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## Culture, Interpersonal Perceptions, and Happiness in Social Interactions

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### Abstract

The authors examined cultural differences in interpersonal processes associated with happiness felt in social interactions. In a false feedback experiment (Study 1a), they found that European Americans felt happier when their interaction partner perceived their personal self accurately, whereas Asian Americans felt happier when their interaction partner perceived their collective self accurately. In Study 1b, the authors further demonstrated that the results from Study 1a were not because of cultural differences in desirability of the traits used in Study 1a. In Studies 2 and 3, they used a 2-week event sampling method and replicated Study 1. Unlike Asian Americans, African Americans were not significantly different from European Americans in the predictors of happiness in social interactions. Together, this research shows that interpersonal affirmation of important aspects of the self leads to happiness and that cultural differences are likely to emerge from the emphasis placed on different aspects of the self.

### Keywords

culture; happiness; positive affect; self

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Some social encounters leave one feeling pleasant, whereas others leave one feeling unpleasant. What predicts the affective outcome of social interactions? We report three studies that investigate this question in the context of culture and show that the predictors of affective outcome of social interactions vary systematically across cultures, depending on which aspects of the self are accurately perceived by an interaction partner.

### AFFECT IN INTERPERSONAL CONTEXTS

Several theorists have proposed that affective outcomes of social interactions are predicted by the degree to which an individual feels understood by the interaction partner (e.g., Reis, Clark, & Holmes, 2004). This feeling, when it emerges as a result of the initial interaction, is in turn likely to shape the quality of future interactions. The importance of feeling understood is also widely recognized in the literature on psychotherapy, as a client who feels misunderstood at the first session is unlikely to continue the client–therapist relationship (Elliott & James, 1989). This suggests that the subjective feeling of being understood is an important factor in predicting affective outcomes of social interactions and in the formation of close relationships.

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What causes the subjective feeling of being understood? In dating and marital relationship contexts, Murray, Holmes, Bellavia, Griffin, and Dolderman (2002) found that perceived similarity in personality and values was associated with a greater degree of felt understanding by the romantic partner, which in turn predicted relationship satisfaction. Aside from perceived similarity in personality and values, Reis and Patrick (1996) posited that the partner's accurate perception of the target's central self-concepts has to be communicated to the target for the target to feel understood. Reis et al. (2004) recently extended the earlier models by arguing that responsiveness to the central aspects of the self is critical to affective outcomes of social interactions. It is not surprising, then, that people like their interaction partner when the partner accurately perceives important aspects of their self-concepts (e.g., Chen, Chen, & Shaw, 2004; Swann, 1990).

## CULTURE AND SELF

Cross-cultural research found that central aspects of self-concept vary across cultures (e.g., Kanagawa, Cross, & Markus, 2001; Markus & Kitayama, 1991; Triandis, 1989). For example, Cousins (1989) found that 58% of Americans' top five sentence completions in the 20-statements test ("I am ...") were composed of personality traits such as honest, whereas only 19% of Japanese's top five responses included personality traits. In addition, among Americans, only 9% of the top five responses referenced social roles such as college student, whereas among Japanese 27% of the top five responses mentioned social roles.

The literature on culture and the self suggests that the sources of interpersonal understanding are different for individuals with different cultural backgrounds. Specifically, because personal aspects of the self (e.g., personality traits and abilities) are known to be chronically salient and important to European Americans, we predict that accurate recognition of the personal self by an interaction partner should be the key to happiness in social interactions among European Americans. In contrast, because the collective self (e.g., group membership, role) is known to be chronically accessible to Asian Americans, we expect that accurate recognition of the collective self by an interaction partner should be particularly important to happiness in social interactions among this group. Analogous to these cultural predictions, Oishi, Lun, and Sherman (2007) recently found that individuals who moved a lot while growing up (movers) deemed the personal self more central than did those who did not move (nonmovers), whereas nonmovers deemed the collective self more central than did frequent movers. Furthermore, frequent movers felt happy when their interaction partner perceived their personal self accurately, whereas non-movers felt happy when their interaction partner perceived their collective self accurately. We conducted a laboratory experiment and two event sampling studies that tested our cultural difference predictions in the relationship between the type of self accurately perceived by an interaction partner and the level of happiness experienced in that interaction.

## THIS RESEARCH

In Study 1a, we experimentally manipulated the partner's accurate perception of participants' personal and collective self and then measured how happy participants felt about the interaction. This manipulation allowed us to infer a causal direction from the accurate perception of the personal versus collective self to happiness. In Study 1b, we tested cross-cultural equivalence of the personality traits used in the manipulation of Study 1a to ascertain that the findings from Study 1a were not because of cultural differences in the desirability of the personality traits used in the first study. Because laboratory experiments typically boast high internal validity but lack ecological validity, we also conducted event sampling studies (Studies 2 and 3) in which participants reported social interactions and their affective reactions to those interactions in their natural, daily contexts. Thus, Studies 2

and 3 provide valuable insight into everyday interpersonal processes and affective experiences while minimizing retrospective bias and memory bias, which are major concerns in well-being and relationship research in general (Reis & Gable, 2000).

In Study 3 we also explored the interpersonal processes associated with happiness in social interactions among African Americans as well as among European and Asian Americans. Previous research showed that African Americans are more similar to European Americans than to Asian Americans in their cultural orientation toward the self. For instance, African Americans are known to endorse more individualistic values than do European Americans ( $d = 0.31$ ) and Asian Americans ( $d = 0.55$ ) and endorse collectivistic values as much as European Americans ( $d = 0.04$ ), and less than Asian Americans ( $d = -0.35$ ; Oyserman, Coon, & Kemmelmeier, 2002). African Americans also report having higher levels of global self-esteem than do European Americans ( $d = 0.19$ ) and Asian Americans ( $d = 0.49$ ; Twenge & Crocker, 2002). In addition, African Americans and European Americans often show self-protective attribution patterns for negative experiences (Crocker & Major, 1989; Zuckerman, 1979), whereas Asian Americans do not (Oishi, Wyer, & Colcombe, 2000). If African Americans in Study 3 showed patterns of happiness in social interactions that were more similar to European Americans than to Asian Americans, this would provide further support for the cultural explanation of the difference between European Americans and Asian Americans in Studies 1 and 2. If, on the other hand, African Americans showed different patterns of happiness than did European Americans, then the difference between Asian and European Americans found in Studies 1 and 2 cannot be attributed to cultural factors. In short, the three-group comparison in Study 3 provides a more stringent test of the cultural account of happiness felt in social interactions than a typical two-group comparison.

Our research is not the first attempt to investigate cultural differences in interpersonal processes. A glimpse at the existing literature reveals work on everything from cultural similarities and differences in the meaning of friendship (e.g., Adams & Plaut, 2003); the accuracy of interpersonal perception and liking (e.g., Heine & Renshaw, 2002); social support seeking (e.g., Taylor et al., 2004); and the frequency, duration, and intimacy of social interactions (e.g., Wheeler, Reis, & Bond, 1989) to love and marriage (e.g., Levine, Sato, Hashimoto, & Verma, 1995), interpersonal contexts and emotion (e.g., Mesquita & Karasawa, 2002; Oishi, Diener, Scollon, & Biswas-Diener, 2004), and relationship harmony and life satisfaction (Kwan, Bond, & Singelis, 1997). However, our research is unique in several respects. First, building on the close relationship literature (e.g., Reis et al., 2004), we examined the link between accurate perception of central aspects of the self and affect, a critical process in the formation and maintenance of close relationships, for the first time in a cross-cultural context. Second, this is the first research on cultural and interpersonal processes (to our knowledge) that employs both experimental and event sampling methods. Finally, our three-group comparison in Study 3 provides a more rigorous test than a typical two-group comparison does for the cultural account of the differences between European Americans' and Asian Americans' felt happiness in social interactions.

## STUDY 1A: LABORATORY EXPERIMENT

### Method

**Participants**—Participants were 71 students who identified themselves as European American (29 male, 41 female, 1 did not specify sex) and 47 students who identified themselves as Asian or Asian American (23 male, 22 female, 2 did not specify sex). Participants were enrolled in an introductory psychology course at the University of Illinois at Urbana-Champaign.

**Materials and Procedure**—Participants completed a three-phase experiment in pairs. During the first phase, participants were seated in individual cubicles where they completed a short survey that included a list of 10 traits. The ten traits listed were *hardworking, intelligent, fun-loving, friendly, stubborn, cooperative, relaxed, leader, emotional, and rational*. We chose 8 traits (the 10 aforementioned traits excluding *leader* and *stubborn*) from Suh's (1999, Pilot Study 2) earlier work on spontaneous personality descriptions. These are the traits most often spontaneously generated by American and Korean college students. We added *leader* and *stubborn* to the list to include the independent or assertive dimension that appears important for many American college students (Cantor, 1994). Participants were first asked to choose two traits on the list that described them most accurately. Next, participants listed their group affiliations that were important to them at the time (e.g., Psi Chi, sorority) or that were important to them in high school (e.g., student council, baseball). They then listed the city or town where they were born and the cities or towns in which they grew up. They were asked to indicate whether the city or town in which they grew up was a large city (e.g., Chicago), the suburb of a large city (e.g., Elmhurst), a medium-sized city (e.g., Peoria), the suburb of a medium-sized city, or a rural town. Finally, they were asked to indicate their declared or intended academic major.

During the second phase, participants were brought together in a larger room and instructed to engage in a discussion task. Three discussion topics (illegal drug use, college dropouts, career choice) were given to them, and they discussed each topic for about 3 to 5 minutes. This task was intended to allow participants to express their intelligence, rationality, emotionality, assertiveness, stubbornness, and so forth. Next, the participants completed a basketball task, in which they took 20 free throws as a team. They were told that the team that made the most baskets would win two movie tickets. This task was devised to allow participants to express their fun-loving side, cooperativeness, and other such aspects of their personality. The structure of these interaction tasks encouraged participants to express and communicate who they are to the extent that this is possible in the restricted context of a laboratory interaction.

After these two interaction tasks, participants were once again separated to individual cubicles and began the third phase of the experiment. They were asked to use personality traits to describe their interaction partner as well as to guess what groups the interaction partner belonged to (e.g., debate team), her or his academic major (e.g., biology), and where the partner grew up (e.g., in a large city). This impression sheet was then turned in to the experimenter.

Once both participants had completed the impression sheet, each received another impression sheet that had presumably been completed by the partner. In reality, a false impression sheet was switched with the actual impression sheet before it was given to the participants. Based on the assigned experimental condition and the self-descriptions provided by the participants during the first phase of the experiment, the experimenter created these false impression sheets while the participants were interacting with one another. In the accurate personal self condition, synonyms replaced the personality traits actually chosen by the participant on the partner's fake impression sheet (e.g., *laid-back* replaced *relaxed*). In the inaccurate personal self condition, traits that were qualitatively different from participants' self-descriptions were used on the partner's fake impression sheet (e.g., *passionate* replaced *rational*; see Table 1 for the list of 16 traits used in feedback). In the accurate collective self condition, the experimenter copied one group affiliation mentioned by the participant onto the fake impression sheet as well as the correct academic major and the correct size of the city or town where the participant grew up, whereas in the inaccurate collective self condition, the experimenter mentioned a different group, major, and size of city or town. To make the collective self feedback as equivalent across cultures

as possible, we did not use any ethnic groups (e.g., Chinese student association) in the false feedback. Participants were randomly assigned to one of four conditions: AA (both personal and collective selves accurate: 15 European Americans, 11 Asian Americans), IA (inaccurate personal, accurate collective selves: 18 European Americans, 12 Asian Americans), AI (accurate personal, inaccurate collective selves: 20 European Americans, 13 Asian Americans), or II (both personal and collective selves inaccurate: 18 European Americans, 10 Asian Americans).

After inspecting an impression sheet presumably completed by the interaction partner, participants completed two manipulation check items: “How accurate was the interaction partner’s impression of the personal aspects of you (e.g., personality traits)?” and “How accurate was the interaction partner’s impression of the collective aspects of you (e.g., group affiliations, academic major)?” They responded to these items using a 7-point scale (1 = *not at all accurate* to 7 = *absolutely accurate*). Then participants rated how happy and good they felt about the impression that the partner had formed of them using a 7-point scale (1 = *not at all* to 7 = *very strongly*). The mean positive affect (happy and good) was 5.11 ( $SD = 1.21$ ) and Cronbach’s alpha was .85.

## Results and Discussion

Our manipulation was successful, as participants in the accurate personal self conditions (AA, AI) indeed perceived that their interaction partner’s impression of their personal self was more accurate than did participants in the inaccurate conditions (IA, II),  $M_s = 5.42$  ( $SD = 0.67$ ) vs. 4.44 ( $SD = 1.11$ ),  $t(117) = 5.78$ ,  $p < .001$ ,  $d = 1.07$  ( $t[69] = 5.74$ ,  $p < .001$ ,  $d = 1.38$  for European Americans and  $t[45] = 2.00$ ,  $p = .05$ ,  $d = 0.60$  for Asian Americans). Participants in the accurate collective self conditions (AA, IA) indeed perceived that their interaction partner’s impression of their collective self was more accurate than did participants in the inaccurate conditions (AI, II),  $M_s = 5.36$  ( $SD = 1.17$ ) vs. 2.33 (1.30),  $t(117) = 13.32$ ,  $p < .001$ ,  $d = 2.46$  ( $t[69] = 9.34$ ,  $p < .001$ ,  $d = 2.25$  for European Americans and  $t[45] = 9.44$ ,  $p < .001$ ,  $d = 2.81$  for Asian Americans).

We went on to conduct a 3-way analysis of variance (ANOVA) with cultural group (European vs. Asian American), personal self (accurate vs. inaccurate), and collective self (accurate vs. inaccurate) as between-subject variables. As expected, participants in the accurate condition felt more positive affect (PA) than did those in the inaccurate condition both in terms of the personal self,  $F(1, 109) = 5.61$ ,  $p < .01$ ,  $d = 0.45$ , and the collective self,  $F(1, 109) = 14.86$ ,  $p < .01$ ,  $d = 0.74$ . There were no 2-way or 3-way interactions,  $F_s(1, 109) < 1.39$ ,  $p_s > .24$ ,  $d_s < .23$ . Also, European American and Asian American participants did not differ on PA overall across all the conditions,  $F(1, 109) = 0.62$ ,  $p = .43$ ,  $d = 0.15$ .

Some readers might be surprised not to see an interaction in the above analysis. This is not surprising, however, considering that we expected no cultural differences in the AA and II conditions (i.e., expected no cultural differences in two of the four conditions). As Rosenthal, Rosnow, and Rubin (2000) argued, the omnibus ANOVA often masks interesting interactions, and the focused hypothesis should be tested with the focused contrast. Our hypothesis was that (a) there would be no cultural differences in the AA and II conditions, (b) European Americans would be happier than Asian Americans in the AI condition, and (c) Asian Americans would be happier than European Americans in the IA condition. Thus, we tested the significance of the following two orthogonal contrasts simultaneously, following the guidelines of Rosenthal et al. For European Americans, the contrast was 1, -1, 1, -1 for the AA, IA, AI, and II conditions, respectively. For Asian Americans, the contrast was 1, 1, -1, -1, for the AA, IA, AI, and II conditions, respectively. Our hypothesis regarding the pattern of cultural differences across the four experimental conditions was clearly supported, as there was a significant effect of this set of contrasts,  $F(1, 115) = 17.53$ ,

$p < .001$ ,  $d = 0.78$  (see Figure 1). We also tested sex differences and sex-by-contrasts interactions. There were no sex differences in overall PA,  $F(1, 115) = 0.04$ ,  $ns$ ,  $d = 0.02$ . There were also no interactions between sex and this set of contrasts,  $F(1, 115) = 2.25$ ,  $p = .14$ ,  $d = 0.42$ .

In addition to the contrast analysis presented above, the II and AA conditions provided meaningful tests for our hypothesis. Specifically, by comparing the IA and AI conditions to the II condition, we were able to assess the degree to which accurate perception of each aspect of the self was beneficial. Consistent with our prediction, accurate perception of the personal self was beneficial for European Americans, as European Americans in the AI condition felt significantly happier than did those in the II condition,  $t(36) = 2.22$ ,  $p < .05$ ,  $d = 0.74$ . In contrast, accurate perception of the collective self did not benefit European Americans, as there was no difference between the IA condition and the II condition among European Americans,  $t(34) = 1.28$ ,  $ns$ ,  $d = 0.44$ . Contrary to European Americans, accurate perception of the collective self tended to be beneficial for Asian participants, as Asian participants in the IA condition were marginally happier than were those in the II condition,  $t(20) = 1.95$ ,  $p = .066$ ,  $d = 0.87$ . Again contrasting with European Americans, accurate perception of the personal self did not make Asian Americans happier, as there was no difference between AI and II conditions among Asian Americans,  $t(21) = 0.15$ ,  $ns$ ,  $d = 0.07$ .

Finally, we compared the AI and IA conditions to the AA condition for each cultural group to examine the degree of detrimental impact of each type of inaccurate perception on PA. As predicted, inaccurate perception of the personal self was detrimental to European Americans' happiness, as European Americans in the IA condition felt significantly less positive about the feedback than did those in the AA condition,  $t(31) = 2.20$ ,  $p < .05$ ,  $d = 0.79$ . In contrast, inaccurate perception of the collective self was not harmful for European Americans as there was no difference between AA and AI conditions,  $t(33) = 1.78$ ,  $p = .09$ ,  $d = 0.62$ . Differing from European Americans, inaccurate perception of the collective self was detrimental to Asian Americans' happiness, as Asian American participants in the AI condition felt significantly less PA than did those in the AA condition,  $t(22) = 2.36$ ,  $p < .05$ ,  $d = 1.01$ . In contrast, inaccurate perception of the personal self did not have a damaging effect on the PA of Asian Americans, as there was no difference between the AA and IA conditions among Asian Americans,  $t(21) = 0.72$ ,  $ns$ ,  $d = 0.31$ .

In sum, accurate perception of the personal self was a critical predictor of happiness for European Americans, whereas accurate perception of the collective self was a critical predictor of happiness for Asian Americans. Our findings suggest, for example, that European Americans who think of themselves as laid-back would not be happy if their interaction partners perceived them as serious, whereas Asian Americans who think of themselves as laid-back would be relatively unaffected if their interaction partners perceived them as serious. This might be because Asian Americans can think of the situations in which they were serious and see why their interaction partners thought of them as serious (see Choi & Choi, 2002, for empirical demonstration). In contrast, Asian Americans for whom being psychology majors is an important aspect of their collective selves would not be happy if their interaction partners perceived them to be economics majors, whereas European American psychology majors would not be affected if their interaction partners perceived them to be economics majors. These examples illustrate important cultural differences in interpersonal conditions that lead to a sense of felt understanding and happiness in social interactions.

In Study 1a we established cultural differences in the effect of accurate perception of the personal and collective selves on happiness in social interactions. However, one weakness was that the interaction consisted of spending 20 to 30 minutes with a stranger and thus was

quite artificial. This leaves open the possibility that our findings are simply a product of this type of laboratory interaction rather than indicative of some general pattern in social interactions. The second weakness of this study was that PA was measured in reaction to specific feedback. In their daily lives, people often learn how others perceive them through a third party (e.g., your friend lets you know that someone thinks you are a serious person), and they affectively react to this information. However, we rarely receive direct feedback from the interaction partner. It is therefore important to examine whether the findings from Study 1a can be generalized to PA felt in daily social interactions. Finally, there is an artifactual explanation of the findings with regard to the personal self. If the personality traits used in this study were more desirable for European American participants than for Asian Americans, this explains why the accuracy of the feedback regarding the personal self led to greater happiness among European Americans than among Asian Americans. In terms of the collective self, however, we found no differences in the type of group affiliations either listed by participants or received in the false feedback.<sup>1</sup>

## STUDY 1B

We conducted Study 1b to test the artifactual alternative explanation for Study 1a by examining cross-cultural comparability of the traits that we used in the first study. Participants in Study 1a chose 2 traits that described them best out of 10 possible traits. For the manipulation of the accuracy or inaccuracy of the personal self, we used 16 personality traits that were very similar or dissimilar to the original 10 traits. In total, we used 26 traits in Study 1a (see Table 1 for the entire list). Participants in Study 1b evaluated each of these traits in terms of desirability.

### Method

**Participants**—Eighty-eight students (36 male, 52 female) at California State University, East Bay, participated in this study. Forty-seven of them identified themselves as Asian Americans, 32 as European Americans, and 9 as Others.

**Procedure**—Participants were provided with 26 personality traits and asked to indicate the desirability of each trait on a 7-point scale (1 = *not at all desirable*; 7 = *extremely desirable*).

### Results and Discussion

Only 1 trait of the 10 traits in the original list showed any cultural difference in desirability (see Table 1). European Americans viewed *rational* as more desirable than did Asian Americans,  $t(77) = 2.03, p < .05, d = 0.46$ . In the actual feedback that participants received in Study 1a, the term *logical* was used for those who chose *rational* as self-descriptive. It is interesting that the term *logical* did not differ in desirability across the two groups,  $t(77) = 0.01, ns, d = 0.00$ . The only other trait that differed in desirability was the term *cautious*, which was used in the inaccurate feedback for those who had chosen *fun-loving* as self-descriptive,  $t(77) = 2.87, p < .05, d = 0.66$ . On average, Asian Americans viewed *cautious* as more desirable than did European Americans. Considering that 15 of the 16 traits used in the feedback showed no cultural differences in desirability, it is unlikely that the findings from Study 1a are because of cross-cultural differences in desirability.

We conducted another analysis, however, to directly test the cross-cultural equivalence in the desirability of the personal self-feedback in Study 1a. We computed the mean

<sup>1</sup>We classified group affiliations into student organization, athletic, Greek, arts, religious, volunteer, or ethnic group, and we counted the number of each type of group. There were no differences in any type of group affiliation either listed by participants themselves ( $t/s < 1.40, ps > .17$ ) or received in feedback ( $t/s < 1.76, ps > .08$ ).

desirability ratings of the personality feedback for each participant by replacing each individual rating with the mean desirability ratings for the group. Specifically, we took the average desirability rating of each cultural group for each trait obtained in Study 1b, assigned these group scores to each participant's actual trait feedback in Study 1a, then computed the desirability ratings for each participant in Study 1a. For example, an Asian American participant who received *open* and *playful* as feedback in Study 1a was given a score of 6.075 (because among Asian Americans in Study 1b, *open* had a mean desirability rating of 6.15 and *playful* had a mean desirability rating of 6.00, and the average of these two scores is 6.075), whereas a European American participant who received *laid-back* and *agreeable* was given a score of 5.31 (because among European Americans in Study 1b, *laidback* had a mean desirability rating of 5.56 and *agreeable* had a mean desirability rating of 5.06, and the average of these scores is 5.31). It is most important that we did not find any difference between the two groups in the mean desirability ratings of the actual personality traits that participants received in their feedback in Study 1a, Asian Americans  $M = 5.51$ ,  $SD = 0.34$ ; European Americans  $M = 5.41$ ,  $SD = 0.48$ ;  $t(67) = 0.93$ ,  $ns$ ,  $d = 0.23$ .

In sum, Study 1b demonstrated that the cultural difference we observed in Study 1a with regard to the personal self-feedback cannot be due to cultural differences in the desirability of the personality traits that we used in Study 1a. Once we eliminated the artifactual alternative explanation for Study 1a, we went on to address the remaining issues from Study 1a in the next two studies.

## STUDY 2: EVENT SAMPLING STUDY

We conducted Study 2 to address two limitations of Study 1a: (a) a contrived social interaction in the laboratory and (b) affective outcome specific to the feedback. This time we used an event sampling method to examine the relationship between the accurate perception of the personal and collective selves and happiness in the context of natural, daily social interactions. Over a 2-week period, participants completed mood ratings after each naturally occurring social interaction that lasted more than 10 minutes, and they indicated the degree to which they felt understood by the interaction partner in terms of their personal and collective selves.

### Method

**Participants**—Participants were 107 students at the University of Minnesota who responded to an ad in the student newspaper. Of the 107 original participants, 7 (6.5%) completed less than 10 valid reports for the 2-week period and were excluded from our analyses. Three (2.8%) additional individuals' data were lost because they forgot to recharge the personal digital assistant (PDA) during the 2-week period. Thus, the final sample consisted of 97 (87% of the original) participants, 56 (20 men, 33 women, and 3 did not provide this information) of whom identified themselves as European American and 41 (22 men, 18 women, and 1 did not provide this information) of whom identified themselves as Asian or Asian American. Participants received \$25 upon completion of the study.

**Materials and Procedure**—Participants came to a research laboratory and met individually with an experimenter. The experimenter gave each participant a PDA that was programmed with a short survey and told participants to complete this survey each time they engaged in a social interaction that lasted more than 10 minutes. Participants were told to document their social interactions in this way for the next 2 weeks. The experimenter defined a social interaction as one that involves a face-to-face conversation, a shared activity (e.g., playing cards together), a phone conversation, or an instant message conversation. Participants were also informed that all of their entries would be automatically time stamped.



**Event sampling items:** Participants indicated how happy and pleasant they felt during the interaction using a 7-point scale ranging from *not at all* (1) to *extremely* (7). We computed a PA score by taking the average of happy and pleasant ( $\alpha = .82$ ). Participants then reported the extent to which their interaction partner understood their personal self (i.e., their “personality” and their “abilities and skills”;  $\alpha = .88$ ) and the extent to which the interaction partner understood their collective self (i.e., their “social and cultural background” and their “social roles and situations”;  $\alpha = .86$ ). In addition, participants reported who the interaction partner was from the following list: friend, roommate, romantic partner, family member, stranger, coworker, or other. Among the valid reports, on average 45.7% of the interactions were with a friend, 10.4% were with a family member, 9.6% were with a roommate, 9.3% were with a romantic partner, 9.3% were with a coworker, 9.1% were with an other, and 6.6% were with a stranger.

In 2 weeks, the mean number of reports that participants completed was 57.62 ( $SD = 36.63$ ). There were no cultural group differences in the number of reports,  $t(95) = 1.26$ , *ns*,  $d = 0.26$ . Female participants completed more reports than did male participants,  $t(91) = 2.82$ ,  $p < .01$ ,  $d = 0.59$ . There was no culture-by-sex interaction in the number of reports completed,  $F(1, 89) = 1.09$ , *ns*,  $d = 0.22$ .

## Results and Discussion

We tested our hypotheses using hierarchical linear modeling (HLM 5.04 program; Raudenbush, Bryk, Cheong, & Congdon, 2001) because our data consisted of two levels: within-person and between-person levels. The specific model that we tested was as follows:

Level 1: within-person

$$PA = \beta_0 + \beta_1 \times \text{Personal Self} + \beta_2 \times \text{Collective Self} + \text{Error}$$

Level 2: between-person

$$\begin{aligned}\beta_0 &= \gamma_{00} + \gamma_{01} \times (\text{Culture}) + \gamma_{02} \times (\text{Sex}) + u_0 \\ \beta_1 &= \gamma_{10} + \gamma_{11} \times (\text{Culture}) + \gamma_{12} \times (\text{Sex}) + u_1 \\ \beta_2 &= \gamma_{20} + \gamma_{21} \times (\text{Culture}) + \gamma_{22} \times (\text{Sex}) + u_2,\end{aligned}$$

where PA denotes positive affect, Personal Self denotes the degree to which their personality and abilities and skills were understood by the interaction partner, and Collective Self denotes the degree to which their social and cultural background and social roles and situations were understood by the interaction partner. At Level 2, Culture was coded such that European American participants were 0 and Asian American participants were 1, and Sex was coded such that male participants were 0 and female participants were 1. Personal self and collective self scores were centered around each individual's mean. As can be seen in Table 2, there were no sex differences in the average PA, in the association between felt understanding of the personal self and PA, or in the association between felt understanding of the collective self and PA,  $|t|s < 0.69$ ,  $ps > .48$ ,  $ds < 0.15$ .

Our hypothesis with regard to the personal self was supported; European Americans' PA was more strongly associated with the understanding of their personal self than was Asians', ( $\gamma_{11} = -.19$ ,  $t = -3.51$ ,  $p < .01$ ,  $d = -0.73$ ).<sup>2</sup> As can be seen in Figure 2, a one-unit increase (i.e., 1 point increase in the 7-point scale) in the understanding of the personal self was associated with a .45 increase in PA among European American participants. In contrast, a one-unit increase in felt understanding of the personal self was associated with a .25 increase in PA

among Asian American participants. Namely, when European American participants felt that their personal self was well understood by the interaction partner, they also felt substantially more PA than when they felt that their personal self was not well understood. Although Asian Americans felt more PA when their personal self was well understood by the interaction partner than when it was not well understood, the link between felt understanding of the personal self and PA was significantly weaker among them.

Our hypothesis concerning the collective self was also partially supported, as the understanding of the collective self was positively associated with PA among Asian Americans ( $\beta_2 = .06$ ), whereas it was not related to PA at all among European Americans ( $\beta_2 = -.03$ ;  $\gamma_{21} = 0.09$ ,  $t = 1.69$ ,  $p = .09$ ,  $d = 0.35$ ). As can be seen in Figure 3, the accurate understanding of the collective self was a marginally stronger predictor of happiness in daily social interactions among Asian Americans than among European Americans.

We next examined whether the patterns found above were generalizable across different types of interactions. Because specific types of interactions were limited in number with the possible exception of interactions with friends, it was not possible to repeat the above HLM analysis for each type of social interaction. Thus, we created two types of interactions out of the seven types assessed: (a) close others (i.e., friend, romantic partner, family member, or roommate) and (b) distant others (i.e., stranger, coworker, and other), and repeated the above analysis. The HLM analysis on interactions only with close others again showed that European Americans felt more PA than did Asian Americans when their personal self was accurately perceived by their interaction partner,  $\gamma_{11} = -.24$  ( $SE = .06$ ),  $t = -3.62$ ,  $p < .01$ ,  $d = 0.76$ , and Asian Americans felt more PA than did European Americans when their collective self was accurately perceived by their interaction partner,  $\gamma_{21} = .15$  ( $SE = .07$ ),  $t = 2.24$ ,  $p < .05$ ,  $d = 0.47$ . The HLM analysis on interactions only with distant others also showed that European Americans felt more PA than did Asian Americans when their personal self was accurately perceived by their interaction partner,  $\gamma_{11} = -.28$  ( $SE = .07$ ),  $t = -3.75$ ,  $p < .01$ ,  $d = 0.79$ . Asian Americans, however, did not feel more PA than European Americans did when their collective self was accurately perceived by a distant interaction partner,  $\gamma_{21} = .05$  ( $SE = .08$ ),  $t = 0.62$ , *ns*,  $d = 0.13$ .

By and large, Study 2 replicated the findings from Study 1a using a very different method. European American participants felt happier and more pleasant than Asian Americans did when their personal self was accurately perceived by their interaction partner. In contrast, Asian Americans felt marginally happier than European Americans did when their collective self was accurately perceived by their interaction partner. The findings from Study 2 indicate that cultural differences in the interpersonal conditions associated with happiness were not limited to a brief laboratory interaction with a stranger as found in Study 1a or to reactions to the specific impression feedback, but they were generalizable to the social interactions that college students typically encounter in their daily lives.

### STUDY 3: A THREE-GROUP COMPARISON

Our main predictions were largely supported in both a laboratory and an event sampling study. In Studies 1 and 2, however, we used a two-group comparison. This leaves alternative explanations for the main findings (Norenzayan & Heine, 2005). For instance, Asian and European Americans are different not only in their cultural orientation toward the self (e.g.,

<sup>2</sup>To our knowledge, a consensus has not been reached regarding the appropriate effect size for multilevel analysis (Roberts & Monaco, 2006). To provide some idea regarding the magnitude of the effects from the hierarchical linear modeling analyses reported in Studies 2 and 3, however, we converted *t*-values to *r*s, using formula 2.5 in Rosenthal, Rosnow, and Rubin (2000) and then converted *r*s to *d*s using formula 2.14. Because hierarchical linear modeling analysis provides only approximate *d*f's, we used the approximate *d*f in place of *d*f in the formula 2.5. This might result in some bias in the estimation.

values and self-evaluation) but also in the minority-majority status. As summarized in the introduction, African Americans' cultural orientation toward the self is on average more similar to European Americans' than to Asian Americans' (e.g., Oyserman et al., 2002; Twenge & Crocker, 2002). Thus, if the cultural explanation is valid, African Americans should show patterns of happiness similar to European Americans. In contrast, if noncultural factors, such as the minority status, underlie the findings from Studies 1 and 2, African Americans should not show patterns of happiness similar to European Americans. In sum, we conducted Study 3 to (a) further examine the replicability of the findings from Studies 1 and 2 and (b) test the cultural account more rigorously using a three-group comparison method.

## Method

**Participants**—Participants were 146 students at the University of Virginia. Fifty-two of them (17 men, 35 women) self-identified as European Americans, 48 (10 men, 37 women, one did not provide this information) self-identified as African Americans, and 46 (12 men, 34 women) self-identified as Asian Americans. Of the original 146 participants, 11 participants (7.5%) completed less than 10 valid reports and were excluded from our analyses. In addition, 10 participants' data (6.8%) were lost because of participants' errors (e.g., forgot to recharge PDA, broke or lost PDA) or the experimenter's errors (e.g., overwrote the data). The final sample included 124 participants: 41 European Americans (12 men, 30 women), 41 African Americans (7 men, 34 women), and 42 Asian Americans (9 men, 33 women). They were paid \$25 for their participation.

Materials and procedure were exactly the same as in Study 2. Cronbach's alphas was .86 for PA, .85 for the personal self, and .90 for the collective self. On average, participants completed 36.74 reports ( $SD = 21.86$ ). There were no differences in the number of reports completed among European, African, and Asian Americans,  $F(2, 118) = 1.84, p = .16, d = 0.25$ . As in Study 2, women completed more reports than did men,  $F(1, 118) = 4.85, p < .05, d = 0.41$ . There was no group-by-sex interaction in the number of reports completed,  $F(2, 118) = .63, ns, d = 0.14$ . Among the valid reports, on average, 48.9% of the interactions reported were with a friend, 14.5% were with a roommate, 12.2% were with a family member, 12% were with a romantic partner, 4.5% were with a stranger, 4.4% were with an other, and 2.4% were with a coworker.

## Results and Discussion

We tested our hypotheses again using HLM (5.04 program). The specific model that we tested was as follows:

Level 1: within-person

$$PA = \beta_0 + \beta_1 \times \text{Personal Self} + \beta_2 \times \text{Collective Self} + \text{Error}$$

Level 2: between-person

$$\beta_0 = \gamma_{00} + \gamma_{01} \times (\text{Sex}) + \gamma_{02} \times (\text{Code 1}) + \gamma_{03} \times (\text{Code 2}) + u_0$$

$$\beta_1 = \gamma_{10} + \gamma_{11} \times (\text{Sex}) + \gamma_{12} \times (\text{Code 1}) + \gamma_{13} \times (\text{Code 2}) + u_1$$

$$\beta_2 = \gamma_{20} + \gamma_{21} \times (\text{Sex}) + \gamma_{22} \times (\text{Code 1}) + \gamma_{23} \times (\text{Code 2}) + u_2.$$

The Level 1 model was exactly the same as in Study 2. At Level 2, the three groups were coded using dummy coding in which European American was the reference group. In Code 1, European and Asian Americans were coded as 0 and African Americans were coded as 1. In Code 2, European and African Americans were coded as 0 and Asian Americans were coded as 1. Thus, Code 1 indicates the difference between European Americans and African Americans, and Code 2 indicates the difference between European Americans and Asian Americans. In Sex, male participants were coded as 0 and female participants were coded as 1. Personal self and collective self scores were centered around each individual's mean.

**European Americans Versus Asian Americans**—Replicating Study 2, the HLM analysis again showed that European Americans' PA was more strongly associated with the understanding of the personal self than was Asians',  $\gamma_{13} = -.14$ ,  $t = -2.07$ ,  $p < .05$ ,  $d = 0.38$  (see Table 3). As can be seen in Figure 4, accurate perception of the personal self by an interaction partner was more strongly associated with European Americans' PA than with Asian Americans' PA. Also replicating Study 2, the understanding of the collective self was positively associated with PA among Asians ( $\beta_2 = .20$ ), whereas it was not related to PA among European Americans ( $\beta_2 = .06$ ;  $\gamma_{23} = .14$ ,  $t = 1.92$ ,  $p = .055$ ,  $d = 0.36$ ; see Figure 5). As in Studies 1a and 2, therefore, accurate perception of the collective self was marginally more associated with Asian Americans' PA than with European Americans' PA.

**European Americans Versus African Americans**—Whereas we found consistent differences between Asian Americans and European Americans, we did not find a significant difference between African Americans ( $\beta_1 = .45$ ) and European Americans ( $\beta_1 = .56$ ) in the strength of association between the understanding of the personal self and PA,  $\gamma_{12} = -.11$ ,  $t = -1.49$ ,  $p = 0.136$ ,  $d = 0.28$ .<sup>3</sup> Likewise, there were no differences between African Americans ( $\beta_2 = .11$ ) and European Americans ( $\beta_2 = .06$ ) in the association between the understanding of the collective self and PA,  $\gamma_{22} = .05$ ,  $t = 0.69$ ,  $p = .489$ ,  $d = 0.13$ .

As in Study 2, we also examined whether the patterns of results we obtained above were specific to interactions with close others (i.e., friend, romantic partner, roommate, family member) by repeating the above HLM analysis. Consistent with Study 2, the understanding of the personal self was again more strongly associated with PA among European Americans than among Asian Americans when we only examined the social interactions with close others,  $\gamma_{13} = -.15$ ,  $t = -2.10$ ,  $p < .05$ ,  $d = 0.39$ . Furthermore, the understanding of the collective self was more strongly associated with PA among Asian Americans than among European Americans when we analyzed only the social interactions with close others,  $\gamma_{23} = .15$ ,  $t = 2.05$ ,  $p < .05$ ,  $d = 0.38$ . Consistent with the above analyses, there were no differences between African Americans and European Americans either in the strength of association between the understanding of the personal self and PA,  $\gamma_{12} = -.04$ ,  $t = -0.53$ ,  $p = .60$ ,  $d = -0.09$ , or in the association between the understanding of the collective self and PA,  $\gamma_{22} = -.01$ ,  $t = -0.12$ ,  $p = .90$ ,  $d = -0.02$ . We were unable to conduct the above HLM analysis with only the interactions with distant others because there were only 505 valid event reports for 100 participants in total (or 5 reports per person, which is not sufficient to

<sup>3</sup>The degree of association between the understanding of the personal self and positive affect was very similar between African Americans and Asian Americans,  $\gamma_{12} = .03$ ,  $t = 0.48$ ,  $p = .63$ ,  $d = 0.10$ . The degree of association between the understanding of the collective self and positive affect was also not significantly different between these two groups,  $\gamma_{22} = -.08$ ,  $t = -1.11$ ,  $p = .27$ ,  $d = 0.25$ .

obtain the Level 1 coefficients). This would be equivalent to running a multiple regression with 5 cases.

In sum, Study 3 replicated the main findings from Studies 1a and 2, again using an event sampling method. European American participants felt happier than Asian Americans did when their personal self was accurately perceived by their interaction partner. In contrast, Asian Americans tended to feel happier than European Americans did when their collective self was accurately perceived by their interaction partner. Furthermore, the patterns of happiness felt in social interactions among African Americans were not different from those among European Americans.

## GENERAL DISCUSSION

In three studies, we examined cultural differences in interpersonal perceptions that are linked to happiness in social interactions. Both in a laboratory study (Study 1a) and in event sampling studies (Studies 2 and 3), we found that European Americans felt happier than Asians did when their interaction partner perceived their personal self accurately, whereas Asian Americans felt happier than European Americans did when their interaction partner perceived their collective self accurately. Furthermore, in Study 3 we found no significant differences between African Americans and European Americans in the link between the understanding of specific aspects of the self and happiness felt in social interactions.

These findings have several important implications for research on well-being, social relationships, the self, and culture. First, although previous research has shown a strong association between relationship quality and well-being, most of the previous research of this type has been correlational (see Myers, 1999, for a review). Thus, it was possible that satisfied people simply viewed their relationships in a more positive light, and the factors that might lead to satisfaction in actual social interactions as well as the potential individual or cross-cultural differences in these factors remained unclear. Study 1a demonstrated that the accurate perception of important aspects of the self has a causal impact on happiness felt in social interactions. Moreover, it showed that the type of accurate perception of the self that leads to happiness varies systematically between European and Asian Americans.

Second, although many factors associated with cultural differences in well-being have been brought to light in previous research (see Diener, Oishi, & Lucas, 2003, for review), the vast majority of this research has employed global self-reports of well-being. Previous research in this area has rarely examined how people actually felt and behaved in their daily lives or in naturally occurring social interactions (see Kitayama, Mesquita, & Karasawa, 2006; Mesquita & Karasawa, 2002; Oishi et al., 2004, for exceptions). Thus, the processes underlying well-being and interpersonal understanding remained ambiguous until now. This research demonstrates that felt understanding of either the personal or the collective self can be critical to the experience of PA in social interactions, thereby delineating the specific interpersonal conditions that produce interpersonal happiness. Our findings provide support for self-verification theory (Swann, 1990) and intimacy model (Reis et al., 2004) in that responsiveness to important aspects of the self is of great import in interpersonal understanding and happiness felt in social interactions. We further extended these theories by demonstrating that because important aspects of the self differ systematically across cultures (Markus & Kitayama, 1991; Triandis, 1989) the aspects of the self that need to be understood by an interaction partner differ systematically across cultures as well.

Third, our main findings were replicated when we analyzed only interactions with close others both in terms of the personal and the collective selves in Studies 2 and 3. Considering that the interactions in Study 1a were with strangers, it appears that the main interpersonal

processes that we proposed apply to interactions with strangers as well as to interactions with close others. However, one exception existed in that Asian American participants in Study 2 did not feel particularly happy when distant others (i.e., strangers, coworkers, and others) accurately understood their collective selves. Because Asian Americans tend to make a sharper distinction between close and distant others than do European Americans (Oishi et al., 2004; Suh, 2002), the predictors of happiness in social interactions might vary more radically among Asian Americans than European Americans, depending on the type of interaction partner. This possibility needs to be clarified in the future.

Finally, our three-culture comparison strategy (Norenzayan & Heine, 2005) used in Study 3 clarified that our main findings are not simply because of the minority status of Asian Americans in the United States. If the minority status per se was a driving force for the difference between Asian Americans' affective patterns and European Americans', then African Americans should have shown patterns similar to those of Asian Americans. Although African Americans and Asian Americans showed similar affective patterns in terms of the personal self (see Figure 4), they were quite different in terms of the collective self (see Figure 5). In addition, research with Japanese in Japan (i.e., the majority group) has shown a convergent pattern of results with our findings with Asian Americans (e.g., Hoshino-Browne et al., 2005, Study 2; Kitayama et al., 2006). For instance, Kitayama et al. (2006) showed that Japanese in Japan felt happy when they also felt socially engaging emotions, which are presumably felt when an interaction partner affirms the experiencer's interdependence of the self.

The difference between Asian Americans and African Americans in the understanding of the collective self could be best attributed to sociohistorical factors. On average, African Americans' cultural background is historically devalued to a greater degree than is Asian Americans' cultural background in the United States. (e.g., Crocker & Major, 1989; Ogbu, 1978; Takaki, 1989). These historical differences might be a reason why the public and private aspects of collective self-esteem were positively correlated among Asian Americans, whereas they were not among African Americans (Crocker, Luhtanen, Blaine, & Broadnax, 1994). In a related vein, the stigmatized collective identity might also be responsible for the stereotype threat effect found among African Americans (e.g., Steele & Aronson, 1995). Our findings, then, suggest that the understanding of the collective self leads to happiness in social interactions when the collective self is chronically accessible, personally important, and positively valued in society.

Before we reach our conclusions, the limitations of our research should be addressed. First, all the traits used in Study 1a, and most self-defining traits and group affiliations, are typically perceived to be positive by participants. Thus, it is possible that participants in our studies felt that their interaction partner thought highly of them when they felt that their interaction partner accurately perceived their personally important aspects of the self. In a sense, the effect we obtained of accurate understanding of important aspects of the self on PA might be mediated by perceived positive regard. This needs to be clarified in future research. Second, our findings regarding the collective self were marginal in Studies 2 and 3. This might be because of imprecision in assessment of the collective self. It is important to harness the assessment of the collective self in the future. Third, we grouped together all self-identified Asian Americans. As we develop this program of research in the future, it will be important to determine whether these findings can be replicated using specific ethnic groups (e.g., Chinese, Vietnamese), different generations of Asian Americans, and various other types of cultural groups (e.g., those who share a religious, sexual, or political orientation). Finally, we focused on a narrow quality of PA in our investigation. It is important to examine various qualities of PA (e.g., excitement vs. calmness; Oishi, Schimmack, & Colcombe, 2003; Tsai, Knutson, & Fung, 2006) in the future.

## CONCLUSION

Despite some limitations, this study reveals consistent cultural differences between European Americans and Asian Americans in the interpersonal processes associated with happiness. In conclusion, this research demonstrates that accurate perception of the personal self is key to happiness in social interactions among European Americans, whereas accurate perception of the collective self is critical to happiness in social interactions among Asians. It is well known that social relationships are important building blocks of a general sense of well-being (Ryan & Deci, 2000; Ryff & Singer, 1998). Considering that affective outcomes of social interactions are associated with the continuation and maintenance of relationships (Elliott & James, 1989), these outcomes are likely to be associated with a general sense of well-being as well. Our findings, then, indicate that the affective basis of relationship development and maintenance differs across cultures and that the interpersonal conditions that are conducive to a general sense of well-being might be different across cultures. In the future, it will be important to extend this research to various relationship contexts, including husband-wife, client-therapist, student-teacher, and employee-supervisor. These types of investigations will deepen people's understanding of the link between interpersonal processes and happiness and will help them develop ways to improve many interactions and relationships in their daily lives.

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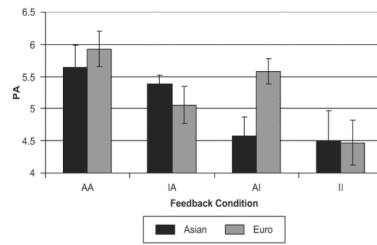
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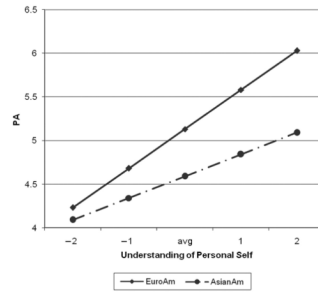
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**Figure 1.**

How happy and good participants felt by experimental conditions and cultural groups in Study 1a.

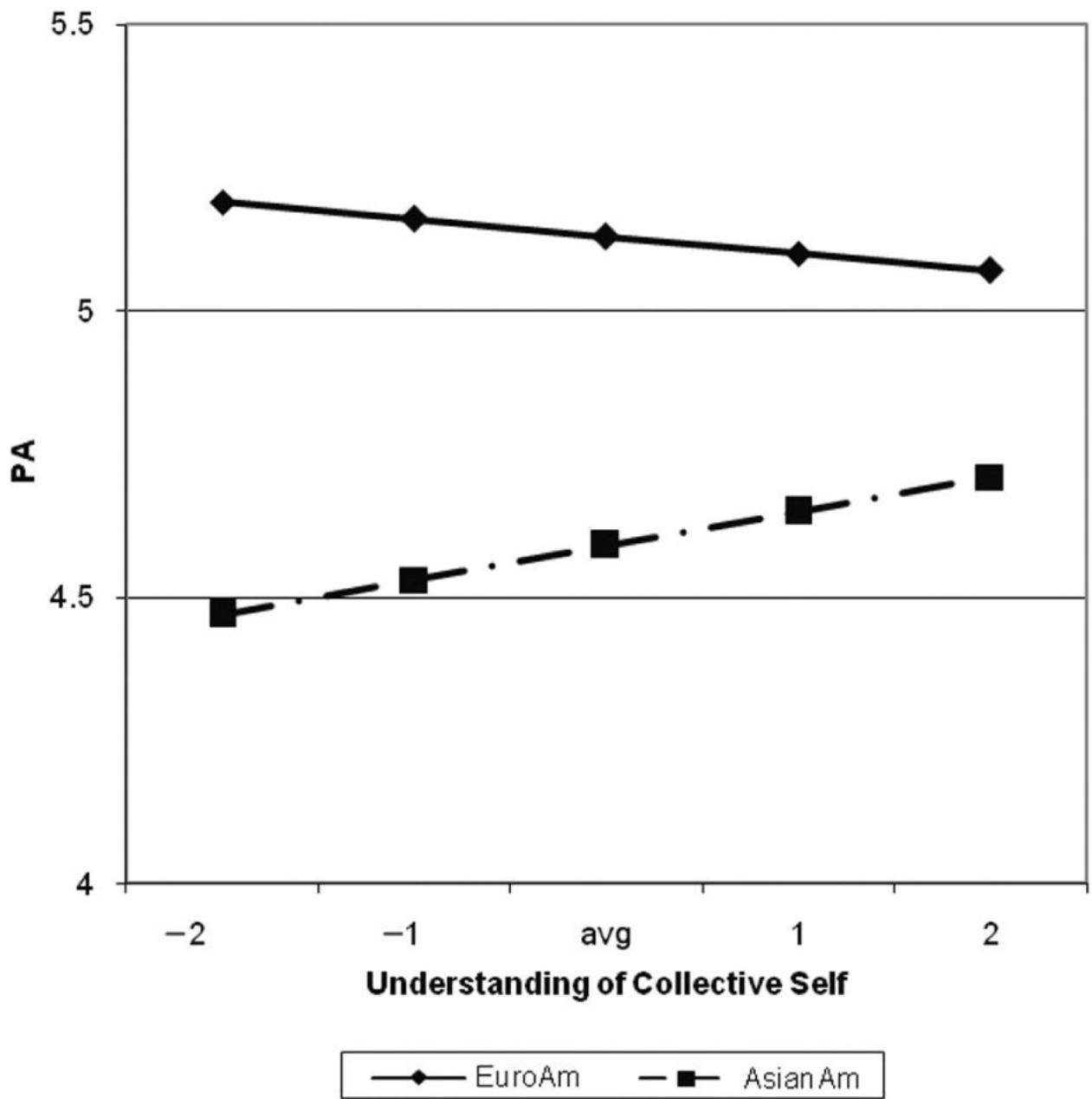
NOTE: PA = positive affect; AA = accurate personal and collective selves feedback condition; IA = inaccurate personal, accurate collective selves condition; AI = accurate personal, inaccurate collective selves condition; II = inaccurate personal and collective selves condition.



**Figure 2.**

Average within-person association between the understanding of personal self and positive affect for European Americans and Asian Americans in Study 2.

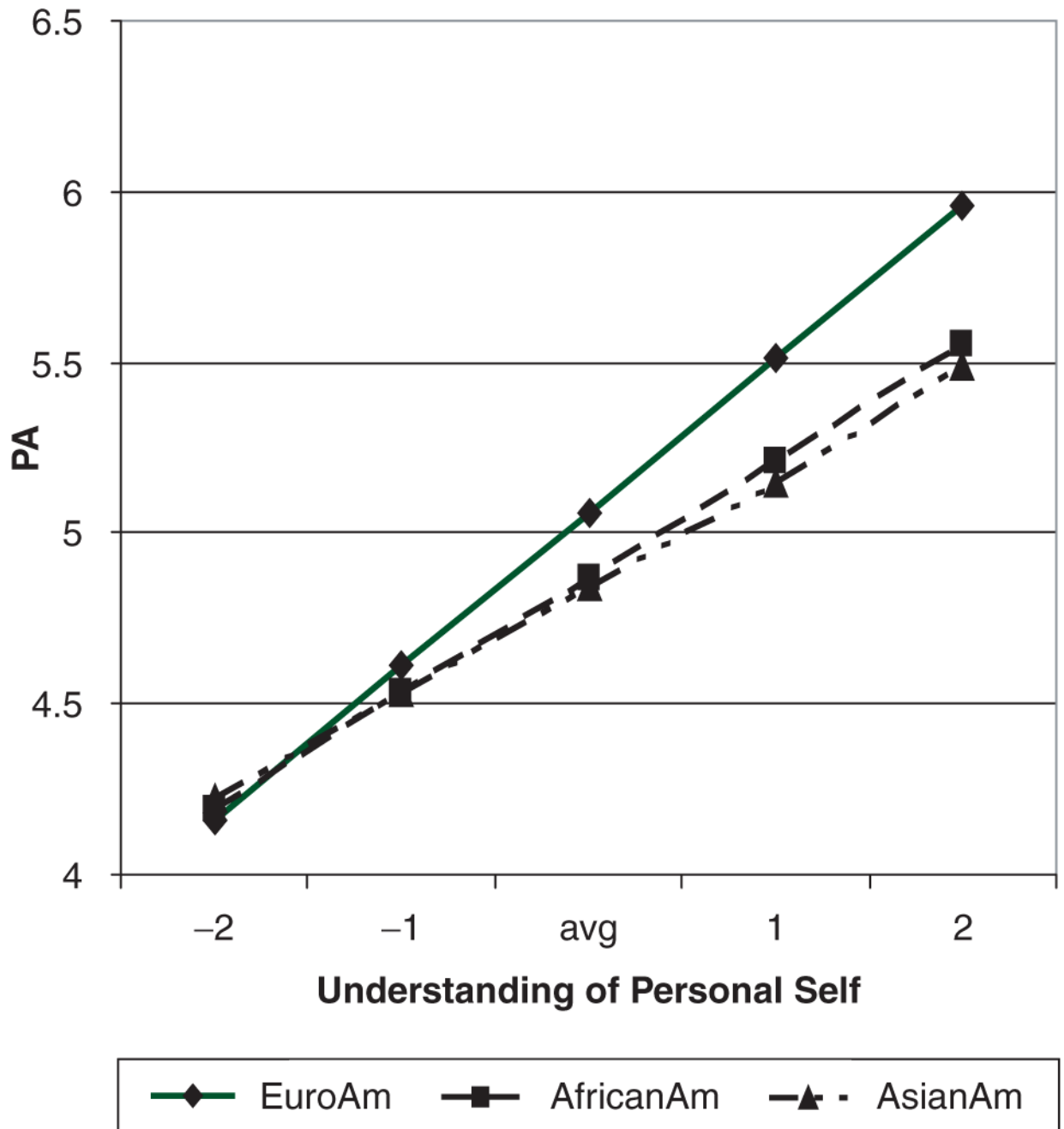
NOTE: -2, -1, +1, and +2 indicate the difference from participants' overall mean understanding of the personal self on a 7-point scale. PA = positive affect.



**Figure 3.**

Average within-person association between the understanding of collective self and positive affect for European Americans and Asian Americans in Study 2.

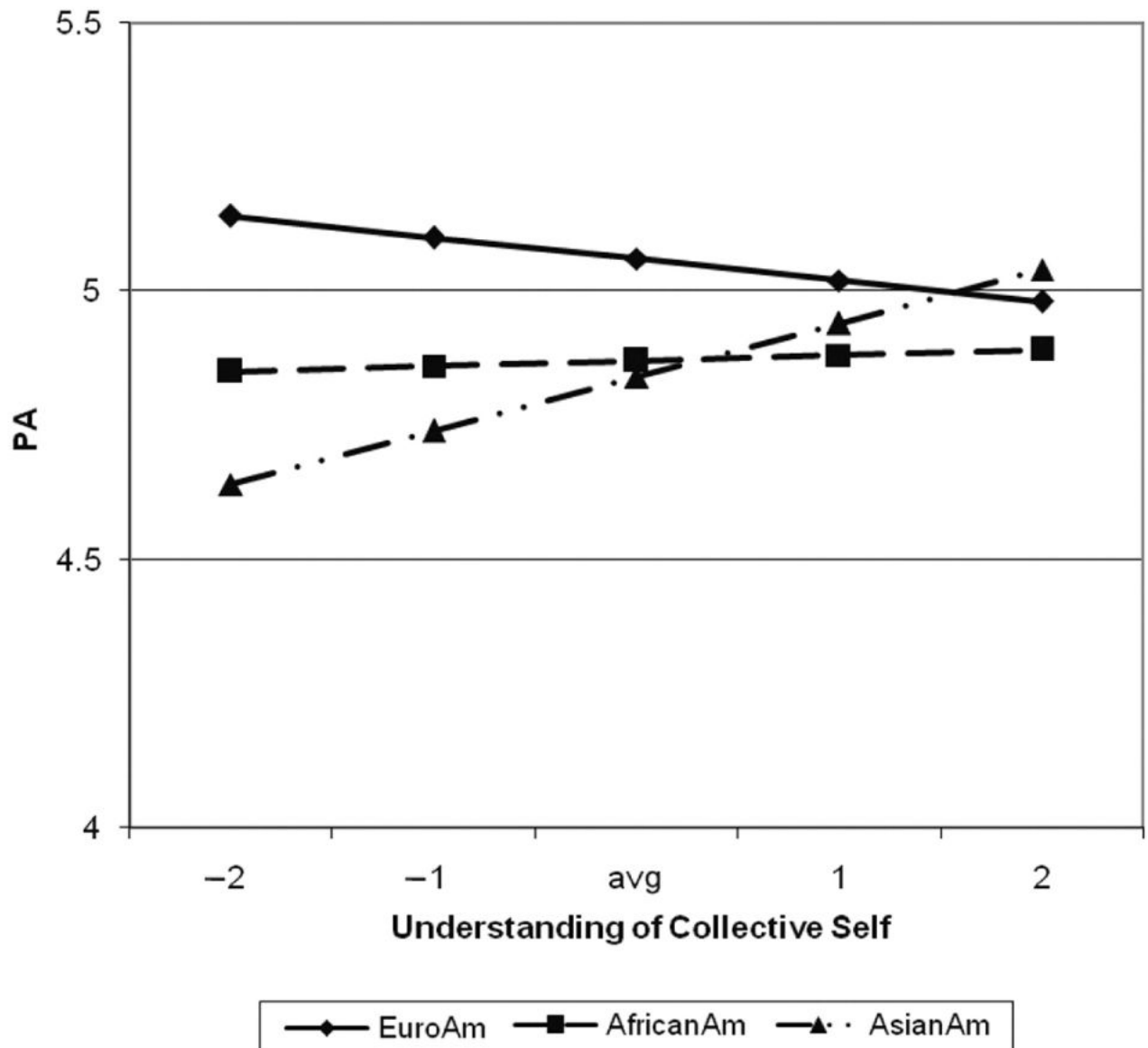
NOTE: -2, -1, +1, and +2 indicate the difference from participants' overall mean understanding of the collective self on a 7-point scale. PA = positive affect.



**Figure 4.**

Average within-person association between the understanding of personal self and positive affect for European Americans, African Americans, and Asian Americans in Study 3.

NOTE: -2, -1, +1, and +2 indicate the difference from participants' overall mean understanding of the personal self on a 7-point scale. PA = positive affect.



**Figure 5.** Average within-person association between the understanding of collective self and positive affect for European Americans, African Americans, and Asian Americans in Study 3. NOTE: -2, -1, +1, and +2 indicate the difference from participants' overall mean understanding of the collective self on a 7-point scale. PA = positive affect.

**TABLE 1**  
: Desirability Ratings of 26 Personality Traits for Asian and European Americans in Study 1b

Trait	Asian Americans		European Americans		t	d
	M	SD	M	SD		
Hardworking	5.94	1.19	6.19	1.03	-0.97	-0.22
Intelligent	6.00	1.02	6.22	0.87	-0.99	-0.23
Fun-loving	6.19	0.97	6.25	0.88	-0.27	-0.06
Friendly	6.36	0.82	6.31	0.82	0.26	0.06
Stubborn	3.28	1.72	3.00	1.05	0.89	0.20
Cooperative	6.04	1.02	5.78	0.94	1.15	0.26
Relaxed	5.77	1.13	5.61	1.17	0.58	0.13
Leader	4.96	1.57	5.31	1.20	-1.08	-0.25
Emotional	4.39	1.64	4.13	1.24	0.82	0.19
Rational	5.02	1.30	5.59	1.13	-2.03*	-0.46
Laid-back	5.06	1.63	5.56	1.16	-1.49	-0.34
Carefree	4.98	1.42	4.47	1.34	1.60	0.36
Playful	6.00	1.06	5.59	1.07	1.67	0.38
Smart	6.17	0.99	6.19	1.00	-0.08	-0.02
Assertive	5.30	1.33	5.28	0.99	0.06	0.01
Agreeable	5.45	1.10	5.06	1.16	1.49	0.34
Serious	4.66	1.37	4.48	1.00	0.66	0.15
Logical	5.40	1.12	5.41	0.91	-0.01	-0.00
Cautious	5.38	1.24	4.63	1.01	2.87**	0.66
Open	6.15	1.00	6.00	1.08	0.63	0.14
Passionate	6.04	0.91	6.09	0.96	-0.24	-0.05
Independent	5.85	1.22	5.63	1.07	0.85	0.19
Flexible	5.72	1.14	5.53	1.16	0.73	0.17
Tough	5.06	1.39	4.72	1.51	1.05	0.24
Warm	5.91	1.06	5.53	1.16	1.52	0.35
Calm	5.81	1.12	5.63	1.36	0.66	0.15

NOTE: The first 10 traits were on the original list (in the self-description phase of Study 1a). The next 16 traits were used in the feedback in Study 1a.

\*  $p < .05$ .  
\*\*  $p < .01$ .



**TABLE 2**

Cultural Differences in the Relations Between the Accurate Perception of Personal and Collective Selves and Positive Affect in Study 2

<i>Fixed Effect</i>	<i>Coefficient (SE)</i>	<i>t Ratio</i>	<i>p Value</i>
Intercept, $\beta_0$			
Intercept, $\gamma_{00}$	5.13 (0.11)	44.71	.000
Culture, $\gamma_{01}$	-0.54 (0.13)	-4.11	.000
Sex, $\gamma_{02}$	-0.07 (0.12)	-0.58	.560
Personal self slope, $\beta_1$			
Intercept, $\gamma_{10}$	0.45 (0.05)	9.63	.000
Culture, $\gamma_{11}$	-0.19 (0.05)	-3.51	.001
Sex, $\gamma_{12}$	-0.03 (0.05)	-0.69	.488
Collective self slope, $\beta_2$			
Intercept, $\gamma_{20}$	-0.03 (0.05)	-0.65	.514
Culture, $\gamma_{21}$	0.09 (0.05)	1.69	.091
Sex, $\gamma_{22}$	0.01 (0.05)	0.28	.779

NOTE: In Culture, European Americans were coded as 0, and Asian Americans were coded as 1. Approximate *df* was 91 for this analysis.

**TABLE 3**

Cultural Differences in the Relations Between the Accurate Perception of Personal and Collective Selves and Positive Affect in Study 3

<i>Fixed Effect</i>	<i>Coefficient (SE)</i>	<i>t Ratio</i>	<i>p Value</i>
Intercept, $\beta_0$			
Intercept, $\gamma_{00}$	4.86 (0.14)	35.82	.000
Sex, $\gamma_{01}$	0.20 (0.14)	1.45	.146
Code 1, $\gamma_{02}$	-0.19 (0.14)	-1.33	.184
Code 2, $\gamma_{03}$	-0.22 (0.14)	-1.59	.111
Personal self slope, $\beta_1$			
Intercept, $\gamma_{10}$	0.56 (0.08)	7.69	.000
Sex, $\gamma_{11}$	-0.11 (0.07)	-1.50	.135
Code 1, $\gamma_{12}$	-0.11 (0.07)	-1.49	.136
Code 2, $\gamma_{13}$	-0.14 (0.07)	-2.07	.038
Collective self slope, $\beta_2$			
Intercept, $\gamma_{20}$	0.06 (0.08)	0.77	.440
Sex, $\gamma_{21}$	-0.09 (0.07)	-1.19	.235
Code 1, $\gamma_{22}$	0.05 (0.07)	0.69	.489
Code 2, $\gamma_{23}$	0.14 (0.07)	1.92	.055

NOTE: Sex = 0 for male, 1 for female participants. In dummy code 1, European Americans and Asian Americans were coded as 0 and African Americans were coded as 1. In dummy code 2, European and African Americans were coded as 0 and Asian Americans were coded as 1. Thus, code 1 represents the comparison between European Americans and African Americans, whereas code 2 represents the comparison between European Americans and Asian Americans. Approximate *df* for this analysis was 117.