Fluidity and Performance in Intercultural Workplace Interactions:

The Role of Behavioral Mirroring and Relational Attunement

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Abstract

This article examines the perceptual and behavioral dynamics underlying intercultural interactions at work. Specifically, this paper studies how culture-based differences in relational attunement differentially affect how U.S. Anglos and U.S. Latinos perceive workplace interactions. In a field experiment conducted at a Fortune 500 headquarters, Anglo and Latino managers interacted with a confederate in a business interview who did (or did not) engage in behavioral mirroring unbeknownst to the participant. Results show that the level of mirroring affected participants' experiences and actual performance (evaluated via videotape by third-party experts) and that these effects were moderated by cultural group membership. Stronger effects were observed across mirroring conditions for Latinos than for Anglos. A second laboratory experiment provides evidence that culture based differences in relational attunement is a causal mechanism underlying these effects. These results demonstrate how performance in intercultural workplace interactions can be compromised even in the absence of overt prejudice.

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Fluidity and Performance in Intercultural Workplace Interactions: The Role of Behavioral Mirroring and Relational Attunement

Creating fluid interpersonal interactions in organizations is critical for effective coordination. Yet, field data suggests that this task is becoming more difficult in the multi-cultural and globally connected modern workplace (Mannix & Neale, 2005). Prejudice and distrust are common obstacles to productive social interaction when individuals are able to detect differences in cultural backgrounds (Brief, 1998; Jehn, Northcraft, & Neale, 1999; Williams & O'Reilly, 1998). Such obstacles often make it difficult for individuals to establish rapport and to exchange and integrate their ideas, effort, and resources. At the same time, intercultural interactions hold the promise of novel synergies that promote creativity, improved problem-solving, and superior individual and group performance (Triandis, Kurowski & Gelfand, 1993; Watson, Kumar, & Michaelsen, 1993). Indeed fostering smooth intercultural interactions is argued to contribute to organizational performance and survival (Cox, 2001; Ely & Thomas, 2001), in addition to the broader social goals of fairness and equity. Consequently, identifying and alleviating impediments to fluid intercultural interactions has become a central question for organizational scholars.

Psychological and organizational research has focused considerable attention on how ethnic prejudice and discriminatory behavior adversely affect the experiences and performance of cultural minority members (Brief, Dietz, Cohen, Pugh, & Vaslow, 2000; Ely & Thomas, 2001; Thomas, 1993). Negative stereotypes, explicit and implicit ethnocentrism, and group-based competition for resources are commonly attributed to self-categorization (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) and social identity processes (Hogg & Abrams, 1988; Tajfel, 1982) that create "us versus them" distinctions between individuals of different cultural groups (Lau &

Murnighan, 1998; Pelled, 1996; Tsui, Egan, & O'Reilly, 1992; Zanna & Olsen, 1994). As research has shown, these biases need not be conscious or intentionally applied to have influence (Dovidio, Kawakami, & Gaertner, 2002; Greenwald & Banaji, 1995). Word, Zanna, and Cooper (1974) demonstrated how non-conscious out-group prejudices are often manifested in subtle and unintentional ways. This can happen, for example, when an Anglo American interviews an African American and tends to ask fewer questions, remains more physically distant, and makes comparatively less eye contact than when interviewing another Anglo American. In the process, these non-verbal dynamics can form a non-conscious self-fulfilling prophecy that fuels suboptimal performance by minority members.

Though the potential negative impact of implicit or overt intergroup biases on intercultural interactions is clear, difficulties may arise in intercultural interactions for reasons unrelated to attitudes toward specific individuals or groups. As suggested by recent studies in organizational studies and cultural psychology, interaction problems can also occur as a result of cultural differences in how individuals implicitly define and cognitively structure their interpersonal relations (Cohen, Nisbett, Bowdle, & Brian, 1996; Gelfand & Brett, 2004; Sanchez-Burks, Nisbett, & Ybarra, 2000; Triandis, 1995), referred to as relational schemas (Baldwin, 1992). Cultural differences in relational schemas can affect both perception and behavior. For example, relational schemas can affect what verbal and nonverbal cues an individual notices in an interaction and the implicit value attached to these cues. This can lead individuals in an intercultural interaction to interpret and respond to the same situation very differently.

Research has only recently begun to consider the role of culturally based relational schemas in intercultural interactions and, in particular, how these schemas affect workplace

interactions. In the present paper, we build on this line of research. We examine how cultural differences in how individuals perceive and respond to relational cues (e.g., verbal tone and behavioral gestures) can affect individual performance in face-to-face workplace interactions. Specifically, we focus on the influence of an implicit interpersonal dynamic referred to as non-conscious behavioral mirroring, and examine its effects across cultural groups known to differ in their sensitivity to relational cues in the workplace: U.S. Anglos and U.S. Latinos.

In the following sections, we begin by developing the theoretical basis for the sequence of field and laboratory experiments described in this article. Our approach combines recent research on the cognitive antecedents and consequences of non-conscious behavioral mirroring (Chartrand & Bargh, 1999; LaFrance, 1982; van Baaren, Horgan et al., 2004) with research on the relational schemas used at work by different cultural groups (DeVoe & Iyengar, 2004; Sanchez-Burks, 2005; Triandis, Marin, Lispansky, & Betancourt, 1984). Next, we describe a field study conducted on-site in the southwestern United States through the sponsorship of a Fortune 500 company headquartered there. This company gave us access to a diverse middle management workforce containing large pools of self-identified U.S. Latinos and U.S. Anglos, and provided us with an appropriate setting for conducting a controlled experiment on the causal effects of mirroring in an evaluative workplace setting (e.g., job interviews). We then describe a second experiment, a laboratory study that directly examined the role of relational attunement as an underlying causal mechanism that drives cultural differences in sensitivity to behavioral mirroring in workplace settings.

Behavioral Mirroring and Social Interaction

Behavioral mirroring refers to an interpersonal phenomenon in which people unknowingly adjust the timing and content of their behavioral movements such that they mirror

the behavioral cues exhibited by their social interaction partner (Chartrand & Bargh, 1999; LaFrance, 1982). For example, when a colleague leans forward and places her hands on a table in a manner that unintentionally reflects the posture and hand movements of her interaction partner, she is engaging in non-conscious behavioral mirroring. The tendency to non-consciously mirror other people's behaviors (e.g., posture, physical gestures) is pervasive and akin to other forms of mimicry involving vocalizations (such as accent, tone of voice, rate of speech, and syntax) and temporal pacing of movement and activity (Ancona & Chung, 1996; Blount & Janicik, 2002; McGrath & Kelly, 1986). As a non-conscious interpersonal dynamic, behavioral mirroring is distinct from conscious and deliberate forms of mimicry, for example, when a salesperson strategically mirrors a potential customer to influence a sale.

Behavioral mirroring is a key mechanism through which individuals implicitly infer rapport and empathy in their social interactions (LaFrance, 1982). That is, people feel more comfortable and perceive their interactions more positively when they are mirrored compared to when they are not (Lakin & Chartrand, 2003). As such, it plays a potentially vital role in how people experience their interactions in both work and non-work settings. In their work on the sociometer hypothesis, Leary and colleagues (Baumeister & Leary, 1995; Leary, Tambor, Terdal, & Downs, 1995) have argued that people monitor their social environments, often at a non-conscious level, for cues that provide information about the degree to which other people like and accept them. The presence or absence of behavioral mirroring in an interaction offers important source of information in this regard. High levels of behavioral mirroring by an interaction partner are perceived as a reassuring signal that the encounter is proceeding well (Lakin & Chartrand, 2003). Its absence signals a potential problem.

Consider the work of Chartrand and Bargh (1999) in which they asked participants to

work on a task with a confederate who began to mirror (or not) their postures and physical mannerisms during the interaction. They found that participants working with a confederate who mirrored their behavior rated that person as more likable and their interactions as proceeding more smoothly than did participants working with a non-mirroring confederate. Moreover, research reported by van Baaren and colleagues (van Baaren, Holland et al., 2003; van Baaren, Holland, & Kawakami, 2004) shows that mirroring, even by a stranger, leads people to exhibit more pro-social behavior toward their interaction partners in subsequent interactions. Behavioral mirroring thus not only shapes individuals' perceptions of their interactions, but also their subsequent behaviors in those interactions.

A surprising feature of behavioral mirroring is that people are almost never consciously aware of doing it or of its influence on their subjective experiences of their interactions. In fact, individuals typically deny that such dynamics influence their attitudes and behaviors even when presented with evidence to the contrary (Chartrand & Bargh 1999; Sanchez-Burks, 2002). Nonetheless, research using different populations, social contexts, and interaction situations has shown that non-conscious behavioral mirroring is common in interpersonal interaction and its presence is reliably associated with more positive interaction experiences (for a review see Chartrand, Maddux, & Lakin, 2005).

Relational Attunement as a Moderator of Mirroring Effects

The effects of behavioral mirroring cues on individuals' experiences of their social interactions appear contingent on their level of attentiveness to relational and non-verbal cues. That is, an individual must necessarily encode and process nonverbal cues that an interaction partner exhibits to be influenced by behavioral mirroring (Chartrand & Bargh, 1999; Lakin, Jefferis, Cheng, & Chartrand, 2003). Yet, there is growing evidence that people's attentiveness to

such interpersonal cues often vary across individuals, cultural groups, and social contexts (Earley, 1997; Sanchez-Burks, 2002; van Baaren, Horgan et al, 2004). In this section, we begin to consider how cultural variations in these tendencies may moderate how behavioral mirroring operates in intercultural workplace interactions.

Here, we use the term *relational attunement* to refer to differences in sensitivity in interpersonal cues that may occur across different people and contexts. We define it as reflecting a person's level of attentiveness to the interpersonal dimension of a social interaction as distinct from the task/outcome dimension.[1] When people are highly relationally attuned, they display high levels of vigilance to their interaction partners' non-verbal gestures, vocal intonations, and affect (Sanchez-Burks, 2005; Triandis et al., 1984; van Baaren, Horgan et al., 2004). It follows, therefore, that heightened relational attunement would be associated with both greater sensitivity to behavioral mirroring cues and greater susceptibility to their effect on social interaction.

In sum, prior research has generated three independent conclusions: non-conscious behavioral mirroring communicates rapport in face-to-face social interactions, relational attunement affects how individuals encode and the degree to which they react to their partners' level of behavioral mirroring, and cultural groups vary in their relational attunement in the workplace. Our research integrates these independent findings in work settings. We argue that an interactive effect between behavioral mirroring, relational attunement, and culture reveals how people from different cultural backgrounds experience and perform differently as a function of implicit differences in relational cognitions.

Specifically, we predict that the effects of behavioral mirroring on individuals' experiences of and performance in a workplace interaction will be greater when they are members of cultural groups who are traditionally more relationally attuned compared to cultural

groups who are traditionally less relationally attuned. Thus, cultural differences in relational attunement may set the stage for different interpersonal experiences when interacting with a partner who does (or does not) engage in behavioral mirroring. Members of highly relationally attuned cultural groups should perceive interactions in which behavioral mirroring is present (or absent) as more (or less) positive when compared to members of cultural groups that traditionally are less relationally attuned. In the next section, we focus on how this interactive relationship might operate in the workplace within two specific cultural groups known to exhibit variation in workplace relational attunement: U.S. Anglos and U.S. Latinos.

Anglos and Latinos at Work

There is growing evidence within cultural psychology that U.S. Anglos and U.S. Latinos differ in the cognitive lenses they use to navigate their workplace interactions. Specifically, members of these two cultural groups appear to exhibit significant differences in the chronic levels of relational attunement that they bring to their workplace interactions. This variation can be described by juxtaposing the role of *simpatía* within mainstream Latin culture (Diaz-Guerreo, 1967; Sanchez-Burks et al., 2000; Triandis et al., 1984) with the role of *Protestant Relational Ideology* (PRI) within mainstream Anglo American culture (Sanchez-Burks, 2005). Simpatía and PRI can be conceptualized as relational schemas that shape perception and behavior among group members across different interaction contexts. As with other relational schemas, simpatía and PRI are sustained and transmitted within groups through experience, socialization, and participation in particular social-cultural contexts throughout childhood and early adulthood (Baldwin, 1992; Sanchez-Burks, 2002). Consequently, relational schemas such as simpatía and PRI are important vehicles through which culture influences how different people interpret and evaluate their social interactions (Earley & Mosakowski, 2002; Morris & Young, 2002).

The cultural tradition of simpatía refers to a relational orientation that emphasizes social harmony through careful attention to interpersonal and social-emotional elements of interactions (Diaz-Guerrero, 1967; Lindsley & Braithwaite, 1996). Empirical studies of simpatía among Latino populations consistently demonstrate high levels of relational attunement present in both work and non-work interactions (DeVoe & Iyengar, 2004; Gabrielidis, Stephan, Ybarra, Pearson, & Villareal, 1997; Sanchez-Burks, 2000; Triandis et al., 1984). In contrast, the cultural tradition of PRI present among mainstream U.S. Anglo Americans is associated with a relational orientation that differs more sharply between social and professional contexts. A hallmark feature of this orientation is that a lower level of relational attunement is active in work situations compared to non-work situations. This relational ideology is characterized by a deep-seated belief that socio-emotional issues have little pragmatic value, serve as a distraction in work settings, and therefore should be given little attention and consideration relative to task concerns (Lenski, 1961; Weber, 1904/1930). Note that this ideology manifests itself differently in non-work settings, where more attention to relational concerns is seen as normative. Indeed, Anglo Americans primed for social, non-work contexts have been shown to exhibit levels of relational attunement that are on a par with other cultures (Sanchez-Burks et al., 2003).

Recent research has begun to directly compare the relational consequences of simpatía and PRI for workplace interactions. These studies find that when compared to U.S. Latinos and Mexican nationals, U.S. Anglos tend to demonstrate poorer memory for interpersonal workgroup dynamics (Sanchez-Burks et al., 2000), are less attentive to and thus less accurate in gauging subordinates' personal goals and career aspirations (DeVoe & Iyengar, 2004), and show weaker sensitivity to face-saving cues when managing conflict or discussing performance feedback and bad news (Sanchez-Burks et al., 2003; Lindsley & Braithwaite, 1996). Yet it is important to note

that the high level of relational sensitivity demonstrated by Latinos does not necessarily indicate that task-specific information goes unnoticed or ignored in their workplace interactions. As a recent field experiment demonstrates, whereas Latinos encode and recall more relational information during a work meeting (e.g., level of rapport between workers) compared to Anglos, both groups encode and recall similar amounts of task-specific information (e.g., progress made on an agenda) (Sanchez-Burks et al., 2000).

Together this body of research suggests that U.S. Latinos tend to adopt a relational schema that maintains a heightened level of relational attunement in the workplace such that interpersonal cues are considered in tandem with task-based information. In contrast, U.S. Anglos are guided by a relational schema that dampens relational attunement in the workplace resulting in lower levels of attention to interpersonal cues compared to task cues. These previously established cultural differences suggest that Latinos will be more sensitive to behavioral mirroring cues in workplace interactions than will Anglos.

To illustrate one implication, consider an Anglo manager who engages in little or no behavioral mirroring when meeting with subordinates—regardless of the subordinates' cultural background. (As prior research on Anglos' relational attunement and behavioral mirroring in work contexts suggests, this situation is likely to be quite common.) This absence of behavioral mirroring may differentially affect subordinates depending upon whether they are Anglo or Latino by virtue of group differences in relational attunement. Specifically, the manager's level of mirroring (regardless of the manager's cultural background) is unlikely to affect an Anglo subordinate's perceptions of the interaction. Conversely, a Latino subordinate's experience of the interaction is more likely to be negatively affected (again, regardless of the manager's cultural background). In the following sections, we introduce a field study and laboratory experiment

designed to test these differences in susceptibility to behavioral mirroring effects and the role of relational attunement as an underlying causal mechanism for such cultural differences.

Study 1

In Study 1, we examined how U.S. Anglo and U.S. Latino managers differ in their experience of performance in an evaluative meeting as a function of whether their interaction partner does or does not engage in behavioral mirroring. We chose an evaluative workplace meeting because it provided a ripe context in which to study the potential impact of behavioral mirroring. Situations involving high stress (Leary et al., 1995) and low power (relative to one's interaction partner) (Keltner, Gruenfeld, & Anderson, 2003) generally prime people to be relationally vigilant, and thus should make the presence or absence of behavioral mirroring especially potent and provide a conservative test of cultural variation in sensitivity to mirroring.

To measure the psychological effects and interpersonal perceptions associated with higher versus low levels of behavioral mirroring in these meetings, we collected several measures immediately following the interviews. These included state anxiety and state self-esteem, as well as soliciting self-evaluations of how smoothly the interaction proceeded and how well the employee felt they had performed. As prior empirical accounts show, the presence of behavioral mirroring is associated with more positive interaction experiences and its perceived absence is associated with more negative interaction experiences. Participants whose interaction partners mirror their behaviors are likely to perceive the meeting as proceeding more smoothly and effectively.

To capture the behavioral effects associated with higher versus low levels of behavioral mirroring in these meetings, the interviews were videotaped and two third-party measures were collected based on these videos. First, independent coders recorded and calculated average

question-answer response latencies for each participant. That is, how long it took on average for the manger to respond to each of the interviewer's questions. Second, multiple expert raters were hired to evaluate each participant's performance in each interview.

Specifically, we hypothesized that the time taken to respond to an interaction partner's questions would serve as one indicator of one's performance in an evaluative meeting. Within Western cultures, people tend to infer intelligence and persuasiveness from an individual's ability to respond to questions quickly and with few pauses (Erickson et al., 1978; Hosman, 1989; Miller, Maruyama, Beaber, & Valone, 1976; Smith & Shaffer, 1995). Assuming that participants experience the absence of behavioral mirroring negatively, cognitive resources otherwise available for processing questions and formulating responses might be reallocated to evaluate what is wrong in the situation. Social cognition research has shown that mental energy spent worrying about how others view the self can slow down mental processing and lower performance (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Carver & Scheier, 1981; Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998). Managers whose gestures and postural movements were not mirrored in an interaction thus were expected to take longer to respond on average to their interaction partner's questions compared to managers whose behaviors were mirrored. Moreover, to the extent that behavioral mirroring positively affects people's demeanor and conduct (relative to when behavioral mirroring is absent), then it should be associated with more positive performance evaluations by outside observers. Specifically, we expected that a third-party observer would rate participants' performances in their meetings as more effective when the participants were mirrored than when they were not. Thus:

Hypothesis 1: Participants whose behaviors are mirrored versus not mirrored by their interaction partner will report lower levels of state anxiety (H1a), higher levels of state

self-esteem (H1b), higher levels of perceived interaction smoothness (H1c), and higher self-rated performance (H1d).

Hypothesis 2: Participants whose behaviors are mirrored versus not mirrored by their interaction partner will show shorter question-answer response latencies (H2a) and receive higher performance ratings from third-party observers (H2b).

Having described the how the presence versus absence of behavioral mirroring is anticipated to affect participants irrespective of their culture, we turn now to the heart of this paper and its novel contributions: the predicted interactive effects based on participant's culture and level of mirroring. Here, we argue that traditionally higher levels of relational attunement exhibited by U.S. Latinos would lead to higher sensitivity to behavioral mirroring cues when compared to U.S. Anglos who traditionally exhibit lower levels of workplace relational attunement. Accordingly, we predicted that both the positive effects of mirroring and negative effects of non-mirroring by interaction partners should be more pronounced for U.S. Latinos compared to U.S. Anglos. Thus:

Hypothesis 3: Compared to U.S. Anglos, U.S. Latinos will differ more across mirroring conditions in self-report ratings of state anxiety (H3a), state self-esteem (H3b), levels of perceived interaction smoothness (H3c), and self-rated performance (H3d).

Hypothesis 4: Compared to U.S. Anglos, U.S. Latinos will differ more across mirroring conditions in their question-answer response latencies (H4a) and in performance ratings from third-party observers (H4b).

Design and Participants

Study 1 comprised a field experiment with mid-level managers and professionals

employed at the headquarters of a Fortune 500 corporation. We designed the experimental context to model a workplace interaction in which an Anglo conducts a one-on-one job interview for an internal position with a current employee. Two trained confederates conducted on-site interviews with Anglo and Latino mid-level managers from the organization. The field experiment included two behavioral mirroring conditions. In one condition, confederates subtly mirrored the behavioral gestures of the participant, and in the other condition they did not. Both conditions were modeled after prior behavioral mirroring experimental paradigms (Chartrand & Bargh, 1999; Sanchez-Burks, 2002). Thus, our study employed a 2 x 2 factorial design crossing two levels of culture (U.S. Anglo and U.S. Latino) with two levels of behavioral mirroring (mirroring and no mirroring).

Ninety mid-level managers and professionals participated in the field experiment. The mean age of the participants was 35.95 (SD = 8.92), with 13.75 (SD = 8.5) years of work experience on average. The sample included 60 U.S. Anglos (33 male and 27 female) and 30 U.S. Latinos (all male). Our cultural categorizations were based on participants' self-reports in a demographic survey. U.S. Anglo refers to participants who self-identified with the ethnic category "Anglo-American/U.S Anglo/ White (not of Hispanic origin)"; whereas U.S. Latino refers to participants who self-identified with category "U.S. Latino/Hispanic/Mexican-American/Spanish-American." Within the mid-level managerial and specialist ranks from which we obtained our sample, Human Resources records indicate that there were very few Latina women represented in our host organization. Consequently, our U.S. Latino sample includes only males. We were successful in obtaining a representative sample of U.S. Anglo women who were similarly, though to a far lesser extent, underrepresented in our host organization.

Procedure

Participants were recruited through advertisements sent out via e-mail from the organization's human resources department approximately two weeks before the study began. The e-mails expressed the company's interest in and support of the study, describing its purpose as a study of interview dynamics. The e-mail was sent to all mid-level managers in the organization and indicated that approximately 100-125 people would be interviewed, and as a thank you for participation, participants would have the opportunity to win one of two $500 cash prizes. The winners for these prizes would be randomly selected from among all participants.

Participants were scheduled for appointments as they responded to the e-mail advertisement, until all available interview slots in their demographic category were filled (approximately 30-35 tracked by culture and gender). Recruitment and scheduling of participants was completed in five days. The interviews took place approximately one week later over a five day period. We conducted them during normal business hours in office space located within the firm's headquarters. Each participant received an e-mail two days before their scheduled meeting, reminding them of their scheduled time and the location. One month later, two prizewinners were selected, notified, and paid.

The interview followed a standard screening protocol. When participants arrived at the designated office, a coordinating research assistant greeted them. She gave participants a packet containing informed consent forms, which granted researchers consent to videotape the interview for later evaluation and to ask them about their past and present employment history and experiences. We used material in this employment biographical questionnaire as a basis for discussion in the meeting. Prior to filling out these forms, participants were ensured that we kept

no personal identifiers with their data and that no one from the company would have access to any individual information obtained during the study.

After participants completed the documents, the research coordinator escorted them to a nearby office and introduced them to an interviewer. The research coordinator gave the employment questionnaire to the interviewer with a notation as to which mirroring condition to implement. We randomly assigned mirroring conditions across participants. The interviewer then followed a 15-minute scripted interview protocol, which included referring to information in the employment questionnaire. We structured the meeting in this way based on suggestions from industry recruiter experts so that we accurately modeled an actual evaluation interview.
The interviewers were two male U.S. Anglos with an average of 12 years of working experience. Prior to the study, we trained the interviewers to conduct meetings while mirroring or not mirroring participants' postures and non-verbal movements (e.g., foot-shaking, hand on the table, etc.). The paradigm we used for this manipulation followed previous mirroring studies (Chartrand & Bargh, 1999; Sanchez-Burks, 2002). For example, when the participant leaned forward, the interviewer was instructed to do likewise. When the participant moved their hand to their chin, the interviewer was to do likewise. In the non-mirroring condition, the interviewers were trained to maintain a relaxed posture with feet on the floor and the pre-interview packet in their hands to reduce the possibility of non-conscious mirroring. We instructed interviewers to behave in a relaxed, mobile, and animated fashion in both mirroring conditions so as not to confound the mirroring manipulation with differences in interview awkwardness or stiffness (Chartrand & Bargh, 1999; Sanchez-Burks, 2002).

After the meeting, the interviewer escorted participants to a separate office where they met another research assistant who walked them through the final phase of the study. Participants

completed a questionnaire, followed by a debriefing by the research assistant. The research assistant queried the participant about any general questions they had, followed by increasingly specific questions to determine if he or she had noticed that the interviewer was mirroring their behaviors or not. Finally, the goals of the study were broadly described and any remaining questions answered. Only one participant raised suspicion during the debriefing session concerning the behavioral gestures of the interviewer, though they did not specifically notice the presence or absence of mirroring. Data from this one participant were excluded from the analyses. Participants were asked not to share their experiences in the study with others until on-site data collection was complete, and debriefing discussions with participants suggest they complied with this request.

Dependent Measures

Self-report participant questionnaires and videotaped recordings comprised our data sources. The post-interview questionnaire assessed four aspects of participants' interview experience: state anxiety, state self-esteem, interaction smoothness, and overall performance.

Videotape recordings of each interview showed full body shots of the interviewer and the interviewee. Following the study, three edited versions of these video recordings were made: a version in which only the interviewer is visible, a second version in which only the interviewee is visible, and a third with only the audio track of the interview. We asked two observers (uninvolved in and blind to the purpose and design of the study) to code the interviewer-only videos to assess the success of the mirroring manipulation. We used the audio-only version of the interviews to code for question-response latencies. We asked third-party experts (blind to the purpose and design of the study) to view the interviewee-only videos and rate their performance. Further details about the manipulation check and dependent variables measures appear below.

Manipulation check. Viewers of the interviewer-only videos were used to establish whether the confederates' behaviors varied across the mirroring conditions in ways that might provide alternative explanations for our results. Differences in the number of times the interviewer smiled, for example, or came across as more or less friendly and likable, could affect participants above and beyond the mirroring manipulation. Two coders who were blind to the experimental hypotheses and manipulation viewed the interviewer-only videos to evaluate behavior regarding (a) friendliness toward the applicant, (b) how much the interviewer appeared to like the applicant, (c) and how much the interviewer smiled in the interview. Coders evaluated a sample (n = 60) of edited versions and rated the items on a 10-point scale (1 = low, 10 = high). The average reliability between the judges for these three items was $R = .84$. We averaged ratings from the two coders to form a single index for each measure. Results showed no significant differences between the mirroring and no mirroring conditions, or between the culture/gender groups (all p's > .05, based on two-tailed test), showing that the two versions of the interview were successfully standardized. It does not appear that the confederates behaved differently toward participants in any meaningful way other than in the non-verbal mirroring manipulation itself.

Self-report measures. In the post-meeting questionnaire we measured participants' state anxiety with Spielberger and colleagues' (1980) 10-item instrument (Cronbach's $\alpha = .80$). Heatherton and Polivy's (1991) 15-item instrument provided a measure of state self-esteem (Cronbach's $\alpha = .84$). Responses were recorded using 7-point Likert-type scales, where higher numbers corresponded to higher state response levels. Participants then responded to the item, "How smooth was the interview interaction?" using a 5-point Likert-type scale (1 = not smooth at all, 3 = somewhat smooth, 5 = very smooth). Finally, self-rated performance was measured

with a single-item that asked participants to circle the response "that best reflects your evaluation of your overall performance during the interview" (1 = unsatisfactory performance, 3 = okay performance, 5 = excellent performance).

Question-answer response latency measures. Research assistants, blind to the conditions and hypotheses, coded question-answer latency using the audio-only version of the videotaped interviews. The research assistants used stopwatches to measure the amount of time that passed between the end of an interviewer question and the start of an interviewee's vocal response. A composite score was subsequently calculated for each participant (inter-coder reliability based on a random subset of 20 interviews was $R = .88$), consisting of the mean question-answer latency response times across the interview.

Expert-coded performance measures. Four professional recruiters and interview coaches employed at either a large accounting firm or university business school agreed to view and code the interviewee-only videos to provide objective evaluations of participants' performances. On average, these coders had eight years of working experience in the human resource field. They were instructed to code the interviews along seven dimensions of performance (body language, impact, verbal communication skills, motivation, assertiveness, interpersonal skills, and overall impression). For each measure, a 7-point Likert-type scale (1 = extremely low, 7 = extremely high) was used. These performance criteria were chosen prior to the study in consultation with professional recruiters and interview coaches from industry to reflect the criteria commonly used for actual recruitment evaluations.

Subsequent analysis of the ratings revealed that the seven measures were highly correlated, so they were subjected to a principal-components analysis. The principal-components analysis (without rotation) indicated the presence of a single factor accounting for 67% of the

variance. On the basis of this finding, a composite performance score was created for each interview (Cronbach's $\alpha = .91$). The effective inter-judge reliability (Rosenthal & Rosnow, 1991) for the composite measure was quite high, $R = .90$.

Results

Table 1 reports the grand means and standard deviations for each dependent measure, as well as correlations across the measures. Table 2 reports the means and standard deviations for each dependent measure across the Mirroring X Culture conditions. Note that preliminary analysis that included gender as a between-subjects factor showed no significant main effects of gender or interactions with gender were found for any variables (all p's > .60); thus, subsequent results are collapsed across gender.

Self-report measures – main effects. Hypotheses 1a-1d predicted four main effects for our self-reported measures of participants' interview experience depending on whether the confederate interviewer engaged in behavioral mirroring or not. Univariate Analysis of Variance (ANOVA) indicated a marginal main effect for lower state anxiety in the mirroring condition ($M = 1.81$) versus no mirroring condition ($M = 1.90$), $F(1,86) = 3.06$, $p = .08$, providing weak support for Hypothesis 1a. For state self-esteem (H1b), a main effect showed higher self-esteem in the mirroring condition ($M = 4.24$) compared to the no mirroring condition ($M = 4.09$), $F(1,86) = 4.50$, $p = .04$). A marginal main effect for perceptions of interaction smoothness (H1c) showed more smoothness in the mirroring condition ($M = 4.43$) compared to the no mirroring condition ($M = 4.17$), $F(1,86) = 2.82$, $p = .09$). A main effect for self-rated performance (H1d) showed higher performance in the mirroring condition ($M = 4.00$) compared to the no mirroring condition ($M = 3.63$), $F(1,86) = 6.79$, $p = .01$). There were no significant main effects of culture for anxiety, self-esteem, interaction evaluation, or performance (all p's > .05).

Self-report measures – interaction effects. Our primary focus was on the interactive effect of behavioral mirroring and cultural group membership, which we argued are driven by differences in relational attunement among U.S. Latinos and U.S. Anglos. Accordingly, we predicted that the presence or absence of behavioral mirroring would have a greater effect on U.S. Latinos' self-reported measures of the interview experience relative to U.S. Anglos (Hypotheses 3a-3d).

We found supportive evidence that cultural group membership moderated the effect of behavioral mirroring on state anxiety (Hypothesis 3a), $F(1,86) = 5.55$, $p = .02$). The absence of behavioral mirroring increased anxiety significantly for U.S. Latinos (Mirroring $M = 1.71$ vs. No Mirroring $M = 2.11$, $t(86) = 2.51$, $p = .014$), but not for U.S. Anglos (Mirroring $M = 1.86$ vs. No Mirroring $M = 1.80$), $t < 1$).

In support of Hypothesis 3b, contrasts conducted within cultural groups showed that the absence of interviewer mirroring had a negative effect on U.S. Latinos' state self-esteem (Mirroring $M = 4.48$ vs. No Mirroring $M = 4.09$, $t(86) = 2.34$, $p = .02$), but this was not the case for U.S. Anglos (Mirroring $M = 4.12$ vs. No Mirroring $M = 4.08$, $t < 1$). Note that the Mirroring X Group ANOVA revealed only a marginally significant interaction effect ($F(1,86) = 2.90$, $p = .09$). Again, these results suggest an interactive effect of behavioral mirroring and cultural group membership on participants' interview experience.

The results for Hypothesis 3c regarding perceived smoothness of the interaction were more mixed. Two-tailed t-tests found that while the interactive effect of behavioral mirroring and cultural group membership on evaluation of the interaction was in the predicted direction, it was not significant for U.S. Latinos (Mirroring $M = 4.30$ vs. No Mirroring $M = 4.00$, $t < 1$) or U.S.

Anglos (Mirroring $M = 4.51$ vs. No Mirroring $M = 4.25$, $p > .20$). The overall interaction effect was not significant.

Finally, in support of Hypothesis 3d, two-tailed t-tests revealed that the absence of mirroring had a significant negative effect on self-rated performance for U.S. Latinos (Mirroring $M = 4.13$ vs. No Mirroring $M = 3.53$, $t(86) = 2.24$, $p = .027$) but not for Anglos (Mirroring $M = 3.93$ vs. No Mirroring $M = 3.68$, $p > .20$). Yet, the overall interaction was not significant ($F(1,86) = 1.12$, $p = .30$). This pattern of effects again provides support for the hypothesis that cultural group membership moderated the effects of behavioral mirroring on participants' interview experiences.

Behavioral measures – main effects. Hypothesis 2 predicted that participants whose behaviors are mirrored versus not mirrored would show quicker question-answer response latencies (H2a) and receive higher performance ratings from third-party observers (H2b). A Mirroring X Culture ANOVA conducted on mean response latencies showed, consistent with Hypothesis 2a, a positive main effect for behavioral mirroring. That is, overall participants took less time, on average, to respond to questions in the presence (versus absence) of behavioral mirroring from the interviewer (Mirroring $M = 0.92$ seconds vs. No Mirroring $M = 1.2$ seconds, $F(1,86) = 4.88$, $p = .03$). However, the main effect for Hypothesis 2b was not fully supported. The Mirroring X Culture ANOVA performed on expert-rated performance showed only a marginal main effect (Mirroring $M = 4.55$ vs. No Mirroring $M = 4.35$, $F(1,86) = 3.18$, $p = .08$). Overall, there were no main effects found for cultural group membership on either response latencies or expert-rated performance evaluations.

Behavioral measures – interaction effects. In our analyses of the interaction effects we again examined whether the influence of mirroring on our behavioral indicators was stronger for

U.S. Latinos compared to U.S. Anglos. In support of Hypothesis 4a and shown in Figure 1, response latencies in the mirroring versus no-mirroring condition were significantly shorter for U.S. Latinos (Mirroring $M = 0.82$ vs. No Mirroring $M = 1.26$, $t(86) = 1.96$, $p = .05$) but were not significantly different between conditions for U.S. Anglos (Mirroring $M = 0.99$ vs. No Mirroring $M = 1.17$, $t(86) = 1.06$, $p = .29$). The overall interaction was not significant ($p > .30$).

We also found supportive evidence of an interactive effect of behavioral mirroring and cultural group membership on expert performance evaluations (Hypothesis 4b). As shown in Figure 2, behavioral mirroring had a greater impact on expert-rated performance for U.S. Latinos than U.S. Anglos, $F(1,86) = 6.76$, $p = .01$. Latinos performed significantly better in the presence (versus absence) of behavioral mirroring (Mirroring $M = 5.12$ vs. No Mirroring $M = 4.20$, $t(86) = 2.68$, $p < .01$). In contrast, the presence or absence of behavioral mirroring did not affect expert ratings of U.S. Anglos' performance (Mirroring $M = 4.25$ vs. No Mirroring $M = 4.43$, $t < 1$).

Discussion

Overall, Study 1's results show that the presence of behavioral mirroring in an evaluative meeting is associated with higher performance and more positive interaction experiences. On average, participants reported more favorable perceptions of their performance, experienced higher self-esteem, and also responded more quickly to interview questions when the confederate mirrored their behavior compared to when the confederate did not. The presence of behavioral mirroring also increased, albeit marginally, perceptions of interaction smoothness and third-party observers' assessments of performance and decreased their anxiety.

The heart of Study 1's contribution comes from its juxtaposition of behavioral mirroring dynamics across members of different cultural groups. Here, as predicted, U.S. Latinos appear more susceptible to the effects of interacting with a partner who does versus does not engage in

behavioral mirroring. In contrast, U.S. Anglos appear more immune to these mirroring effects than U.S. Latinos. These findings are consistent with prior research documenting differing levels of workplace relational attunement between these cultural groups. Specifically, significant Anglo-Latino differences in sensitivity to behavioral mirroring were observed for three out of four psychological measures (state anxiety, state self-esteem, and self-rated performance), as well as for both behavioral performance indicators (question-response latencies and third-party performance ratings). The only element of participants' interview experience for which the predicted culture difference was not supported was participants' perceptions of interaction smoothness. Here, no significant effects were observed across conditions either within or across cultural groups. Yet, interaction smoothness was found to be highly correlated with several other important measures, most notably state anxiety, self-reported performance, and question-answer latency. Together the results of Study 1 demonstrate that the presence of behavioral mirroring generally yields positive experiences for participants in workplace interactions; yet, the degree to which an absence of behavioral mirroring affects participants' experiences varies across cultural groups. U.S. Latinos were significantly more sensitive to the absence of behavioral mirroring compared to U.S. Anglos.

Though Latinos and Anglos appear differentially affected in the workplace by their interaction partners' non-verbal behavior, the pattern of results offer an interesting twist. Latinos showed the biggest changes in performance across the mirroring conditions, but this shift resulted in a comparative boost in performance in the presence of mirroring, <u>not</u> a deficit in its absence. Third-party ratings of performance in the no-mirroring condition were equivalent for Anglos and Latinos alike. Upon reflection, this result may be intuitive in light of the fact that these particular Latino participants had already "made it" in the host organization. They had

already qualified for jobs and received promotions within the company -- suggesting they had learned how to interact successfully within this U.S.-based corporate culture. Finally, they had probably learned not to over-react to a lack of behavioral mirroring on the part of their interaction partners, despite showing the higher levels of state anxiety than the other groups when they were not mirrored. Most interesting about these findings is that in the mirroring conditions, U.S. Latinos out-performed all other participants.

We have argued that culture-based differences in relational attunement account for why Latino and Anglo managers' differ in their experiences and performance in workplace interactions where behavioral mirroring is absent versus present. It is important to note, however, that while the results of Study 1 are consistent with this reasoning, they do not provide direct evidence that relational attunement *per se* influenced sensitivity to behavioral mirroring. We recognize that other cross-cultural dynamics also could play a role in predicting peoples' reactions to behavioral mirroring (e.g., individualistic versus collectivistic social orientations). It is our contention that differences in relational attunement offer the most proximal mechanism for explaining why sensitivity to behavioral mirroring would vary across different cultural groups. Yet, based solely on Study 1's findings, it would be premature to conclude that relational attunement is the underlying mechanism. This limitation is addressed in Study 2's laboratory experiment where we directly manipulate relational attunement for members of each cultural group in order to examine its causal influence on sensitivity to mirroring.

As an additional caveat, it must be acknowledged that the sample in Study 1 did not include female Latina managers due to the severe under-representation of this group in the mid-management ranks of the organization. Study 1 did include Anglo females, and we found no significant gender effects in any of the analyses. Nonetheless, the topic of attentiveness to

relational cues, particularly at work, can raise important questions about the nature of gender differences and similarities that cannot be adequately addressed by Study 1**.** Unlike patterns observed between certain cultural groups, evidence of reliable patterns of gender difference in relational attunement within the workplace is more elusive. A review of the social psychological literature on gender differences related to relational attunement (including mirroring) both within the United States (Chartrand & Bargh, 1999; Ely & Meyerson, 2000) and cross-culturally (Holtgraves, 1997; Kashima et al., 1995; Kitayama & Howard, 1994; Sanchez-Burks et al., 2003), suggests that replications of null gender effects are as common as studies reporting that women show higher levels of relational attunement than do men. It remains an ongoing challenge to understand and anticipate the conditions under which stable gender differences might emerge or when such differences may be as pronounced as differences observed across certain cultural groups. In Study 2, we sought to provide more complete empirical data and to address the imbalanced design of Study 1 by drawing participants from a Latino population where females are better represented.

Study 2

Study 2 was a laboratory study designed to further our examination of culture-based differences in how individuals perceive and evaluate workplace interactions as a function of behavioral mirroring. Our central goal was to gather more direct evidence that Anglo-Latino differences in relational attunement underlay their differential sensitivity to behavioral mirroring. Toward this end, we conducted a laboratory experiment with two relational attunement conditions: prime and no-prime. In the prime condition, we employed a modified 'emotional Stroop task' (Kitayama & Ishii, 2002) to heighten participants' levels of relational attunement. In the no-prime condition, we used a neutral filler task – thus allowing any naturally occurring

differences in relational attunement to exert their influence. We then asked all participants to view and evaluate a videotape of a workplace interview in which a low level of behavioral mirroring was used by the interviewer. Thus, Study 2's key dependent measure was an evaluation made by each participant as a third-party observer.

We reasoned that naturally occurring cultural differences in relational attunement would be operative in the no-prime condition. In this condition, we anticipated that U.S. Latinos who are traditionally high on relational attunement at work would show greater sensitivity to the low level of behavioral mirroring. They would rate the interaction more negatively than would U.S. Anglos. The no-prime condition would thus provide a conceptual replication of Study 1. In contrast in the prime condition, U.S. Anglos' levels of relational attunement would be heightened, thereby reducing any Anglo-Latino differences in sensitivity to interpersonal cues. Since all participants would be experiencing similarly high levels of relational attunement, we anticipated little difference in evaluation across Anglos and Latinos. Thus, we predicted:

> *Hypothesis 5*: U.S. Latinos who observe workplace interactions in which low levels of behavioral mirroring are present will evaluate these interactions more negatively than will U.S. Anglos.
>
> *Hypothesis 6*: U.S. Anglos who are primed to be relationally attuned will evaluate workplace interactions in which low levels of behavioral mirroring are present more negatively than will U.S. Anglos who are not primed to be relationally attuned.
>
> *Hypothesis 7*: U.S. Anglos and U.S. Latinos who observe workplace interactions in which low levels of behavioral mirroring are present will display smaller differences in evaluation when all participants are primed to be relationally attuned compared to when participants are not primed to be relationally attuned.

Design and Participants

This study used a 2 x 2 factorial design crossing two levels of cultural group membership (U.S. Anglo and U.S. Latino) with two levels of relational attunement priming (prime and no-prime). Seventy-eight students at a large Southwestern U.S. Business School participated in the study in exchange for $10. The sample consisted of 33 self-identified U.S. Anglos (23 male and 10 female) and 45 self-identified U.S. Latinos (e.g., U.S. Latino/Hispanic/Mexican American/Spanish American) (30 male and 15 female) who were 27.5 years of age on average. Participants had an average of three years of prior work experience.

Procedure

Participants were recruited through advertisements sent out via e-mail to various academic clubs within the business school (e.g., Graduate Finance Association, Hispanic Graduate Business Association). The advertisements went out approximately three weeks before the study began and expressed the club's interest in and support of the study, describing its purpose as a study of professional business meetings. The advertisements indicated that approximately 80 people would participate, and as a thank you for participation, participants would receive $10.

We scheduled participants for appointments as they responded to the e-mail advertisement. During scheduling, participants completed a short demographic survey and we randomly assigned self-identified U.S. Anglo and U.S. Latino participants to the prime or no-prime condition until the four experimental conditions were filled. Recruitment and scheduling of participants was completed in ten days. The study took place approximately one week later over a four-day period. Each participant received an e-mail reminding them of their scheduled time and the location. When participants arrived at the business school laboratory, they were

informed that they were taking part in a study on professional business meetings and told that they would complete the study on laptop computers.

The experiment consisted of two parts completed on laptop computers using MediaLab software. In Part 1, participants completed one of two lexical categorization tasks that served as the prime and no-prime conditions. In Part 2, participants viewed a video clip of a meeting of two managers who exhibited little behavioral mirroring. After the video, which was the same for all conditions, participants completed a questionnaire. The questionnaire contained items measuring our dependent variable (their evaluation of the interaction) as well as items measuring individualistic and collectivistic social orientations. After completing the questionnaire, participants were paid and given a debriefing form explaining the study's purpose.

To prime high relational attunement, we used Kitayama and Ishii's (2002) vocal emotional Stroop task. This lexical categorization/decision task focuses participants' attention on the tone of voice in which words are spoken. We selected this task based on research suggesting that the relational dimension of social interactions is conveyed primarily though two channels: the visual channel that encodes non-verbal gestures (e.g., behavioral mirroring) and an auditory channel that encodes vocal intonation (e.g., tone of voice) (Pickett, Gardner, & Knowles, 2004). In priming relational attunement we intentionally used a task that focused participants' attention on vocal intonations, rather than nonverbal gestures, so as to keep the nature of the prime and our mirroring variable conceptually distinct and avoid an obvious demand characteristic of priming attention to non-verbal dynamics and then measuring attentiveness to non-verbal dynamics.

Participants in the prime condition listened to a series of spoken words using headphones and were asked to categorize the affective tone of each spoken word as either positive or negative. Participants heard 32 randomly presented words. Half of the words were semantically

positive (e.g., funny) and half were semantically negative (e.g., evil). The tone of the voice in which these words were spoken was manipulated such that half the words were spoken in a tone of voice congruent with their semantic meaning (i.e., negative word-negative tone and positive word-positive tone), and the other half were spoken in a tone of voice incongruent with their semantic meaning (i.e., negative word-positive tone and positive word-negative tone). Participants were instructed that after hearing each word, they were to quickly categorize its affective tone as positive or negative while ignoring its meaning. By focusing participants' attention on vocal intonations we reasoned that participants would generally be more sensitive to relational cues and thus be responsive to the absence of behavioral mirroring.

In the no-prime condition, the lexical categorization/decision task instructed participants to categorize a different set of 32 words (e.g., tree, aluminum, sand, seed) as 'animate' or 'inanimate' objects. After seeing each word on the computer screen, participants quickly categorized the word as an animate object (e.g., bacteria) or inanimate object (e.g., rock). The length of the no-prime condition was designed to be equivalent to the prime condition.

After completing their lexical categorization task, all participants were shown a short video displayed on their computer. We used a portion of a videotaped interview from Study 1. We selected an interview from the non-mirroring condition that depicted a meeting between two white males. In the video, the interviewer (a trained confederate) does not mirror the behaviors of the other individual. As described earlier, the interviewer maintained a relaxed posture with feet on the floor and the interview packet in his hands. Before viewing the video, participants were told that they would watch a portion of a longer evaluation meeting that took place in an actual organization. Participants were informed that the person on the right was conducting an evaluation of the person on the left. Participants then watched the 20-second video.

Dependent Measures

Evaluations of interaction. Following the video presentation, we measured participants' evaluations of the interaction. Participants used a 7-point Likert-type scale (1 = not at all, 4 = somewhat, 7 = very much) to indicate the extent to which each of the following words described the overall interaction between the two individuals: awkward, smooth, uneasy, relaxed, out-of-sync, and rapport. A principle components factor analysis on these items indicated a single factor (*Eigenvalue* = 2.57) that explained 42.9% of the variance. We therefore created a composite evaluation score using the mean of the six-items (Cronbach's α = .72) where higher numbers indicated a more positive evaluation of the interaction.

Collectivism-individualism as a covariate. Relational attunement is often implicated in broader cultural constructs, such as individualistic and collectivistic orientations (Hofstede, 1980; Hsu, 1981; Triandis, 1995). Collectivists, more than individualists, tend to make a significant relational investment in others. It could be argued that it is these broader cultural differences that drive participants' differential reactions to behavioral mirroring cues rather than relational attunement *per se*. To assess for this possible alternative explanation, participants were asked to complete a 32-item individualism-collectivism scale (Singelis, Triandis, Bhawuk, & Gelfand, 1995). After reverse scoring negatively worded items, we averaged items corresponding to each subscale to create a 16-item collectivism index (overall α = .72; for Anglos α =.51 and for Latinos α =.79) and a 16-item individualism index (overall α = .71; for Anglos α =.61 and for Latinos α =.76). These subscales were negatively and significantly correlated (r = -.22, p = .05).

Results

Our primary questions concerned a conceptual replication of the cultural difference in

response to an interaction where non-verbal mirroring is absent; and an analysis of relational attunement as a mechanism for this difference. A 2 (Anglo/Latino) x 2 (prime/no-prime) ANOVA conducted on evaluations of the interaction provide support for Hypothesis 5 with a main effect for culture, $F(1,74) = 3.89$, $p < .05$, indicating higher evaluations among Anglos ($M = 5.55$, $SD = .78$) compared to Latinos ($M = 5.10$, $SD = .99$).

As shown in Figure 3, Hypothesis 6 was supported. Anglos in the no-prime condition ($M = 5.81$, $SD = .70$) had a more positive evaluation of the interaction compared to Anglos in the prime condition ($M = 5.24$, $SD = .77$, $t(31) = 4.79$, $p = .036$). Anglo evaluations in the no-prime condition were also significantly higher compared to Latinos in this condition ($M = 4.99$, $SD = 1.09$, $t(41) = 7.61$, $p = .009$). For Latinos, there was no significant difference observed across the no-prime ($M = 5.24$, $SD = .86$) and prime conditions ($M = 4.99$, $SD = 1.09$), $p > .25$. Moreover, the ANOVA showed a significant interaction between priming condition and culture, $F(1,74) = 3.83$, $p < .05$, supporting Hypothesis 7 that differences across Anglo-Latino evaluations would be greater in the no-prime condition ($\Delta = 0.82$) versus prime condition ($\Delta = 0.01$).

We explored whether gender moderated any of our findings. We re-analyzed the data with gender included as a between-subjects factor. No significant main effects of gender or interactions with gender were found (all p's $> .60$). Finally, we assessed whether culture-based differences in values of collectivism or individualism could provide an alternative account for the hypothesized pattern of results. One-way ANOVAs conducted to test for cultural differences in these culture-based values did find, as might be expected, higher levels of collectivism among U.S. Latinos ($M = 4.82$, $SD = .65$) compared to U.S. Anglos ($M = 4.49$, $SD = .46$) $F(1,74) = 5.97$, $p = .017$. However, no significant differences in individualism were found between U.S. Latinos ($M = 4.87$, $SD = .64$) and U.S. Anglos ($M = 5.13$, $SD = .55$), $F(1,74) = 3.44$, $p > .05$. Moreover,

initial correlation tests indicated that participants' interaction evaluations were not significantly correlated with either collectivism (r = -.116, p > .05) or individualism (r = .082, p > .05).

Despite the lack of evidence of a relationship between collectivism on evaluations, we further conducted a Culture X Priming Condition analysis of covariance (ANCOVA) with collectivism as the covariate. The ANCOVA showed a marginally significant main effect for culture on evaluations after controlling for collectivism, $F(1,73) = 3.37$, p = .07. Moreover, the size of the main effect after controlling for collectivism (*Cohen's d* = .430) was not substantially different than in the equation without collectivism (d = .458). Similarly, the ANCOVA showed an interaction effect, $F(1,73) = 3.58$, p = .063, that also differed little in effect size compared to the earlier equation in which collectivism was not included as a covariate (*Cohen's d* = .442 vs. .456 respectively). Together the ANCOVA results indicate that the observed causal influence of relational attunement on evaluations cannot be accounted for by cultural differences in collectivist values.

Discussion

The results of Study 2 demonstrate U.S. Anglo-Latino differences in evaluations of a workplace interaction when in a third-party role. They provide evidence that relational attunement is an underlying causal mechanism for these observed cultural differences. These results found that U.S. Anglos were less sensitive to the absence of behavioral mirroring in interaction -- providing more positive evaluations of such interactions compared to U.S. Latinos. However, when specifically primed to be relationally attuned, U.S. Anglos rated the same interaction less favorably and in a manner similar to how U.S. Latinos rated the interaction.

Study 2 also examined whether differences in collectivism or individualism could alternatively explain the pattern of cultural differences found in the no-prime condition. Anglos

were observed to be less collectivistic, but not more individualistic than Latinos, but these differences did not account for the observed cross-cultural variation in evaluation. Together, these results suggest that relational attunement is the more proximal mechanism, rather than the broader construct of collectivism, driving observed culture-based differences in perceptions of workplace interactions. Finally, reanalysis of the data to examine differences associated with participant's gender showed no main effect or interactions of gender.

General Discussion

This paper has presented two studies using different populations and methodologies to provide new insight into cultural diversity at work with implications for intercultural interactions. Integrating research from social and cultural psychology and the organizational diversity literatures, these studies have demonstrated how performance in inter-ethnic workplace interactions can be compromised even in the absence of overt prejudice. Specifically, they showed how the subtle, non-verbal dynamics of behavioral mirroring can influence both individuals' subjective experiences and actual performance in workplace interactions. Consistent with prior laboratory research, these results found that the presence of behavioral mirroring in an interaction yielded more favorable psychological and behavioral effects than when it was absent. Yet, when behavioral mirroring was absent, individuals' experiences were culturally bounded because members of some cultural groups are more attuned to relational cues than are members of others.

This pattern of results points to a potentially unproductive intercultural dynamic that occurs independent of any unfavorable attitudes that individuals may hold about specific cultural groups. Rather, this dynamic results from culture-based differences in relational schemas that affect whether one is more or less attentive to the interpersonal dimension of an interaction.

Whereas Study 1 captured participants' self-reported experiences of the interview, Study 2 focused on participants' evaluations of an interaction involving two other individuals. Together, these studies suggest that relational attunement exerts an independent influence on people's evaluations of workplace interactions – whether or not they are directly involved in them. Study 2 also showed that culture-based differences in relational attunement had more a powerful effect on evaluations of a workplace interaction than did culture-based differences in levels of collectivism. Altogether, this research suggests that culture-based biases are likely to operate distinctly from culture-based differences in relational schemas. Both work together to undermine the productivity of intercultural interactions within organizations.

This research sheds light on how differences in relational schemas moderate nonverbal dynamics in workplace interactions. By focusing on the interactive relationship between behavioral mirroring and relational attunement, we uncovered an important mechanism underlying cultural differences in how individuals experience and perform in workplace interactions. To this point, our research responds to criticisms that research often treats demographic variables, such as ethnicity and cultural background, as reasonable substitutes for and predictors of differences in cognitive or behavioral styles (Mannix & Neale, 2005). That is, the underlying mechanisms producing cultural differences are often neglected. Study 2 addressed this concern by providing evidence that differences in relational attunement among Latinos and Anglos are responsible for their differential responses.

More generally, the present research builds upon organizational research on workplace diversity by adding a cultural psychology perspective to the types of differences that make a difference. A considerable body of research has explored how individual and group performance are shaped by biases that emerge in response to observable forms of difference, such as

demography (e.g., gender and race), as well as variation in task-relevant values or information associated with less visible forms of difference, such as education, functional background, and organizational tenure (for reviews see Jehn et al., 1999; Williams & O'Reilly, 1998). The present research has examined how culture-based differences in relational schemas affect how individuals approach workplace interactions. Thus, this paper helps build a bridge between research on workplace diversity and cultural psychology and advance efforts to better understand the multifaceted impact of diversity in organizations (c.f. Lau & Murnighan, 1998; Mannix & Neale, 2005).

Organizational Implications

On a practical level, these results have concrete implications for intercultural interactions in the workplace. Consider a situation where an Anglo manager is interviewing a minority member for employment in the organization or for a new position within it. These results show that systematic differences in the interviewer's and interviewee's sensitivities to non-conscious relational cues might unknowingly introduce a negative bias into that interaction – even in the absence of ethnic prejudice.

These findings point toward a new type of coaching for minority applicants – one that would help them better understand how cultural differences affect their workplace interactions. By making the non-conscious conscious, applicants can be coached on how not to overweigh certain non-verbal cues in interaction. In preparing for the interview process, one can imagine these applicants being give the chance to interact with both a more responsive and a less responsive social partner. This contrast would allow applicants to become more aware of how subtle behavioral differences affect their own psychological reactions and behavioral responses to different cues in the interaction. While it is normal to feel nervous during an interview, a

better understanding of cultural differences in relational attunement and their effect on sensitivity to non-verbal behavior might help alleviate some added anxiety for these applicants.

One of the most interesting aspects of our Study 1 results was that Latinos who were mirrored outperformed all Anglo participants, as well as all Latino participants who were not mirrored. This finding suggests that Anglo managers would also benefit from coaching about the effects of non-conscious behaviors on performance. Latinos and members of other cultural groups who are highly relationally attuned at work do best when interviewers provide nonverbal signals that the interaction is going well. This suggests that greater managerial sensitivity to relational cues could allow managers to better leverage the capabilities of their potential and current employees. Attention to non-verbal cues, like behavioral mirroring, can create a more psychologically comfortable context that could boost performance for many minority participants. Thus, organizational effectiveness could actually be enhanced through increased managerial education about the role of relational attunement and nonverbal cues in workplace interaction.

As a final point, this research has focused on differences in relational attunement between two cultural groups: U.S. Anglos and U.S. Latinos. While we are cautious about generalizing our findings, they do have broader implications for Anglo managers. Large–scale, cross-cultural surveys (House, Hanges, Javidan, Dorfman, & Gupta, 2004) and reviews of cultural differences in relational orientation (Fiske, Kitayama, Markus, & Nisbett, 1998; Sanchez-Burks & Lee, in press) find that heightened relational attunement in work contexts is actually quite common outside the U.S. This data means that when U.S. Anglos interact with members from a wide range of cultural groups, including those from many East Asian, Latin American, and Mediterranean societies, they are vulnerable to missing some of the meaning that is conveyed

non-verbally in their interactions. This observation introduces a whole other layer of potential behavioral and relational attunement training for Anglo managers who are interacting across national borders.

Limitations and Future Research

As with any research findings, there are limitations that must be considered. Clearly, our results are confined to interactions between two cultural groups: U.S. Anglos and U.S. Latinos. Further, our studies focused on one particular type of workplace interaction: an evaluative interview. Though we reasoned that this type of interaction tends to heighten sensitivity to interpersonal cues and thus provides a conservative test of potential cultural differences, it is premature to generalize our findings to other types of interactions that do not include an explicit evaluative component (e.g., strategic planning meetings, project progress meetings, etc.).

A key question also remains regarding how behavioral mirroring and relational attunement operate over time in ongoing interactions. For example, workplace diversity research has shown that observable demographic attributes can create faultlines between individuals when they first meet, but that less immediately obvious factors might trigger more enduring faultlines after repeated interactions (Lau & Murnighan, 1998). Although research suggests that the impact of demographic diversity tends to fade over time (Jehn et al., 1999; Pelled, Eisenhardt, & Xin, 1999), more subtle cultural differences, such as those observed in relational schemas, could potentially exacerbate initial faultlines over time. As differences in culturally based relational schemas generate less positive interaction experiences, this might provide new grounds for sustaining barriers that block fluid social interaction. Future research needs to explore how culturally based differences in relational attunement between two or more individuals are manifested in repeated interactions.

Here, we have focused on culturally based differences in relational attunement in the workplace, but recognize that individual variation within cultures also exists. Namely, some U.S. Anglos will, in fact, be more attuned to non-verbal relational cues than will some U.S. Latinos. For these individuals, the interactive effect of behavioral mirroring and relational attunement that we observed would not be replicated. As Study 2 showed, situational forces can lead people to be more relationally attuned at work than their cultural group membership might otherwise suggest. U.S. Anglos exposed to a relational attunement prime were, in fact, subsequently more attuned to non-verbal interaction cues. This finding implies that context can influences individuals' levels of relational attunement and corresponding sensitivity to behavioral mirroring. Aspects of an organization's culture or structure, particularly by functions or task, might affect the degree to which relational cues are salient to people in their workplace interactions. For example, relational attunement might be heightened for all individuals performing consulting or other customer-centered tasks that emphasize interpersonal relations and for which fluid interaction is a common indicator of success. Here, the task context may socialize people to be more relationally attuned in their interactions. Thus, future research should consider a contextualized approach -- assessing possible interactions among behavioral mirroring, culturally based relational attunement, and context.

Conclusion

This paper has taken a novel approach to understanding how diversity in cultural cognition can make a difference in the workplace. Our results illuminate how subtle, non-conscious cultural differences in relational attunement shape people's performance and psychological well-being in organizations. The implications of this research are important in the face of an increasingly diverse workplace and growing levels of globalization in daily business

operations. In order to overcome the challenges that these social, economic, and geographic changes present for organizations, more research is needed into the implicit, yet powerful, interpersonal dynamics that mediate the relationship between culture and successful interaction. This research offers an important step toward this goal.

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Footnotes

[1] The nature of organizations and work, more broadly, necessitate a contextual perspective on relational attunement. In such situations, concerns other than the interpersonal dynamics often require attention. Thus, being relationally attuned within the context of work entails being attentive to both task information (e.g., the budgetary implications of a proposal being presented by a co-worker) and the relational dimension of the social interaction (e.g., the co-workers' non-verbal gestures that unfold while she describes the proposal). For the purposes of this paper, therefore, we conceptualize relational attunement in the workplace as a broadening of attention to include the relational dimension of interactions in addition to an individual's focus on task concerns.

Table 1

Summary of Correlations Across Dependent Measures in Study 1

	Mean (sd)	State Anxiety	State Self-Esteem	Interaction Smoothness	Self-rated Performance	Question-answer latency
State anxiety [1]	1.86 (0.44)					
State self-esteem [1]	4.46 (0.46)	- 0.58**				
Interaction smoothness [2]	4.30 (0.71)	- 0.35**	0.17			
Self-rated performance [2]	3.81 (0.75)	- 0.52**	0.50**	0.51**		
Question-answer latency [3]	1.06 (.61)	0.26*	- 0.25*	- 0.37*	- 0.24*	
Expert-rated performance [1]	4.45 (0.98)	- 0.05	0.15	0.06	- 0.18+	- 0.27*

Note.

[1] Measured using 7-point Likert-type scale.
[2] Measured using 5-point Likert-type scale.
[3] Measured in milliseconds of time.
$^{+}p < .10$, *$p < .05$, ** $p < .01$

Table 2

Summary of Means (Standard Deviations) by Culture and Behavioral Mirroring Condition in Study 1

	U. S. Anglos		U. S. Latinos	
	No Mirroring	Mirroring	No Mirroring	Mirroring
State anxiety	1.80 (.47)	1.86 (.44)	2.11 (.30)	1.71* (.48)
State self-esteem	4.08 (.54)	4.12 (.45)	4.09 (.29)	4.48* (.29)
Smoothness evaluation	4.26 (.77)	4.52 (.57)	4.01 (.53)	4.30 (.88)
Self-rated performance	3.68 (.83)	3.93 (.70)	3.53 (.64)	4.13* (.64)
Q-A latency	1.17 (.84)	0.99 (.42)	1.26 (.54)	0.82* (.36)
Expert-rated performance	4.42 (.91)	4.25 (1.06)	4.20 (.87)	5.12* (.84)

Note. *Significance levels for within culture differences, $p \leq .05$

Figure Captions

Figure 1. Study 1 - Question-answer latency (in milliseconds) as a function of level of mirroring and participant's cultural group membership. Error bars represent one between-subjects standard error.

Figure 2. Study 1 - Expert-rated interview performance as a function of level of mirroring and participant's cultural group membership. Error bars represent one between-subjects standard error.

Figure 3. Study 2 - Evaluations of videotaped interpersonal business meeting as a function of participant's cultural group membership and relational attunement priming. Error bars represent one between-subjects standard error.

Figure 1

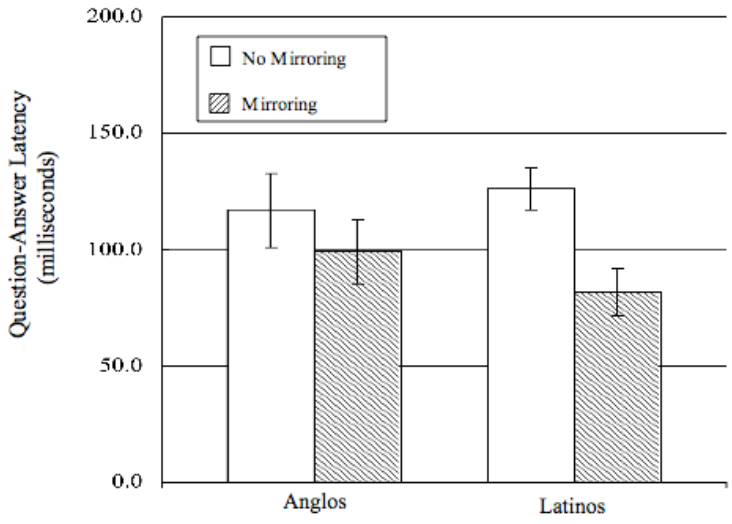
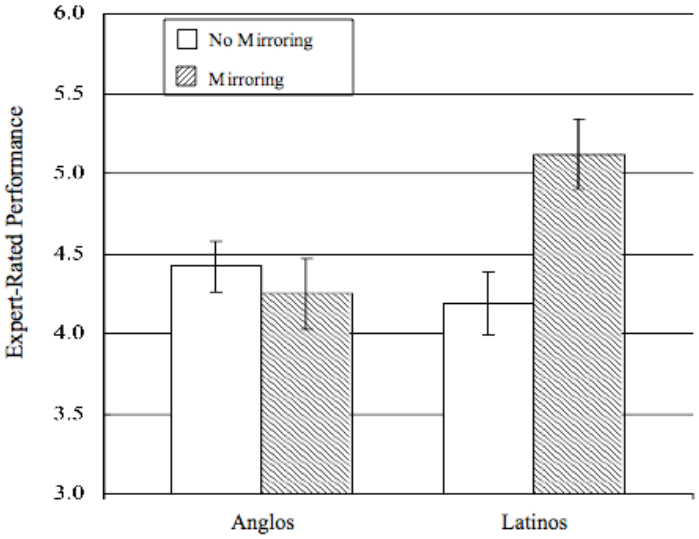

200.0
150.0
100.0
50.0
0.0
No Mirroring
Mirroring
Question-Answer Latency
(milliseconds)
Anglos
Latinos

Figure 2


6.0
5.5
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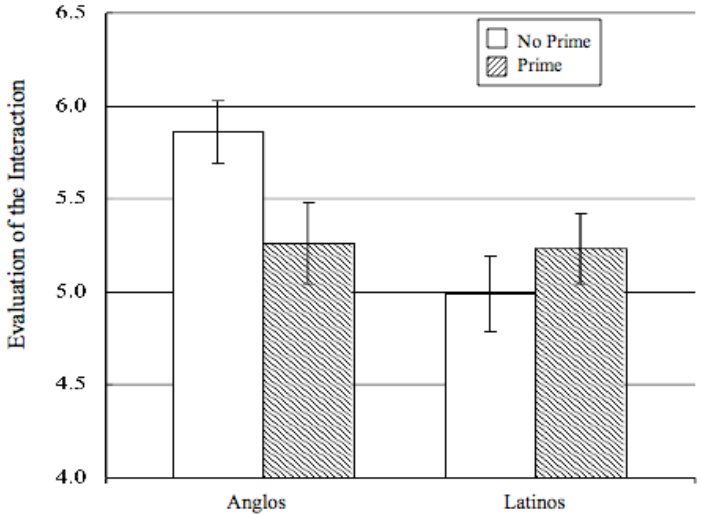
4.5
4.0
3.5
3.0
No Mirroring
Mirroring
Expert-Rated Performance
Anglos
Latinos

Figure 3


6.5
6.0
5.5
5.0
4.5
4.0
Evaluation of the Interaction
No Prime
Prime
Anglos
Latinos