



Articles

Intercultural Couples' Internal Stress, Relationship Satisfaction, and Dyadic Coping

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Abstract

Intercultural couples - partners from two different countries - may face increased levels of stress within their relationship (internal stress). Although internal stress is negatively associated with relationship satisfaction, communication of such stress can help foster partners' coping behaviors. Specifically, partners can engage in positive dyadic coping (DC) to help lower stress levels and improve relationship satisfaction. Despite the wealth of research on DC, examination of the associations of stress communication and DC in intercultural couples has been limited. To address this gap in the literature, this study used a sample of 73 self-identified heterosexual intercultural couples to examine their perceptions of internal stress, and associations between DC and relationship satisfaction. Cross-sectional survey data revealed negative main effects for both individuals' own and their partner's perceptions of internal stress on relationship satisfaction, and positive main effects for all forms of positive DC with relationship satisfaction. Stress communication by oneself moderated the association between partner's perceived internal stress and one's own relationship satisfaction, such that relationship satisfaction was higher when partners reported more engagement in stress communication at lower levels of internal stress. However, there were no significant main association between negative DC and relationship satisfaction, or significant moderations for any type of DC. Implications for relationship researchers and mental health professionals working with intercultural couples are discussed.

Keywords: intercultural couples, internal stress, relationship satisfaction, dyadic coping

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Marriages between intercultural couples - partners from two different countries - are growing in the United States (Pew Research Center, 2017). According to the American Psychological Association's (2015) *Stress on America* report, individual reported levels of general stress in the United States are slowly decreasing; however, these levels are still higher than what is considered healthy. Intercultural couples may face more stress within their relationship (i.e., internal stress) due to their cultural differences compared to partners from the same country. Perhaps not surprisingly, stress has been shown to have negative effects on both individual (Lazarus, 1999) and relational (Randall & Bodenmann, 2009) well-being, and these associations have been found for intercultural couples (Bustamante, Nelson, Henriksen, & Monakes, 2011; Crippen & Brew, 2013; Fu, Tora, & Kendall, 2001; Hsu, 2001; Seshadri & Knudson-Martin, 2013), which may account for the greater need for adjustment to the relationship, such as adjusting to differences in beliefs and habits (Bhugra & De Silva, 2000), and perhaps even higher divorce rates compared to intracultural couples (Fu, Tora, & Kendall, 2001).

Couples can, however, mitigate stress' deleterious effects by communicating their stress to, and receiving support from, their romantic partner (Bodenmann, 2005). For example, partners can communicate their stress to their partner to elicit empathy or help (i.e., positive dyadic coping). Perceptions of these positive dyadic coping behaviors have been found to be associated with greater relationship well-being. Unfortunately, partners' stress communication can also be met with the minimization of their stress experience and unsupportive partner behaviors (i.e., negative dyadic coping), which have been found to be detrimental for individual and relational well-being (Bodenmann, 2005). Despite the wealth of research on dyadic coping among couples (Falconier, Jackson, Hilpert, & Bodenmann, 2015), research on dyadic coping among intercultural couples is limited (for an exception see Falconier, Randall, & Bodenmann, 2016).

The goals of this study are to address the gap in the literature by understanding whether intercultural couples communicate internal stress to their partner and engage in dyadic coping to cope with the stress (Bodenmann, 2005), and furthermore to understand what impact, if any, perception of partners' dyadic coping behaviors may have on reported relationship satisfaction.

Intercultural Couples' Internal Stress

Culture is a broad concept that encompasses many factors such as "beliefs, values, and behaviors, and is often associated with race, ethnicity, religion, and other factors" (Hsu, 2001, p. 225). As such, defining who comprises an "intercultural couple" has been challenging for many researchers. Prior studies that have focused on intercultural couples have included partners who are characterized by "greater differences between partners in a wider variety of areas, with race, religion, ethnicity, and national origin being the primary factors" (Sullivan & Cottone, 2006, p. 222). Based on this definition, this study conceptualizes intercultural couple as two partners who originally come from two different nations.

According to Randall and Bodenmann (2009), it is important to consider the different categorization of stress when understanding its potential impact on well-being: internal (within the relationship) vs. external (outside the relationship); acute (within last 7 days) vs. chronic (within last 12 months); major (e.g., severe illness, death of partner) vs. minor (e.g., everyday hassles). For intercultural couples, cultural differences between partners may play a bigger role within the relationship (internal stress) as suggested by a case study with an intercultural couple (Kim, Prouty, & Roberson, 2012) and interviews with intercultural couples (Crippen & Brew, 2013). Specifically, the authors argue that cultural differences can affect how partners communicate and interact with each other, which raises tension within the couple (Kim, Prouty, & Roberson, 2012). Additionally, internal stress has been shown to have a greater association with relationship satisfaction among romantic partners compared to external stress (Bodenmann, Ledermann, & Bradbury, 2007), which is why this study will focus on internal stress.

Cultural differences between partners have been found to play a significant role in intercultural couples' relational well-being as suggested by qualitative inquiries (Crippen & Brew, 2013; Kim, Prouty, & Roberson, 2012). Such cultural differences could manifest as internal stress and be related to minor stressors, such as partners' different attitudes concerning their relationship and life, different habits of partners, insufficient behavior of partners, and unsatisfactory distribution of household duties and responsibilities (Bodenmann, 2005). For example, partners in intercultural relationships may face disagreements about rituals, customs, and celebrations of holidays or other important events (Crippen & Brew, 2013), differences in their cultural expectations about how

much each partner's family should be involved in their decisions and life (Biever, Bobele, & North, 1998; Bustamante et al., 2011; Seshadri & Knudson-Martin, 2013), and differences in beliefs of importance on how to express affection, both privately and publicly (Biever, Bobele, & North, 1998; McGoldrick & Preto, 1984). Additionally, intercultural couples may face internal stress related to unsatisfactory distribution of household duties and responsibilities as influenced by their cultural beliefs, including each other's responsibility for managing finances, supporting the family financially, cooking, cleaning, and taking care of children, if any (Bustamante et al., 2011; Crippen & Brew, 2013; Falconier, 2013; Seshadri & Knudson-Martin, 2013). However, despite these findings, internal stress has not been measured specifically among intercultural couples.

Internal stress has been shown to be negatively associated with relationship satisfaction among *intracultural* couples (e.g., Bodenmann, 2005). Further, the negative association between relationship satisfaction and internal stress may be evident for both the person who perceives heightened levels of stress (actor effects) and the partner of the stressed partner (partner effects; e.g., Falconier, Nussbeck, Bodenmann, Schneider, & Bradbury, 2015). Said differently, when Partner A experiences internal stress, not only may Partner A perceive lower levels of satisfaction, but Partner B may also perceive negative relationship satisfaction due to cross-over effects of stress from one partner to the other and couples' interdependence (Bodenmann, 1995, 2005; Neff & Karney, 2007). This highlights the need to collect dyadic data (i.e., data from both partners), which can afford relationship researchers the opportunity to examine the actor and partner associations between stress and relationship satisfaction (Kenny, Kashy, & Cook, 2006), which may be of particular importance given intercultural couples' potentially higher levels of internal stress (e.g., Fu, Tora, & Kendall, 2001; Hsu, 2001).

Notably, couples may still experience stress years after the initial stressor occurred. For example, in a study examining stress of Latino couples, couples experienced stress related to immigration, even up to 13 years after they had immigrated and had been living in the United States (Falconier et al., 2013). Other research with couples who may or may not identify as intercultural has suggested that chronic stressors may have a greater impact on relationship satisfaction compared to acute stressors (Bodenmann, 2005). This suggests it may be important to examine stress over time (e.g., chronic stress) in intercultural couples' relationships. For this study, partners in an intercultural couple will be asked to report on chronic internal stress and its associations with relationship satisfaction.

Coping with Stress: Stress Communication and Dyadic Coping

Stress can be considered not only an individual phenomenon, wherein one person is affected by a stressful event (Hill, 1958), but also as a dyadic construct, one that affects both partners in a romantic relationship (Bodenmann, 1995, 2005). According to the systemic transactional model (STM; Bodenmann, 1995, 2005), experiences of stress and coping affect both partners in a romantic relationship due to partners' interdependence. The STM posits that stress communication is the first step in engaging in dyadic coping. As an illustrative example, Partner A may communicate an experience of stress to Partner B (stress communication). Partner B responds to Partner's A communication by engaging in coping strategies that mitigate (positive dyadic coping) or exacerbate (negative dyadic coping) stress experiences (Bodenmann, 2005), which may then influence relationship satisfaction or quality (Falconier, Jackson, et al., 2015). The STM has been used to examine associations between stress and coping across the world (Falconier, Randall, & Bodenmann, 2016), as it now views culture as part of the contextual factors that may affect this coping process (Kayser & Revenson, 2016), such that culture influences how partners may perceive events, define events as stressful or not, and which coping

behaviors are used. Given intercultural couples' potential higher levels of perceived stress due to their cultural differences (Fu, Tora, & Kendall, 2001; Hsu, 2001), it is important to understand how intercultural partners communicate stress and perceive their partners as engaging in dyadic coping, both positively and negatively.

Stress Communication

Stress communication refers to the way in which partners express their stress to their partner, either verbally or nonverbally (Bodenmann, 2005). The ways in which partners communicate their stress with one another has been identified as one of the top predictors of marital outcomes (Rogge, Bradbury, Hahlweg, Engl, & Thurmaier, 2006). For example, in a study of 345 Swiss couples, marital communication was a significant mediator between the association of relationship stress and marital quality, such that greater relationship stress was associated with decreased engagement in marital communication and lower marital quality. The mediational effects of communication accounted for 51% of the association (Ledermann, Bodenmann, Rudaz, & Bradbury, 2010), which suggests that partners who engage in more stress communication when facing a stressor may have better marital quality.

Cultural differences between partners in an intercultural couple may affect how they communicate and interact with each other (Crippen & Brew, 2013; Kim, Prouty, & Roberson, 2012). For example, intercultural partners may deal with stress in different ways because of their cultural norms (Biever, Bobele, & North, 1998) or have different ideas of how to handle arguments (McGoldrick & Preto, 1984). For example, if Partner A has been raised to engage in arguments in a loud and expressive way, while Partner B was not, Partner B may feel like Partner A is being aggressive, while Partner A may feel like Partner B is being sensitive (Kim, Prouty, & Roberson, 2012). Additionally, if their shared language is not one or both partners' first language, partners might face communication difficulties through the nuance of words (Bustamante et al., 2011; Crippen & Brew, 2013; Hsu, 2001) and nonverbal gestures and cues (Bhugra & De Silva, 2000). These findings suggest that intercultural partners' stress communication undoubtedly involve cultural components, which warrants examination of the potential moderating effects of stress communication on the association between internal stress and relationship satisfaction. Once partners have communicated their stress, under the STM partners must now cope with it, one way or another.

Positive Dyadic Coping (DC)

Positive DC refers to the strategies one engages in to help their partner cope with a stressor in healthy ways (Bodenmann, 2005). Partners using positive DC may help each other through emotion-focused supportive DC (e.g., expressing solidarity, being empathic, understanding, and supportive), problem-focused DC (e.g., giving advice, suggesting solutions, and reframing the situation), and/or delegated DC (e.g., assuming a responsibility of the partner to help reduce their partner's stress levels). Engagement in positive DC has been found to be associated with positive relational outcomes in the face of stressors, including greater dyadic adjustment (e.g., Fife, Weaver, Cook, & Stump, 2013). A recent meta-analysis showed an overall significant positive association between various types of positive DC and relationship satisfaction, regardless of research methodology (Falconier, Jackson, et al., 2015).

Limited research on intercultural couples' coping strategies has suggested that intercultural couples may use forms of positive DC when facing internal stress. For example, intercultural couples who viewed their differences in ideas, values, or opinions with flexibility, respect, and understanding were able to see their cultural differ-

ences as less important than who their partner was as a person. Partners tended to view cultural differences as an attraction and a tool through which to learn more about each other and to support each other (Bustamante et al., 2011; Hsu, 2001; Seshadri & Knudson-Martin, 2013; Silva, Campbell, & Wright, 2012), such as by engaging in problem-focused supportive DC strategies. Intercultural couples who reframed their diverse cultural beliefs (Seshadri & Knudson-Martin, 2013) and communicated openly about how each partner dealt with stress (elements of positive DC) reported greater relationship satisfaction (Hsu, 2001; Silva, Campbell, & Wright, 2012).

Negative Dyadic Coping (DC)

Negative DC refers to the ways partners may respond and cope with each other in unhealthy ways. Examples of this include: minimizing the stressful situation or their partner's feelings, mocking the partner, refusing to take an interest in their partner's experience, or distancing oneself. Additionally, partners may believe their partner should be able to handle the situation without assistance or may show support without really meaning it, such as not being sincere or empathic, or not actively listening (Bodenmann, 2005). Partners' engagement in negative DC behaviors are associated with worse individual (Regan et al., 2014) and relational well-being outcomes (Falconier, Jackson, et al., 2015).

While negative DC has not explicitly been examined among intercultural couples, behaviors associated with negative DC were studied, thus pointing to the potential exacerbating effects of negative DC on the experiences of internal stress in intercultural couples. For example, in one study examining couples of different racial identities, partners were found to engage in more minimizing of their partner's problems when they viewed the problems as not important from their cultural standpoint (Leslie & Letiecq, 2004). Intercultural couples that refuse to honor the other partner's culture (elements of negative DC) when dealing with stress may experience lower relationship satisfaction (Fu, Tora, & Kendall, 2001; Hsu, 2001).

Perceptions of DC

Partners' DC behaviors are commonly examined using the Dyadic Coping Inventory (DCI; Bodenmann, 2008; Nussbeck & Jackson, 2016). The DCI allows partners to report on both their behaviors (self-reported DC) and their perceptions of their partners behaviors (perceived partner DC) in the face of stress. Perceived partner DC has a stronger association with relationship satisfaction compared to individual self-reported DC (Bodenmann, 2000; Falconier, Jackson, et al., 2015). In other words, how partners perceive their partner is helping them to cope with stress (positively or negatively) may have more impact on relationship satisfaction than how their partner actually reports they are coping (Falconier, Jackson, et al., 2015). A closer examination of perceived partner engagement in DC will highlight how Partner A's perceptions of Partner B's engagement in DC may be associated with Partner A's reported internal stress levels and relationship satisfaction.

In sum, while elements of DC as conceptualized by the STM (Bodenmann, 1995, 2005) have been studied with intercultural couples, such as reframing (Seshadri & Knudson-Martin, 2013) and ignoring or minimizing problems (Fu, Tora, & Kendall, 2001; Hsu, 2001), there has been limited knowledge systematically examining how intercultural couples may perceive their partners engaging in stress communication and DC when perceiving internal stress. Specifically, applying the STM to understand intercultural couples' perceptions of internal stress and related associations with relationship satisfaction is a critical area to expand upon due to the higher likelihood of divorce in these couples (Fu, Tora, & Kendall, 2001; Hsu, 2001) and increase in intercultural marriages (Pew Research Center, 2017).

Present Study

Applying the systemic transactional model (Bodenmann, 1995, 2005), the goals of the present study were to understand how intercultural couples, as defined in this study as couples from two different countries, in which one partner is from the U.S. and one is not from the U.S., engage in stress communication, perceive their partners engaging in DC when facing internal stress, and how this may be associated with their reported relationship satisfaction. Specifically, the aims of this study were to examine the following research questions (RQs) and test the following hypotheses (Hs):

RQ1: What is the association between an individual's own and their partner's perceptions of internal stress and relationship satisfaction for intercultural couples?

H1: Intercultural couples who report higher levels of internal stress will report lower levels of relationship satisfaction themselves (actor effects). For those whose partner perceives higher levels of internal stress, they will also report lower levels of relationship satisfaction (partner effects).

RQ2: Does stress communication moderate the association between internal stress and relationship satisfaction?

H2: Given the hypothesized negative association between internal stress and relationship satisfaction in H1, stress communication will moderate the association between internal stress and relationship satisfaction, such that for couples who report more stress communication, the negative association between internal stress and relationship satisfaction will be lessened.

RQ3: Do perceptions of positive DC and negative DC moderate the association between internal stress and relationship satisfaction?

H3a: Positive DC will be positively associated with relationship satisfaction and will moderate the association between internal stress and relationship satisfaction, such that for couples who report more perception of partner engagement in positive DC, the association between internal stress and relationship satisfaction will be weaker. The same association is hypothesized for all components of positive DC: emotion and problem-focused, and delegated DC.

H3b: Negative DC will be negatively associated with relationship satisfaction and will moderate the association between internal stress and relationship satisfaction, such that for couples who report more perception of partner engagement in negative DC the association between internal stress and relationship satisfaction will be stronger.

Method

Procedure and Participants

Participants were recruited from across the United States via Facebook (e.g., university and community cultural groups and clubs), distribution of flyers at and emails to cultural centers and events (e.g., Christkindlmarkt and Irish Heritage Celebration), and at a large southwestern university. Interested participants completed a screening survey online to assess whether they meet the eligibility criteria of this study, which were: both partners were (1) over the age of 18, (2) born in two different countries with one partner originally from the United

States, (3) in a heterosexual romantic relationship with their current partner for at least 6 months, (4) self-identified as an intercultural couple, and (5) willing to participate. Intercultural couples that met the criteria were then contacted by the first author and assigned unique IDs that were tied to their romantic partner (e.g., 001 for the U.S. partner, and 501 for the non-U.S. partner). Partners subsequently completed an online survey independently with their assigned ID, including measures on the variables of interests in this study, and a demographic survey on their individual and relationship information.

One hundred and fifty-seven interested couples contacted the primary investigator, and of them, 53 couples did not meet screening requirements. Data were collected from the remaining 104 couples, and of this, 31 couples were removed from final analyses due to incomplete data (i.e., only one partner completed the survey). The final sample was comprised of 73 couples ($n = 146$ individuals). Age ranged from 19 to 79 years old ($M_{\text{Non-USPartner}} = 33.73$, $SD = 12.14$, $M_{\text{USPartner}} = 35.16$, $SD = 14.27$). Most participants identified as White/European American (65.8%), were well-educated (71.2% with a bachelor's or graduate/professional degree), married (54.8%), and reported making less than \$50,000 per year as a couple (45.9%). Thirty-two couples (42.8%) reported they identified as the same race or ethnicity, and 41 (56.2%) reported they identified as different races and ethnicities. The median relationship length was 4 years ($range = 6$ months to 36 years). Forty-six (31.5%) couples reported having children ($M = 3$ children; $range = 1$ to 7 children). On average, participants who were born in a country other than the United States reported living in their country of birth for 19.30 years ($SD = 9.70$, $range = 1$ month to 42 years), and in the United States for an average of 13.74 years ($SD = 10.76$ years, $range = 1$ month to 42 years). The most frequent "intercultural couple" status for couples was where one partner came from the United States and the other from Germany ($n = 14$ couples; see Table 1). Complete descriptive statistics by partner's nationality can be found in Table 2.

Table 1

Frequencies for Country of Birth for the Non-US Partners

Birth Countries of Non-US Partners	Number of Couples per	
	Country	Total Number of Couples
Germany	14	14
Mexico	7	7
United Kingdom	6	6
India	4	4
China, France, The Philippines	3	9
Australia, Brazil, El Salvador, Pakistan, South Africa, Switzerland, Taiwan, Turkey	2	16
Afghanistan, Bosnia & Herzegovina, Canada, Colombia, Dominican Republic, Estonia, Ireland, Israel, Kazakhstan, Malaysia, Peru, Poland, Singapore, Spain, Ukraine, Venezuela, Vietnam	1	17
Total		73

Measures

Internal Stress

Partners' internal stress was measured with the 10-item Internal Stress subscale of the Multidimensional Stress Questionnaire for Couples (MDS-Q; Bodenmann, Schär, & Gmelch, 2008). Participants reported their levels of

Table 2

Descriptive Statistics for Study Variables

Variable	Non-US Partner	US Partner
Sex (n)		
Female	31	42
Male	42	31
Racial/Ethnic Identification (%)		
Asian/Asian-American	21.9	1.4
Black/African-American	1.4	4.1
Hispanic/Latino(a)	19.2	4.1
White/European American	45.2	86.3
Other	12.3	4.1
Education Level (%)		
High School Diploma or Equivalent	9.6	2.7
Vocational/Technical School	2.7	2.7
Associate's degree	5.5	5.5
Some College	9.6	19.2
Bachelor's Degree	35.6	42.5
Graduate or professional degree	37.0	27.4
Yearly Household Income (%)		
\$0-\$25,000	26.0	23.3
\$25,000-\$50,000	20.5	21.9
\$50,000-\$75,000	13.7	9.6
\$75,000-\$100,000	16.4	23.3
\$100,000-\$150,000	8.2	12.3
Greater than \$150,000	13.7	9.6
Children		
Have Children (%)	30.1	32.9
Avg Number of Children	3	3
Avg Length of Time in Years Living in the US	13.7	34
Avg Length of Time in Years Living in Birth Country	19.3	-

Note. Avg = Average

minor stress within their relationship from areas such as “difference of opinion with your partner” in the past 12 months on a 4-point Likert scale ranging from 0: *Not Stressful At All* to 3: *Very Stressful*. A higher average score shows greater stress perceived by the individual within the dyad. The reliability of the MDS-Q for both the US and non-US partner was acceptable in this sample (see Table 3).

Stress Communication and Dyadic Coping (DC)

Partner's self-report of stress communication and perceptions of DC was measured with the English version (Randall, Hilpert, Jimenez-Arista, Walsh, & Bodenmann, 2016) of the Dyadic Coping Inventory (DCI; Bodenmann, 2008). Stress communication was measured with the 2-item stress communication subscale, of which an example is “My partner tells me openly how he/she feels and that he/she would appreciate my support.” Perceptions of partners' emotion-focused supportive DC was measured using 2 items. An example item is “My partner shows empathy and understanding.” Perceptions of partners' problem-focused supportive DC was measured using 2 items, and an example item is “My partner helps me analyze the situation so that I can

Table 3

Descriptive Statistics, Reliabilities, and Mean Differences for Main Variables

Variable	Non-US Partner				US Partner				<i>p</i>
	<i>M</i>	<i>SD</i>	α	Range	<i>M</i>	<i>SD</i>	α	Range	
Internal Stress									
Actor ^a	0.84	0.58	.85	0 - 2.1	0.78	0.60	.87	0 - 2.5	.47
Partner ^a	0.78	0.60	.87	0 - 2.5	0.84	0.58	.85	0 - 2.1	.47
Stress Comm ^b	3.73	0.91	.76	1 - 5	3.91	0.87	.76	1 - 5	.23
Dyadic Coping^b									
Positive	3.82	0.70	.80	2.2 - 5	3.66	0.76	.82	1 - 5	.07
Emotion-Focused	4.30	0.81	.81	1.5 - 5	3.99	0.96	.89	1 - 5	.01
Problem-Focused	3.70	0.97	.78	1 - 5	3.59	0.98	.82	1 - 5	.41
Delegated	3.46	0.90	.81	1 - 5	3.43	1.00	.85	1 - 5	.84
Negative	1.77	0.70	.64	1 - 4.8	1.88	0.86	.77	1 - 3.5	.24
Rel Satisfaction ^c	4.28	0.67	.87	2.3 - 5	4.26	0.66	.87	2.4 - 5	.79

Note. Comm = Communication. Rel = Relationship. Positive DC is the composite score of problem-, emotion-focused, and delegated DC.

Paired-sample *t*-tests were used to test for differences between non-US and US partners.

^a0-3, ^b1-5, ^c1-7 scaling on Likert scale.

better face the problem.” Delegated DC was measured with 2 items and an example item is “My partner takes on things that I normally do in order to help me out”. Participants rate the specific items using a 5-point Likert scale from 1: *Not at All/Very Rarely* to 5: *Very Often*. To create a composite measure of positive DC, the means of the supportive DC (problem- and emotion-focused) and delegated DC subscales were used (Papp & Witt, 2010). Negative DC was measured by taking the average of the 4-item subscale on negative DC, and an example item is “My partner does not take my stress seriously.” A higher score on the subscales indicates more frequent use of the respective dyadic coping strategies. In this sample, reliability was acceptable (see Table 3).

Relationship Satisfaction

Relationship satisfaction was measured with the Relationship Assessment Scale (RAS; Hendrick, Dicke, & Hendrick, 1998). This scale measures how a person “feels about his or her relationship” (Hendrick et al., 1998, p. 137). The RAS is a 7-item questionnaire with a 6-point scale, ranging from more negatively to more positively on each item. Sample questions are: “How well does your partner meet your needs?” and “How much do you love your partner?” A higher average score on the RAS indicates greater relationship satisfaction. The RAS showed good reliability in this sample (see Table 3).

Data Analysis

Dyadic data have sources of interdependence, due to partners’ experiences being shared and responses being correlated (Kenny, Kashy, & Cook, 2006). To account for sources of interdependence between partners, the Actor-Partner Interdependence Model (APIM; Kenny & Cook, 1999) was used in SAS Proc Mixed Version 9.3 (SAS Institute, 2011). An interaction model was used to examine distinguishability (Kenny, Kashy, & Cook, 2006) of the intercultural couples using country of origin as the factor (US vs. non-US), and the dyads were found to be indistinguishable. To further support indistinguishability of the dyads, gender (man vs. woman) was used in an additional two-intercept model, and the dyads were found to be indistinguishable. We subsequently

performed seven separate APIMs, one to examine the association between internal stress and relationship satisfaction, one to examine the association between internal stress and relationship satisfaction as moderated by stress communication, and then one for each type of DC (i.e., positive, emotion-focused, problem-focused, delegated, and negative). Specifically, we examined the interaction between individuals' self-reported internal stress as moderated by their own reported stress communication and their perception of their partner's engagement in DC. Internal stress, stress communication, and the various forms of DC were grand mean centered prior to analyses, as this approach allows easier interpretation (Wu & Wooldridge, 2005). Relationship length was considered a control variable in our analysis given its positive association with relationship satisfaction (e.g., Whitton & Kuryluk, 2014).

Results

RQ1: Associations between Internal Stress and Relationship Satisfaction

Descriptive statistics and mean differences of the main variables across partners' nationality are shown in Table 3 and correlations among study variables can be found in Table 4.

Table 4

Correlations for Non-US and US Partners on Main Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. A Int Stress	—	.42**	-.44**	-.50**	-.41**	-.36**	-.40**	.44**	-.72**	.06
2. P Int Stress	.42**	—	-.18	-.34**	-.15	-.32**	-.31**	.24**	-.37**	-.03
3. Stress Comm	-.11	.08	—	.49**	.53**	.32**	.31**	-.53**	.52**	-.12
4. Pos DC	-.53**	-.2	.53**	—	.76**	.79**	.78**	-.59**	.56**	-.20
5. EmoF DC	-.54**	-.37**	.12	.74**	—	.41**	.42**	-.61**	.43**	-.30*
6. ProbF DC	-.37**	-.03	.20	.82**	.44**	—	.40**	-.41**	.45**	-.11
7. Delegated DC	-.34**	.001	.33**	.77**	.31**	.48**	—	-.38**	.43**	-.08
8. Neg DC	.62**	.46**	-.19	-.64**	-.67**	-.50**	-.33**	—	-.33**	.14
9. Rel Sat	-.68**	-.48**	.29*	.62**	.57**	.40**	.48**	-.60**	—	-.03
10. Rel Length	-.03	.07	-.09	.04	-.08	.09	.16	-.05	-.02	—

Note. A = Actor; Int = Internal; P = Partner; Comm = Communication; Pos = Positive; EmoF = Emotion-focused; ProbF = Problem-focused; Neg = Negative; DC = Dyadic Coping; Comm = Communication; Rel Sat = Relationship Satisfaction; Rel = Relationship. Non-US partner's correlations are presented above the diagonal and US partner's correlations are presented below the diagonal.

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

Partners who were born in the U.S. did not differ from their non-U.S. born partners in their perceptions of internal stress, relationship satisfaction, or engagement in stress communication or DC except for perceived emotion-focused supportive DC such that non-U.S. partners perceived more frequent use of emotion-focused support DC behaviors ($M = 4.30$, $SD = .81$) by their U.S. partner than U.S. partners did of their non-U.S. partner ($M = 3.99$, $SD = .96$; $p = .01$).

We found support for H1 on negative associations between both one's own (actor effect) and their partner's experiences (partner effect) of internal stress and their relationship satisfaction. Individuals who reported experiencing more internal stress reported less relationship satisfaction, $F(1,70) = 88.62$, $b = -.71$, $p < .001$, so did individuals whose partner reported greater internal stress, $F(1,70) = 4.87$, $b = -.18$, $p = .031$.

RQ2: Moderating Effects of Stress Communication

Stress communication

Actor stress communication was positively associated with relationship satisfaction, $F(1, 66) = 9.38$, $b = 0.14$, $p < .01$. In support of H2, a significant interaction emerged between actor stress communication and their partner's internal stress with relationship satisfaction, $F(1, 66) = 6.26$, $p = .015$. Simple slope analyses (Aiken & West, 1991) indicated that for those who reported engaging in less frequent (-1 SD) stress communication to their partner, their relationship satisfaction was not associated with their partner's perceptions of internal stress ($b = -.03$, $p = .775$). Additionally, for those reporting more frequent ($+1$ SD) stress communication, the more their partner reported internal stress, the less satisfied they were with their relationship ($b = -.38$, $p < .001$) supporting H2 (see Figure 1).

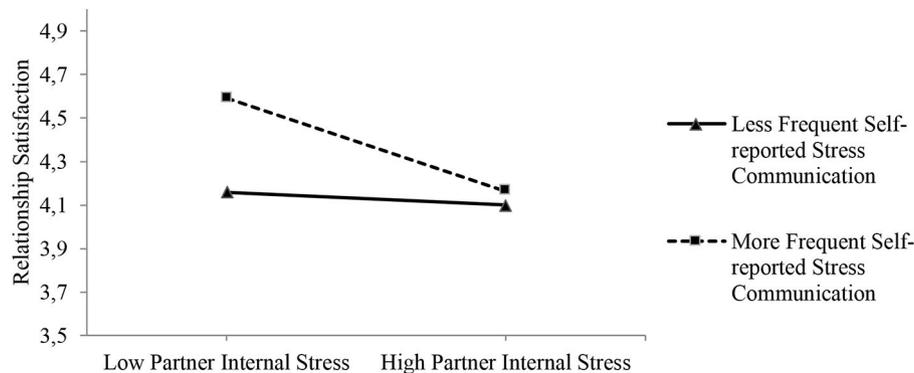


Figure 1. Moderation of stress communication between internal Stress and relationship satisfaction; dashed line represents significant moderation

RQ3: Moderating Effects of DC

Positive DC

In partial support of H3a, there was a significant main effect for perceived partner engagement in positive DC ($b = .27$, $p < .001$), such that partners who reported perceiving their partner as engaging in more positive DC reported greater relationship satisfaction. However, the interaction between positive DC and internal stress on relationship satisfaction was not significant ($b = -.05$, $p = .377$).

We further examined the main and interactional effects of the independent components of positive DC (i.e., emotion-focused supportive, problem-focused supportive, and delegated DC). For emotion-focused supportive DC, there was a significant main effect on relationship satisfaction, $F(1, 68) = 8.28$, $b = .16$, $p = .005$. There was also a significant main effect for perceived partner engagement in problem-focused supportive DC on relationship satisfaction, $F(1, 68) = 11.12$, $b = .13$, $p < .01$, and delegated DC, $F(1, 68) = 8.98$, $b = .14$, $p < .004$. For all three components, there was no significant interaction between them and internal stress on relationship satisfaction (emotion-focused: $p = .175$; problem-focused: $p = .828$; delegated: $p = .896$). Overall, these results indicate that for partners who reported perceiving their partner as engaging in any form of positive dyadic coping behaviors more frequently, they experienced greater relationship satisfaction, which partially supports H3a.

Negative DC

We did not find support for H3b. Specifically, we found no main effect of perceived partner engagement in negative DC on relationship satisfaction, $F(1, 68) = 3.64$, $b = .12$, $p = .061$, and no significant interaction between negative DC and internal stress on relationship satisfaction, $F(1, 68) = 2.51$, $b = .11$, $p = .118$.

Discussion

This study is among the first to examine how one's own stress communication and perceived partner engagement in positive and negative DC play a role on the internal stress and relationship satisfaction association among intercultural couples. The goals of this study were to apply the systemic transactional model of dyadic coping (Bodenmann, 1995, 2005) to examine how intercultural couples perceive and cope with internal stress in the context of their relationship. Additionally, we aimed to examine whether perception of partner's engagement in stress communication, and further, various DC behaviors mitigate or exacerbate the association between partner's experiences of stress and relationship satisfaction.

Intercultural Couples' Experiences of Internal Stress and Relationship Satisfaction

Intercultural couples have been posited to face higher levels of stress compared to partners from the same culture (intracultural couples) due to their cultural differences (Fu, Tora, & Kendall, 2001; Hsu, 2001; Seshadri & Knudson-Martin, 2013). While it is beyond the scope of the current project to examine differences between inter and intracultural couples (data not collected), our finding suggests relatively low levels of internal stress among intercultural couples. To date, there have been no reported quantified levels of internal stress among intercultural couples. Thus, our finding suggests that stress originating from within an intercultural relationship may be shared between both partners (Bodenmann, 2005), and as such their levels of stress may be more similar than different depending on their nationality.

Despite the relative low levels of internal stress, we found evidence in support of the negative associations between both partners' own and their partner's stress with their relationship satisfaction; when Partner A experiences increased stress internal to their relationship, Partner A perceives lower levels of satisfaction with the relationship. Additionally, over and beyond of the effects of their own stress, when Partner B experiences greater stress, Partner A reports even lower relationship satisfaction as associated with Partner B's perceptions of stress. This is consistent with prior findings on the associations between stress and relationship satisfaction as evidenced in a review study of 24 empirical studies (e.g., Randall & Bodenmann, 2009) as well as stress crossover in samples of Latino couples (Falconier, Nussbeck, et al., 2015) and newlyweds (Neff & Karney, 2007). Together, these findings highlight the importance of considering both partners in an intercultural relationship as one person's perceptions of stress can spread to the other, which negatively correlates with lower relationship satisfaction for both partners, which is a likely risk factor for the rupture of the relationship (Fu et al., 2001).

The Role of Stress Communication

Stress communication can have positive implications on couples' experiences of stress and relationship outcomes (Bodenmann, 2005). Indeed, we found support such that one's own engagement in stress communication was positively associated with their own relationship satisfaction (actor effects). Further, such communication moderated the negative association between one's partner's experiences of internal stress and their own

satisfaction with the relationship. Specifically, for those who engaged in less frequent stress communication, their relationship satisfaction was not influenced by their partner's stress; in contrast, for those who engaged in more frequent stress communication, the greater stress their partner perceived, the less satisfied they were with their relationship. In other words, the positive effects of stress communication were conditional and only evident when stress was more frequently communicated to the partner when the partner was less stressed about their relationship. These findings suggest that one's own engagement in stress communication can be beneficial to their feelings about their relationship, especially when one's partner does not report elevated levels of internal stress. Researchers have posited that for intercultural couples the positive effects of stress communication may derive from couples' realization of stress coming from their cultural differences, and not from the relationship itself (Hayashi, 2010; Seshadri & Knudson-Martin, 2013; Silva et al., 2012). Drawing from these propositions, intercultural couples are encouraged to communicate their experiences of stress in their relationship without waiting until the stress levels are heightened so that they can take the perspectives of externalizing the sources of stress in their communication.

The Role of Dyadic Coping

Following stress communication, DC engaged by partners has been generally thought to provide positive implications on relationship outcomes among couples that may or may not identify as intercultural (see Falconier, Jackson, et al., 2015 for a meta-analytic review). Consistent with these propositions, our findings showed a positive linear association between one's perceived partner engagement in positive DC and relationship satisfaction, such that as partners perceived more engagement in positive DC, they reported higher relationship satisfaction. The same pattern arose for perceived partner supportive DC, both emotion- and problem-focused supportive DC, and delegated DC. Further, these results provide support for research with intercultural couples that indicated positive DC, such as problem-focused supportive DC behaviors, is associated with increased relationship satisfaction (e.g., Hsu, 2001; Seshadri & Knudson-Martin, 2013; Silva, Campbell, & Wright, 2012).

Interestingly, non-U.S. partners reported significantly higher levels of emotion-focused supportive DC from their U.S. partner, compared to the U.S. partner's perceptions of their non-U.S. partner. Due to the cross-sectional nature of the data we could not unravel whether the association between perceived of emotion-focused supportive DC and relationship satisfaction vary upon partners' nationality; however, our findings suggest that overall for intercultural couples, forms of positive DC, such as providing empathy and understanding and giving advice, can be particularly helpful for relationship satisfaction as the partner perceives emotional support from their partner and realizes that stress is from differences in viewpoints, not the relationship itself (Hayashi, 2010; Seshadri & Knudson-Martin, 2013; Silva, Campbell, & Wright, 2012). Together, the reports of positive DC may not be only overall beneficial for their relationship, but may also be viewed as an important way to explore partners' cultural differences and coping mechanisms, which may be especially beneficial for intercultural couples to help regulate their relationship satisfaction in the face of stress internal to their relationship.

In contrast to previous research in which elements of negative DC were examined among intercultural couples (e.g., Fu, Tora, & Kendall, 2001; Heller & Wood, 2000; Hsu, 2001), perception of partner's engaging in negative DC was not associated with relationship satisfaction. This non-significant result is consistent with results from a meta-analysis, which posited that perception of positive DC matters more than negative DC for relationship satisfaction (Falconier, Jackson, et al., 2015). As such, perception of partner's negative DC may not be as critical for intercultural couples' relationship satisfaction, but rather it may be more important for partners to perceive

that they are being supported and understood by their partner. Additionally, it is important to note that average levels of self-report negative DC in this sample were low ($M = 1.77$ for Non-U.S. Partner; 1.88 for U.S. partner), which is consistent with a majority of relationship research, such that couples who are unsupportive are less likely to participate in research.

Interestingly, and counter to our predictions, we did not find any moderating effects of DC on the associations between internal stress and relationship satisfaction. Previous research using samples of Latino couples have found moderating effects of emotion and problem-focused DC, such that the deleterious impact of immigration stress is buffered in the expected directions (Falconier, Nussbeck, & Bodenmann, 2013). Our nonsignificant results could be due to a number of factors, which include but are not limited to our relatively small sample size and the overall high levels of relationship satisfaction and low internal stress. Nonetheless, these findings point to the need for intercultural couples to develop healthy coping strategies for their relationship satisfaction regardless of their perceived internal stress levels given the overall positive effect of DC.

Limitations

Despite the novelty of this study extending the application of the systemic transactional model (Bodenmann, 1995, 2005) to understanding intercultural couples' perceptions of internal stress, it is important to note limitations of this study. First, generalizability may be limited due to the sample collected ($n = 73$ couples). Most participants identified as White/European-American and had earned a bachelor's degree or higher, which may limit generalizability to White well-educated intercultural couples with one partner born in the U.S. As noted before, there are many ways to define "intercultural" so results from this study may not apply to all intercultural couples, such as those who may be from the same country but endorse different values and beliefs. Additionally, it could be that intercultural couples experiencing a large amount of stress may not have wanted to participate the study due to the discord within their relationship.

Another limitation lies in the measures used. For example, the MDS-Q does not specifically ask about cultural-related stressors, but internal stress in general, which may not fully capture the internal stressors faced by intercultural couples. Therefore, the measure may have captured more general sources of internal stress (e.g., "difference of opinion with your partner", "disturbing habits of your partner"), but failed to illuminate the unique internal stress intercultural couples face, such as communication difficulties, language differences, and endorsement of prescribed gender role beliefs (Bustamante et al., 2011). Future research should examine specific types of internal stressors that intercultural couples may experience. Related, the DCI (Randall et al., 2016) may not have accurately addressed the ways in which intercultural couples cope with specific stressors, such as creating a "we" or reframing cultural differences as something to celebrate (e.g., Seshadri & Knudson-Martin, 2013). Participants' report of perceived partner engagement in specific types of DC was not specifically associated with the internal stress they experience, which may be related to the lack of findings on DC as a moderator. Future research should utilize more culturally sensitive instruments to measure intercultural couples' perceptions of internal and external stressors (i.e., stressors that originate outside the relationship) and more short-lived stressors (i.e., acute stress), which can help researchers and clinicians better understand the types of stressors faced and coping strategies unique to the stressors used by intercultural couples. Lastly, while efforts were made to select measures that avoided colloquial American English to minimize potential confusion among participants whose first language was not English, it is possible some participants may have interpreted items differently.

Given the data collected was cross-sectional and from a non-clinical population, results of this study may be limited across time and situations, such as instances where intercultural couples may be facing a significant stressor or life change, and/or may be seeking mental health services. To build upon the research questions and hypotheses examined in this study, a longitudinal design is warranted. Prospective longitudinal studies could investigate the association between internal stress and relationship satisfaction over time more accurately by, for example, asking participants to complete daily diaries about their relationship satisfaction and stress levels (e.g., [Rosen et al., 2014](#)).

Implications and Conclusion

Intercultural couples may experience stress that originate within their relationship, which can have negative associations with not only their own, but their partners' relationship functioning (e.g., [Bustamante et al., 2011](#); [Crippen & Brew, 2013](#); [Seshadri & Knudson-Martin, 2013](#)). Maintaining a satisfying relationship with one's romantic partner is important, especially when facing stress, as relationship quality can be associated with several domains of well-being such as physical and mental health (e.g., [Falconier, Nussbeck, et al., 2015](#)). For relationship researchers, these findings highlight the need for more work examining the processes of dyadic coping and stress communication among intercultural couples, especially considering the many ways intercultural couples can be defined.

Findings from this study can have practical implications, especially for intervention programs focused on preventing and alleviating stress between partners, such as the Couples Coping Enhancement Training (CCET; [Bodenmann & Shantinath, 2004](#)). The CCET focuses on helping couples develop six areas to improve relationship satisfaction: knowledge of stress and coping, improvement of individual coping, enhancement of dyadic coping, exchange and fairness in the relationship, improvement of marital communication, improvement of problem-solving skills. Tailoring intervention programs, such as the CCET, using appropriate cultural methods for intercultural couples may be a valuable tool for clinicians. Findings of this study add to the importance of teaching stress communication and dyadic coping skills in programs such as the CCET when applying to intercultural couples.

Further, our results suggest both stress communication and dyadic coping may be helpful for intercultural couples experiencing stress within the relationship. For mental health professionals working with intercultural couples, highlighting the importance of communicating stress even when the perceptions are minimal and engagement in various forms of positive DC, especially for each partner to perceive that they are being supported by their partner, may be helpful in alleviating internal stress. For example, mental health professionals working with intercultural couples could teach their clients to identify stress originating from their relationship, effectively communicate stress, and engage in positive DC strategies, such as being empathic towards each other and helping each other to engage in problem-solving. Although positive DC did not moderate the association between internal stress and relationship satisfaction in this sample, positive DC has shown promising positive effects on relationship satisfaction regardless of stress levels. Thus, mental health professionals are encouraged to be aware of the effect of positive DC on internal stress and relationship satisfaction, which has been found in this and previous research ([Falconier, Randall, & Bodenmann, 2016](#)).

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Competing Interests

The authors have declared that no competing interests exist.

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