Cultural Variations in Perceived Partner Responsiveness: The Role of Self-Consistency

Hyewon Choi and Shigehiro Oishi

Abstract
Past research has shown that perceived partner responsiveness (PPR) is a key process contributing to individual and relational outcomes and identified dispositional, relational, and situational factors that can influence it. However, little is known about how cultural factors play a role in the process of PPR. In Studies 1 (n = 4,041) and 2 (n = 414), we examined whether the degree of PPR differs across cultures by comparing European Americans and East Asians. We found that East Asians are less likely to experience perceived responsiveness from others than European Americans (Cohen’s d = 1.11–1.25 for Study 1 and Cohen’s d = 0.23 for Study 2). Furthermore, we found that self-consistency explained the cultural difference in PPR, indicating that East Asians underperceived partner responsiveness compared with European Americans because they behave less consistently across social situations. We conclude by highlighting the importance of exploring the process of PPR from a cultural perspective.

Keywords
culture, PPR, self-consistency

Most people want to form and maintain satisfying and meaningful relationships with others. What makes relationships satisfying and meaningful? Reis and his colleagues posit that PPR, the belief that others attend to core aspects of the self and react to it supportively, is a key to cultivating such relationships (Reis & Clark, 2013; Reis et al., 2004; Reis & Shaver, 1988). Indeed, ample evidence indicates that PPR fosters a sense of intimacy, relationship satisfaction, and trust (Gable et al., 2006; Laurenceau et al., 1998; see Reis et al., 2004 for a review). Furthermore, PPR seems conducive to individual health and well-being (Oishi et al., 2010). For instance, PPR is associated with greater hedonic and eudaimonic well-being (Selcuk et al., 2016), fewer physical symptoms (Lun et al., 2008), lesser perceived pain (Oishi, Schiller, & Gross, 2013), and lower mortality risk (Selcuk & Ong, 2013).

Moreover, Reis and his colleagues suggest that dispositional, relational, and situational factors can influence the process of PPR (Reis et al., 2004). In this study, we propose that in addition to these factors, cultural factors might play a role in constituting the process of PPR. By comparing
European Americans and East Asians, we examined whether a cultural difference exists in the degree of PPR, and if so, why.

**PPR**

In a model of intimacy originally proposed by Reis and Shaver (1988), and later expanded as the responsiveness model by Reis et al. (2004; see also Reis & Clark, 2013, for a recent review), PPR is conceptualized as an interpersonal, transactional process that occurs between two people. The process consists of three stages: (a) Person A (speaker) reveals themselves to Person B (listener) in a variety of ways (e.g., disclosing facts, expressing emotions, and displaying self-revealing actions); (b) Person B responds to Person A’s disclosure, expressions, or actions; (c) Person A interprets Person B’s response and reacts to the response. According to the model, PPR involves three components: understanding (capturing the core features of the self), validation (appreciating and valuing the partner’s view of the self), and caring (showing affection and providing help).

Furthermore, the model suggests that at every stage of the process, PPR is based on the two interaction partners’ needs, values, and goals, which are again primarily grounded on dispositional, relational, and situational factors (Reis et al., 2004). Dispositional factors such as attachment styles and self-esteem can affect the process. For example, individuals with secure and ambivalent attachment styles (Mikulincer & Nachshon, 1991) and high self-esteem (Gaucher et al., 2012) tend to disclose personal information to others more than those with avoidant attachment styles and low self-esteem. Apart from dispositional factors, relational factors (e.g., relationship histories and types) and situational factors (e.g., getting divorced and living close by) can influence not only one’s behavior, but also their responses to and interpretations of a partner’s behaviors (Reis & Clark, 2013; Reis et al., 2004).

We argue that besides dispositional, relational, and situational factors, cultural factors should also be taken into account in understanding the process of PPR for the following reasons. First, if the process of PPR is influenced by interaction partners’ needs, values, and goals, then cultural factors should play an important role, as culture shapes the needs, values, and goals of individuals (Cohen & Kitayama, 2020; Heine, 2020). Second, culture provides norms that guide each person’s behavior, expectations, and interpretations of others’ behavior in interpersonal contexts (Gelfand et al., 2011; Gudykunst et al., 1996). Third, individuals and their relationships are embedded within cultural contexts (Adams, 2005). Thus, cultural factors may be implicated in the whole process of the PPR—whether, what, and how to disclose to others (Schug et al., 2010), how to respond to others’ disclosures, and how to interpret others’ disclosures and responses. Despite its high relevance to the process of responsiveness, few studies have systematically examined cultural impact on PPR (Wu et al., 2021). In fact, most theoretical and empirical research on PPR has been done in Western cultures. We know little about how the process of PPR unfolds in non-Western cultures. Therefore, in an effort to understand the process of PPR from a cultural perspective, we explored cultural variations in the level of PPR and one of the reasons for such variations.

**Culture and PPR**

Although little research has directly examined cultural variability in the degree of PPR, a few studies have suggested potential cultural differences in PPR. For example, while investigating cultural differences in motivational responses after being misunderstood, Lun et al. (2010) found that Asians and Asian Americans generally feel less understood by an interaction partner than European Americans. Similarly, Oishi, Akimoto, et al. (2013) found that Asians reported feeling less understood by others than Americans, explaining the mean difference in life satisfaction between the two cultural groups. Given that understanding is viewed as one of the core
components of PPR and a prerequisite for the other components (i.e., validation and caring, Reis & Patrick, 1996), we predicted that East Asians would experience less PPR than European Americans.

What kind of cultural process would lead to this cultural difference in PPR? Put simply, why would East Asians perceive less responsiveness from others than Americans? Among many potential mediators, we propose that self-inconsistency might play a mediating role in accounting for the cultural difference in PPR. We reason that East Asians experience less PPR than European Americans and one of the reasons may be that they behave less consistently across social situations.

Two cultural dimensions have been shown to underlie cultural variations in self-inconsistency. One cultural dimension was individualism-collectivism (Triandis, 1995), or independent-interdependent self-construals (Markus & Kitayama, 1991), which maintains that how people view the self and its relations with others varies across cultures. In collectivistic cultures (especially East Asian countries), the self is viewed as closely interconnected with others. East Asians are expected to prioritize the goals of their in-groups over their personal goals and determine their behaviors based on duties and obligations imposed by in-groups rather than their own preferences and needs (Triandis, 1989). Thus, in East Asia, the self should be highly flexible and malleable depending on social situations, leading to less behavioral consistency. By contrast, in individualistic cultures (especially the United States), the self is construed as an independent and separated entity. Individuals in these cultures are encouraged to express unique attributes such as preferences, values, and emotions and determine their behavior based on these inner attributes. As a result, in European American cultures, the self needs to be clearly articulated and highly consistent across social situations (Markus et al., 1997).

Another cultural dimension that can explain cultural differences in self-inconsistency is dialecticism observed among East Asians. The hallmarks of East Asian dialecticism are that the world is constantly in flux (change), everything in the world is interconnected (holism), and apparent contradiction has a kernel of truth in both sides (tolerance of contradiction, Nisbett et al., 2001; Peng & Nisbett, 1999). If the world is changing, it is natural that the elements of the world, including individuals, should change accordingly because elements are interconnected to the world. Also, contradictions that arise from the changed self-concepts and behaviors across contexts are deemed inevitable and even desirable. This dialectical thinking is sharply contrasted with Western thought rooted in Aristotelian logic, which stresses noncontradiction (Peng & Nisbett, 1999). For Westerners, contradictions in their self-concepts and behaviors give rise to dissonance (Festinger, 1957), which should be resolved with integration and synthesis. Therefore, it is expected that East Asians are less likely to be bothered by changing their self-descriptions and behaviors in response to situational demands than Westerners.

In support of these two theoretical foundations, a large body of evidence indicates that East Asians tend to be less consistent in their global self-concepts and across situations and roles (Spencer-Rodgers et al., 2010). For example, when reporting their global self-concepts, East Asians described themselves in a more flexible or contradictory manner than European Americans (e.g., endorsing that they are both extraverted and introverted; I. Choi & Choi, 2002; Spencer-Rodgers et al., 2009). In terms of cross-situational and cross-role consistency, East Asians described themselves differently depending on who they were with (e.g., with parents, a close friend, and a professor), whereas European Americans manifested consistent self-descriptions regardless of whoever they were with (Boucher, 2011; Church et al., 2008; English & Chen, 2007; Kanagawa et al., 2001; Oishi et al., 2004; Suh, 2002).

How would cultural variations in self-inconsistency be linked to PPR in interpersonal contexts? For example, assume that Person A is in general assertive and behaves assertively to a similar degree regardless of who he interacts with (e.g., parents, professors, and friends). As Person A behaves consistently in any social roles, this person’s assertiveness is more likely to be
understood, validated, and cared for by others. In contrast, suppose that Person B is similarly assertive overall. However, whereas Person B behaves assertively when interacting with her colleagues and friends, Person B behaves in a submissive manner when with her parents, mother-in-law, and professors. In this case, Person B’s assertiveness is more likely to be responded to by only a handful of people, and thus less likely to experience PPR from others. This tendency for self-inconsistency may have differential consequences for PPR across cultures. Because Americans (like Person A) tend to define their global self-concepts and behave across situations in a consistent way, their important aspects of self may be readily known to and responded to by others. In contrast, as East Asians (like Person B) tend to describe their self-concepts in a more contradictory way and behave relatively less consistently across social situations, their important aspects of self will be less likely to be recognized by others. Indeed, agreement between self- and other ratings of traits is lower among East Asians than European Americans (Heine & Renshaw, 2002; Malloy et al., 2004), suggesting that the way East Asians see themselves is relatively less aligned with the way others see them. This in turn may lead East Asians to perceive responsiveness from others less than European Americans.

Although indirect, several studies indeed have shown that greater behavioral variability, or self-inconsistency, is associated with poor interpersonal outcomes (Côté et al., 2012; Sadikaj et al., 2015). For example, Côté et al. (2012) found in a work setting that individuals who behave more inconsistently across social interactions are less likely to perceive their social relationships at work as closer than those who behave more consistently across social interactions. Côté et al. (2012) further found that coworkers also tended to rate a relationship with inconsistent individuals as less satisfied and cohesive and avoid these inconsistent individuals as much as possible. This indicates that the negative impact of behavioral variability across situations on relationship processes may not just be due to biased interpretations of the focal person who behaves inconsistently across situations. There is only one study, to our knowledge, that examined the effect of self-inconsistency on relationship quality across cultures. English and Chen (2011) found that whereas temporal self-inconsistency within the same relationship was associated with lower relationship quality in both European and Chinese Americans, self-inconsistency across social roles was significantly negatively associated with relationship quality among European Americans. However, as noted, because this is the only study that examined the impact of self-inconsistency of relationship quality across cultures, there is a need to replicate this finding with different samples and datasets.

**The Present Research**

The present research sought to address two questions: Whether East Asians perceive less responsiveness from others than European Americans, and if so, why? We predicted that East Asians would report lower PPR than European Americans because they behave less consistently across situations. Among many types of inconsistency, we focused on the inconsistency of the self-views across different social roles (e.g., daughter, student, and friend) because it has received the most attention from researchers, and it is mostly likely to be influenced by cultural factors (Suh, 2002). In Study 1, we used two large datasets with representative samples that tracked the psychological and physical functioning of American and Japanese adults, respectively. In doing so, we examined whether the degree of PPR differs across cultures and whether self-inconsistency serves as a mediating variable underlying the cultural difference. In Study 2, we sought to replicate the findings from Study 1 with a more sophisticated measure of self-inconsistency. To rule out the possibility that the effect of culture or a mediating role of self-inconsistency in PPR could be attributed to the alternative factors, in both studies, we controlled for demographic factors (age, gender) and dispositional factors (extraversion, neuroticism). We controlled for extraversion and neuroticism because previous research on social relationships has shown that these two
personality traits explain perceptions and behaviors in social relationships (Gable et al., 2003; Simpson et al., 2006). Gable et al. (2003) postulated that there are two fundamental social motivations: approach or appetitive processes and avoidance or aversive processes. They found that extraversion loaded on the approach system and was associated with positive outcomes in relationships (e.g., intimacy and closeness), whereas neuroticism loaded on the avoidance system and was associated with loneliness and relationship dissatisfaction (Gable, 2006; Gable et al., 2003). Based on these previous studies, we were especially interested in controlling for extraversion and neuroticism. The studies were approved by the University of Virginia Institutional Review Board for the Social and Behavioral Sciences (Protocol No. 2018–0497). Datasets and analysis codes are available at https://osf.io/ygcx4/.

Study 1

In Study 1, we first tested our hypothesis that East Asians are less likely to experience PPR than European Americans. We then tested whether the cultural difference in PPR could be explained by cross-situational inconsistency. Finally, we examined whether the effect would hold even after controlling for demographic variables and two personality traits, extraversion and neuroticism.

Method

Participants

For the U.S. sample, the second wave of National Survey of Midlife Development in the United States (MIDUS II) was used. MIDUS is a longitudinal survey investigating the impact of psychological, social, and behavioral processes on mental and physical health in a nationally representative sample. MIDUS II was conducted between 2004 and 2006 as a follow-up study to the first wave of MIDUS. Respondents were asked to have a phone interview and then complete a self-administered survey. Out of a total sample of 4,963 American respondents, 4,041 Americans (2,239 women and 1,802 men; $M_{age} = 56.23$ years, standard deviations ($SD$) = 12.39, range: 30–84) responded to both the phone interview (gender and age variables) and self-administered survey (which included PPR, self-inconsistency, and personality traits). These 4,041 American respondents were used in our analyses. Of these, 3,698 (91.5%) self-identified as White, 151 (3.7%) self-identified as Black and/or African American, 60 (1.5%) as Native American or Alaska Native, 20 (0.5%) as Asian, 4 (0.1%) as Native Hawaiian or Pacific Islander, and 108 (2.6%) indicated “other” or “don’t know” or refused to answer. Because the vast majority of respondents in MIDUS were European Americans, we analyzed the data with a full sample. When analyzed with only European Americans, the results were almost identical (see the Supplemental Materials).

For the East Asian sample, the Midlife Development in Japan (MIDJA), the parallel study to MIDUS, was used. A total sample of 1,027 Japanese adults (522 women and 505 men; $M_{age} = 54.36$ years, $SD = 14.15$, range: 30–79) was randomly selected from the Tokyo metropolitan area. Like MIDUS II, MIDJA consisted of a phone interview and a self-administered survey. Because all 1,027 Japanese respondents completed both the phone interview and the self-administered survey, they were used in our analysis. Thus, the total sample was 5,068 respondents (4,041 Americans and 1,027 Japanese). Sample sizes vary across analyses due to missing data.

There were relatively a small number of missing data, except for respondents who skipped the questions that were not applicable to them (e.g., PPR variables about a spouse or a partner for those who were not married or cohabiting with a partner): 2.4% in PPR from partner/spouse, 0.7% in PPR from family members, 1% in PPR from friends, 0.7% in self-inconsistency, 0.6% in extraversion, and 0.7% in neuroticism. When we imputed missing data using multiple imputation
and performed the same analyses, the results were nearly identical (see the Supplemental Materials).

**Measures**

**PPR.** PPR was assessed by three indicators asking how much participants felt understood, validated, and cared for by three different relationship types, namely, their partner/spouse, other family members, and friends. The indicators were adapted from Schuster et al. (1990) and mapped well onto the three components of PPR (Reis et al., 2004). First, we created an index of *partner* by averaging three items (How much does your spouse or partner “really care about you,” “understand the way you feel about things,” “appreciate you”; $\alpha = .84$ for Americans and $\alpha = .91$ for Japanese). Next, we created indices of *family* and *friends* by averaging two items each (“How much do [family members/friends] really care about you,” “How much do [family members/friends] understand the way you feel about things?”). The two items were highly correlated for both family ($r = .60$ for Americans and $r = .68$ for Japanese) and friends ($r = .69$ for Americans and $r = .66$ for Japanese). Participants indicated all items using a 4-point scale. Because the response options in these scales were constructed in the opposite direction between the two datasets (for MIDUS, 1 = *a lot* and 4 = *not at all*; for MIDJA, 1 = *not at all* and 4 = *a lot*), we reverse-coded the items in MIDUS so that higher scores would reflect higher PPR.

**Self-inconsistency.** One item (“I act in the same way no matter who I am with”) was used to measure how consistently participants behave across social situations on a 7-point scale (for MIDUS, 1 = *strongly agree* and 7 = *strongly disagree*; for MIDJA, 1 = *strongly disagree* and 7 = *strongly agree*). The item in MIDJA was reverse-coded so that higher scores would reflect lower self-consistency.

**Personality traits.** Extraversion and neuroticism were measured by asking participants how well each of the adjectives describes them on a 4-point scale (1 = *not at all* and 4 = *a lot*). The items for extraversion included five adjectives (outgoing, friendly, lively, active, and talkative; $\alpha = .76$ for Americans and $\alpha = .83$ for Japanese), and the items for neuroticism included four adjectives (moody, worrying, nervous, and calm; $\alpha = .74$ for Americans and $\alpha = .51$ for Japanese). We used mean indices of extraversion and neuroticism calculated and provided by MIDUS and MIDJA datasets. Higher scores reflect higher extraversion and neuroticism.

The questionnaire was based on the ones included in MIDUS and was back translated by native speakers to ensure equivalent meaning between the languages.

**Results**

**Measurement Invariance**

Before conducting primary analyses, we first examined measurement invariance to test whether the construct of PPR is equivalent between Americans and Japanese. There are four types of measurement invariance models, and models are sequentially tested by imposing more constraints. Of four invariance models, we tested configural, metric, and scalar invariances because our primary interest was to compare the means of PPR between Americans and Japanese. Configural invariance refers to the equivalence of the pattern of free and fixed parameters between cultures. Metric invariance refers to the equivalence of item loadings on the factors between cultures, and it is tested by constraining factor loadings to be equal between cultures. If the model fit of the metric invariance model is not significantly worse than that of the configural invariance model, it means that metric invariance is confirmed. If metric invariance is supported,
the next step is to test scalar invariance, which refers to the equivalence of item intercepts. Scalar invariance is tested by constraining the item intercepts to hold equal between cultures. If the model fit of the scalar invariance model is not significantly worse than that of the metric invariance model, it indicates that scalar invariance is established.

We ran a multi-group confirmatory factor analysis (MGCFA) using Mplus 7.4 in which partner, family, and friend variables loaded on a latent factor of PPR. Following F. F. Chen (2007), we chose the difference in CFI ($\Delta$CFI) between measurement models as a criterion of measurement invariance and considered the models invariant between cultures when $\Delta$CFIs between the measurement models (configural vs. metric, metric vs. scalar) were less than 0.01. The model comparison test showed that the difference in CFI values between configural and metric invariance models was less than 0.01 ($\text{CFI}_{\text{configural}} = 1.000$ vs. $\text{CFI}_{\text{metric}} = 0.995$, $\Delta$CFI = 0.005). This means that the metric invariance model is not significantly worse than the configural invariance model, and thus, metric invariance is supported. Next, the model comparison test between metric and scalar invariance models showed that the difference in CFI values between metric and scalar invariance models was larger than 0.01 ($\text{CFI}_{\text{metric}} = 0.995$ vs. $\text{CFI}_{\text{scalar}} = 0.964$; $\Delta$CFI = 0.031), meaning that scalar invariance model is significantly worse than metric invariance model, and thus, scalar invariance is not confirmed. When we freed the item for partner PPR, the change in CFI between partial scalar and metric invariance models was less than 0.01 ($\text{CFI}_{\text{metric}} = 0.995$ vs. $\text{CFI}_{\text{partial scalar}} = 0.994$; $\Delta$CFI = 0.001). Thus, partial scalar invariance was established, which indicates that group means can be compared.

Primary Analyses

Descriptive statistics and correlations between key variables are presented in Table 1. As shown in Table 1, every index of PPR was significantly negatively correlated with self-inconsistency among both Americans and Japanese. This indicated that regardless of cultural background, the less consistently people reported behaving across social situations, the less likely they were to experience perceived responsiveness from their partner/spouse, family members, and friends.

Next, we examined whether the degree of PPR varies by culture. Consistent with our predictions, compared with Americans, Japanese perceived less responsiveness from their spouse or partner, $t(3823) = -31.35, p < .001, d = 1.24$; family members, $t(4728) = -32.70, p < .001, d = 1.25$; and friends, $t(5016) = -31.25, p < .001, d = 1.11$. Also, as in prior studies (e.g., Kanagawa et al., 2001; Suh, 2002), Japanese perceived themselves as behaving less consistently across social situations than Americans, $t(5029) = -8.73, p < .001, d = 0.33$.

We then tested whether the cultural difference in PPR would emerge when PPR is measured with a latent variable. To this end, we first created a latent variable for PPR with three indicators (i.e., partner, family members, and friends) and examined whether PPR would vary by cultures using Mplus 7.4 (Muthén & Muthén, 1998–2015). The model fit was excellent, $\chi^2(2, N = 5,051) = 38.14$, CFI = .990, RMSEA = .060, and SRMR = .016. The results showed that culture (0 = Americans and 1 = Japanese) significantly predicted the latent PPR, meaning that Japanese experienced less PPR from their significant others than Americans did.

Next, we examined whether the culture’s effect on PPR could be explained by self-inconsistency. We conducted a mediation analysis by employing a bias-corrected bootstrapping method with 10,000 resampling in Mplus 7.4 (Muthén & Muthén, 1998–2015). Again, the model fit was excellent, $\chi^2(4, N = 5,066) = 58.70$, CFI = .986, RMSEA = .052, and SRMR = .017. The mediation analysis showed that the relationship between culture and PPR was mediated by self-inconsistency, Indirect Effect = −0.023, SE = .003, 95% CI = [−0.029, −0.017], z = −7.49, p < .001. As shown in Figure 1, when age, gender, extraversion, and neuroticism were controlled for, $\chi^2(12, N = 5,028) = 445.19$, CFI = .920, RMSEA = .085, and SRMR = .032; the mediational
effect of self-inconsistency for the cultural difference in PPR remained significant, Indirect Effect = −0.003, SE = .001, 95% confidence interval (CI) = [−0.005, −0.001], $z = −2.39$, $p = .017$.

### Discussion

In Study 1, we provided evidence that the degree of perceived responsiveness that individuals experience from their significant others varies across cultures. The results revealed that East Asians perceived lower responsiveness from others than Americans did. Also, we found that the
cultural difference in PPR was mediated by self-inconsistency and the mediational effect remained significant after controlling for confounding variables. These findings suggest that East Asians tend to experience less PPR because they are less consistent across social situations than Americans.

**Study 2**

In Study 2, we attempted to replicate the findings from Study 1 suggesting that East Asians tend to experience PPR less than Americans partly due to their variability in behaviors across social situations. Although Study 1 allowed us to test our hypothesis with representative samples, it was not without limitations. For example, self-inconsistency was assessed with a single item that asked participants to report their variability across situations. This self-reported measure reflected one’s own view of their variability but was not free from judgmental bias. In Study 2, we used a standard deviation index by calculating SD of each trait item across three social situations and averaged these SD across traits. The standard deviation index of self-inconsistency has been found to be significantly associated with a measure of behavioral inconsistency (Church et al., 2013) and has been used in many studies examining variability in affect (Eid & Diener, 1999; Oishi et al., 2004) and traits (Church et al., 2008). In addition, we used another measure of PPR to increase generalizability.

**Method**

**Participants**

Based on the bootstrapped mediation analysis of Study 1 (medium–small indirect effect), at least 391 participants were needed to achieve 80% power (Fritz & MacKinnon, 2007). We recruited 414 participants in total, of which 223 participants were European Americans from a public university in the United States (94 men and 129 women; \( M_{age} = 19.16 \) and \( SD = 1.12 \)) and 191 were Koreans from a private university in Korea (81 men and 110 women; \( M_{age} = 21.58 \) and \( SD = 2.21 \)). Americans received partial course credit, and Koreans received payment for their participation. Because there were no missing data, we analyzed the data with a full sample.

**Measures**

**PPR.** Participants completed the four-item measure that Oishi, Akimoto, et al. (2013) used on a 7-point scale (1 = not at all and 7 = very much). The measure included how much they felt “understood,” “appreciated,” “misunderstood,” and “alienated” by others. The score was calculated by averaging the four items after reversing the last two items (\( \alpha = .84 \) for European Americans and \( \alpha = .86 \) for Koreans). Like the PPR measure in Study 1, this PPR measure reflects the essential part of PPR and has considerable overlap with other PPR measures found in Crasta et al. (2021).

**Self-inconsistency.** To measure cross-situational inconsistency, participants reported on their Big 5 personality traits in three different social situations (with parents, friends, and professor/teaching assistants) separately, using the 25-item Big 5 personality traits scale (Brody & Ehrlichman, 1997). As each of the Big 5 traits was assessed with five adjectives on a 5-point scale (1 = not at all true and 5 = very true), participants completed 75 items (25 items × 3 situations) in total. Following previous studies (e.g., Church et al., 2008), we obtained a self-inconsistency score by computing the standard deviation of each participant’s ratings for each item across the three social situations and taking the mean of all 25 SD.
Personality traits. As in Study 1, extraversion and neuroticism were measured as covariates. Participants reported on their personality in general on a 5-point scale (1 = not at all true and 5 = very true) using the subscales of the same Big 5 personality scale (Brody & Ehrlichman, 1997). We averaged respective items to create an index of extraversion ($\alpha = .75$ for Americans and $\alpha = .82$ for Koreans) and neuroticism ($\alpha = .86$ for Americans and $\alpha = .77$ for Koreans).

Results

Measurement Invariance

We again tested configural, metric, and scalar invariances by running a MGCFA. The “understood” item and the “appreciated” item were allowed to covary. The MGCFA results supported configural invariance, and the subsequent model comparison tests showed that metric invariance was supported ($\text{CFI}_{\text{configural}} = 0.994$ vs. $\text{CFI}_{\text{metric}} = 0.992$; $\Delta \text{CFI} = 0.002$). However, scalar invariance did not hold ($\text{CFI}_{\text{metric}} = 0.992$ vs. $\text{CFI}_{\text{scalar}} = 0.961$; $\Delta \text{CFI} = 0.031$). When freeing the “misunderstood” item, partial scalar invariance was supported ($\text{CFI}_{\text{metric}} = 0.992$ vs. $\text{CFI}_{\text{partialscalar}} = 0.983$; $\Delta \text{CFI} = 0.009$), meaning that group means can be compared.

Primary Analyses

Table 2 presents descriptive statistics and correlations between key variables. Like Study 1, PPR was significantly negatively associated with self-inconsistency among both European Americans and Koreans. Again, this suggests that as people behave less consistently across social situations, they are less likely to perceive others as being responsive to them.

We tested whether there are cultural differences in PPR and self-inconsistency between Koreans and European Americans. As in Study 1, Koreans scored lower on PPR than European Americans, $t(412) = 2.26, p = .024, d = 0.23$. Also, again, Koreans described that they behave more differently across social situations than European Americans, $t(412) = -3.68, p < .001, d = -0.37$. Thus, we replicated Study 1 findings using a very different measure of self-inconsistency.

Next, we examined whether the cultural difference in PPR could be due to self-inconsistency. As in Study 1, we conducted a mediation analysis using the bias-corrected bootstrapping method with 10,000 resamples. The mediation analysis showed that self-inconsistency mediated the relationship between culture and PPR, Indirect Effect = $-0.109$, SE = 0.038, 95% CI = $[-0.204, -0.049]$, $z = -2.83, p = .005$. This suggested that Koreans were less likely to feel PPR than
European Americans because they behave less consistently across social situations. Again, as presented in Figure 2, after adjusting for age, gender, extraversion, and neuroticism, self-inconsistency still significantly mediated the relationship between culture and PPR, \( \text{Indirect Effect} = -0.076, SE = .034, 95\% \text{ CI} = [-0.161, -0.023], z = -2.21, p = .027. \)

**Discussion**

In Study 2, we replicated the results from Study 1 that East Asians tend to experience PPR less than European Americans. Also, by using a different measure of self-inconsistency, we found that the difference in PPR between cultures was explained by self-inconsistency. More specifically, East Asians were less likely to experience PPR because they act less consistently across social situations than European Americans. This pattern remained significant after partialling out confounding variables. These findings reveal that East Asians tend to underperceive responsiveness from others, and one reason is that their inconsistent patterns of behaviors make it hard for them to elicit appropriate responses from their interaction partner.

**General Discussion**

The present study examined how cultural factors facilitate or inhibit the process by which an individual comes to believe that others respond to them supportively, that is, PPR. We investigated whether there are cultural differences in the level of PPR and explored one potential reason for the cultural difference. We found in two studies that East Asians are less likely to experience PPR than European Americans, and that this is partly because they tend to behave inconsistently across social situations. Due to this variability, East Asians may find it difficult to perceive the most responsiveness that they regard as responsive enough.

The present study has several implications for the research on PPR, well-being, and self-consistency. First, PPR has been extensively studied as an overarching concept that integrates...
many phenomena that take place in social relationships. However, little research has examined how culture affects the process by which PPR operates. This is the first study that directly examines cultural differences in the degree of PPR and the mediational process underlying it. By taking a cultural perspective, researchers in relationship science may be informed of how the process of PPR works in various cultural contexts.

Second, previous studies on culture and self-consistency have paid more attention to the impact of self-consistency on individual outcomes, such as well-being or adjustment (Church et al., 2008; Suh, 2002), self-concept certainty, and authenticity (Boucher, 2011). This study extends research on culture and self-consistency by relating self-consistency patterns to interpersonal outcomes, namely PPR. It sheds light on how self-consistency is manifested in interpersonal contexts, and how it influences interpersonal transactions and consequences.

Third, although this study did not examine well-being, it might have some implications for research on culture and well-being. Subjective well-being researchers have examined relational harmony as a predictor of East Asians’ subjective well-being. However, relational harmony is conceptually distinct from relationship satisfaction, perceived support, or PPR (Uchida et al., 2008). Given that perceived support is related to East Asians’ well-being (Uchida et al., 2008) and feeling understood by others explains the mean difference in subjective well-being between East Asians and European Americans (Oishi, Akimoto, et al., 2013), future research should examine how the lower levels of PPR among East Asians is linked to their lower levels of subjective well-being.

We should note several limitations of the present study, along with suggestions for future research. First, in terms of samples, we only compared East Asians and European Americans. Thus, future studies should investigate the impact of cultural factors on PPR by including samples from more diverse cultural backgrounds. Second, in terms of measurement, whereas interaction partners (spouse/partner, family, friends) were specified in PPR measures in Study 1, this is not the case in Study 2. Thus, it is possible that participants might imagine different targets who give responsiveness to the participants in Study 2 (e.g., some people think about PPR from close others, whereas others think about PPR from strangers). Also, although we relied on the concepts and measures of PPR established in Western cultures, there might be other forms of PPR that are more culturally fit for East Asians. For example, given that East Asians tend to perceive unsolicited social support (receiving social support without asking) as more positive than solicited one (receiving social support after actively seeking) compared with European Americans (Mojaverian & Kim, 2013), it is possible that East Asian are more likely to perceive unsolicited PPR than solicited ones. Exploring other forms of PPR that are perceived as more responsive for East Asians deserves further investigation. Third, in terms of mediation, besides self-inconsistency, there might be other mediating processes that are responsible for the cultural difference in PPR. For example, previous research shows that East Asians are less likely to disclose their personal matters to others (G. Chen, 1995), share positive events with others (H. Choi et al., 2019), and seek social support from others (Kim et al., 2006; Taylor et al., 2004). Thus, the reluctance among East Asians to reveal information about themselves might be another mediating variable that accounts for the cultural difference. Fourth, in terms of the direction of the mediation, although we postulated that inconsistent behaviors give rise to less PPR, the reverse direction (low PPR → inconsistency) is also possible because all measures were assessed concurrently in a cross-sectional design. Thus, the future research should test the mediation model in a longitudinal or experimental design. Finally, although PPR is an interpersonal process, we entirely relied on the discloser’s self-reports and did not assess a responder’s actual understanding. Thus, although we found measurement invariance in PPR between cultures, this could be limited to self-reports. In future research, it would be ideal to recruit dyads and assess both the discloser and the responder’s perceptions.
The present study demonstrates that East Asians experience PPR less than European Americans due to variability in their behaviors across social situations. In doing so, this study underscores the importance of understanding how culture influences the process of PPR. We hope that this study sparks more research on PPR from a cultural perspective.

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ORCID iD
Hyewon Choi https://orcid.org/0000-0002-3732-7766

Supplemental Material
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Notes
1. When we included the other three Big 5 (agreeableness, conscientiousness, openness to experiences) as covariates as well as age, gender, extraversion, and neuroticism, $\chi^2(18, N = 4,990) = 464.52$, CFI = .920, RMSEA = .071, SRMR = .027; the mediation model was no longer significant, Indirect Effect = 0.001, SE = .001, 95% CI = [−0.001, 0.003], $z = 0.66, p = .511$. Possible reasons for the non-significant results will be discussed with the findings from Study 2.

2. Like Study 1, we ran another mediation analysis in which the other three Big 5 traits were added as covariates. The mediational effect of self-inconsistency was marginally significant, Indirect Effect = −0.041, SE = .023, 95% CI = [−0.101, −0.007], $z = −1.78, p = .076$. We think that there are several reasons why the mediation effect became non-significant (Study 1) or marginally significant (Study 2) when controlling for the remaining three Big 5 traits (agreeableness, conscientiousness, openness to experiences). First, agreeableness and conscientiousness have been found to be negatively associated with self-inconsistency (Donahue et al., 1993). Also, agreeableness has a strong perceiver effect such that an agreeable person is more likely to perceive others as agreeable (e.g., caring, sympathetic, and helpful; Albright et al., 1988), whose characteristics are closely related to PPR. Because these Big 5 traits have such conceptual overlap with self-inconsistency and PPR, once shared variance is taken into account, the unique effect of self-inconsistency is reduced. Controlling for the Big 5 traits and removing the shared variance might lead to what Meehl (1971) called “pseudo falsification” (p. 147).

3. We were able to test this possibility because MIDUS and MIDJA datasets included self-disclosure measures (“How much can you open up to him or her/them if you need to talk about your worries?”) from a spouse/partner, family members, and friends, respectively. We ran a multiple mediation model in which self-inconsistency and self-disclosure served as multiple mediators explaining cultural differences in PPR (age, gender, extraversion, and neuroticism were controlled for). In this model, both self-inconsistency (Indirect Effect = −0.001, SE = .001, 95% CI = [−0.003, −0.001], $z = −2.12, p = .034$) and self-disclosure (Indirect Effect = −0.267, SE = .014, 95% CI = [−0.296, −0.240], $z = −18.66, p < .001$) significantly mediated culture and PPR.

References


