Self-concept consistency and short-term stability in eight cultures

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ABSTRACT

Self-concept consistency and short-term stability were investigated in the United States, Australia, Mexico, Venezuela, Philippines, Malaysia, China, and Japan. Evidence for substantial cross-role consistency and reliable within-individual variability in trait self-perceptions were found in each culture. Participants in all cultures exhibited short-term stability in their self-reported traits within roles and moderately stable if–then patterns of trait self-perceptions. Cultural differences, which primarily involved Japan, were partially accounted for by cultural differences in dialecticism, but not self-construals or cultural tightness. In all cultures, satisfaction of needs in various roles partially accounted for within-individual variability in self-reported traits. The results provide support for integrating trait and cultural psychology perspectives, as well as structure and process approaches, in the study of self-concepts across cultures.

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1. Introduction

Western theorists have long contended that a consistent self-concept is important for adjustment and a clear sense of identity (Jahoda, 1958; Jourard, 1965; Maslow, 1954). For example, in Erikson's (1950) theory, healthy mastery of the identity vs. role diffusion stage of development involves self-perceptions of inner sameness and continuity. Similarly, Jourard (1965) argued that a psychologically healthy individual retains a consistent self-view across social roles. Consistent with these theories, studies in American samples have linked self-concept inconsistency to a variety of unhealthy outcomes, including anxiety, depression, lower self-esteem, and lower life satisfaction (Campbell, Assanand, & Di Paula, 2003; Donahue, Robins, Roberts, & John, 1993; Sheldon, Ryan, Rawsthorne, & Ilardi, 1997).

At the same time, cultural psychologists have proposed that self-concept consistency is less important in collectivist or East Asian cultures, where the ability to adapt to situational or role requirements is highly valued (Choi & Choi, 2002; Heine, 2001; Spencer-Rodgers, Williams, & Peng, 2010; Suh, 2002). For example, Markus and Kitayama (1994) noted that "[I]nterdependent selves do not prescribe or require consistency [which] may reflect, not authenticity, but a lack of flexibility, rigidity, or even immaturity" (p. 576). Similarly, Heine (2001) observed that "the functional value of consistency is less clear for East Asian selves" (p. 886).

Researchers who have investigated self-concept consistency across cultures have generally done so by quantifying the amount of variability in participants' ratings of their personality traits across various roles or relationships. In the present study, we extended this research by investigating the cross-role consistency and short-term stability of trait self-perceptions in eight diverse cultures. In formulating hypotheses about cultural differences in

consistency it is useful to consider both trait and cultural psychology perspectives.

1.1. Trait and cultural psychology perspectives on consistency

From trait psychology, we anticipate that people in all cultures exhibit a degree of consistency in how they describe their traits in various roles (Church, 2000; Funder & Colvin, 1991; Oishi, Diener, Scollon, & Biswas-Diener, 2004). In this view, heritable traits contribute to a degree of behavioral consistency in all cultures, which, in turn, leads to some consistency in self-perceptions of one's traits in various roles (Funder, 1995; Wood & Roberts, 2006). From the perspective of cultural psychology, however, several cultural dimensions might underlie cultural differences in self-concept consistency.

One theoretical perspective distinguishes independent and interdependent self-construals, which are thought to be more prevalent in individualistic and collectivistic cultures, respectively (Markus & Kitayama, 1991; Suh, 2002). People with independent self-construals—who view the individual as a unique and autonomous entity—are believed to have a greater need to express their traits and should therefore exhibit greater consistency. In contrast, for people with interdependent self-construals, situations, roles, and relationships are expected to impact behavior more than traits, reducing consistency (Heine, 2001; Markus & Kitayama, 1998).

A second theoretical perspective attributes lower consistency specifically in East Asian cultures to dialecticism, a system of thought rooted in Eastern philosophical traditions and characterized by acceptance of contradiction, expectations of complexity and change, and holistic thinking (Peng & Nisbett, 1999; Spencer-Rodgers, Williams, & Peng, 2010). For example, Choi and Choi (2002) linked East Asians' greater self-concept variability to their dialecticism, which makes them "more able and willing than Westerners to store incompatible and contradictory information about the self in their self-concepts" (p. 1516). People in dialectical cultures are thought to embrace contrasting elements of the self-concept, which are viewed as complimentary and harmonious aspects of the whole (Spencer-Rodgers, Williams, & Peng, 2010).

A third theoretical framework addresses the cultural dimension of 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 in tight cultures where situational constraints on behavior are greater (Gelfand et al., 2011).

Only five studies have compared the cross-role consistency of trait ratings across cultures. Consistent with trait perspectives, all five studies found substantial consistency in both Americans and Asians, but also cultural differences consistent with cultural psychology perspectives. Suh (2002) attributed the reduced consistency of Koreans, as compared to Americans, to differences in self-construals, whereas English and Chen (2007, 2011) attributed the reduced consistency of Asian Americans, as compared to European Americans, to dialecticism. Boucher (2010) found that Chinese averaged modestly lower in self-concept consistency across roles than did Americans, and attributed the cultural differences to dialecticism. Church, Anderson-Harumi, et al. (2008) concluded that the cultural differences in their study were better explained by East Asian dialecticism than individualism–collectivism, because only their Japanese sample, and not Mexicans, Filipinos, or Malaysians, exhibited lower consistency than their American and Australian samples. Using a different methodology, Kanagawa, Cross, and Markus (2001) had Americans and Japanese fill out a sentence completion measure of self-concept while situated in different contexts. The Japanese exhibited greater variability than the Americans in the frequency that they mentioned various categories of self-description in these contexts. Kanagawa et al. interpreted the

cultural differences in terms of self-construal differences, but did not directly assess this potential mediating variable.

As revealed by these studies, there is some evidence of cultural differences in cross-role consistency, but this evidence has been limited primarily to comparisons of Americans and East Asians (or European Americans and Asian Americans). Thus, one aim of the present study was to examine the extent of cross-role consistency in a more diverse set of cultures. In addition, given the current status of the literature, it is not yet possible to draw definitive conclusions about whether self-construals, dialecticism, or cultural tightness will best account for cultural differences in consistency. Only two studies directly investigated the ability of one of these dimensions to mediate cultural differences. Both English and Chen (2007, Study 2a) and Boucher (2010) found that dialecticism, as measured by the Dialectical Self Scale (Spencer-Rodgers, Srivastava, et al., 2010), mediated cultural or ethnic differences in consistency. Therefore, a second aim of the present study was to test the ability of self-construals, dialecticism, and cultural tightness to mediate cultural differences in consistency. By integrating trait and cultural psychology perspectives on consistency, we formulated our first two hypotheses.

Hypothesis 1. At least moderate (i.e., $r \geqslant .40$) cross-role consistency in personality trait ratings will be evident in all cultures.

Hypothesis 2. Cultural differences in cross-role trait consistency can be accounted for, in part, by cultural differences in individualism–collectivism, dialecticism, or cultural tightness.

1.2. Two types of self-concept consistency

English and Chen (2007) observed that research on culture and self-concept consistency has focused on consistency *across* different contexts and not the temporal stability of trait self-perceptions *within* contexts. They hypothesized that Westerners define the self in relatively stable, global terms leading to consistency across *both* contexts and time. In contrast, they proposed that East Asians define the self in stable, if–then terms, leading to reduced consistency across contexts, but comparable levels of temporal stability within contexts. For East Asians, stability *within* relationships is expected to promote relationship harmony, an important goal in collectivistic cultures, by facilitating smooth interactions and a sense of security.

Indeed, English and Chen (2007, 2011) found that Asian Americans exhibited less consistency in trait ratings *across* relationship contexts than European Americans, but comparable levels of *within*-relationship stability across time, supporting the presence of reliable if–then profiles of traits across relationships. In addition, English and Chen (2011) found that cross-role variability was associated with lower perceived authenticity and relationship quality in European Americans but not Asian Americans, whereas lower temporal stability within roles was associated with lower authenticity and relationship quality in both ethnic groups. These results highlight the importance of investigating both cross-role consistency and within-role stability of trait self-perceptions across cultures. Therefore, our third aim was to further examine the distinction between cross-role consistency and within-role stability using a more diverse set of cultures than was studied by English and Chen (2007, 2011). If the analysis of English and Chen is correct, we should find a similar distinction between consistency and short-term stability in a multinational sample that includes participants from East Asian countries and additional collectivistic cultures. We selected an interval of 1 month between measurements, which enabled us to examine the reliability or short-term stability of self-concepts and if–then profiles of traits, but not long-term temporal stability (Watson, 2004). Although we predicted cultural differences in cross-role

consistency in Hypothesis 2, following English and Chen, we expected to find similar levels of short-term stability of trait self-perceptions across cultures.

Hypothesis 3. In all cultures, moderate to high short-term stability within roles and stable if–then patterns of trait ratings will be evident.

1.3. Need satisfaction and within-individual variability

Concomitant with a degree of self-concept consistency is the possibility of reliable within-individual variability in trait self-perceptions across roles (Fleeson, 2001). That is, individuals may vary in systematic ways in their levels of extraversion or other traits across various social roles. From a process perspective in personality psychology it is important to identify the attributes of different roles that can account for this within-individual variability. This was the final aim of the present study.

A number of researchers have shown that within-individual variability in personality states and behavior is substantial (Fleeson, 2001, 2007; Fournier, Moskowitz, & Zuroff, 2008; La Guardia, Ryan, Couchman, & Deci, 2000). Just as important, researchers have begun to identify psychologically-active situational attributes that can account for this variability, although little of this research has been conducted across cultures (Fleeson, 2007; Fleeson & Leicht, 2006; Fleeson & Wilt, 2010). In the present study, we drew on Self-Determination Theory (SDT; Deci & Ryan, 1985, 2000) to assess the attributes of roles that might underlie within-individual variability in trait self-perceptions in different cultures. The needs associated with SDT (autonomy, competence, and relatedness) are of special interest because SDT theorists have proposed that these are universal needs that are important in all cultures (Chirkov, Ryan, & Willness, 2005; Deci et al., 2001; Levesque, Zuehlke, Stanek, & Ryan, 2004). Furthermore, it is plausible that individuals in a range of cultures will manifest particular traits to a greater extent in roles that better satisfy particular needs (e.g., greater extraversion in roles that satisfy needs for relatedness; greater conscientiousness in roles that satisfy needs for competence).

In previous studies, proponents of SDT have shown that satisfaction of autonomy, competence, and relatedness needs in various relationships can account for within-individual variability in attachment security and emotional reliance in these relationships (La Guardia et al., 2000; Ryan, La Guardia, Solky-Butzel, Chirkov, & Kim, 2005). In the only cross-cultural study we could identity, Lynch, La Guardia, and Ryan (2009) showed that perceived autonomy-support could account for within-individual variability across relationships in ideal-actual self-concept discrepancies in all three cultures studied, but that the impact of autonomy support was somewhat stronger in the United States, then Russia, and China, in that order. Lynch et al.'s cross-cultural study raises the possibility that perceived satisfaction of SDT needs in various roles might differentially impact trait self-perceptions in these roles in different cultures. However, given the very limited cross-cultural research on SDT needs as a determinant of within-individual variability, we chose to emphasize the proposed universal impact of these needs in our hypothesis.

Hypothesis 4. In all cultures, within-individual variability in trait ratings across roles is related to SDT need satisfaction in the roles.

1.4. Sampling of cultures

Drawing on theory and empirical results, we purposely sampled cultures expected to vary along the dimensions of individual-ism–collectivism (Hofstede, 2001; Triandis, 1995), dialecticism (Peng & Nisbett, 1999; Spencer-Rodgers, Williams, & Peng, 2010), and tightness–looseness (Church et al., in press; Gelfand et al., 2011; Triandis, 1995), which are hypothesized by cultural psychologists to account for cultural differences in consistency. It would be difficult, if not impossible, to sample all possible combinations of cultures along these dimensions. However, we anticipated that our sample of cultures would be sufficiently diverse to compare the ability of these dimensions to account for cultural differences in consistency. The status of each culture along these dimensions is addressed in Section 3.

2. Method

2.1. Sample

2.1.1. United States

The US sample included 153 college students (58 men, 95 women) from the University of Idaho. Mean age was 19.95 years ($Mdn = 19$; $SD = 2.91$). Students represented all year levels and a variety of major fields of study. Self-reported ethnic backgrounds were as follows: White/Caucasian ($n = 131$), Latino ($n = 6$), Asian ($n = 3$), African American ($n = 2$), Native American ($n = 1$), Native Hawaiian ($n = 1$), multiracial ($n = 4$), and other or not reporting ($n = 5$).[1] The retest assessment (see Section 2.4) was completed by 131 (85.6%) of these participants.

2.1.2. Australia

The Australian sample included 122 college students (20 men, 102 women) from Murdoch University in Perth. Mean age was 26.09 ($Mdn = 22$; $SD = 9.41$). All year levels were represented. Most students (92.6%) were majoring in social sciences. Participants reported the following ethnic backgrounds: Anglo-Celtic or European ($n = 92$), Asian ($n = 8$), multiracial ($n = 6$), African ($n = 5$), Middle Eastern ($n = 1$), and other or not reporting ($n = 10$). The retest assessment was completed by 105 (86.1%) of these participants.

2.1.3. Mexico

The Mexican sample included 158 Mexican college students (74 men, 84 women) from the National Autonomous University of Mexico at Iztacala. Mean age was 20.03 years ($Mdn = 19$; $SD = 2.46$). All year levels were represented. Students were majoring primarily in social sciences (81.0%). Participants reported the following ethnic backgrounds: Mestizo ($n = 145$), Central American ($n = 6$), Spanish ($n = 2$), South American ($n = 2$), and not reporting ($n = 3$). Mestizos, who share Spanish and indigenous Indian ethnicity, are the majority ethnic group in Mexico. The retest assessment was completed by 150 (94.9%) of these participants.

2.1.4. Venezuela

The Venezuelan sample included 102 college students (45 men, 53 women, 4 not reporting) from the Central University of Venezuela in Caracas ($n = 57$), the University Institute of Management Technology in Los Teques ($n = 24$), and the National University of Experimental Polytechnics of the Armed Forces in Los Teques ($n = 21$). Mean age was 24.34 ($Mdn = 22$; $SD = 6.41$). All year levels and a variety of major fields of study were represented. Self-reported ethnicities were as follows: Criole ($n = 72$), European ($n = 18$), Indigenous ($n = 1$), African ($n = 1$), and other or not reporting ($n = 10$). Retest data was not collected in the Venezuelan sample.

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[1] ANOVAs in the US and Australian samples revealed no significant differences ($p > .01$) in consistency scores between the majority students (i.e., White/Caucasian in the US, Anglo-Celtic or European in Australia) and the small numbers of ethnic minority or multi-racial students in each cultural sample, so our inclusion of the minority and multiracial students did not change our results or conclusions.

2.1.5. Philippines

The Philippine sample included 167 college students (76 men, 91 women) from the University of Santo Tomas in Manila. Mean age was 18.15 (*Mdn* = 18; *SD* = 1.37). All year levels were represented. Most students were majoring in business/economics (97.6%). Self-reported ethnic backgrounds were Filipino (*n* = 136), multiracial (*n* = 2), and not reporting (*n* = 29). The retest assessment was completed by 162 (95.9%) of these participants.

2.1.6. Malaysia

The Malaysian sample included 268 college students (107 men, 159 women, 2 not reporting) from the National University of Malaysia (Universiti Kebangsaan Malaysia) in Bangi. Mean age was 20.31 years (*Mdn* = 20; *SD* = 1.61). All year levels and a variety of major fields of study were represented. Ethnic backgrounds were as follows: Malay (*n* = 131), Chinese (*n* = 123), Indian (*n* = 6), Eurasian (*n* = 1), Sino-Kadazan (*n* = 1), multiracial (*n* = 2), and four other or not reporting. The retest assessment was completed by 250 (93.3%) of these participants.

2.1.7. China

The Chinese sample included 223 college students (107 men, 116 women) from Beijing Normal University (*n* = 98), Beihang University (*n* = 48), and Tsinghua University (*n* = 28), all in Beijing, and Henan University (*n* = 49) in Kaifeng. Mean age was 21.06 years (*Mdn* = 21; *SD* = 1.15). All year levels and a variety of major fields of study were represented. Most participants reported their ethnicity as Han Chinese (*n* = 207); other ethnic groups represented by 1–4 participants include Mongol, Hui, Tujia, Zhuang, Manchu, Yi, and other or not reporting. The retest assessment was completed by all of the participants.

2.1.8. Japan

The Japanese sample included 191 college students (111 men, 80 women) from Kwansei Gakuin University in Nishinomiya. Mean age was 20.32 (*Mdn* = 20; *SD* = 1.34). All year levels were represented. Most students were majoring in psychology or other social science fields (63.9%) or business/economics (21.5%). Because of the anticipated ethnic homogeneity of the sample we did not ask about ethnicity, but did verify that none were international students. The retest assessment was completed by 179 (93.7%) of these participants.

2.2. Instruments

2.2.1. Translation

All instruments were translated from English into Spanish, Filipino (Tagalog), Malaysian, Chinese, and Japanese using the back-translation method. Minor modifications to the translations were made based on comparisons of the original English, backtranslated English, and target language versions. The cross-cultural measurement equivalence of the instruments is addressed in a later section.

2.2.2. Role-specific measures

2.2.2.1. *Trait-Role Questionnaire.* As noted previously, researchers who have investigated self-concept consistency have generally done so by quantifying the amount of variability in participants' ratings of their traits across various roles or relationships (Baird, Le, & Lucas, 2006; English & Chen, 2007; Roberts & Donahue, 1994; Sheldon et al., 1997; Suh, 2002). Consistent with this approach, we adapted the Trait-Role Questionnaire (Church, Anderson-Harumi, et al., 2008) to measure consistency of trait ratings across roles. To reduce administration time, we shortened the instrument from 40 to 30 items by selecting six trait adjectives, including some reverse-keyed (r) traits, for each of the Big Five dimensions, as follows: for Extraversion,*talkative, extroverted, ener-*

getic, cheerful, shy(*r*), and *quiet*(*r*); for Agreeableness, *sympathetic, kind, helpful, respectful, selfish*(*r*), and *boastful*(*r*); for Conscientiousness, *organized, disciplined, industrious, careless*(*r*), *wasteful*(*r*), and *lazy*(*r*); for Emotional Stability, *relaxed, calm, moody*(*r*), *jealous*(*r*), *nervous*(*r*), and *irritable*(*r*); and for Openness to Experience, *creative, imaginative, intelligent, artistic, open-minded*, and *shallow*(*r*) (Goldberg, 1992; Saucier, 1994). Using a 5-point scale (1 = *not at all descriptive of me* to 5 = *extremely descriptive of me*), participants rated their traits in general and when interacting with close friends, parents, professors, younger siblings or relatives, and strangers. The traits were randomly ordered for each role. Participants completed the instrument in one of two orders, both beginning with the general trait ratings, followed by the ratings in specific roles. Participants completed the Trait-Role Questionnaire twice, with an interval of approximately 1 month between test and retest.

Internal consistency (α) estimates were computed for the Big Five dimensions in the general rating condition. The α reliabilities in the first testing, which were fairly good for short scales, ranged from .54 to .83 (*Mdn* = .70, *N*s = 150–153) in the United States, .54 to .80 (*Mdn* = .72, *N*s = 121–122) in Australia, .51 to .65 (*Mdn* = .62, *N* = 158) in Mexico, .62 to .76 (*Mdn* = .69, *N*s = 101–102) in Venezuela, .55 to .80 (*Mdn* = .71, *N*s = 166–167) in the Philippines, .55 to .74 (*Mdn* = .70, *N*s = 265–268) in Malaysia, .65 to .78 (*Mdn* = .67, *N*s = 222–223) in China, and .56 to .89 (*Mdn* = .62, *N*s = 178–179) in Japan. Church, Anderson-Harumi, et al., 2008 reported validity evidence for the Trait-Role Questionnaire.

2.2.2.2. *Need Satisfaction in Social Relationships.* This instrument assessed the extent to which each of five needs, including three needs from Self-Determination Theory, were satisfied in each of the five social roles included in the Trait-Role Questionnaire. Participants rated each need using a 5-point scale (1 = *the need is not at all satisfied* to 5 = *the need is completely satisfied*). Definitions of the needs, which were adapted from Sheldon, Elliot, Kim, and Kasser (2001), were as follows: *Autonomy*: Feeling like you are the cause of your own actions (rather than feeling that external forces or pressures are the cause of your actions); *Competence*: Feeling that you are very capable and effective in your actions; *Relatedness–belongingness*: Feeling that you have regular intimate contact with people who care about you; *Self-actualization-meaning*: Feeling that you are developing your best potentials and making life meaningful; and *Pleasure-stimulation*: Feeling that you get plenty of enjoyment and pleasure. Because each need was rated only once for each role (i.e., single-item scales), we do not report alpha reliabilities. Church et al. (submitted for publication) showed that this measure was effective in testing key hypotheses of SDT across cultures, including the theoretical prediction that satisfaction of SDT needs predicts psychological well-being.

2.2.3. Measures of cultural dimensions

2.2.3.1. *Self-construal scales.* Self-construals are a central aspect of individualism–collectivism and refer to individuals' conceptions of themselves as unique and autonomous (independent self-construal) vs. interconnected with close others (relational self-construal) or larger groups (collective self-construal) (Cross, Bacon, & Morris, 2000; Markus & Kitayama, 1991; Triandis, 1995). To measure self-construals, we administered 14 items from Singelis' (1994) Independent Self-construal scale, the 11 items in Cross et al.'s (2000) Relational Self-construal Scale, 10 collective items from Kashima and Hardie's (2000) RIC Self-aspects Scale, and three items from Yamaguchi's (1994) Collectivism scale. We combined collective items from the last two instruments to ensure adequate reliability. Several researchers have recommended that relational and collective self-construals be assessed separately (Kashima & Hardie, 2000). Therefore, we did not administer Singelis' Interde-

pendent Self-construal scale, which combines both relational and collective (group-centered) aspects. Singelis (1994), Cross et al. (2000), and Kashima and Hardie (2000) reported validity evidence for these instruments. Participants indicated their level of agreement using a 6-point scale that ranged from 1 = *strongly disagree* to 6 = *strongly agree*. Across the eight cultures, alpha reliabilities ranged from .55 to .80 (*Mdn* = .69; *N*s = 94–267) for the Independent scale, .72 to .84 (*Mdn* = .75; *N*s = 95–265) for the Relational Self-construal scale, and .69 to .81 (*Mdn* = .78; *N*s = 97–267) for the Collective scale.

2.2.3.2. 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, & Peng, 2010). To reduce administration time, we administered the 14-item abbreviated DSS scale (Spencer-Rodgers, Peng, & Wang, 2010). However, to ensure adequate reliability we also included six additional items from the original 32-item DSS scale that performed best in one of our previous studies (Church et al., in press). 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. 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 .59 to .80 (*Mdn* = .74; *N*s = 94–264) across the eight cultures.

2.2.3.3. Cultural tightness–looseness scale. Gelfand et al. (2011) constructed a 6-item measure to assess participants' perceptions of the strength of social norms and the degree of sanctioning of behavior within their country. In a 33-country study, Gelfand et al. (2011) reported extensive validity evidence for the instrument, which is the only self-report measure of cultural tightness–looseness. We added nine new items to improve reliability and the balance of positive- and reverse-keyed items.[2] Alpha reliabilities ranged from .55 to .82 (*Mdn* = .72; *N*s = 94–253) across the eight cultures.

2.3. Cross-cultural measurement equivalence

We conducted mean and covariance structures (MACS) analyses to test the metric (factor loading) and scalar (intercept) equivalence of the instruments across cultures. For each instrument, the latent constructs (e.g., the Big Five traits, dialecticism) were each measured by three item parcels (Kishton & Widaman, 1994), or, in the case of the Need Satisfaction measure, the satisfaction ratings in the five specific roles. To obtain good model fit for the Big Five general trait measure, secondary loadings were introduced for seven 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 acceptable metric equivalence across cultures (CFI range = .85–.99, *Mdn* = .92; RMSEA range = .02–.04, *Mdn* = .03; total combined-culture *N*s = 1370–1384).

Metric (loading) equivalence is sufficient for comparisons of correlational relationships across cultures, whereas scalar (intercept) equivalence is preferred when scale means will be compared (Church, 2010; Steenkamp & Baumgartner, 1998). For this study, a demonstration of scalar equivalence was most important for the three cultural measures. To obtain good model fit for these measures it was necessary to freely estimate (rather than constrain

to equality across cultures) the intercepts for one of three item parcels for the cultural tightness measure (CFI = .93; RMSEA = .05; total combined-culture *N* = 1,381) and dialecticism measure (CFI = .98; RMSEA = .02; total combined-culture *N* = 1,378) and four of nine intercepts for the self-construal measure (CFI = .93; RMSEA = .03; total combined-culture *N* = 1,380). Because only partial scalar equivalence was demonstrated, some caution is required in interpreting the cultural mean differences with these three instruments.

2.4. Procedure

Participants completed all of the instruments during the initial assessment and only the Trait-Role Questionnaire during the retest, which took place about 1 month later. During the initial testing, participants completed the Trait-Role Questionnaire and Need Satisfaction in Social Relationships measures first, followed by the three cultural measures, which were interspersed with a few other instruments that are not relevant to the present study. In the United States, Australia, and Venezuela, participants were recruited in classes or research participant pools and completed the questionnaires outside class. In Mexico, the Philippines, Malaysia, China, and Japan, the questionnaires were filled out by volunteers during regular classes.

3. Results

3.1. Comparison of cultural dimensions

Before testing our hypotheses we conducted a MANOVA with culture and gender as independent variables to determine the status of the eight cultural samples on the cultural dimensions. Given the large combined-culture sample size, α was set at .01. The main effect for culture was statistically significant (Wilks' Lambda = .44, $F[35, 5660] = 34.51$, $p < .01$), and there were no main or interaction effects involving gender. Follow-up ANOVAs revealed significant cultural effects for each of the dimensions. Table 1 shows the results of Tukey tests comparing the cultural means. Means that share a subscript were not significantly different from each other.

The results for dialecticism largely conformed to expectations (Peng & Nisbett, 1999; Spencer-Rodgers, Williams, & Peng, 2010). The four Asian cultures all averaged higher than the four non-Asian cultures. The Filipinos and Malaysians averaged lower than the Chinese and Japanese, although only the differences with Japan were statistically significant. The results for cultural tightness were similar. The four Asian cultures averaged higher than the four non-Asian cultures, although not all differences were statistically significant. Within the Asian cultures, only the Filipinos described their culture as significantly less tight than did Japanese. Venezuelans, more than any other cultural group, perceived their culture to be relatively loose.

Some of the self-construal results differed from the traditional view of these cultures, but replicated the results of previous studies. Consistent with expectations were the relatively low independent self-construal scores of the Japanese, Chinese, and Malaysian samples and the relatively high collectivism scores of the Venezuelan, Filipino, Chinese, and Malaysian samples (Hofstede, 2001; Triandis, 1995). The higher average independent self-construal scores of the Mexican and Venezuelan samples, as compared to the other cultural samples, and the relatively low collectivism scores of the Mexican sample, are inconsistent with the traditional view of these cultures as collectivistic, but the Mexican results are consistent with our previous findings (Church et al., 2003, 2006). Other recent evidence also suggests that Mexicans are relatively individualistic. They are above average in Intellectual Autonomy

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[2] We thank Michele J. Gelfand for permission to adapt the cultural tightness measure.

Table 1
Comparison of cultural dimensions.

Dimension	US	Australia	Mexico	Venezuela	Philippines	Malaysia	China	Japan	η_p^2
Independent self-construal									
M	4.43$_c$	4.23$_{b,c}$	4.77$_d$	4.82$_d$	4.28$_{b,c}$	4.19$_b$	3.86$_a$	3.82$_a$	.28
SD	.53	.59	.53	.46	.59	.47	.49	.58	
Relational self-construal									
M	4.55$_b$	4.35$_{a,b}$	4.31$_{a,b}$	4.54$_b$	4.35$_{a,b}$	4.35$_{a,b}$	4.46$_b$	4.12$_a$	.06
SD	.67	.69	.65	.69	.57	.53	.56	.64	
Collective self-construal									
M	4.24$_{b,c}$	4.01$_{a,b}$	4.14$_b$	4.55$_d$	4.49$_d$	4.38$_{c,d}$	4.43$_{c,d}$	3.87$_a$	.14
SD	.62	.56	.65	.73	.56	.46	.54	.59	
Dialecticism									
M	3.49$_b$	3.66$_b$	3.41$_b$	3.07$_a$	4.04$_c$	4.03$_c$	4.22$_{c,d}$	4.39$_d$	.28
SD	.66	.69	.72	.69	.51	.59	.63	.63	
Tightness									
M	3.64$_{b,c}$	3.49$_b$	3.60$_{b,c}$	3.15$_a$	3.75$_{c,d}$	3.98$_{d,e}$	3.97$_{d,e}$	4.17$_e$	.19
SD	.66	.58	.68	.74	.50	.44	.47	.60	

Note: Means in each role that share a subscript are not significantly different ($p > .01$) in Tukey HSD tests. η_p^2 = partial eta^2 (i.e., ANOVA effect size), controlling for (non-significant) gender effects.

values (Schwartz, 2002) and similar to the US in the individualism of their cultural products (Morling & Lamoreaux, 2008). The relatively low collectivism mean for the Japanese is also inconsistent with the traditional view, but replicates the results of other researchers who have found that Japanese average low on *both* independent and interdependent self-construals (Kim et al., 1996; Kobayashi, Kerbo, & Sharp, 2010). In summary, the results for the dialecticism and tightness measures largely conformed to expectations, while some of the self-construal results departed from the traditional view of these cultures, but replicated previous results.

We also examined the correlations between the cultural dimensions in each culture. The strongest relationship involved the expected high correlation between relational and collective self-construals in all cultures (r range = .50–.68; Mdn = .57; Ns = 98–268). Both scales measure aspects of interdependent self-construals (Kashima & Hardie, 2000). In addition, independent self-construal was modestly to moderately associated with lower dialecticism in most cultures (r range = −.08 to −.40; Mdn = −.29; Ns = 96–267). It makes sense that individuals who described themselves as autonomous, assertive, and unique were less likely to endorse the contradictory or changeable attitudes, beliefs, and behaviors that characterize dialecticism. Finally, in some cultures, especially the Philippines and Malaysia, independent self-construal correlated more highly than expected with relational self-construal (r range = .03–.46; Mdn = .26; Ns = 99–268) and collective self-construal (r range = .03–.67; Mdn = .26; Ns = 98–268). This was probably due to the impact of acquiescence bias in scales that contain no reverse-keyed items. Other correlations between the cultural dimensions were modest and inconsistent across cultures. Overall, the correlations revealed that the self-construal, dialecticism, and cultural tightness dimensions are not redundant and could potentially function as independent mediators of cultural differences in consistency.

3.2. Culture and cross-role consistency (Hypotheses 1 and 2)

We expected at least moderate cross-role consistency in trait ratings in all cultures (Hypothesis 1) and that cultural differences in consistency would be accounted for, in part, by cultural differences in individualism–collectivism, dialecticism, or cultural tightness (Hypothesis 2). To quantify cross-role consistency we first computed the within-individual correlations across the 30 traits in the Trait-Role Questionnaire in order to relate (a) participants'

general trait ratings with their ratings in the specific roles (i.e., general-specific correlations), and (b) participants' ratings in different roles (cross-role correlations, e.g., close friends vs. parents) (Church, Anderson-Harumi, et al., 2008; Suh, 2002). Fishers' r-to-z transformations were used to obtain the mean correlations and confidence intervals in both the test and retest data, but the Fishers' z values were transformed back to raw correlations for presentation in Table 2. The general-specific consistency correlations shown in the table for each culture are the means of five such correlations (i.e., the general trait ratings vs. ratings in each of the five specific roles). The cross-role consistency correlations are the means of the 10 pairwise cross-role correlations. Supporting Hypothesis 1, both indices revealed a substantial degree of consistency in each culture. Taking into account the confidence intervals shown in the table, the only definitive cultural difference was the lower consistency correlations in the Japanese sample, as compared to all other cultures.

As noted by Baird et al. (2006), these correlation indices may confound individual differences in trait variability across roles (a relevant source of variance) with variability across traits within roles (a possibly irrelevant source of variance). Therefore, we computed an additional index that should be minimally confounded with within-role variability. This SD index, which provides a measure of cross-role variability, was derived by computing the standard deviation of each participant's ratings for each trait across the five specific roles, then averaging these 30 standard deviations across traits. This index has face validity and has been used previously to investigate intraindividual variability in affect (Oishi et al., 2004), traits (Baird et al., 2006; English & Chen, 2011; Fleeson, 2007), and behaviors (Church, Katigbak, et al., 2008).

In one important result, we found that the SD index of cross-role variability was quite stable across the test and retest data in the seven cultures for which retest data was available. The short-term stability correlations were as follows: US, r = .68; Australia, r = .80; Mexico, r = .68; Philippines, r = .70; Malaysia, r = .66; China, r = .75; and Japan, r = .78 (p < .01 for all correlations). As others have reported in Western samples, within-individual variability is a reliable individual-difference variable (Fleeson, 2007; Fournier et al., 2008).

We compared the SD index across cultures, in both the test and retest data, by conducting ANOVAs with culture and gender as independent variables. The main effect for culture was statistically significant in both the test data ($F[7,1362]$ = 15.19, p < .01, $\eta_p^2 = .07$) and the retest data ($F[6,1185]$ = 10.14, p < .01, $\eta_p^2 = .05$).

Table 2
Mean consistency and short-term stability correlations in test and retest data.

Culture	Consistency correlations				Stability correlations			
	General-specific		Cross-role		General traits		Role-specific traits	
	Mean r	95% CI	Mean r	95% CI	Mean r	95% CI	Mean r	95% CI
United States								
Test (N = 153)	.71	.68, .74	.68	.65, .72	.82	.80, .84	.69	.65, .71
Retest (N = 131)	.73	.70, .76	.70	.66, .74				
Australia								
Test (N = 122)	.65	.61, .69	.63	.58, .68	.82	.80, .84	.82	.80, .84
Retest (N = 105)	.70	.66, .73	.68	.64, .73				
Mexico								
Test (N = 158)	.66	.63, .69	.65	.61, .68	.74	.71, .76	.72	.69, .75
Retest (N = 150)	.66	.62, .69	.64	.59, .67				
Venezuela[a]								
Test (N = 102)	.74	.70, .78	.71	.66, .76	–		–	
Philippines								
Test (N = 167)	.61	.57, .65	.61	.56, .65	.72	.68, .75	.71	.67, .75
Retest (N = 162)	.60	.55, .63	.59	.54, .63				
Malaysia								
Test (N = 268)	.66	.63, .68	.69	.66, .72	.68	.65, .70	.69	.66, .72
Retest (N = 250)	.60	.56, .63	.64	.61, .68				
China								
Test (N = 223)	.69	.66, .71	.69	.66, .72	.80	.79, .82	.80	.78, .82
Retest (N = 223)	.69	.67, .72	.71	.68, .73				
Japan								
Test (N = 191)	.46	.42, .49	.43	.38, .47	.66	.63, .68	.64	.61, .67
Retest (N = 179)	.46	.42, .50	.43	.38, .48				

Note: CI = Confidence interval.
[a] Retest data were not collected in Venezuela.

There were no significant main or interaction effects involving gender. The top half of Table 3 shows the means and standard deviations for the cross-role variability (*SD*) indices in each culture for the test and retest data. Means that share a subscript were not significantly different in Tukey tests. In the test data, the primary cultural difference again involved Japan, which exhibited significantly higher average cross-role variability than any of the other cultures. In the retest data, Japan again averaged highest on the *SD* index, although the Japanese mean was not significantly higher than the mean of the Mexican and Filipino samples. There were two other significant differences between pairs of cultures in the two data sets: Malaysians exhibited less variability than Mexicans in the test data and Chinese exhibited less variability than Filipinos in the retest data. However, the significance of these two differences did not replicate across the two data sets.

3.2.1. Mediation analyses

The only definitive cultural difference in cross-role consistency involved the Japanese sample. Therefore, we could only test whether the differences between Japan and the other cultural samples were mediated by the cultural dimensions. In addition, meaningful tests of mediation could only be conducted when there was a significant difference in the expected direction between the Japanese and comparison cultures on the potential mediator variable (Baron & Kenny, 1986). As a result, we could test dialecticism and independent self-construal as mediators of cross-role consistency differences between Japan and every other culture except China, and cultural tightness as a mediator of consistency differences between Japan and every other culture except China and Malaysia.

We used structural equations modeling (SEM) to test for mediation. Fig. 1 shows an example test of dialecticism as a mediator variable. As illustrated in the figure, each mediation model included a dummy variable representing the cultural comparison with Japan coded 2 and the comparison culture coded 1. The potential mediator was a latent variable measured by three item parcels (the measurement model is not depicted in Fig. 1). Finally, cross-role variability was an observed variable operationalized by the *SD* index. Maximum likelihood estimation was used to esti-

Table 3
Means and standard deviations for within-individual variability indices in eight cultures.

SD index	US	Australia	Mexico	Venezuela	Philippines	Malaysia	China	Japan	η_p^2
Cross-role variability									
Test									
M	.69a,b	.69a,b	.71b	.70a,b	.70a,b	.63a	.65a,b	.81c	.07
SD	.19	.19	.19	.25	.22	.21	.19	.21	
Retest									
M	.65a,b	.61a,b	.67a,b,c	–	.69b,c	.62a,b	.60a	.74c	.05
SD	.18	.19	.19	–	.23	.25	.19	.23	
Within-role instability									
Test vs. retest									
M	.55b	.47a	.64c	–	.64c	.66c	.54b	.63c	.08
SD	.15	.12	.20	–	.24	.25	.16	.20	

Note: Means in each row that share a subscript are not significantly different (p > .01) in Tukey HSD tests. Retest data was not collected in Venezuela. η_p^2 = partial eta² (i.e., ANOVA effect size), controlling for gender effects.

mate model parameters. For example, as shown in Fig. 1, the standardized regression weight relating the culture dummy variable to dialecticism was strong and positive (β = .67, p < .01), indicating that the Japanese averaged higher in dialecticism than the Americans. In turn, greater dialecticism was associated with greater cross-role variability in participants' trait ratings (β = .25, p < .01). A Sobel test indicated that the indirect effect of culture on cross-role variability via dialecticism was statistically significant (z = 3.12, p < .01). Also shown in Fig. 1 are β weights for culture as a predictor of cross-role variability when dialecticism was included as a mediator in the model (β = .13, p > .05) and when culture was the sole predictor of cross-role variability (β = .30, p < .01). In this illustrative model, the β weight was no longer statistically significant when dialecticism was introduced as a mediator, indicating that the relationship between culture and cross-role variability was fully mediated by dialecticism.

The top half of Table 4 shows the standardized path coefficients for all SEM tests involving dialecticism as a mediator of cultural differences in self-concept variability. For each cultural comparison the table shows the standardized path coefficients (βs) relating the culture dummy variable to dialecticism (path a), dialecticism to cross-role variability (path b), and culture to cross-role variability before (path c) and after (path c′) dialecticism was included in the model. Sobel tests on the indirect effects were all statistically significant (range of zs = 2.88–5.04, M = 3.82, Ns = 289–458, p < .01). Inspection of the c′ parameters indicates that dialecticism fully mediated the cultural differences in cross-role variability between Japan and the non-Asian cultures and partially mediated the differences between Japan and the two Asian cultures.[3] In contrast, none of the six SEM models testing independent self-construal nor the five SEM models testing cultural tightness as potential mediator variables revealed any mediation effects, so these models are not presented.

3.3. Culture and within-role stability over time (Hypothesis 3)

Concomitant with reliable cross-role variability, we also expected to find moderate to high short-term stability within roles of trait self-perceptions in all cultures (Hypothesis 3). As one index of within-role stability, we computed for each participant the correlation between the participant's trait ratings across the 30 traits at test vs. retest for the general trait ratings and for the ratings in each specific role (Fishers' r-to-z transformations were again used). The right side of Table 2 shows the mean stability correlations for the general trait ratings and the mean stability correlations for the role-specific trait ratings, averaged across the five roles. These sta-

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[3] English and Chen (2007, Study 2a) focused primarily on the behavior change component (subscale) of dialecticism in their mediation analysis, arguing that the behavioral change component is most relevant as a potential mediator of cross-role consistency. However, we wished to show that successful mediation of consistency by dialecticism was not limited to the behavioral change component, which is more conceptually similar to the cross-role consistency construct. For this reason, we focused foremost on the broader dialecticism construct in our mediation analyses. In follow-up analyses, we also tested whether the contradiction, cognitive change, and behavioral change components of dialecticism all individually mediated cultural differences in cross-role consistency. The mediation effects were generally stronger for the behavioral change component, for which all six tests of mediation produced statistically significant indirect (mediation) effects (range of Sobel zs = 2.33–3.60, M = 2.75, p < .05). The indirect effects were also statistically significant in four of six mediation tests with the contradiction component (range of Sobel zs = 2.92–3.00, M = 2.98, p < .01) and five of the six mediation tests with the cognitive change component (range of Sobel zs = 2.02–3.16, M = 2.71, p < .05). The size of the statistically significant indirect effects ranged from .07 to .24 (M = .12) for the behavior change component, from .03 to .11 (M = .06) for the contradiction component, from .03 to .13 (M = .06) for the cognitive change component, and from .05 to .19 (M = .08) for the overall dialecticism scale. These results showed that the ability of dialecticism to mediate cultural differences in consistency was not limited to the behavior change component. The Ns for these analyses range from 290 to 459.

Table 4
Dialecticism as a mediator of the relationship between culture and self-concept variability and between culture and within-role instability.

Cultural comparison	Standardized path coefficients			
	a	b	c	c′
Cross-role variability				
US vs. Japan	.67**	.25**	.30**	.13
Australia vs. Japan	.58**	.34**	.30**	.12
Mexico vs. Japan	.67**	.23**	.26**	.10
Venezuela vs. Japan	.77**	.51**	.27**	−.12
Philippines vs. Japan	.45**	.27**	.26**	.14*
Malaysia vs. Japan	.36**	.27**	.41**	.31**
Within-role instability				
US vs. Philippines	.51**	.13	.23**	.17*
Australia vs. Philippines	.34**	.12	.40**	.36**
US vs. Malaysia	.47**	.21**	.24**	.14*
Australia vs. Malaysia	.31**	.20**	.38**	.32**
US vs. Japan	.70**	.20**	.23**	.09
Australia vs. Japan	.59**	.23**	.42**	.29**

Note: a = Path coefficient relating culture dummy variable to dialecticism; b = path coefficient relating dialecticism to cross-role variability (*SD* index) or within-role instability; c = path coefficient relating culture dummy variable to cross-role variability (*SD* index) or within-role instability when no mediator variable was included in the model; c′ = path coefficient relating culture dummy variable to cross-role variability or within-role instability when dialecticism was included as mediator.
** p < .01.
* p < .05.

bility correlations were generally higher than the consistency correlations shown on the left side of Table 2, and this was especially the case for Japan (who nonetheless averaged lower in stability than the other cultures). Thus, participants in all cultures exhibited considerable short-term stability in their trait perceptions *within* contexts—supporting Hypothesis 3—even as their ratings in different roles reflected sensitivity to different interpersonal contexts.

Following English and Chen (2011), we also quantified within-role instability for each participant by computing the absolute value of the differences between their ratings at test vs. retest for each of the 30 traits within each role, averaging the absolute differences across all 30 traits within each role, and then averaging across the five roles. We compared this index across cultures by conducting an ANOVA with culture and gender as independent variables. The main effect for culture was statistically significant, $F[6, 1185]$ = 16.01, p < .01, $\eta_p^2 = .08$. The main effect for gender was significant, with men averaging higher than women, but trivial in size, $F[1, 1185]$ = 8.57, p < .01, $\eta_p^2 < .01$. The interaction effect was not statistically significant. The bottom half of Table 3 shows the means and standard deviations for the within-role instability index in each culture. Follow-up Tukey tests revealed that Australians exhibited the least within-role instability over time, followed by the Chinese and Americans, then the other four cultural groups. Thus, while two individualistic cultures, Australia and the United States, exhibited greater stability than most of the other cultural groups, the results for China again defied expectations for an East Asian culture.

3.3.1. Mediation analyses

Because dialecticism is also associated with acceptance or anticipation of cognitive and behavioral change over time, we also examined whether dialecticism might mediate cultural differences in the short-term stability of self-concepts. Given the pattern of cultural differences found, we could test whether dialecticism mediated cultural differences in within-role instability in comparisons of the United States and Australia with Japan, the Philippines, and Malaysia. The bottom portion of Table 4 shows the relevant
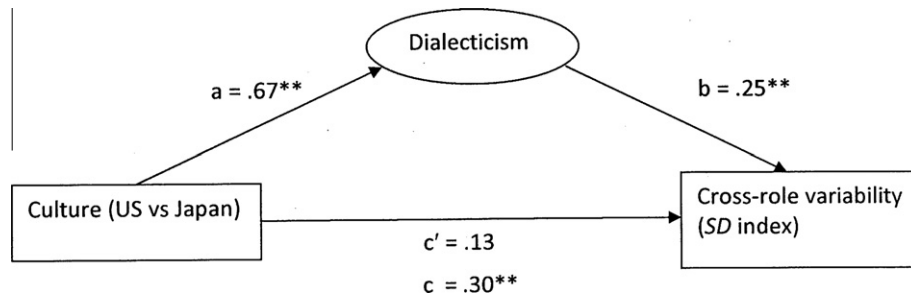
Fig. 1. Example mediation model showing that dialecticism fully mediated the difference between the US and Japanese samples in cross-role variability (*SD* index). The culture dummy variable significantly predicted the *SD* index when dialecticism was excluded from the model ($\beta = .30$, $p < .01$), but did not when dialecticism was included in the model ($\beta = .13$, $p > .05$). $^{**}p < .01$.

standardized path coefficients for each mediation test using SEM. As seen in the table, the cultural variable (e.g., US vs. Philippines) predicted dialecticism scores (path a) and within-role instability scores (path c) in all six comparisons. However, dialecticism did not significantly predict within-role instability in the comparisons of the United States and Australia with the Philippines (path b). Significant mediation (indirect) effects were found in the comparisons of the United States and Australia with Malaysia and Japan (range of Sobel *z*s = 2.44–3.00, *M* = 2.79, *N*s = 283–380, *p* < .05). Inspection of the c′ path coefficients indicates that dialecticism fully mediated the differences in within-role instability in the comparisons of the United States and Japan and partially mediated the differences in the comparisons of the United States and Australia with Malaysia and in the comparison of Australia with Japan.[4]

3.4. If–then patterns of trait self-perceptions across cultures

The finding of both cross-role variability and within-role stability over time suggests the presence of reliable if–then patterns of trait self-perceptions in each culture.[5] We used procedures described by Furr and Funder (2004) to derive distinctive if–then patterns for each participant for each of the Big Five traits in both the test and retest. For example, to develop distinctive if–then profiles for extraversion in the initial test data, we first computed each participant's extraversion scores in each role by averaging their role-specific ratings for the relevant trait adjectives, reverse-keying when necessary. We then subtracted from each participant's role-specific extraversion score the cultural mean for extraversion in that role in the initial test data. The result was a distinctive profile of extraversion deviation scores for each participant in the initial test data that is unconfounded by normative levels of the trait in the respective roles. The same procedure was then used to derive a distinctive if–then profile for extraversion for each participant in the retest data. In this case, we subtracted from each participant's role-specific

extraversion scores the cultural mean for extraversion in that role in the retest sample. The stability of these distinctive extraversion patterns was then computed by correlating each participant's pattern of extraversion deviation scores across the five roles in the test and retest data. This procedure was followed for each of the Big Five traits.

Table 5 shows the short-term stability correlations for the if–then self-concept patterns for each Big Five trait (recall that retest data were not collected in Venezuela). Consistent with Hypothesis 3, moderately stable if–then patterns of trait self-perceptions were observed in all cultures. Importantly, inspection of the mean correlations in Table 5 reveals no consistent tendency for if–then patterns to be more stable as a function of the cultures' individualism–collectivism, dialecticism, or cultural tightness. For example, although the Japanese exhibited lower cross-role consistency, on average, than participants in the other countries, their if–then patterns were just as stable.

As an illustration, Fig. 2 shows the distinctive if–then patterns for conscientiousness of a Japanese female (top panel) and a Japanese male (bottom panel). The plots show their deviation scores from the Japanese sample means in each role in the test and retest data (a score of zero in the figures corresponds to the cultural mean). The top panel provides an example of a highly stable if–then self-concept pattern (*r* = .84), whereas the bottom panel illustrates a more average level of stability (*r* = .54). The biggest difference between the two if–then patterns involved the parent and professor roles. Whereas the female in the top panel reported below average conscientiousness with parents and above average conscientiousness with professors, the male in the bottom panel exhibited the opposite pattern. These examples show how if–then patterns can be both stable and distinctive, revealing reliable individual-differences in the patterning of self-reported traits across roles (Mischel, Shoda, & Mendoza-Denton, 2002).

3.5. Need satisfaction and within-individual variability (Hypothesis 4)

From a process perspective in personality psychology it is important to identify the attributes of roles that account for within-individual variability in traits across the roles. Having demonstrated stable patterns of within-individual variability in trait ratings in all cultures, we examined whether participants' Big Five trait ratings in various roles were related to their perceptions of SDT need satisfaction in those roles (Hypothesis 4). If so, it would suggest that perceived need satisfaction is a psychologically-active attribute of roles that can account for within-individual variability in trait self-perceptions (Fleeson, 2007; La Guardia et al., 2000). We used multilevel modeling (MLM) to test this hypothesis. In each culture, the five roles were level 1 variables nested within individuals, who represented level 2 in the MLM analyses (for similar

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[4] As in the mediation analyses for cross-role variability, each of the dialecticism components (contradiction, cognitive change, and behavioral change) successfully mediated some of the cultural differences in within-role stability. In contrast, self-construals and cultural tightness failed to mediate any of the cultural differences in within-role instability.

[5] The combination of cross-role variability and within-role stability does not guarantee that if–then patterns will be stable. The correlations used to quantify within-role stability standardize each participant's trait ratings at test and retest and thus do not take into account possible changes in the level of the ratings at test and retest. In contrast, the correlations between the participants' profiles (i.e., if–then patterns) at test and retest cannot be high unless the level of each trait relative to the other traits remains about the same across time. In addition, the cross-role consistency and within-role stability correlations were computed across the 30 traits, whereas the if–then patterns were derived at the level of the Big Five dimensions.

Table 5
Evidence of stable if–then patterns in trait self-perceptions: Mean correlations between distinctive Big Five profiles at test and retest.

Culture	Extraversion		Agreeableness		Conscientiousness		Emotional stability		Openness		Mean
	Mean r	95% CI	Mean r	95% CI	Mean r	95% CI	Mean r	95% CI	Mean r	95% CI	
US	.68	.61, .73	.52	.43, .60	.54	.45, .61	.51	.40, .60	.49	.40, .52	.55
Australia	.80	.74, .84	.65	.56, .72	.52	.41, .61	.65	.58, .71	.51	.41, .60	.63
Mexico	.57	.49, .64	.58	.49, .65	.54	.44, 62	.42	.32, .51	.44	.35, .53	.51
Philippines	.70	.63, .75	.49	.39, .58	.44	.34, .54	.47	.36, .57	.42	.31, .52	.50
Malaysia	.50	.43, .57	.47	.40, .54	.22	.13, .31	.35	.27, .43	.34	.25, .42	.38
China	.73	.68, .77	.52	.46, .59	.57	.50, .63	.55	.48, .61	.52	.44, .59	.58
Japan	.59	.52, .65	.63	.55, .69	.56	.49, .63	.59	.52, .65	.39	.30, .48	.55
Mean	.65		.55		.48		.51		.44		.53

Note: Retest data were not collected in Venezuela. CI = Confidence interval.
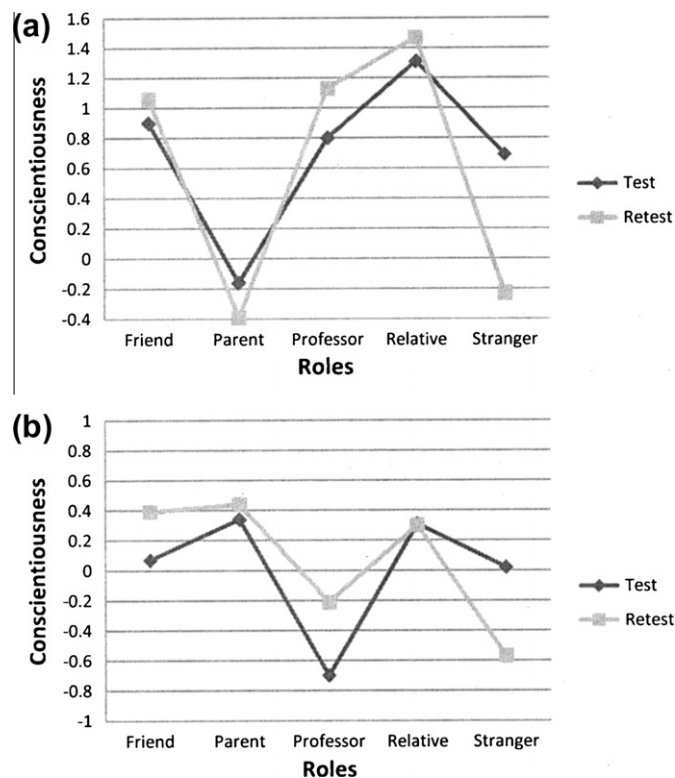
Fig. 2. (a) If–then self-concept patterns for conscientiousness at test and retest for a Japanese female; stability correlation = .84. (b) If–then self-concept patterns for conscientiousness at test and retest for a Japanese male; stability correlation = .54.

MLM analyses, see Fournier et al., 2008; La Guardia et al., 2000; Lynch et al., 2009).[6]

The MLM results revealed that role-specific need satisfaction had its strongest relationships with role-specific extraversion ratings. In Table 6, which shows the results for extraversion only, the β entries indicate the strength of the average relationship between each need and the extraversion ratings across the five roles.

The βs can be interpreted like unstandardized regression weights. For example, the β of .24 for the autonomy need in the United States indicates that for the average person in the US sample, an increase of 1 point in autonomy need-satisfaction (relative to the individual's overall autonomy mean) was associated with a statistically significant .24 increase in their extraversion rating on a 1–5 scale. Even larger average increases in extraversion ratings were associated with increases in perceived satisfaction of the other four needs in the US sample. Because role-specific need-satisfaction ratings for different needs were generally significantly correlated (r's mostly in the .25–.55 range), we also entered all five needs simultaneously as level 1 predictors of the role-specific trait scores. In Table 6, the rows labeled simultaneous βs show the unique contributions of each need controlling for the other needs.

As seen in Table 6, in all eight cultures, perceived satisfaction of SDT needs, as well as needs for self-actualization and pleasure-stimulation, was associated with the extent to which participants reported extraverted traits in each role. On average, individuals reported moderate increases (i.e., .18–.45 points on a 1–5 scale) in extraversion in those roles that they perceived as better satisfying needs for autonomy, competence, relatedness, self-actualization, and pleasure-stimulation. Inspecting the simultaneous βs, we see that in seven of eight cultures, the two needs that provided the greatest unique prediction of extraversion, controlling for the other needs, were relatedness and pleasure-stimulation. It makes sense that participants reported greater extraversion in those roles in which interpersonal needs for relatedness are best met and greater pleasure or positive affect is experienced (Watson & Clark, 1992).

The strength of the relationships between role-specific need satisfaction and the other Big Five traits was more modest, but many of the βs were statistically significant. Furthermore, some of the need-satisfaction vs. trait relationships were sensible. For example, greater perceived satisfaction of relatedness needs was associated with lower conscientiousness ratings in all cultures, both separately and when controlling for all other needs (range of separate βs = −.04 to −.16, Mdn = −.09, Ns = 102–268, p < .01). That is, on average, participants perceived themselves as less organized and disciplined in closer relationships, perhaps because such relationships are more informal and relaxed in nature. In addition, greater perceived satisfaction of self-actualization needs was associated with higher openness to experience ratings in seven cultures when analyzed separately, and in six cultures after controlling for the other needs (range of separate βs = .09–.16, Mdn = .12, Ns = 102–268, p < .01). That is, on average, participants reported being more imaginative, creative, and open-minded in roles they perceive as developing their potential and making life meaningful.

We did not observe any consistent tendency for perceived satisfaction of particular needs to better predict Big Five trait ratings in specific cultures. For example, although needs for autonomy may be more valued in individualistic cultures than in collectivistic cultures (Schwartz, 1994), the relationship between perceived

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[6] For each Big Five trait, we tested models in which both the intercepts (i.e., average Big Five trait scores) and the regression slopes (βs) relating each need to a Big Five trait could vary across persons (i.e., random intercepts and slopes models). Each need variable was person-centered to model a within-person process (Fleeson, 2007; Fournier et al., 2008). We used restricted maximum likelihood estimation of parameters, which is superior to maximum likelihood estimation when group sizes (in this case, roles) are not large (Heck, Thomas, & Tabata, 2010). The number of level 1 roles in the present study is comparable to the number (i.e., 4–6) used in similar MLM studies (e.g., Fournier et al., 2008; La Guardia et al., 2000; Lynch et al., 2009). Simulation studies consistently indicate that multilevel models with as few as five level 1 units show little to no bias in estimates of fixed effects, the focus of the present study (Bell, Morgan, Kromrey, & Ferron, 2010).

Table 6
Multilevel modeling estimates relating perceived need satisfaction to extraversion ratings across roles.

	Autonomy	Competence	Relatedness	Self-actualization	Pleasure-stimulation
United States					
β	.24**	.43**	.41**	.40**	.45**
Simultaneous β	−.02	.05	.20**	.00	.26**
Australia					
β	.22**	.35**	.36**	.30**	.39**
Simultaneous β	−.01	.10**	.20**	−.05	.21**
Mexico					
β	.19**	.26**	.34**	.29**	.33**
Simultaneous β	.03	.07**	.26**	.01	.08**
Venezuela					
β	.18**	.29**	.29**	.32**	.34**
Simultaneous β	.04	.12**	.15**	.02	.15**
Philippines					
β	.25**	.31**	.34**	.29**	.38**
Simultaneous β	.05*	.09**	.13**	−.03	.24**
Malaysia					
β	.20**	.26**	.28**	.28**	.30**
Simultaneous β	−.04*	.02	.16**	.01	.16**
China					
β	.31**	.31**	.25**	.27**	.34**
Simultaneous β	.15**	.07**	.08**	−.01	.19**
Japan					
β	.25**	.35**	.33**	.37**	.37**
Simultaneous β	.02	.07*	.15**	.00	.18**

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

autonomy satisfaction and Big Five trait ratings was not consistently stronger in the individualistic cultures (e.g., US, Australia) than in the collectivistic cultures (e.g., Philippines, China, Japan).

Overall, our results supported Hypothesis 4. In all cultures, perceived satisfaction of needs, including SDT needs, was related to self-ratings of the Big Five traits in various roles. The results provide cross-cultural evidence that within-individual variability in trait ratings may be accounted for to some extent by psychologically-active attributes of roles, in this case, need satisfaction.

4. Discussion

Western psychologists have noted the importance of a consistent self-concept, while cultural psychologists have hypothesized that self-concepts may be less consistent in collectivistic or dialectical cultures (Boucher, 2010; English & Chen, 2011; Spencer-Rodgers, Williams, & Peng, 2010; Suh, 2002). In addition, English and Chen (2007) argued that researchers should differentiate consistency *across* contexts from temporal stability *within* contexts because East Asians may differ from Westerners only in the former type of consistency. We extended research on self-concept consistency and stability to a broader range of cultures than previously investigated and found evidence in each of the cultures for substantial cross-role consistency and reliable within-individual variability in trait self-perceptions. Participants in all cultures exhibited short-term stability in their self-reported traits within roles and moderately stable if–then patterns of trait self-perceptions. Cultural differences in self-concept consistency and stability, which primarily involved Japan, were accounted for to some extent by cultural differences in dialecticism, but not self-construals or cultural tightness. Finally, within-individual variability in self-reported Big Five traits was accounted for to some extent by role-specific need satisfaction.

Strengths of the study included (a) our sampling of a fairly diverse set of cultures; (b) rigorous tests of cross-cultural measurement invariance; (c) direct measurement of multiple cultural dimensions hypothesized to account for cultural differences in consistency; and (d) collection of data at two points in time, enabling an examination of short-term stability and if–then patterns. There were also several limitations of the study. First, we sampled only college students, who may be more individualistic than broader samples in their respective cultures. Second, we examined consistency and stability in self-report ratings (i.e., in self-concepts), not in actual behavior. Third, the interval between self-concept assessments was 1 month, so we cannot draw confident conclusions about long-term stability in these cultures. Fourth, the direction of causality is uncertain in the analyses relating role-specific need satisfaction to the Big Five traits. On the one hand, it is plausible that satisfaction of role-specific needs partially accounted for the traits reported in various roles. On the other hand, an individual's traits in particular roles might also influence his or her need satisfaction in those roles.

4.1. Cultural similarities in consistency and short-term stability

Our primary aim was to compare the consistency and short-term stability of self-concepts across a diverse set of cultures. Overall, we found more support for cultural similarities than differences. Thus, our findings support trait perspectives, which predict a degree of consistency and stability in all cultures (Church, 2000; Oishi et al., 2004). At the same time, we demonstrated that trait consistency and reliable within-individual variability are not incompatible (Fleeson, 2001). Combined with the evidence of reliable if–then patterns, the results suggest that in all cultures self-concepts show both consistency and reliably patterned variability across roles.

The size of the cross-role consistency correlations were similar to those reported by other researchers (Church, Anderson-Harumi, et al., 2008; English & Chen, 2007; Roberts & Donahue, 1994; Suh, 2002; Wood & Roberts, 2006). In contrast, our test–retest correlations indexing the stability of within-individual variability were higher than those reported by Moskowitz and Zuroff (2005), probably because they studied self-reported behaviors in an experience

sampling study.[7] On the one hand, it is important to keep in mind that our results are most relevant to participants' self-views regarding their traits in various roles (i.e., self-concept or identity consistency) and may not predict the extent of cultural differences in consistency and stability in actual behavior. On the other hand, role identity theory proposes that role identities reflect, in part, one's actual behaviors or traits in different roles (Wood & Roberts, 2006). Thus, our findings may allow tentative inferences about consistency in actual behavior, although cross-cultural experience sampling studies will be needed to test this inference (e.g., see Church, Katigbak, et al., 2008; Oishi et al., 2004).

The present study was apparently the first to examine the stability of if–then patterns of self-concepts in a variety of cultures. The short-term stability correlations were higher than those reported in previous studies in the United States and Canada, which have examined if–then patterns in actual behavior (Fournier et al., 2008; Furr & Funder, 2004; Shoda, Mischel, & Wright, 1994). Based on the few available studies, we can conclude that if–then patterns are likely to be a moderately stable facet of personality organization in most, if not all, cultures.[8] Theoretically, these results support the importance of integrating person and situation perspectives across cultures. Person perspectives focus on the consistency and patterning of traits and behavior, whereas situational perspectives emphasize the within-individual variability and if–then patterns that result from contextual factors.

4.2. Cultural differences

Based on cultural psychology theory, we hypothesized that cultural differences in consistency would be explained by cultural differences in self-construals, dialecticism, or cultural tightness. Cultural differences in consistency and short-term stability were rather limited, however, and mostly involved Japan. The cultures varied on the cultural dimensions largely as expected, particularly for dialecticism and tightness, suggesting that the measures themselves were reasonably valid. However, cultures that differed in dialecticism, tightness, and self-construals did not always differ in the hypothesized manner in their levels of self-concept consistency.

The present study was the largest cross-cultural investigation of self-concept consistency. Suh's (2002) finding that Koreans were less consistent than Americans, and Boucher's (2010) finding that Chinese were modestly less consistent than Americans, are similar to our finding of reduced consistency in Japanese relative to Americans. English and Chen (2007, 2011) found that Asian Americans were less consistent than European Americans across relationship contexts, but not within relationships over time. Using a different methodology, Campbell et al. (2003) found that Japanese averaged lower than Canadians on a Likert-scale measure of self-concept clarity (see also Kanagawa et al., 2001). None of these studies included nationals from Asian cultures outside East Asia (e.g., Filipinos or Malaysians) or from Mexico and Venezuela, none of whom differed in consistency from Americans or Australians in the present study. Indeed, the two largest studies in terms of number of cultures, sample sizes, and number of rated traits both failed to find a pattern of cultural differences that could be explained in terms of individualism–collectivism, dialecticism, or cultural tightness, with the exception of the Japanese results in both studies (i.e., Church, Anderson-Harumi, et al., 2008; the present study). Thus, if

there are cultural differences in the cross-role consistency of trait self-perceptions, these differences may be limited to particular Asian cultures, including Japan and Korea, or to cultures that have not yet been investigated.

In particular, our Chinese results failed to conform to expectations for East Asian cultures. Despite averaging nearly as high in dialecticism as the Japanese sample (the difference was not statistically significant), the Chinese exhibited levels of consistency and stability that were similar to those in the Western samples. There is some evidence that our Chinese sample is not atypical. In a similar study, Locke, Zheng, and Smith (2010) found that Chinese averaged slightly higher in cross-role consistency than Americans. Boucher (2010) found modestly lower cross-role consistency in Chinese than Americans but used a correlation-based measure of consistency that may confound individual differences in trait variability across roles with variability across traits within roles (Baird et al., 2006). Overall, our results provide more definitive support for trait perspectives and substantial self-concept consistency and short-term stability across cultures than for the cultural differences predicted by cultural psychologists. Given the small number of available studies, however, particularly outside North America and Asia, firmer conclusions await studies in other parts of the world using samples that go beyond university students.

4.2.1. Dialecticism as a mediator

Of the three cultural dimensions we investigated, only dialecticism was successful as a mediator of cultural differences. It accounted for differences between Japan and the other cultures (except China) in cross-role consistency and between two Asian cultures (Japan and Malaysia) and the United States and Australia in short-term stability. These results suggest that Japanese participants' greater 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 their behavior to fit circumstances contributed to their greater tendency to view their traits in a less consistent and stable manner. For Malaysians, dialecticism partially accounted for their lower short-term stability, as compared to Americans and Australians. Overall, these results are consistent with the findings of several other studies involving Asian cultures that have reported successful mediation with the DSS scale, although few of these studies investigated self-concept consistency (Boucher, 2010 for a review, see Spencer-Rodgers, Williams, & Peng, 2010).

We considered possible reasons for the failure of the self-construal scales to mediate cultural differences in consistency. Some of the cultural mean differences with the self-construal scales—for example, the low collectivism of the Japanese—failed to conform to traditional expectations, although they replicated some previous findings (Kim et al., 1996; Kobayashi et al., 2010). Unfortunately, this is a fairly common finding in research with measures of individualism–collectivism and self-construals (Oyserman, Coon, & Kemmelmeier, 2002), reducing their usefulness as mediator variables (Heine, Lehman, Peng, & Greenholtz, 2002). A number of conceptual and measurement issues may contribute to the unexpected findings. For one, the individualism–collectivism construct is multifaceted (Oyserman et al., 2002) and some facets are more responsive to societal change than others (Hamamura, 2012). In addition, various response styles (e.g., acquiescence, moderacy bias) and reference group effects (Heine et al., 2002) can confound mean comparisons across cultures (Church, 2010). Nonetheless, we should also be open to the possibility that self-construals—which refer to one's uniqueness and self-reliance vs. interconnectedness with others—may have less direct implications for self-concept consistency than does dialecticism.

Finally, because the cultural tightness measure is rather new, only limited validation data is available (Gelfand et al., 2011).

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[7] Our test-retest correlations fell in the mid-range of those reported by Fleeson (2001, 2007). Fleeson computed stability correlations for within-individual variability between random halves of observations (analogous to split-half reliability), rather than between successive points in time, as in the present study.

[8] Our finding of reliable if–then patterns across cultures does not preclude the possibility of cultural differences in the typical pattern of traits across roles, which we did not address in this study.

Nonetheless, the rank order of the tightness scores in our study closely replicated the rank order in Gelfand et al.'s study for the seven cultures that were included in both data sets ($\rho = .89$, $p < .01$; $r = .80$, $p < .05$). We suspect that the failure of the cultural tightness measure to serve as a mediator in the present study is due to the construct's societal-level focus. The scale measures the perceived strength of social norms in the society as a whole, not the individual's own behavior or self-concept. Some individuals in tight cultures may not endorse or identify with cultural norms that encourage situationally-adaptive traits across various roles. In summary, although only one of the three cultural dimensions was shown to be an effective mediator, our results are important because they provide evidence of the cultural dimensions that do (i.e., dialecticism) and do not (self-construals, cultural tightness) underlie cultural differences in self-concept consistency.

4.3. Need satisfaction and within-individual variability

The final aim of the study was to identify psychologically-active attributes of situations that might account for within-individual variability in trait self-perceptions across roles. In particular, we tested a hypothesis based on Self-Determination Theory (SDT), which proposes that "people reliably vary in the expression of their traits as a function of the support for psychological needs they experience in different settings" (La Guardia & Ryan, 2007, p. 1206). We found support for this hypothesis. Satisfaction of SDT needs for autonomy, competence, and relatedness, as well as needs for self-actualization and pleasure-stimulation, predicted the extent to which individuals reported Big Five traits in various roles, especially for extraversion. Better prediction of extraversion might be due to the greater ease of observing or judging one's level of extraversion in different roles, as compared to other traits (Connelly & Ones, 2010; Funder & Colvin, 1997). We also considered the possibility that the better prediction of extraversion was due, in part, to the greater variance in extraversion ratings across roles. In the initial test data, repeated-measures ANOVAs in each culture with roles as a within-subjects factor revealed effect sizes (i.e., partial η^2 values) that ranged from .34 to .56 ($M = .44$, $Ns = 102–268$) for extraversion, .04 to .26 ($M = .14$, $Ns = 102–268$) for agreeableness, .11 to .35 ($M = .22$, $Ns = 102–267$) for conscientiousness, .02 to .16 ($M = .07$, $Ns = 102–267$) for emotional stability, and .07 to .19 ($M = .15$, $Ns = 102–268$) for openness to experience. Thus, for extraversion, there was more variability to work with in trying to account for cross-role variability using role-specific need-satisfaction ratings. Similarly, Allik et al. (2010) argued that the frequent finding of greater self-other agreement for extraversion, as compared to the other Big Five traits, might be an artifact of greater variance in extraversion ratings, resulting in less restriction of range in self-other correlations. However, it is also plausible that the greater variance in extraversion ratings is itself due to the greater observability of the relevant behaviors, enabling raters to more definitively assign both high and low ratings to rating targets. Or, as acknowledged by Allik et al., extraversion traits may be perceived by judges to actually vary more across contexts than other Big Five traits, and are thus rated with greater variance. In any case, the important point for the present study is that within-individual variability in trait self-perceptions can be accounted for to some extent by role-specific need satisfaction.

Given the multifaceted nature of various roles, it is not surprising that the relationships between role-specific need-satisfaction and perceived trait levels were not even stronger. Other factors likely contribute to trait perceptions in various roles and these can be investigated in future research (e.g., see Fleeson, 2007; Fleeson & Leicht, 2006). In addition, although we used SDT as an interpretative framework for our hypothesis—partly because of the proposed universality of SDT needs across cultures—our results

might also be interpretable from alternative perspectives. For example, Little, Lecci, and Watkinson (1992) found that extraversion, particularly in interpersonal contexts, is associated with perceived progress on personal projects or goals, a construct that is conceptually similar to need satisfaction. From this perspective, the observed role differences in extraversion in the present study could also reflect differences in goal progress across different roles. In any case, we showed that within-individual variability in trait ratings can be accounted for to some extent by psychologically-active attributes of situations in a range of cultures. As proposed by SDT, need satisfaction is apparently one of these situational attributes (La Guardia et al., 2000; Lynch et al., 2009; Ryan et al., 2005).

4.4. Concluding remarks

In summary, our most definitive finding was that individuals in diverse cultures exhibited considerable self-concept consistency and short-term stability. These results are consistent with trait perspectives, which posit a degree of consistency in all cultures. There was less consistent support for cultural psychology perspectives, but this support included the lower consistency of the Japanese sample and the ability of dialecticism to account for some of the cultural differences in consistency and stability. In combination, these results highlight the value of integrating trait and cultural psychology perspectives for a more complete understanding of self-concepts across cultures (Church, 2000, 2009). Although trait and cultural psychology perspectives have sometimes been viewed as incompatible (Shweder, 1991), it is possible for both perspectives to be simultaneously valid.

Our finding of cross-role consistency, combined with reliable within-individual variability, is also consistent with recent efforts in Western psychology to integrate structure (trait) and process approaches (e.g., within-individual variability, if–then patterns) (Fleeson, 2001, 2004). For example, some researchers have integrated structure and process approaches by reconceptualizing dispositions as stable if–then patterns (Fournier et al., 2008; Mischel et al., 2002). Although typically studied in actual behavior, our finding of reliable if–then patterns of trait self-perceptions extends these efforts across a range of cultures.

Finally, having identified both individual and cultural differences in self-concept consistency and stability, researchers can further examine the implications of these differences for outcomes such as adjustment, feelings of authenticity, and relationship quality (Boucher, 2010; Church, Anderson-Harumi, et al., 2008; English & Chen, 2007, 2011; Suh, 2002). While a number of studies in the United States have investigated these outcomes, the number of cross-cultural studies, and the variety of cultures sampled, is still very limited.

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