



Cross-cultural generalizability of the Personality and Role Identity Structural Model (PRISM): Implications for trait and cultural psychology



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ABSTRACT

The cross-cultural generalizability of the Personality and Role Identity Structural Model (PRISM; Wood & Roberts, 2006) was tested in the United States, Mexico, Malaysia, China, and Japan. Participants rated their general and role identities, as defined by the PRISM, using Big Five trait adjectives, then rated their personality states (i.e., role experiences) in various roles in multiple daily interactions for 14 days. Structural predictions based on the PRISM were supported in all five cultures. Cultural differences were limited and did not reflect cultural differences in individualism–collectivism, dialecticism, or cultural tightness. The results supported the cross-cultural generalizability of the PRISM and the merits of contextualized trait measures in the prediction of role experiences. Implications for trait and cultural psychology are discussed.

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1. Introduction

Although the person-situation debate continues, there is general consensus that behavior is a function of both traits and situations. Nonetheless, personality psychologists still face the challenge of how best to incorporate situational information into trait models. Wood and Roberts (2006) proposed the Personality and Role Identity Structural Model (PRISM) as one way to do so. Wood and Roberts noted that the construct of roles encompasses many of the expectations, demands, and other psychological meanings associated with situations and proposed that the trait and role constructs can be effectively merged in the concept of role identity. They defined role identity as the traits attributed to oneself within a particular social role. This conception of identity is more specific than typically adopted by identity researchers, who would not, for example, limit the identity concept to self-perceptions of one's traits (McConnell, 2011). Having noted this caveat,

we adopted the terminology used by Wood and Roberts in our cross-cultural test of the generalizability of the PRISM.

In the PRISM, personality is represented hierarchically, with general identities (or traits) at the highest level (e.g., “I am generally extraverted”). These general identities subsume role identities, which represent self-perceptions of narrower, context-specific traits in particular roles (e.g., “I am extraverted with close friends”). In turn, these role identities encompass typical experiences or outcomes such as thoughts, feelings, and behaviors in the respective roles. A depiction of the PRISM for the trait of extraversion, incorporating five interpersonal roles, is shown in Fig. 1. The PRISM provides a cogent theoretical framework for investigating important questions about the relationship between traits and situations in different cultures. In the present study, we investigated the generalizability of the PRISM in five diverse cultures. In addition, drawing on cultural psychology perspectives, we examined whether some of the structural relationships proposed in the model differ in systematic ways across cultures. We first describe predictions of the PRISM and current support in U.S. studies. We then discuss potential implications of cultural psychology perspectives for the model.

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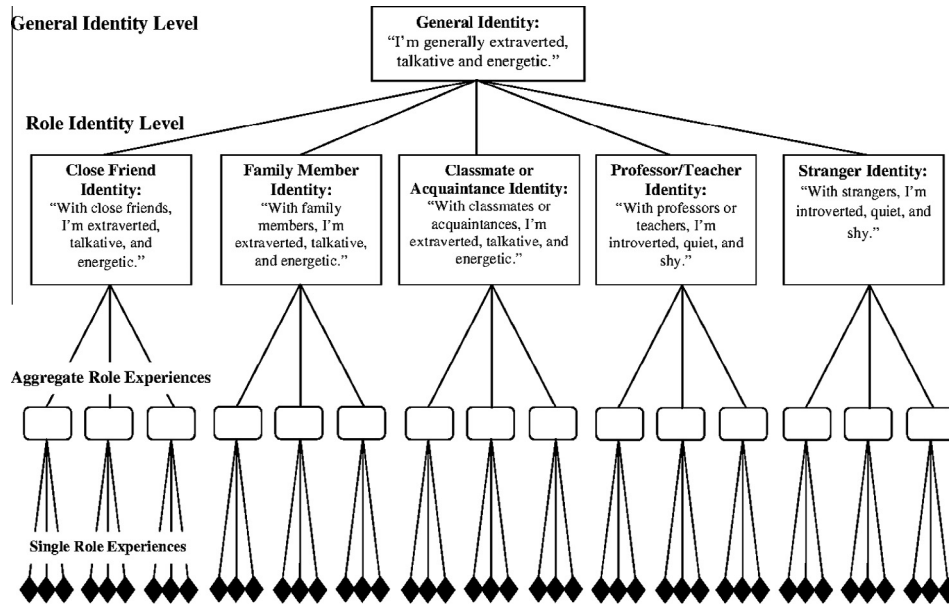


Fig. 1. Personality and Role Identity Structural Model (PRISM), illustrated with extraversion trait terms and five interpersonal roles. Copyright 2006 Wiley. Adapted with permission from Wood, D., & Roberts, B. W. (2006). Cross-sectional and longitudinal tests of the Personality and Role Identity Structural Model (PRISM). *Journal of Personality*, 74, 779–810.

1.1. PRISM predictions and support

1.1.1. Model predictions

Wood and Roberts (2006) discussed implications of the PRISM and the evidence that would support the model. Hypotheses based on the PRISM and corresponding cultural psychology predictions are summarized in Table 1. Wood and Roberts (2006) did not address the cultural universality of the PRISM. However, the evidence of universal and heritable traits (Jang, McCrae, Angleitner, Riemann, & Livesley, 1998; McCrae & Allik, 2002) suggests that the PRISM predictions should hold in all cultures, as stated for each hypothesis on the left side of Table 1. First, the model implies that researchers should find mean differences in the trait ratings associated with different role identities and these differences should be consistent with the demands and expectations of the respective roles (Hypothesis 1). For example, we might expect higher levels of extraversion with friends than with co-workers (Heller, Ferris,

Brown, & Watson, 2009; Sheldon, Ryan, Rawsthorne, & Ilardi, 1997; Wood & Roberts, 2006) and higher levels of conscientiousness in worker roles than with family members (Donahue & Harary, 1998). Second, consistent with the proposal that role identities are largely translations of past role experiences into trait terms (Wood, 2007), we should also expect parallel mean differences across roles in the pattern of thoughts, feelings, and behaviors (e.g., personality states) that comprise role experiences (Hypothesis 2).

Third, the model predicts that general and role identities are moderately correlated (Hypothesis 3). These correlations (e.g., general conscientiousness vs. conscientiousness with friends, parents, or professors) could reflect a bottom-up process whereby individuals aggregate their distinct role identities to formulate their general identity (Wood & Roberts, 2006). Alternatively, some trait perspectives suggest a top-down causal link from general identities to role identities (Heller et al., 2009; Wood, 2007). Fourth,

Table 1
PRISM hypotheses and corresponding cultural psychology predictions.

PRISM hypotheses	Cultural psychology prediction
1. In all cultures, there are significant mean differences in trait ratings associated with different role identities (i.e., role effects) and these differences are consistent with the demands and expectations of the respective roles	Role differences in trait ratings (i.e., role identities) are larger in dialectical (vs. non-dialectical), collectivistic (vs. individualistic), and/or tight (vs. loose) cultures
2. In all cultures, there are significant mean differences in personality states associated with different role experiences and these differences are consistent with the demands and expectations of the respective roles	Role differences in personality states (i.e., role experiences) are larger in dialectical (vs. non-dialectical), collectivistic (vs. individualistic), and/or tight (vs. loose) cultures
3. In all cultures, general identities are moderately related to specific role identities associated with the same trait	General identities will be less strongly related to role identities in dialectical (vs. non-dialectical), collectivistic (vs. individualistic), and/or tight (vs. loose) cultures
4. In all cultures, moderate correlations will be observed between role identities for the same trait, but these correlations will be smaller than the general vs. role-identity correlations for the corresponding trait	The correlations between role identities for the same trait will be lower in dialectical (vs. non-dialectical), collectivistic (vs. individualistic), and/or tight (vs. loose) cultures
5. In all cultures, correlations between different role identities for a given trait will be substantially reduced after controlling for the corresponding general identity	The reduction in role identity correlations after controlling for the corresponding general identity will be smaller in dialectical (vs. non-dialectical), collectivistic (vs. individualistic), and/or tight (vs. loose) cultures
6. In all cultures, general identities will predict role experiences (i.e., personality states), but role experiences will be better predicted by the corresponding role identities	General identities will predict role experiences less well in dialectical (vs. non-dialectical), collectivistic (vs. individualistic), and/or tight (vs. loose) cultures, but role identities will predict role experiences equally well across cultures
7. In all cultures, the relationships between general identities and role experiences will be mediated by the corresponding role identities	Role identities will more fully mediate the relationships between general identities and role experiences in dialectical (vs. non-dialectical), collectivistic (vs. individualistic), and/or tight (vs. loose) cultures

the model predicts significant correlations between role identities for a trait (e.g., conscientiousness in friend vs. family roles), but that these correlations should be smaller than the general vs. role-identity correlations for the corresponding trait (*Hypothesis 4*). This follows from the PRISM proposal that “how an individual sees oneself in different roles can be accounted for by a person’s general identity” (Wood & Roberts, 2006, p. 783). Fifth, a corollary of the last prediction is that the correlations between different role identities for a given trait should be substantially reduced after controlling for the corresponding general trait (*Hypothesis 5*).

Sixth, the model predicts that general identities will predict role experiences, but that role experiences will correlate more highly with the associated role-identity ratings than with general identity ratings for the corresponding trait (*Hypothesis 6*). Again, this is consistent with the proposal that role identities are largely translations of past role experiences into trait terms (Wood, 2007). Seventh, a corollary of the last prediction is that the relationships between general identities and role experiences will be fully mediated by the corresponding role identities (*Hypothesis 7*). For example, general conscientiousness should predict conscientious behavior in the student role, but the relationship should be fully mediated by the student role identity as it relates to conscientiousness. The PRISM also encompasses longitudinal predictions about the stability of general and role identities and their relationship over time, but these predictions could not be addressed in the present study.

1.1.2. Model support

A number of studies have supported some of the PRISM predictions (Donahue & Harary, 1998; Sheldon et al., 1997; Slatcher & Vazire, 2009; Wood, 2007; Wood & Roberts, 2006). For example, Wood and Roberts had students rate themselves on Big Five trait adjectives in general (i.e., general identities), in a romantic relationship, and in another key role (i.e., role identities). As hypothesized, mean trait levels for four of the Big Five traits differed in the romantic and key-role identities, with participants describing themselves as higher in extraversion, agreeableness, and intellect, and lower in conscientiousness in the romantic role. Correlations relating the general identities or traits to the role identities (r range = .59–.76) were higher than the cross-role identity correlations (r range = .49–.61) and the cross-role correlations were substantially reduced or non-significant after controlling for general identities. There were a number of significant correlations between the general identities and the role experience variables (i.e., positive role experiences and performance), but, as expected, the role identities correlated more highly than the general identities with the role experiences. As predicted, the relationships between general identities and role experiences were fully mediated by the role identities.

Similarly, Heller et al. (2009, Study 1) found sensible mean-level differences in adults’ Big Five ratings in work and home roles. As expected, correlations relating general identities for the Big Five traits to the work-role identity (mean r = .61) and home-role identity (mean r = .56) were larger than the correlations between the two specific role identities (mean r = .50) and the cross-role correlations dropped by 39–69% when the corresponding general traits were controlled in partial correlations. Work-role personality was a better predictor of job satisfaction (i.e., role experience) than was either general personality or home-role personality. In a longitudinal study, Heller et al. showed that the relationship between general personality and job satisfaction was fully mediated by work-role personality.

Heller et al.’s (2009) study recalls several applied “frame-of-reference” studies, which have found that context-specific trait measures are better predictors of school or work performance than general trait measures and provide incremental validity beyond

measures of general traits or cognitive ability (Bing, Whanger, Davison, & VanHook, 2004; Hunthausen, Truxillo, Bauer, & Hammer, 2003; Lievens, De Corte, & Schollaert, 2008; Schmit, Ryan, Stierwalt, & Powell, 1995). In PRISM terminology, the frame-of-reference studies support the hypothesis that role experiences will be better predicted by role identities than by general identities.

In summary, there is support for aspects of the PRISM in U.S. studies. However, most studies have not tested all aspects of the model and we could not identify any studies that specifically tested the model across cultures. Cross-cultural studies are important in demonstrating the generalizability or universality of theoretical models.

1.2. Cultural psychology implications for the PRISM

1.2.1. Theory

Cultural psychologists emphasize the deeply intertwined nature of culture and personality (Heine, 2001; Markus & Kitayama, 1991). In this perspective, conceptions of self, identity, and personality are viewed as socially constructed and hence varied across cultures. Several of the cultural dimensions studied by cultural psychologists have potential implications for the structural relationships in the PRISM. In particular, cultural psychologists have proposed that identities may be more varied across roles in collectivistic cultures, where behavior is thought to be more determined by the expectations and demands of social roles and relationships (Kanagawa, Cross, & Markus, 2001; Suh, 2002). From this perspective, we might expect larger mean-level differences across roles (i.e., role effects) in both role identities and role experiences in collectivistic cultures, as compared to individualistic cultures, as well as smaller correlations between role identities. In addition, because people in collectivistic cultures are expected to have a weaker need to express their general traits (Markus & Kitayama, 1998; Triandis, 1995), the correlations relating general identities to role identities and role experiences may be lower in collectivistic cultures and role identities may more fully mediate the relationships between general identities and role experiences. However, if role identities are largely translations of role experiences into trait terms, as proposed by the PRISM (Wood, 2007), the correlations between corresponding role identities and experiences should be similar across cultures. These cultural psychology predictions are summarized for each PRISM hypothesis on the right side of Table 1.

Two other cultural dimensions are potentially relevant to the PRISM across cultures. One theoretical perspective attributes lower cross-role identity consistency in East Asian cultures to dialecticism, a system of thought rooted in Eastern philosophical traditions and characterized by acceptance of contradiction, expectations of cognitive and behavioral change, and holistic thinking (English & Chen, 2007, 2011; Peng & Nisbett, 1999; Spencer-Rodgers, Williams, & Peng, 2010). Another cultural dimension of potential relevance is tightness vs. looseness. As defined by Gelfand, Nishii, and Raver (2006), cultural tightness refers to “the strength of social norms and the degree of sanctioning within societies” (p. 1226). Implicit in this framework is the expectation of reduced consistency across roles in tight cultures where situational constraints on behavior are greater (Gelfand et al., 2011). The lower cross-role consistency expected in dialectical and tight cultures would seem to lead to some of the same cultural differences in the PRISM noted for collectivistic vs. individualistic cultures (see Table 1). This is not to say that these three cultural dimensions are conceptually identical or redundant. However, given current theory, the hypotheses noted on the right side of Table 1 seem to be the most definitive that can be offered regarding cultural differences. We hoped to discern which of these cultural dimension(s) best accounted for any cultural differences observed in the structural relationships proposed by the PRISM.

1.2.2. Available support

We could not identify any cross-cultural studies of the PRISM model. However, several cross-cultural studies have reported results that are relevant to aspects of the model. In particular, five studies have reported cultural differences in the correlations between general and role-specific traits, or in PRISM terms, general and role identities (Boucher, 2011; Church, Anderson-Harumi, et al., 2008; Church, Alvarez, et al., 2012; English & Chen, 2007; Suh, 2002). These studies have found lower correlations in selected Asian (or Asian American) samples as compared to American (or European American) samples, and variously attributed the cultural differences to differences in individualism–collectivism or dialecticism. However, in two studies that compared college students in the United States, Australia, Mexico, Venezuela, Philippines, Malaysia, China, and Japan, the only definitive cultural differences involved Japan, where participants exhibited lower correlations relating general and role identities and different role identities (Church, Anderson-Harumi, et al., 2008; Church, Alvarez, et al., 2012).

Two daily process studies found some differences in the cross-situational consistency of daily affect or behavior and attributed the differences to cultural differences in individualism–collectivism (Church, Katigbak, et al., 2008; Oishi, Diener, Scollon, & Biswas-Diener, 2004). In PRISM terminology, these two studies suggest that role experiences might be more varied across roles in collectivistic cultures. In a 14-day experience sampling study, Nezlek, Schütz, Schröder-Abé, and Smith (2011) found differences between Americans and Germans in how the Big Five traits relate to the quality and quantity of social interactions. The authors attributed some differences to the greater formality and structure in German society, a description that recalls the concept of cultural tightness. In terms of the PRISM, this study suggests that Big Five general identities may relate to role experiences differently across cultures.

In summary, there is insufficient evidence to conclude whether there are cultural differences in the structural relationships predicted by PRISM, or whether individualism–collectivism, dialecticism, or tightness might best account for such differences. In addition, the evidence for cultural differences is limited primarily to comparisons of Americans and East Asians. Thus, there is a need for a more comprehensive test of the PRISM in a greater diversity of cultures.

1.3. Overview of the present study

Drawing on previous research (Church, 1987; Church, Alvarez, et al., 2012; Díaz-Loving & Draguns, 1999; Gelfand et al., 2011; Hofstede, 2001; Schimmack, Oishi, & Diener, 2002), we sampled five cultures (the U.S., Mexico, Malaysia, China, and Japan) that were expected to vary along the cultural dimensions of individualism–collectivism, dialecticism, and tightness. Hofstede ranked 53 countries and regions on individualism based on a cross-national study of values. The U.S. ranked 1st, Japan 22nd, Mexico 32nd, and Malaysia 36th. China was not included but Taiwan (43rd) and Singapore (40th) were ranked as relatively collectivistic. Dialecticism has been linked primarily to Asian countries, particularly those in East Asia (Peng & Nisbett, 1999; Spencer-Rodgers, Peng, Wang, & Hou, 2004). Finally, Church, Alvarez et al. found that Malaysians, Chinese, and Japanese averaged higher in cultural tightness than Americans and Mexicans. In addition, the rank order of the tightness scores in that study closely replicated the rank order in Gelfand et al.'s study for the seven cultures that were included in both data sets ($\rho = .89, p < .01$). It would be difficult, if not impossible, to differentiate various combinations of these dimensions in a small set of cultures. However, we hoped to use measures of the cultural dimensions to confirm our classification

of the cultures and to determine whether individualism–collectivism, dialecticism, or cultural tightness would best account for any cultural differences in the structural relationships in the PRISM.

Participants in each culture first rated their Big Five traits in general (i.e., general identities) and in five interpersonal roles (i.e., role identities) and completed measures of the cultural dimensions. A novel strength of the study was the use of experience sampling methods to assess role experiences, reducing recall effects and increasing ecological validity. Participants rated their Big Five-related personality states (i.e., role experiences) in multiple interpersonal interactions each day for 14 days, while indicating the primary role (i.e., interaction partner) associated with each interaction. Although previous studies investigated role experiences or outcomes such as role burnout, satisfaction, and performance (Heller et al., 2009; Wood, 2007; Wood & Roberts, 2006), personality states also fit the definition of role experiences offered by Wood and Roberts (i.e., general thoughts, feelings, and behavioral patterns occurring within a role). In addition, as Fleeson (2001) has argued in his density distributions approach to traits, behavior can be characterized as personality states and these states can be assessed by measuring the degree to which traits are manifested in behavior at any moment. In the density distributions approach, individual differences in traits are characterized in terms of the distributional properties of the associated personality states over time. In the present study, general identities, role identities, and role experiences (i.e., personality states) were all assessed using the Big Five dimensions. This enabled a more straightforward evaluation of the degree of convergence between general identities, role identities, and role experiences (Fleeson & Wilt, 2010).

The present study can make a number of theoretical and applied contributions. First, a comprehensive study of the PRISM in a variety of cultures should enable conclusions regarding the generalizability of the PRISM and the viability of efforts to integrate traits and situations via the construct of role identity (Wood & Roberts, 2006). Second, the study can also address important questions about the relationship between traits and situations in different cultures and the validity of trait and cultural psychology perspectives more generally. Third, by assessing role experiences in terms of personality states in an experience sampling design, the study can contribute towards a synthesis of the theoretical and empirical perspectives offered by the PRISM and the density distributions approach to traits (Fleeson, 2001; Fleeson & Gallagher, 2009), two perspectives that have proceeded largely independently of each other. Finally, from an applied perspective, the study addresses the relative merits of general vs. contextualized measures of personality in predicting role experiences.

We expected the structural relationships predicted by the PRISM to generalize well across cultures. Thus, we expected to find support in all five cultures for the hypotheses on the left side of Table 1. If cultural psychology perspectives are valid, we should also find some cultural differences in the structural relationships encompassed by the PRISM, as delineated for each hypothesis on the right side of Table 1.

2. Method

2.1. Participants

2.1.1. United States

The U.S. sample included 66 college students (16 men, 50 women) from the University of Idaho. Across 14 days, the U.S. participants described their personality states (i.e., role experiences) in a total of 5735 interpersonal interactions. Mean age was 20.89 years ($SD = 5.40$). Ethnic backgrounds were as follows: White/Caucasian

($n = 52$), Latino ($n = 5$), Asian ($n = 1$), Native Hawaiian ($n = 1$), multiracial ($n = 5$), and other or not reporting ($n = 2$).

2.1.2. Mexico

The Mexican sample included 60 Mexican college students (25 men, 35 women) from the National Autonomous University of Mexico at Iztacala. Participants described their role experiences in a total of 5248 interpersonal interactions. Mean age was 19.65 years ($SD = 2.43$). Participants reported the following ethnic backgrounds: Mestizo ($n = 57$), Spanish ($n = 1$), Indigenous ($n = 1$), and not reporting ($n = 1$).

2.1.3. Malaysia

The Malaysian sample included 59 college students (27 men, 32 women) from the National University of Malaysia in Bangi. Participants described their role experiences in a total of 5397 interpersonal interactions. Mean age was 21.37 years ($SD = 0.96$). Ethnic backgrounds were Malay ($n = 29$), Chinese ($n = 29$), and Bajau ($n = 1$).

2.1.4. China

The Chinese sample included 70 college students (15 men, 55 women) from Henan Normal University. Participants described their role experiences in a total of 5885 interpersonal interactions. Mean age was 21.07 years ($SD = 0.98$). All participants but one reported their ethnicity as Han Chinese ($n = 69$).

2.1.5. Japan

The Japanese sample included 53 college students (28 men, 25 women) from Kansai University. Participants described their role experiences in a total of 3548 interpersonal interactions. Mean age was 20.81 ($SD = 1.14$). Because of the anticipated ethnic homogeneity of the sample we did not ask about ethnicity, but verified that no participants were international students.

2.2. Measures

2.2.1. Translation and measurement equivalence

All instruments were translated from English into Spanish, Malaysian, Chinese, and Japanese using the backtranslation method. Minor modifications to the translations were made as necessary. Church, Alvarez, et al. (2012) used multigroup mean and covariance structures analyses to demonstrate acceptable metric (factor loading) equivalence for both the Trait-Role Questionnaire and the cultural measures and partial scalar (intercept) equivalence for the cultural measures.¹ Because only partial scalar equivalence was demonstrated for the cultural measures, some caution is required in interpreting cultural mean differences with those instruments.

2.2.2. Trait-Role Questionnaire

To measure general and role identities, we adapted the Trait-Role Questionnaire (Church, Anderson-Harumi, et al., 2008). Given

¹ For each instrument, the latent constructs (e.g., the Big Five traits, dialecticism) were each measured by three item parcels. To obtain good model fit for the Trait-Role Questionnaire (i.e., the general identities), secondary loadings were introduced for 7 of the 15 observed variables (item parcels) in the model. For all of the instruments, model fit with all factor loadings constrained to be equal across cultures ranged from acceptable to very good, indicating good metric equivalence across cultures (CFI range = .85–.99; RMSEA range = .02–.04). Metric (loading) equivalence is sufficient for comparisons of the structural relationships in the PRISM across cultures, whereas scalar (intercept) equivalence is preferred for cultural mean comparisons with the cultural measures. To obtain good model fit for the cultural measures it was necessary to freely estimate (rather than constrain to equality across cultures) the intercepts for 1 of 3 item parcels for the cultural tightness (CFI = .93; RMSEA = .05) and dialecticism measures (CFI = .98; RMSEA = .02) and 4 of 9 intercepts for the self-construal measure (CFI = .93; RMSEA = .03).

the considerable demands of experience sampling studies on participants, we shortened the instrument from 40 to 25 trait adjectives with good item-total correlations across cultures in previous studies. We selected five trait adjectives, including some reverse-keyed (r) traits, for each of the Big Five dimensions, as follows: for Extraversion, *talkative*, *extraverted*, *energetic*, *shy* (r), and *quiet* (r); for Agreeableness, *sympathetic*, *kind*, *helpful*, *respectful*, and *selfish* (r); for Conscientiousness, *organized*, *disciplined*, *hardworking*, *careless* (r), and *lazy* (r); for Emotional Stability, *calm*, *moody* (r), *jealous* (r), *nervous* (r), and *irritable* (r); and for Openness to Experience, *creative*, *imaginative*, *intelligent*, *artistic*, and *open-minded*. Using a 5-point scale (1 = *not at all descriptive of me* to 5 = *extremely descriptive of me*), participants rated their traits in general (i.e., general identities) and when interacting with close friends, family members, classmates or acquaintances, professors or teachers, and strangers (i.e., role identities). Each role appeared on a separate page and the traits were randomly ordered for each role. Internal consistency (α) estimates were good for short scales. The mean α reliabilities for the Big Five general identities were .73 in the United States, .66 in Mexico, .71 in Malaysia, .74 in China, and .59 in Japan. The mean α reliabilities for the role identities ranged from .61 to .72 ($M = .66$). Validity evidence for this instrument was reported by Church, Anderson-Harumi, et al. (2008) and Church, Alvarez, et al. (2012), who found, for example, sensible correlates of individual differences in cross-role consistency and expected correlations between consistency and well-being measures.

2.2.3. Interpersonal Interaction Form

These forms were used to measure personality states during participants' daily interpersonal interactions. The instrument is similar to those used in previous experience sampling studies (e.g., Fleeson & Gallagher, 2009; Wilt, Nofhle, Fleeson, & Spain, 2012), including in cross-cultural studies (e.g., Oishi et al., 2004; Scollon, Diener, Oishi, & Biswas-Diener, 2005). After each interaction lasting 5 min or more, participants recorded the date, time of day the interaction began, estimated length of the interaction, type of communication (face-to-face, on the phone, online chat), and primary interaction partner using the following roles: with close friend(s) or romantic partner, family member(s), classmate/acquaintance(s), professor/teacher(s), stranger(s).² Participants also had the option to indicate a secondary interaction partner, but did so in only a minority of cases. Participants were asked to complete the forms as soon as possible after the interaction and somewhat evenly throughout the day. It took about 2–4 min to complete each interaction form. Personality states were assessed with ten adjectives from the Trait-Role Questionnaire, two for each Big Five dimension, as follows: for Extraversion, *extraverted*, *energetic*; for Agreeableness, *kind*, *helpful*; for Conscientiousness, *organized*, *hardworking*; for Emotional Stability, *irritable* (r), *nervous* (r); and for Openness to Experience, *open-minded*, *imaginative*. The instructions were written to assess personality states rather than traits (i.e., "please indicate how accurately each trait described you during this interaction") using a 5-point scale that ranged from 1 (*not at all descriptive of me*) to 5 (*extremely descriptive of me*).

2.2.4. Measures of cultural dimensions

2.2.4.1. Self-construal scales. To assess self-construals, a central aspect of individualism–collectivism, we administered 14 items from

² Using these roles we attempted to cover all likely interaction partners using a reasonable number of roles. Not all participants would have romantic partners but we judged that personality states with romantic partners would be most similar to personality states with close friends. For similar reasons, classmates and acquaintances who were not close friends were grouped together as were professors and teachers. For brevity, however, we generally refer only to close friends, classmates, and professors (as well as family members and strangers) in the text.

Singelis (1994) Independent Self-construal scale and 10 collective items from Kashima and Hardie (2000) RIC Self-aspects Scale. We used Kashima and Hardie's collective items in place of Singelis' Interdependent Self-construal scale because in some of our previous studies, some items in the Interdependent Self-construal scale have loaded on the wrong (i.e., Independent) factor in factor analyses. A sample independent self-construal item is "I enjoy being unique and different from others in many respects." A sample collective self-construal item is "I think it is most important in life to work for causes to improve the well-being of my group." Participants indicated their level of agreement using a 6-point scale that ranged from 1 = *strongly disagree* to 6 = *strongly agree*. Across the five cultures, α reliabilities ranged from .51 to .73 ($M = .64$) for the Independent scale, and from .69 to .78 ($M = .74$) for the Collective Scale.

2.2.4.2. Dialectical Self Scale. The most widely used and validated measure of dialecticism is the Dialectical Self Scale (DSS; Spencer-Rodgers, Srivastava, et al., 2010; see also Spencer-Rodgers, Williams, et al., 2010). To reduce administration time, we administered the 14-item Abbreviated DSS scale (Spencer-Rodgers, Peng, & Wang, 2010). However, to increase reliability we also included six additional items from the original 32-item DSS scale that performed best in one of our previous studies (Church, Wilmore, et al., 2012). Items assess acceptance of contradiction (e.g., believing that opposing sides of an argument can both be correct), tolerance of cognitive change (e.g., being willing to change one's beliefs), and willingness to adapt one's behavior to fit circumstances. Sample dialecticism items are "I am constantly changing and am different from one time to the next"; and "My world is full of contradictions that cannot be resolved." Participants rated their level of agreement on a 7-point scale that ranged from 1 = *strongly disagree* to 7 = *strongly agree*. Alpha reliabilities ranged from .57 to .81 ($M = .72$) across the five cultures.

2.2.4.3. Cultural Tightness–Looseness Scale. Gelfand et al. (2011) constructed a six-item measure to assess participants' perceptions of the strength of social norms and the degree of sanctioning of behavior within their country. We added eight new items to improve reliability and the balance of positive- and reverse-keyed items.³ A sample item is "In this country, there are very clear expectations for how people should act in most situations." Alpha reliabilities ranged from .60 to .83 ($M = .69$) across the five cultures.

2.3. Procedure

After recruitment in classes, participants took part in a group session in which they completed the Trait-Role Questionnaire and cultural measures and learned how to fill out the Interpersonal Interaction Forms. Starting the next day, participants completed multiple Interpersonal Interaction Forms each day for 14 days. Participants were provided with daily packets, each of which contained eight such forms. Participants were asked to complete one of the forms immediately following each interpersonal interaction lasting 5 min or longer. Participants turned in completed forms at regular intervals while being monitored by research assistants to ensure proper and timely completion.

2.4. Overview of data analysis

We first report descriptive statistics for the Interpersonal Interaction Forms, in part, to show that participants in all five cultures

complied with instructions in reporting their multiple daily interactions. Using ANOVAs, we then examine whether there were sensible differences in identities and role experiences across roles as predicted by the PRISM (Hypothesis 1). For the role experiences, which were assessed as Big Five personality states in each interpersonal interaction, we averaged the personality state ratings across all interactions for each role. For example, we computed the average extraversion personality state ratings across all interactions with close friends/romantic partners to get an overall extraversion state score for that role. We then examined the structural relationships between general identities, role identities, and role experiences using simple and partial correlations. Although the nesting of roles within individuals might suggest a multilevel analysis, most of the specific hypotheses associated with the PRISM model (e.g., the pairwise relationships between role identities) do not lend themselves to such analyses. In addition, Wood and Roberts (2006) stated and tested the structural relationships in the PRISM as between-persons hypotheses, whereas multilevel modeling would be more consistent with a within-persons analysis (e.g., role identities predicting role experiences within individuals). Finally, we wished to compare the strength of the relationships found between general identities, role identities, and role experiences in the present study with the estimates reported by Wood and Roberts, so we replicated the correlational analyses reported in that study. We first report the results for the hypotheses that address the generalizability of the PRISM across cultures. In a later section, we examine the extent of support for the cultural psychology predictions associated with the PRISM hypotheses.

3. Results

3.1. Descriptive statistics for the Interpersonal Interaction Forms

Inspection of the times participants listed on the Interpersonal Interaction Forms revealed that they completed the forms throughout the day as instructed. Table 2 shows descriptive statistics for the interaction forms. The mean number of forms completed by participants in the five cultures corresponded to an average of about 5–7 forms per day. An ANOVA revealed significant cultural differences in the total forms completed ($F[4, 303] = 21.23$, $p < .01$, $\eta^2 = .22$), which was largely due to our decision to retain ten Japanese participants who averaged only two or three interaction forms per day.⁴ In all five cultures, the typical interaction was sufficiently long to form impressions of one's personality states (i.e., role experiences). Indeed, the means and standard deviations for interaction length were relatively large because some participants treated lengthy social encounters (e.g., being in class with a classmate, or spending an evening with close friends) as a single interaction. Not surprisingly, in all cultures, the percentage of face-to-face interactions far exceeded the percentage of phone interactions or on-line chats. Finally, in all cultures, close friends/romantic partners, or classmates/acquaintances, were the most frequent primary interaction partners, and professors/teachers and strangers the least frequent. A few cultural differences in these interaction patterns are noted in a later section on cultural differences.

³ We thank Michele J. Gelfand for reviewing the new items and for permission to adapt the Cultural Tightness–Looseness Scale in this way.

⁴ Although participants were asked to fill out an Interpersonal Interaction Form for all interactions lasting 5 min or longer, we retained a small number of interactions that lasted less than 5 min as reported by the participants. In addition, although participants in all cultures were asked to fill out a form after each interpersonal interaction lasting five minutes or longer, they were also encouraged to average at least five or six forms per day. In the Chinese sample, this general guideline was followed precisely and resulted in almost all participants filling out six forms per day, or 84 forms over 14 days. This explains the small standard deviation for the number of total forms completed in that sample.

Table 2
Descriptive statistics for Interpersonal Interaction Forms (IIF).

	United States	Mexico	Malaysia	China	Japan
Mean (SD) number of IIF forms completed	86.89 (18.28)	87.47 (10.56)	91.47 (17.51)	84.07 (.729)	66.94 (22.01)
Mean (SD) length of interactions in minutes	33.73 (52.87)	45.23 (56.44)	19.89 (24.41)	21.21 (22.96)	39.45 (59.37)
Mean percentages of interactions that were					
Face-to-face (%)	74.7	75.1	72.4	67.9	84.7
On the phone (%)	16.8	12.1	18.3	18.2	7.8
Online chat (%)	8.5	12.8	9.3	14.0	7.6
Mean percentage of interactions involving primarily					
Close friend(s) or romantic partner (%)	55.5	34.2	30.4	28.2	43.1
Family member(s) (%)	15.3	30.6	15.3	8.0	23.6
Classmate/acquaintance(s) (%)	20.8	21.7	38.9	53.5	25.1
Professor/teacher(s) (%)	3.2	7.6	6.4	3.4	2.3
Stranger(s) (%)	5.2	6.0	9.0	6.9	5.8

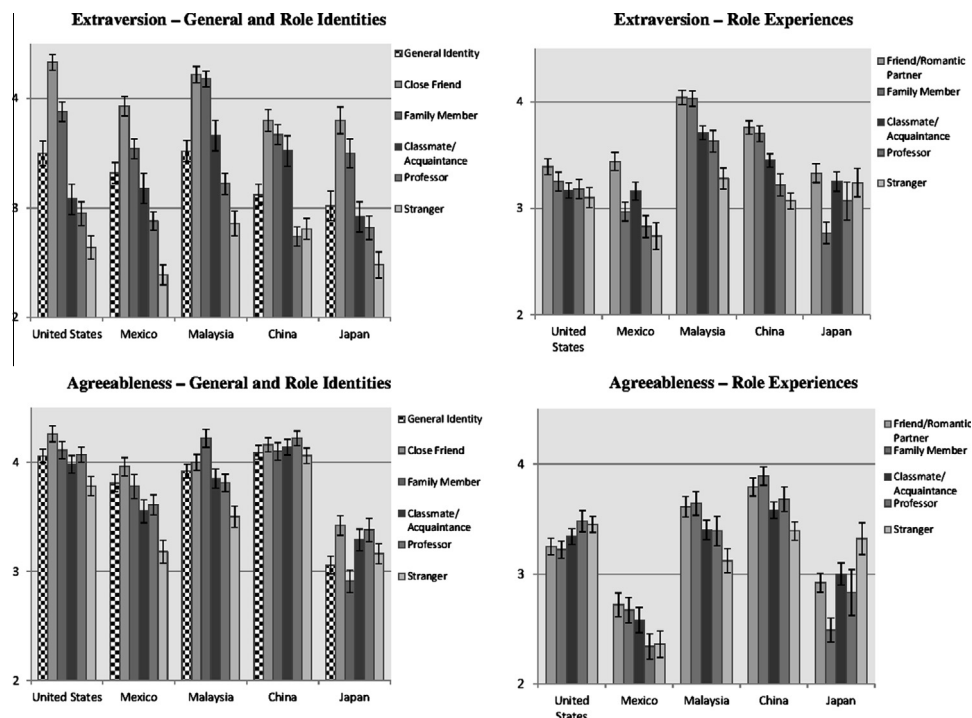


Fig. 2. Mean Big Five scores in general identities, role identities, and role experiences. Role identity scores are based on five-item composites. Role experience scores are based on two-item composites. All scores are averages across all interpersonal interactions within the specified roles. Across the five cultures, the average percentages of interactions in different roles for the role experiences were as follows: 38.28% with close friends or romantic partners, 18.56% with family members, 32.00% with classmates/acquaintances, 4.58% with professors/teachers, and 6.58% with strangers.

3.2. Role effects for role identities and experiences

Consistent with the PRISM, in all cultures we expected to find sensible mean differences in the trait ratings that comprise different role identities (Hypothesis 1) and parallel mean differences in the personality states that reflect participants' role experiences (Hypothesis 2). Fig. 2 shows the mean Big Five levels for the general and role identities in each culture (see left side of the figure) and for the role experiences or personality states (see right side of the figure). Supporting Hypothesis 1, within-culture ANOVAs revealed significant role effects for each Big Five trait in all cultures ($F[3.36-3.95, 208-260] = 5.33-99.31, p < .01$) with the exceptions of Emotional Stability in Malaysia and Agreeableness in China. The role effect sizes, which ranged from modest to very large, are shown in the top half of Table 3. Supporting Hypothesis 2, within-culture ANOVAs also revealed significant role effects in all cultures for the Big Five personality states comprising the

role experiences (range of Greenhouse–Geisser $F[1.70-4.00, 27.15-192.00] = 4.51-43.05, p < .05$). Sample sizes for the role-experience ANOVAs were smaller because participants who reported no interactions in a particular role—usually the professor or stranger role—were list-wise deleted ($N = 45-49$ in four cultures but only 17 in Japan). However, the means shown in Fig. 2 were not subject to list-wise deletion. The role effect sizes, which ranged from moderate to very large, are shown in the bottom half of Table 3.

The patterns of means in Fig. 2 indicate that the role differences were generally consistent with the demands and expectations of the respective roles. In both the role identities and experiences, Extraversion was generally highest in familiar or egalitarian roles—that is, with close friends, family members, and classmates, in that order—and relatively low with professors and strangers. In both role identities and experiences, there was a tendency for Agreeableness to be highest with close friends and family members

Table 3
Role effect sizes (η^2 values) for role identities and role experiences by culture.

Big Five trait or state	United States	Mexico	Malaysia	China	Japan	Mean
<i>Role identities</i>						
Extraversion	.60	.53	.56	.35	.41	.49
Agreeableness	.15	.24	.29	.03	.15	.17
Conscientiousness	.36	.32	.20	.23	.40	.30
Emotional Stability	.11	.17	.03	.07	.36	.15
Openness to Experience	.23	.21	.29	.11	.10	.19
Mean	.29	.29	.27	.16	.28	
<i>Role experiences</i>						
Extraversion	.09	.31	.40	.43	.23	.29
Agreeableness	.11	.15	.20	.28	.24	.20
Conscientiousness	.50	.27	.24	.15	.63	.36
Emotional Stability	.13	.13	.09	.31	.35	.20
Openness to Experience	.08	.28	.25	.26	.17	.21
Mean	.18	.23	.24	.29	.32	

Note: For the role identities, United States $N = 66$, Mexico $N = 60$, Malaysia $N = 59$, China $N = 70$, Japan $N = 53$. For the role experiences, United States $N = 45$, Mexico $N = 45$, Malaysia $N = 47$, China $N = 49$, Japan $N = 17$.

and lowest with strangers, although there were some exceptions involving the U.S. and Japan. For Conscientiousness, the most definitive finding across cultures was the high conscientiousness with professors in both the role identities and role experiences. In addition, conscientiousness tended to be relatively low with friends and family members, with the exception of the role experiences in Malaysia and China. Participants can afford to be less organized and hardworking with close friends and family members.

For Emotional Stability, there was less convergence between the pattern of role differences for the role identities and experiences. For example, in the role identities, participants in all five cultures described themselves as relatively low in emotional stability with family and especially strangers, as compared to the other roles, and relatively high with professors, but these trends were not observed in the role experiences. The relatively high emotional stability scores in the role experiences might have resulted from our use of only two reverse-keyed items (*irritable*, *nervous*) in the IIF forms, which participants may have been reluctant to endorse as descriptive of their interactions. Even so, in the role experiences there was a consistent tendency across cultures for participants to report greater emotional stability in more familiar roles (i.e., with close friends, family members, and classmates) than with professors and strangers. Finally, for Openness to Experience, there was a fairly consistent tendency across cultures for participants to report highest levels with close friends and lowest levels with strangers. This sensible pattern generally held for both role identities and role experiences.

Finally, inspection of the mean role effects in the last column of Table 3 shows that the same two Big Five traits—Extraversion and Conscientiousness—were the most variable across roles in both the role identities and role experiences. In U.S. samples, Flesson and Gallagher (2009) also found that Extraversion and Conscientiousness states were more variable than the other Big Five personality states across daily reports. In combination, these results suggest that the situational demands or affordances associated with extraversion and conscientiousness are more variable across interpersonal roles in a variety of cultures.

3.2.1. General identities

In Fig. 2, we also plotted the mean general identity ratings for each Big Five trait to the left of the role identities for each culture. With the exception of Openness to Experience, the general identities were always intermediate between the highest and lowest role identities. This is what we would expect if the general identities are an aggregate or “averaging” of the role identities, as proposed by the PRISM. However, in about half of the cases, the general

identity means were significantly different from the average of the five role identity means (paired t [$df = 52-69$] = 2.02–7.56, $p < .05$). Thus, at least in these cases, the general identities were not precisely an average of the role identities.

3.2.2. Summary

Consistent with the PRISM, the most salient role differences made sense in terms of the demands and expectations of the roles. In addition, most of the salient role differences were replicated across the role identities and experiences, which is consistent with the PRISM proposal that role identities reflect a translation of role experiences into trait terms. It is important to note, however, that these results reflect group averages, so it is also necessary to relate the general identities, role identities, and role experiences at the individual level.

3.3. Relating general identities, role identities, and role experiences

3.3.1. General vs. role identities

In Hypothesis 3, we predicted moderate correlations between the general and role identities (e.g., general extraversion identity with extraversion role identity in five roles). The first two columns in Table 4 show the means and ranges of the relevant correlations in each culture (throughout the study, Fishers' r -to- z transformations were used to compute means of correlations). Each mean and range is based on 25 correlations (i.e., each Big Five general identity with the corresponding Big Five role identities for five roles). Across the five cultures, all of the general vs. role identity correlations used to compute these means were statistically significant ($p < .01$) and moderate to large in size. These results support Hypothesis 3 and the PRISM.

3.3.2. Relating role identities

In Hypothesis 4, we predicted significant pairwise correlations between the role identities associated with each Big Five trait (e.g., extraversion with friends vs. classmates). In addition, these cross-role correlations were expected to be smaller than the correlations relating the general and role identities. The third and fourth columns in Table 4 show the means and ranges of the cross-role correlations in each culture. Each mean and range is based on 50 correlations (i.e., 10 cross-role correlations for each Big Five trait). Across the five cultures, 96% of the cross-role correlations used to compute these means were statistically significant ($p < .05$) and most were moderate to large in size. The mean cross-role correlations in the third column of Table 4 were not always smaller than the corresponding mean correlations relating the general and role identities in the first column. However, across the five cultures,

Table 4
Correlations relating general and role identities for each culture.

Culture	Correlations between general and role identities		Correlations between role identities		Partial correlations between role identities, controlling for general identity	
	Mean	Range	Mean	Range	Mean	Range
United States	.60	.39–.81	.60	.29–.83	.38	.07–.66
Mexico	.62	.40–.87	.53	.13–.80	.24	–.17 to .63
Malaysia	.63	.31–.85	.59	.20–.86	.34	–.02 to .65
China	.57	.30–.84	.52	.08–.72	.29	–.29 to .59
Japan	.59	.28–.79	.55	.24–.83	.32	–.11 to .71

Note: United States N range = 63–66; Mexico N range = 57–60; Malaysia N range = 56–59; China N range = 67–70; Japan N range = 50–53. Fisher's r -to- z transformations were used to compute the mean correlations. Each mean and range is based on 25 correlations (i.e., each Big Five general identity with the corresponding Big Five role identities for five roles).

77% of the individual cross-role correlations were smaller than the corresponding general vs. role identity correlations; 19% were significantly smaller, applying Steiger's (1980) test on dependent correlations (all z s > 2.09, p < .05). Thus, Hypothesis 4 was generally supported, although with the limited sample sizes in an experience sampling study, the expected correlation differences were not always statistically significant.

In Hypothesis 5, we predicted that the correlations between role identities for each Big Five trait would be substantially reduced after controlling for the corresponding general identities (e.g., extraversion in the friend vs. family roles controlling for general extraversion). The last two columns in Table 4 show the means and ranges of the relevant partial correlations. As predicted, the mean partial correlations in each culture were substantially smaller than the corresponding means for the role identity correlations. After controlling for the corresponding general identities, 100% of the individual cross-role correlations were reduced in size and, across the five cultures, 88% of these reductions were statistically significant (ps < .05) applying Olkin and Finn (1995) test. These results provide strong support for Hypothesis 5.

3.3.3. General identities vs. role experiences

In Hypothesis 6, we predicted that general identities would predict role experiences but that role experiences would be better predicted by the corresponding role identities. For each culture, the first column in Table 5 shows the means of the 50 correlations relating general identity scores for each Big Five dimension to the role experience scores for the corresponding Big Five dimension (e.g., extraversion general identity vs. extraversion personality states in the five roles). In all cultures, the mean correlations were moderate in size. Across the five cultures, 67% of the individual correlations used to compute these means were statistically significant (p < .05). Consistent with Hypothesis 6, these convergent correlations showed that general identities usually predicted role experiences (i.e., personality states in everyday interactions) associated with the same Big Five dimension.

For comparison purposes, each entry in the second column of Table 5 shows the mean of discriminant correlations that were most likely to rival the convergent correlations in size. For example, the convergent correlation relating the Extraversion general identity to personality state scores for Extraversion in the friend role was compared with (a) the four correlations relating the general identities for each of the other Big Five traits to the personality state score for Extraversion in the friend role, and (b) the four correlations relating the Extraversion general identity to the personality state scores for the other Big Five state scores in the friend role. Analogous discriminant correlations were computed for the other four roles and for each of the Big Five traits, resulting in 200 discriminant correlations (which were averaged) for each mean convergent correlation shown in the first column of Table 5. A comparison of the first two columns in Table 5 for each culture re-

veals a fairly strong pattern of convergent and discriminant validity in predicting role experiences from general identities. At the level of individual correlations, 86% of the discriminant correlations were smaller than their corresponding convergent correlation across the five cultures. In all cultures, these results are consistent with the PRISM prediction that general identities predict corresponding role experiences (i.e., personality states), and do so in a discriminant manner.

3.3.4. Role identities vs. role experiences

The third column in Table 5 shows the means of the convergent correlations relating role identities to the corresponding role experiences (e.g., extraversion role identity correlated with extraversion personality state scores within the same role). In all cultures, the mean correlations were moderate in size and across the five cultures 81% of the individual correlations used to compute these means were statistically significant. These convergent correlations show that role identities usually predicted role experiences associated with the same Big Five dimension.

For comparison purposes, each entry in the fourth column of Table 5 shows the means of 400 discriminant correlations that were most likely to rival the convergent correlations in size because they shared either the role identity or role experience, but not both, involved in the convergent correlation.⁵ A comparison of the third and fourth columns in Table 5 reveals a strong pattern of both convergent and discriminant validity in relating role identities to role experiences. At the level of individual correlations, 79% of the discriminant correlations were smaller than their corresponding convergent correlation across the five cultures. In all cultures, these results are consistent with the PRISM prediction that role identities predict corresponding role experiences, and do so in a discriminant manner.

Across the five cultures, and consistent with Hypothesis 6, 75% of the individual convergent correlations relating role identities to role experiences were higher than the corresponding convergent correlations relating general identities to role experiences. However, with the limited sample sizes in an experience sampling study, only 6% of the expected correlation differences were large

⁵ For example, the convergent correlation relating Extraversion identity in the friend role to Extraversion personality states in the friend role was compared with (a) four correlations relating the Extraversion identity in the family, classmate, professor, and stranger roles to Extraversion role experiences (i.e., personality states) in the friend role; (b) four correlations relating the Agreeableness, Conscientiousness, Emotional Stability, and Openness to Experience identities in the friend role to the Extraversion role experiences in the friend role; (c) four correlations relating the Extraversion identity in the friend role to the Extraversion role experiences in the friend, classmate, professor, and stranger roles; and (d) four correlations relating the Extraversion identity in the friend role to the Agreeableness, Conscientiousness, Emotional Stability, and Openness to Experience role experiences in the friend role. Since there were five roles, there were 80 such discriminant correlations (5×16) for each Big Five dimensions (for a total of 400), which were averaged to obtain the discriminant correlations entered in the fourth column of Table 5.

Table 5
Means of correlations relating general and role identities to role experiences in each culture.

Culture	Mean correlations between general identities and role experiences		Mean correlations between role identities and role experiences		Mean partial correlations between general identities and role experiences, controlling for corresponding role identities
	Convergent	Discriminant	Convergent	Discriminant	
United States	.26	.08	.37	.21	.20
Mexico	.24	.10	.32	.19	.16
Malaysia	.34	.16	.48	.34	.27
China	.41	.14	.42	.27	.18
Japan	.28	.10	.36	.21	.19

Note: United States N range = 48–66; Mexico N range = 48–60; Malaysia N range = 51–59; China N range = 50–70; Japan N range = 23–53. Fishers r -to- z transformations were used to compute the mean correlations. Each convergent entry is the mean for the 50 correlations relating general identity scores for each Big Five dimension to the role experience scores for the corresponding Big Five dimension (e.g., extraversion general identity vs. extraversion personality states in the five roles). Each discriminant entry shows the mean of 400 discriminant correlations that were most likely to rival the convergent correlations in size because they shared either the role identity or role experience, but not both, involved in the convergent correlation.⁵

enough to be statistically significant ($p < .05$), and 2% of the correlations showed significant differences in the unexpected direction (Steiger, 1980).

Finally, the last column in Table 5 shows the mean partial correlations relating the general identities to the role experiences, controlling for the corresponding role identities. Supporting Hypothesis 7, these partial correlations indicate that the role identities generally mediated the relationships between general identities and role experiences. Indeed, across the five cultures, 80% of the statistically significant ($p < .05$) individual correlations relating general identities to role experiences were no longer statistically significant after controlling for the corresponding role identity, indicating full mediation. In a direct comparison of the simple and partial correlations using Olkin and Finn's (1995) test, we found that 52% of the simple correlations across the five cultures were significantly reduced.

3.3.5. Summary

Our results indicate that the PRISM generalizes well to a diversity of cultures. As predicted by the model, general identities and role identities were substantially related, and generally more so than were the different role identities for the same trait. Significant reductions in the cross-role correlations after controlling for the general identities indicated that general identities were a significant source of the communality between the different role identities. General identities predicted role experiences, but less well than the role identities did. Indeed, the role identities substantially mediated the relationships between general identities and role experiences. We now turn to the question of cultural differences.

3.4. Cultural differences

Given the limited sample size in each culture in our experience sampling study (N range = 53–70), our analyses of cultural differences should be considered exploratory. In the following, we briefly summarize the primary cultural differences observed.

Cultural mean differences, controlling for gender, were found on the cultural measures (MANCOVA Wilks' Lambda = .51, $F[16,911] = 13.89$, $p < .01$) and conformed to expectations for dialecticism ($F[4,301] = 21.75$, $p < .01$) and tightness ($F[4,301] = 4.58$, $p < .01$) (see Table 6). That is, participants in the three Asian cultures averaged higher in dialecticism than the Americans and Mexicans, with the Chinese and Japanese averaging highest. Asians averaged higher in tightness than the Americans and Mexicans, with the Malaysians averaging higher (although not significantly so) than the Chinese and Japanese. Cultural mean differences for the self-construal scales were only partially consistent with the traditional view of these cultures ($F[4,301] = 20.30$ and 14.44 for

Table 6
Comparison of cultural dimensions.

Dimension	United States	Mexico	Malaysia	China	Japan	η_p^2
<i>Dialecticism</i>						
<i>M</i>	3.57 _a	3.79 _a	4.12 _b	4.29 _{b,c}	4.52 _c	.22
<i>SE</i>	.08	.08	.08	.08	.09	
<i>Tightness</i>						
<i>M</i>	3.59 _a	3.66 _{a,b}	3.96 _c	3.84 _{a,b,c}	3.91 _{b,c}	.06
<i>SE</i>	.07	.07	.07	.07	.08	
<i>Independent self-construal</i>						
<i>M</i>	4.27 _b	4.64 _c	4.18 _b	3.92 _a	3.89 _a	.22
<i>SE</i>	.06	.07	.07	.06	.07	
<i>Collective self-construal</i>						
<i>M</i>	4.49 _{b,c}	4.46 _b	4.81 _{c,d}	4.85 _d	4.09 _a	.16
<i>SE</i>	.08	.08	.08	.07	.09	

Note: Means in each row that share a subscript are not significantly different ($p > .05$) in LSD tests. η_p^2 = partial eta² (i.e., ANOVA effect size controlling for gender). United States $N = 66$, Mexico $N = 60$, Malaysia $N = 59$, China $N = 70$, Japan $N = 52$.

independent and collective self-construals, respectively, $ps < .01$). Because scores on self-report measures of self-construals and individualism–collectivism frequently depart from expectations (Oyserman, Coon, & Kemmelmeier, 2002), we retained our a priori classification of the cultures based on the available literature (Church, 1987; Church, Alvarez, et al., 2012; Díaz-Loving & Draguns, 1999; Gelfand et al., 2011; Hofstede, 2001; Schimmack et al., 2002).

Some cultural differences were observed in the pattern of interpersonal interactions reported by participants with the Interpersonal Interaction Forms (see Table 2). The average reported length of the interactions were significantly shorter in Malaysia and China than in the other three cultures ($F[4,25,538] = 321.30$, $p < .01$, $\eta^2 = .05$). The Japanese reported relatively more face-to-face and fewer phone interactions than participants in the other cultures ($\chi^2[8] = 475.60$, $p < .001$, Cramer's $V = .10$). Compared to participants in the other cultures, relatively more interactions were reported with classmates/acquaintances by the Chinese and Malaysian participants, with close friends/romantic partners by Americans and Japanese, and with family members by Mexicans ($\chi^2[16] = 3274.02$, $p < .001$, Cramer's $V = .18$). We suspect that these limited differences largely reflect differences in the living and study arrangements for participants at the universities sampled in the study (e.g., the proportion of students living with their families vs. at school; opportunities to interact with friends outside the university setting).

There were significant main effects for culture in the role identities for each of the Big Five dimensions ($F[4,303] = 6.43$ –29.38, p

< .01, partial $\eta^2 = .08-.28$) and for the role experiences (personality states) for four of the Big Five dimensions (all but Openness) ($F[4, 198] = 8.50-26.20, p = .01$, partial $\eta^2 = .15-.29$) (see Fig. 2). Follow-up Tukey tests revealed that the Japanese provided consistently lower role identity ratings than the other cultural groups. Consistent with previous research (Heine, Lehman, Markus, & Kitayama, 1999), the Japanese may have exhibited self-critical tendencies, given that all of the Big Five traits were scored in the positive direction. For the role experiences, Tukey tests revealed a few significant cultural differences, but no consistent patterns across the Big Five traits. Significant Culture \times Role interaction effects were also observed for each of the Big Five traits in both role identities (Wilks' Lambda range = 3.86–5.87, Huynh-Feldt $F[14.26-15.42, 1080.41-1167.94] = 3.18-8.30, p < .01$, partial $\eta^2 = .04-.10$) and role experiences (Wilks' Lambda range = 3.07–6.86, Huynh-Feldt $F[11.45-13.95, 566.74-690.40] = 3.12-9.38, p < .01$, partial $\eta^2 = .06-.16$). The most consistent differences involved the family role in the Japanese sample (see Fig. 2). Unlike participants in the other cultures, the Japanese described themselves as least agreeable and conscientious with family members in both their role identities and role experiences. To speculate, the Japanese students may have exhibited reduced conformity or socialization to traditional values within the family context.

In relation to Hypotheses 1 and 2, there was only mixed support for the predicted cultural differences (see right side of Table 1). As seen in Table 3, the relative size of the role effects (ANOVA η^2 values) for the role experiences corresponded to the rank order of the five cultures in dialecticism (i.e., largest in Japan and China, followed by Malaysia, Mexico, and the United States). However, the mean effect sizes for the role identities were similar in four of the five cultures and the effect sizes in China were unexpectedly low for a dialectical, collectivistic, and tight culture. Thus, in their personality states—but not in their role identities—cultures that averaged higher in dialecticism showed greater average variability across roles. Finally, there was no support for the cultural differences predicted in relation to Hypotheses 3–7. The relative sizes of the correlations between general identities, role identities, and role experiences (see Tables 4 and 5) did not correspond to the rank order of the five cultures in individualism–collectivism, dialecticism, or tightness.

In summary, only one of the cultural psychology predictions regarding the PRISM was supported—the larger average role effect sizes for role experiences in dialectical cultures. Although a few cultural differences were observed and may be meaningful—for example, possible self-critical tendencies in the Japanese sample in rating their traits—the limited differences among the five cultures did not correspond to the status of the five cultures on individualism–collectivism, dialecticism, or tightness.

4. Discussion

Our primary goal was to test the cross-cultural generalizability of the PRISM and hence the viability of efforts to integrate traits and situations via the construct of role identity (Wood, 2007; Wood & Roberts, 2006). By assessing role experiences as personality states, we also illustrated how the PRISM can be integrated with the density distributions approach in the study of traits and their manifestation in daily behavior (Fleeson, 2001; Fleeson & Gallagher, 2009). We also consider broader implications of our results for trait and cultural psychology perspectives. Finally, from an applied perspective, the findings address the comparative validity of general vs. contextualized measures in the prediction of personality states or behavior.

4.1. Cross-cultural generalizability of the PRISM

The study provided strong support for the cross-cultural generalizability of the PRISM. In five diverse cultures, we found significant mean-level differences in the traits associated with different role identities and in the personality states reported in different role interactions. The most salient role differences were consistent with the demands and expectations of the respective roles and were generally replicated across the role identities and role experiences. Also consistent with the PRISM, we found moderate correlations between corresponding general and role identities and between the role identities for a given Big Five trait. As predicted, correlations between the general and role identities were generally larger than the correlations between the corresponding role identities, which were substantially reduced after controlling for the general identities. Both general and role identities predicted role experiences (i.e., personality states), with role identities generally being better predictors. Indeed, the relationships between general identities and role experiences were substantially mediated—and in some cases fully mediated—by the corresponding role identities. The strong pattern of convergent and discriminant validity in the prediction of role experiences also indicates that the convergent correlations were not due to methodological artifacts such as common method variance or response styles.

Although comparisons across studies are complicated by the use of different roles and outcome variables, several of our findings are consistent with those in previous U.S. studies. As in the present study, Sheldon et al. (1997), Wood and Roberts (2006), and Heller et al. (2009) found higher levels of extraversion in more intimate roles (i.e., with friends, romantic partners, or in the home) than in less intimate roles (e.g., as students or workers). Donahue and Harary (1998) and Heller et al. (2009) found higher levels of conscientiousness in worker identities than in home or general identities, while we found higher conscientiousness in the student role (i.e., when interacting with professors). Student and worker roles are similar in that both typically require conscientiousness for successful performance. The correlations we observed between the general and role identities were very comparable in size to those reported in previous U.S. studies (Donahue & Harary, 1998; Heller et al., 2009; Slatcher & Vazire, 2009; Wood & Roberts, 2006). These studies employed a variety of measures to assess general and contextualized identities or traits, which indicates that our results were not dependent on the method we used to assess general and role identities. Studies that have predicted role experiences have reported more variable correlations. However, as in the present study, all have reported stronger relationships between role identities and experiences than between general identities and experiences (Bing et al., 2004; Heller et al., 2009; Hunthausen et al., 2003; Schmit et al., 1995; Slatcher & Vazire, 2009; Wood, 2007; Wood & Roberts, 2006).

In summary, we found more similarities than differences across cultures in the size and pattern of role effects and in the structural relationships between general identities, role identities, and role experiences. We conclude that—as expected—role identities and experiences (i.e., personality states) are variable across situations in all cultures, but that the impact of these situations is more similar than different across cultures. This conclusion is consistent with the findings of Church, Katigbak, and del Prado (2010), who found greater cultural similarities than differences in the perceived affordances of various relationship contexts for Big Five behaviors. It is also consistent with the basic proposition of interdependence theory, which posits that certain objective features of situations are cultural universals with predictable impacts on trait-relevant behavior in all cultures (Reis, 2008). Overall, the results indicate that the PRISM provides an effective way to incorporate situational

information into trait models, consistent with an interactionist (trait \times situation) perspective.

4.2. Integrating the PRISM and the density distributions approach

The assessment of personality states using experience sampling methods is not new. Indeed, it is central to the density distributions approach to traits (Fleeson, 2001; Fleeson & Gallagher, 2009; Wilt et al., 2012). The present study was novel, however, in applying the concept of personality states in assessing role experiences in the PRISM. Previous tests of PRISM hypotheses have generally assessed role experiences using academic GPA or retrospective ratings of role outcomes (e.g., satisfaction with one's job, organization, or relationship). Our density distributions approach was consistent with Wood and Roberts' (2006, p. 782) definition of role experiences as general thoughts, feelings, and behavioral patterns occurring within a role. In addition, our experience sampling approach should reduce recall effects and increase ecological validity relative to retrospective assessments.

Thus, our study illustrated how the PRISM and density distributions perspectives—which have proceeded largely independently of each other—can be integrated to their mutual benefit. For example, while density distribution studies have focused primarily on how general traits are manifested in ongoing personality states (e.g., Fleeson & Gallagher, 2009), findings based on the PRISM indicate that contextualized or role-specific traits are better predictors of personality states. Conversely, tests of the PRISM can benefit from the use of experience sampling methods and the concept of personality states in the assessment of role experiences. Both the PRISM and density distribution approaches are consistent with a “bottom-up” conceptualization of traits. For example, in the PRISM, general traits can be viewed as an aggregation of distinct role identities, which, in turn, are translations of role experiences into trait terms (Wood & Roberts, 2006). Similarly, in the density distributions approach, individual differences in traits are characterized in terms of the distributional properties of the associated personality states over time. An advantage of applying the density distributions approach in tests of the PRISM is that personality states summarize trait-relevant behaviors in a way that facilitates comparisons with general and role identities based on the same trait dimensions (Fleeson, 2001; Fleeson & Wilt, 2010). Of course, there is also value in assessing molecular behaviors rather than personality states in experience sampling studies (Church, Katigbak, et al., 2008; Fournier, Moskowitz, & Zuroff, 2008) and in tests of the PRISM. However, researchers must then link the behaviors to the relevant traits—and thus general and role identities—in a definitive manner (Wood, 2007).

4.3. Implications for trait theory and assessment

Given the demonstrated cross-cultural generalizability of the PRISM, we can address implications for trait theory generally. The findings support the importance of general traits (or general identities in PRISM terminology) in a variety of cultures. The general identities predicted role identities and role experiences in daily social interactions, demonstrating how general traits are manifested in daily life. This was not a long-term longitudinal study, which limits our ability to make conclusions about the direction of causality between the general identities, role identities, and role experiences. However, the general identity assessments did predict personality states in daily interactions over the subsequent 2-week period. Many trait theorists believe that general traits have a causal function in predicting daily behavior (e.g., Funder, 1991; Tellegen, 1991). The substantial heritability of the Big Five dimensions (Jang et al., 1998) also suggests that these traits are not merely descriptive summaries of behavior. At

the same time, the growing evidence that role identities, as compared to general identities, are better predictors of role experiences supports social cognitive perspectives that emphasize the importance of the situational context in understanding behavior (Mischel & Shoda, 1995; Wright & Mischel, 1987). Indeed, our findings support Wright and Mischel's concept of conditional dispositions, which refer to stable patterns of behavior (or personality states) that are contingent on situational conditions. Thus, our findings confirm the value of the PRISM as a means to integrate trait and social cognitive perspectives, and person and situation approaches, in understanding personality and behavior.

Wood (2007) offered a plausible account of the causal relationships among general identities, role identities, and role experiences. In this account, role identities are largely translations of past role experiences into trait terms, representing a “bottom-up” process, but are also influenced by general dispositions, a “top-down” process. Thus, role identities result from a combination of situational (e.g., role-specific) and dispositional causes of behavior. In contrast, general identities should be less influenced by role-specific experiences because general identities reflect observations of trait-relevant behavior or personality states across multiple contexts. In Wood's view, general identities are probably accurate and result from dispositional, context-general forces that shape the individual's role experiences and behavioral tendencies. Wood points out that just because role identities correlate more highly than general identities with role experiences, it does not imply that the role identities are the causes of role behavior, rather than vice versa. Indeed, his overall contention is that general identities or traits are causes of a person's behavior in specific roles, while role identities are primarily summaries and not causes of role behavior. Wood found support for these causal hypotheses in a longitudinal study. The PRISM relationships found in the present study are consistent with the causal account offered by Wood, but longitudinal studies in a variety of cultures will be needed to test the cross-cultural generalizability of this account.

Finally, from an applied perspective, this study also addressed the important question of whether general or contextualized trait measures—or in PRISM terminology, general or role identities—will better predict daily personality states, behaviors, or other criteria. Our results extend to new cultures previous frame-of-reference findings supporting the greater validity of contextualized measures (Bing et al., 2004; Hunthausen et al., 2003; Lievens et al., 2008). Alternative explanations for the relative success of contextualized measures have been offered. For example, non-contextualized items may be more ambiguous or require greater inference, leading to greater between-person and within-person inconsistency in the interpretation of items (Bing et al., 2004; Lievens et al., 2008). However, in the context of the PRISM, the greater success of the contextualized trait measures (i.e., role identities) in predicting role experiences likely reflects the more precise targeting of conditional dispositions, as compared to general identities or traits, and the fact that the role identities largely derive from the role experiences.

4.4. Implications for cultural psychology

Given the limited samples size in each culture—which is typical of experience sampling studies—we viewed our examination of cultural differences as more exploratory. We observed some cultural differences, but they were rather limited and did not show a consistent pattern reflecting the status of the five cultures on the cultural dimensions of individualism–collectivism, dialecticism, or cultural tightness. It is possible that the limited cultural differences were due to our sampling of college students rather than broader samples in the cultures. However, support for cultural psychology hypotheses has been found in other studies that sampled

college students (e.g., see Spencer-Rodgers, Williams, et al., 2010 for a review). In particular, in the studies that are most conceptually similar to the present one, researchers have sometimes found cultural differences in cross-role consistency that conform to cultural psychology predictions, particularly in East Asian cultures (Boucher, 2011; Church, Anderson-Harumi, et al., 2008; English & Chen, 2007; Suh, 2002). However, in these studies, cross-role correlations were computed *within* individuals across traits rather than for particular Big Five traits *across* individuals, as in the present study. It is possible that the pattern of cultural differences observed with the two analytic methods will differ. Wood and Roberts (2006) stated and tested the structural relationships in the PRISM as between-persons hypotheses and we adopted the methods used in previous tests of the PRISM (Wood, 2007; Wood & Roberts, 2006).

Cross-cultural researchers have noted the challenges of placing cultures along cultural dimensions such as individualism–collectivism, dialecticism, and tightness. Scores on self-report measures of cultural dimensions frequently depart from cultural expectations (Oyserman et al., 2002), probably due, in part, to response styles and participants' use of different reference groups when rating themselves on Likert scales (Heine, Lehman, Peng, & Greenholtz, 2002). However, the cultural samples in the present sample did differ in expected ways on the dialecticism and tightness measures. In addition, we have obtained better support for cultural psychology hypotheses using these measures in studies with different outcome variables (e.g., cultural differences in need satisfaction and psychological well-being; Church et al., 2013). Thus, the lack of support for cultural psychology hypotheses in the present study does not appear to be due to problems with the cultural measures.

In summary, some caution is warranted in drawing conclusions about cultural differences in this study. Nonetheless, our results at least raise questions about the cultural psychology proposal that situations (or roles) are more important and general traits or identities less important in predicting daily behavior or personality states in collectivistic, dialectical, and tight cultures.

4.5. Strengths and limitations

There were several strengths of the study. First, we sampled a variety of cultures, enabling a fairly rigorous test of the generalizability of the PRISM. Second, we directly measured the cultural dimensions hypothesized to account for cultural differences, providing some support for our a priori classification of the cultures. Third, our assessment of role experiences using experience sampling methods rather than retrospective ratings was a novel contribution which presumably increased ecological validity. A total of 25,813 social interactions were rated across the five cultures. Finally, we assessed trait-relevant behavior in social interactions in terms of personality states, which facilitated comparisons of general identities, role identities, and role experiences in corresponding terms (Fleeson, 2001). There were also some limitations of the study. First, because of the demanding and costly nature of experiencing sampling studies, particularly across multiple cultures, we sampled only college students and only one university per country, which may limit the representativeness of our samples and the generalizability of the findings. Second, we sampled only cultures in the Americas and Asia, so there is a need to extend cross-cultural tests of the PRISM to countries in other continents. Third, we did not assess general and role identities over time, so we could not address the longitudinal or developmental predictions of the PRISM. Fourth, although we assessed general and role identities as defined in the PRISM, there are other aspects of identity besides self-perceptions of one's traits (McConnell, 2011).

4.6. Conclusion

The PRISM generalizes well across cultures and provides a promising way to incorporate situational information into trait models in diverse cultures. Cultural differences in the structural relationships delineated by the model were limited and did not correspond to cultural differences in individualism–collectivism, dialecticism, or tightness. From an applied perspective, the results supported the relative validity of contextualized trait measures (i.e., conditional dispositions) over general trait measures in the prediction of role experiences or behavior in a variety of cultures.

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