U.S. negotiators, several questions were also asked, both before and after the negotiation, which examined the degree to which negotiators were concerned about their counterpart’s interests (i.e., “How concerned are you for the welfare and interests of the other manager?” on a scale from 1 to 6, where 1 = not at all concerned and 6 = very concerned), as well as the perception negotiators had that the other was concerned with their own interests (i.e., “How concerned do you think the other manager is for your welfare and interests?” on a scale from 1 to 6, where 1 = not at all concerned and 6 = very concerned). Finally, we also included a measure of how satisfied the participants were with the negotiation itself and their partners. All participants were asked to respond to the following questions: “Negotiating with the other manager was _____,” where 1 = successful and 6 = very unsuccessful; “For you the final outcome of the negotiation was _____,” where 1 = very good, and 6 = very bad, and “During the negotiation, the other manager I dealt with seemed _____,” where 1 = very

An examination of the messages also confirmed that the message was the appropriate unit of analysis. For instance, for the information exchange variables, more than 95% of the messages only included one statement regarding information.
likeable and 6 = very unlikeable). All of these items were highly correlated and were summed for an overall score of negotiation satisfaction.

RESULTS

Consistent with previous research, the hypotheses were tested using the dyad as the level of analysis. Conceptually, negotiation is an interdependent activity and thus, the responses that individuals make are likely to be dependent on their counterpart’s responses. Statistically, there is likely to be correlated error among respondents, and thus, the dyadic level of analysis is more appropriate than the individual level. Accordingly, the analyses compared Greeks and Americans within the same dyad using repeated-measures analysis of variance to examine the hypotheses. Any differences in the degrees of freedom reflect occasional missing data in a dyad, which rendered the entire dyad unusable in a particular analysis. An average of 4.5 messages were sent by the negotiators (M U.S. = 4.8, M Greek = 4.2; ns) and 90% of all pairs reached agreement.

Judgment Accuracy

Hypothesis 1 predicted that fixed pie judgments would be attenuated among Greeks, as compared to Americans, at the end of negotiations. Consistent with this prediction, before participants began the negotiation, there was no difference in the amount of fixed pie error between the two samples (p > .5). However, the analysis demonstrated a significant effect for culture and understanding of others’ priorities after the negotiation, such that American participants had less judgment accuracy (i.e., more fixed pie error) than Greek participants (Pruitt & Lewis measure, F(1, 24) = 5.48, p < .03; M Greek = 12.5; M U.S. = 8.5, with higher numbers illustrative of less error; Thompson & Hastie measure, F(1, 24) = 3.55, trend, p > .07; M Greek = 126.4; M U.S. = 231.2, with lower numbers illustrative of less error). These two measures were highly correlated, despite their different formats (r = -.52, p < .01), suggesting that both tap into the same construct of judgment accuracy.

This hypothesis was further tested with the behavioral process that occurred in the interaction over the 2-week period. An analysis of the coded transcripts demonstrated the Greeks had a higher percentage of statements regarding accurate insight and awareness of the other’s priorities, compared to the U.S. participants, F(1, 27) = 5.12, p < .03, (M Greek = .08; M U.S. = .03). These means reflect the fact that on average, over twice as many Greek messages contained insight into the other’s priorities, compared to American messages. Along with the judgment accuracy data described above, this is supportive of Hypothesis 1. It is important to note that Greeks and Americans did not differ on the degree to which they exchanged priority information (F(1, 27) = .53, p > .4; M Greek = .11; M U.S. = .12), or on the degree to which they exchanged specific numerical information about their issue charts (F(1, 27) = .56, p > .4; M Greek = .09; M U.S. = .08).
Interestingly, American participants still believed they had a better understanding of their opponent’s priorities, as compared to Greek participants. On the post-negotiation questionnaire item “after the negotiation, I did/did not have an understanding of the other manager’s interests” (from 1 to 5, where 5 is no understanding), American participants reported they had more of an understanding of the other’s interests as compared to Greek participants ($F(1, 25) = 30.53, p < .0001; M_{\text{Greek}} = 2.42; M_{\text{U.S.}} = 1.38$).

Offer Behavior and Behavioral Processes

The current investigation was also interested in examining differences in negotiation behavior across cultures. Specifically, based on the different cultural ideals and values cultivated in individualistic and collectivistic cultures, it was predicted that U.S. negotiators would claim more value for themselves throughout the negotiation, as compared to their Greek counterparts (Hypothesis 2). Consistent with this, the analysis revealed significant effects of culture on first offers, $F(1, 28) = 6.31, p < .02$; negotiator aspirations (defined as the average of the first two offers), $F(1, 28) = 7.50, p < .01$; and average offers in the negotiation, $F(1, 28) = 4.81, p < .04$. As expected, U.S. participants consistently claimed more value to themselves throughout the negotiation. As illustrated in Fig. 1, there was no significant difference on last offers ($p > .8$).

Hypothesis 3 predicted that U.S. negotiators would be more likely to engage in behavior to promote the self (i.e., threats, warnings, comparisons and put-downs) as compared to their Greek counterparts. Consistent with this, a repeated

![OFFER DATA](FIG. 1. Value claimed to self during the negotiation. □ United States; □ Greece.)
measures analysis of variance revealed that U.S. negotiators made significantly more self-enhancement statements, compared to Greek negotiators, $F(1, 27) = 4.46, p < .04$ (M_Greek = .03; M_U.S. = .08).

Perceptions of Concern and Satisfaction

Additional analyses were performed to examine differences in concern for one's counterpart and expectations of one's counterpart's concern, for Greeks and Americans over time (i.e., before and after the negotiation). A repeated measures analysis of variance revealed that there was a significant main effect for concern for other versus expectations of other's concern for self ($F(1, 24) = 8.85, p < .01$), which was qualified by a two-way interaction with culture ($F(1, 24) = 6.00, p < .02$). Whereas the U.S. participants believed that the amount of concern they had for the Greek participants (M = 9.0) did not differ from the amount of concern the Greek managers had for them (M = 8.8), the Greek participants believed that they had more concern for the U.S. managers (M = 9.4) than the U.S. participants had for them (M = 8.1). In other words, Greek participants felt that their American counterparts were not attentive to their concerns in the negotiation. There were no significant three-way interactions of these variables with time.

Finally, with respect to satisfaction with the negotiation, the analysis revealed a trend that Greek negotiators were significantly less satisfied than American negotiators ($F(1, 23) = 3.87, p > .06$, M_Greek = 5.41; M_U.S. = 4.37; note that higher numbers indicate more dissatisfaction). This was found despite the fact that negotiation outcomes were the same for Greeks and Americans. Thus, although both Greeks and Americans did not vary in terms of their objective outcomes, they did vary in terms of their subjective evaluations of the negotiation. As an exploratory analysis, in order to investigate if satisfaction with the negotiation was related to actual judgment accuracy, we performed correlational analyses for both Greek and American participants. The results demonstrated that for Greeks, satisfaction with the negotiation was significantly correlated with their American counterparts' judgment accuracy ($r = -.51, p < .01$, Pruitt & Lewis measure) and marginally correlated with their own judgment accuracy ($r = -.34, p > .07$, Pruitt & Lewis measure), indicating that Greek participants were more satisfied in the negotiation when their counterpart had more understanding of their interests. There was no association for American participants' satisfaction with the negotiation and judgment accuracy ($p > .20$).

DISCUSSION

In this paper, we argued that judgment biases in negotiator cognition may be perpetuated by dominant cultural ideals and values, and therefore, certain biases may not be as prevalent in all cultural contexts. In particular, we postulated that cultural values and ideals in individualistic cultures focus on separating from others and promoting one's own goals, which directs cognitions to
one's own interests and preferences. In contrast, in collectivistic cultures, values and ideals focus on maintaining relatedness, fitting in with others, and promoting other's goals, which directs cognitions to the relationship itself, and on the interests of others with whom one is related. Based on this analysis, we expected that negotiators in individualistic cultures would have more fixed pie judgments at the end of negotiations than negotiators in collectivistic cultures, since this judgment bias is consistent with ideals of promoting and attending to one's own interests, as compared to ideals of promoting and attending to the needs of others. Moreover, we expected that these values and ideals would be manifested in negotiation processes, including the amount of value negotiators claim for themselves throughout the negotiation, as well as the degree to which they engage in self-enhancement strategies.

The results of an intercultural negotiation study, which took place over a 2-week period, supported these notions. In particular, judgment accuracy, offers, and behaviors among U.S. participants reflected an orientation toward attending to their own needs and interests. U.S. participants claimed more value to themselves throughout the negotiation, learned less about the priorities of their counterparts, and engaged in behaviors to enhance their own status in comparison to their Greek counterparts. In contrast, the behavior of the Greek participants reflected an orientation toward attending to the needs and interests of their counterparts, as evidenced in their greater judgment accuracy of their counterparts interests, their offers, and their behaviors during the negotiation. At the same time, even though Greeks and Americans achieved similar objective outcomes, Greeks were less satisfied with the negotiation, and this was associated with the degree to which their American counterparts understood their interests. While this study only involved a one-shot negotiation, such subjective evaluations are likely to have important consequences in real-world negotiations, where there is a likelihood of continuous interaction. Indeed, given that satisfaction has been related to withdrawal behavior (Hulin, 1991), it is quite possible that satisfaction may be linked to other important variables in negotiations, such as implementation of agreements, choice to continue with the same negotiation partner, etc.

The more general implication of this research is that the assumptions underlying the dominant paradigm in negotiation need to be explicated and examined for universality (cf. Gray, 1994). In our view, it is likely that there are both universal and culture-specific aspects of negotiation processes. For instance, this study illustrated that American and Greek negotiators did not vary on fixed pie judgments at the beginning of negotiations, which suggests that the tendency to assume similarity in priorities at the onset of negotiations may be a universal phenomenon, perhaps stemming from naive realism. However, this bias was also greatly reduced among negotiators from Greece, as compared to the United States, suggesting that cultural processes are involved in the perpetuation of such biases. In other words, our analysis suggests that the larger cultural context in which negotiators are embedded plays an important role in directing negotiators' cognitions, restricting attention to particular aspects of the self and the environment, and rendering certain judgments more
susceptible to error. Indeed, when the promotion of another’s interests is paramount, as is typically found in collectivistic cultures, fixed pie biases can be greatly attenuated. These biases, on the other hand, can be perpetuated in cultures in which self-interest is paramount. Put this way, it is not surprising that the literature on fixed pie biases has been largely developed in the United States, a culture in which assumptions of self-interest, economic transactions, and competition are pervasive (Gray, 1994). Yet, as the current theory and data suggest, these assumptions may not be as appropriate in other cultures.

Whereas the current research only focused on fixed pie judgments, it is likely that other cognitive tendencies established in the United States have been consistently found to have self-serving biases in that they tend to view their own behavior as superior (e.g., more fair, more constructive, etc.) to their counterparts’ in negotiation (De Dreu, Nauta, & Van de Vliert, 1995; Kramer, Newton, & Pommerenke, 1993; Thompson & Loewenstein, 1992). However, it is possible that this bias will be attenuated in collectivistic cultures. That is, self-serving biases in negotiation, which render one’s own behavior as better than others (e.g., more fair, more constructive), may be consistent with ideals of maintaining a positive self-image in individualistic contexts, but disruptive of cultural ideals of maintaining harmony and relatedness in collectivistic contexts (cf. Kidder & Muller, 1990). In a preliminary study of naturally occurring conflicts, Gelfand et al. (1997) found that self-serving tendencies were indeed more pronounced in the United States, as compared to Japan.

In addition, the results from this study suggest that a fruitful avenue for future research would be to examine the mechanisms through which insight generated during the negotiation is translated into joint profits, and how culture influences this process. Indeed, it would not be surprising if collectivists, who focus on group interests (Markus & Kitayama, 1991), are more likely to share gains that are generated by insight, whereas individualists are more likely to claim gains that are generated by insight. While our study was not designed for this purpose, future research can examine these issues, perhaps by giving complete information to a large sample of negotiators in individualistic cultures and collectivistic cultures, as in the design of Pinkley et al. (1995). One can then examine the degree to which such information is used to enhance dyadic and individual profit, and whether this varies depending on the cultural background of the negotiator.4

Limitations

All research methods are flawed (McGrath, Martin, & Kulka, 1982), and the researcher, therefore, must weigh the benefits and the drawbacks in choosing a particular methodology. This research prioritized goals of precision and testing cause–effect relations, and the method chosen, the laboratory, reflects these priorities. In this study, we developed and used a negotiation task that was

4 We thank an anonymous reviewer for suggesting this research strategy.
culturally relevant (i.e., was derived from actual pretest values in each culture) and was conducted over time. While this may have made the task realistic from the participants' point of view, it is still not embedded in a real-world context. Thus, future research would benefit from examining cognitive biases among negotiators from different cultures and examine whether these effects are generalizable.

In addition, in this study we relied exclusively on recent research conducted in Greece and the United States (e.g., Georgas et al., 1997; Hofstede, 1980, 1991) which has demonstrated cultural differences on individualism and collectivism, the dimension which we postulated would have theoretical relevance for the cognitive bias under investigation. As some have recently argued (Lytle, Brett, Barsness, Tinsley, & Janssens, 1995; Tinsley, 1998), the time is ripe to incorporate reliable self-report measurements of the constructs directly into research design in research on culture and organizational behavior. It is only when this is done that results, such as those found in this study, can be more directly linked to the proposed dimensions of culture, rather than merely assumed. In this respect, we would also argue that the time is ripe to include implicit measurements of culture, in addition to explicit self-report questionnaires tapping dimensions of culture. Since many aspects of culture are "taken-for-granted" assumptions, which may not be in negotiators' conscious awareness, the former approach may be more theoretically consistent with existing theories of culture. Research on implicit attitudes (i.e., the implicit associations test; Greenwald & Banaji, 1995; Greenwald, McGhee, & Schwartz, 1998) may provide a very useful model for the development of implicit culture measures for research on culture and negotiation.

Moreover, future research may want to examine cognition among negotiators from a wide range of individualistic and collectivistic cultures, and include the recent vertical-horizontal theory that has been developed by Triandis and colleagues (Triandis, 1995; Triandis & Gelfand, 1998) in research on negotiation. For instance, we may find that behavioral processes, such as patterns of information sharing, may be quite different for horizontal individualists versus vertical individualists, the latter of whom are presumed to be more competitive than the former (Triandis & Gelfand, 1998).

Notwithstanding these issues, the present study provides an alternative methodology with which researchers can examine culture, cognition, and negotiation processes over an extended period of time through the use of electronic mail. Indeed, while the present research question was not conceptually related to the medium of negotiation interaction, it is possible to formulate questions regarding culture, the medium of negotiations (face-to-face versus e-mail), and negotiation processes, and use electronic mail to examine such questions. For example, negotiators from collectivistic cultures may be more comfortable in intercultural negotiations which take place face-to-face rather than over the computer, since the former affords more nonverbal and paralinguistic cues, which can be used in maintaining relatedness. If this were the case, it would be important for U.S. businesses to take this into account, given that computerized
communication is increasingly being relied upon to conduct business interactions because of its affordability and efficiency. This suggests that the use of e-mail to study culture and negotiation may be a fruitful avenue for future research.

CONCLUSION

This research combined theory from the cognitive tradition in negotiation research with theory from cross-cultural psychology. Theoretically speaking, this study illustrates that culture is intricately tied to cognition in negotiation situations, which suggests that research on cognition in the dominant paradigm may be laden with cultural elements in general, and individualistic views of the self in particular. Accordingly, it is important for future research to examine negotiation cognition and processes within other cultural contexts which develop and cultivate interdependence and collectivism. Indeed, by doing so, we may reveal different cognitive biases operative in these contexts, and begin building more comprehensive negotiation theories which are inclusive of many cultures. By expanding the cultural contexts in which we examine conflict and negotiation, we may reveal different assumptions, ask different questions, and come to different conclusions.

APPENDIX: NEGOTIATOR ISSUE CHARTS

<table>
<thead>
<tr>
<th>Issue 1: Work Schedule</th>
<th>Issue 2: Layoffs</th>
<th>Issue 3: Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Number of Saturdays)</td>
<td>(Number of days advance notice)</td>
<td>Number of vacation days in first year</td>
</tr>
<tr>
<td>17 (80 points)</td>
<td>24 (160 points)</td>
<td>16 (40 points)</td>
</tr>
<tr>
<td>15 (60 points)</td>
<td>28 (120 points)</td>
<td>19 (30 points)</td>
</tr>
<tr>
<td>13 (40 points)</td>
<td>32 (80 points)</td>
<td>22 (20 points)</td>
</tr>
<tr>
<td>11 (20 points)</td>
<td>36 (40 points)</td>
<td>25 (10 points)</td>
</tr>
<tr>
<td>9 (0 points)</td>
<td>40 (0 points)</td>
<td>28 (0 points)</td>
</tr>
</tbody>
</table>

American issue chart

| 17 (0 points) | 24 (0 points) | 16 (0 points) |
| 15 (40 points)| 28 (20 points)| 19 (10 points)|
| 13 (80 points)| 32 (40 points)| 22 (20 points)|
| 11 (120 points)| 36 (60 points)| 25 (30 points)|
| 9 (160 points)| 40 (80 points)| 28 (40 points)|

Greek issue chart

REFERENCES


Thompson, L. L., & Loewenstein, G. (1992). Egocentric interpretations of fairness and interpersonal


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