Home is Where the Heart is: Implications of Dyadic Acculturation for Migrant Couples' **Personal and Relational Well-being**

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Word count: 10223

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Dyadic Acculturation in Migrant Couples

Abstract

Acculturation—the process through which people adopt the sociocultural values of their heritage and settlement cultures—is a complex experience, particularly within family structures. Although the consequences of acculturation gaps between parents and children have been studied extensively, the consequences for migrant couples are often overlooked. We propose that acculturation gaps in migrant couples are likely detrimental for personal and relational well-being. To test this, a study of 118 migrant couples with the same heritage culture and now living in the UK was conducted. Acculturation gaps in our studies were conceptualised as both within-person and within-couple, and their impact on personal well-being and relationship quality was tested using APIM. Results suggest that although within-couple acculturation gaps negatively impacted personal well-being, they were not necessarily harmful to relationship quality. Interestingly, within-person acculturation gaps had dyadic consequences, with one person's specifically contributing to their partners' personal well-being.

Keywords: migrant couples, acculturation gaps, well-being, relationship quality

Home is Where the Heart is: Implications of Dyadic Acculturation for Migrant Couples' Personal and Relational Well-being

There are an estimated 281 million migrants globally, comprising 3.6% of the world population (United Nations, 2020). Through prolonged intercultural contact, the individual and society engage in a process of cultural change affecting beliefs, values, and behaviours. This process is called acculturation (Ward & Geeraert, 2016). Acculturation becomes more complex within a family context as acculturation varies intergenerationally within families (Birman, 2006). Migrant parents, compared to their children, tend to be more oriented towards their heritage culture and less oriented towards the settlement culture (Wu & Chao, 2011; Sun et al., 2020). Such acculturation gaps have been linked with children's and families' maladjustment (Portes & Rumbaut, 2001).

Despite an increased interest in intergenerational differences, there has been limited research examining the acculturation processes within migrant couples (for examples, see Cruz et al., 2014; Rapaport et al., 2021). Yet romantic relationships should play a central role in the acculturation process. People rely on their partners to help make sense of the world around them (Murray et al., 2018; Rossignac-Milon & Higgins, 2018). Acculturation gaps within couples are therefore likely to have negative consequences, evoking feelings of living in different cultural realities. Thus, acculturation gaps may have important consequences for both personal and relational well-being. The current study used the Actor-Partner Interdependence Model (APIM) to examine how individual (i.e., actor effects) and dyadic (i.e., partner effects) differences in acculturation to settlement and heritage cultures, impact personal well-being and relationship quality.

Acculturation Framework

Acculturation refers to the phenomenon that comprises change at the individual (e.g., psychological changes) and societal level that occurs when migrant individuals or groups from different cultures come into prolonged first-hand contact (Doucerain et al.,

2017; Redfield et al., 1936). Acculturation was originally conceptualized as a unidimensional and linear process (Gordon, 1964), in which migrants gradually absorb the settlement culture at the expense of their heritage culture. However, this assimilation model has been critiqued for its conceptual and theoretical problems (see for instance Rudmin, 2003). The bidimensional model of acculturation (Berry, 1997, 2009) postulates that migrants engage with two independent processes: maintaining cultural traditions from their heritage culture (i.e., heritage acculturation) and adopting traditions from the new settlement culture (i.e., settlement acculturation). This acculturation framework is supported by research frequently demonstrating a non-significant, weak to moderate, negative association between the heritage and settlement dimensions of acculturation (Lee et al., 2006; Tsai et al., 2000).

Although some researchers continue to utilize the unidimensional model (e.g., Marsiglia et al., 2014), this method has been discredited because it theoretically confounds these two independent dimensions (Ryder et al., 2000; Ward & Geeraert, 2016).

The bidimensional framework identifies four acculturation strategies through which migrants can approach acculturation (Berry, 2009): integration (high heritage and settlement orientation), assimilation (high settlement orientation, rejection of heritage culture), separation (high heritage orientation, rejection of settlement culture), and marginalization (rejection of both heritage and settlement cultures). Although integration has long been considered as the optimal strategy for migrants (Berry et al., 2013; Nguyen & Benet-Martinez, 2013), a recent meta-analysis reveals only a limited effect of integration or acculturation orientation on migrants' adaptation both cross-sectionally and longitudinally (Bierwiaczonek & Kunst, 2021). Nonetheless, the bidimensional acculturation model has been shown to be conceptually aligned with a growing body of research on how biculturals identify with two cultural groups (Benet-Martínez & Haritatos, 2005; Ward et al., 2018). Hence, the bidimensional model of acculturation serves as the foundation for the current investigation.

Grounded in the bidimensional acculturation model, a within-person acculturation gap is defined as a discrepancy between an individual's heritage and settlement acculturation. How within-person acculturation gaps influence personal well-being is well researched (Berry et al., 2013; Bierwiaczonek & Kunst, 2021; Nguyen & Benet-Martinez, 2013). However, the consequences of within-person gaps for romantic relationship well-being are less clear. Cruz and colleagues (2014) found that within-person gaps between heritage and settlement orientation in married couples were not significantly associated with relationship quality (for either partner). However, a within-person gap had a detrimental effect for husbands' perceived relationship warmth. When husbands were low in heritage orientation (but not high), the greater husbands' settlement orientation, the lower relationship warmth they perceived. In contrast, a positive effect emerged for wives' perceived relationship warmth. Only when wives were very low in heritage orientation, the greater wives' settlement orientation, the higher relationship warmth their reported. In summary, findings for the link between the within-person gap and relationship well-being are inconsistent.

Given the existing literature, within-person acculturation gaps should be negatively associated with personal well-being. However, as the evidence regarding within-person acculturation gaps and their association with relationship outcomes is mixed, we have no a priori hypothesis regarding the association between these within-person gaps and relationship quality.

Acculturation Gap-Distress Model

Within the broader family context, acculturation may emerge to differing degrees and speeds across family members. For instance, compared to their children, migrant parents usually value heritage cultural values and practices more strongly (Portes & Rumbaut, 2001; Rumbaut, 2005), but adopt settlement cultural elements less strongly (Wu & Chao, 2011). Such acculturation differences between migrant parents and children,

typically referred to as a parent-child acculturation gap, have been operationalized using one of three approaches. The categorical "match/mismatch" approach classifies parent-child dyads as matched if they are assigned the same acculturation strategies (integration, assimilation, etc.), or mismatched if not (e.g., Yan et al., 2022). The mathematical "difference score" approach subtracts the score of one individual from the other (e.g., Marsiglia et al., 2014). Although widely used, both approaches have been criticized (Birman, 2006; Telzer, 2010) for failing to operationalize the magnitude of the gap (match/mismatch approach) and the individual acculturation scores (both approaches). Alternatively, the third approach uses a statistical method to examine individuals' acculturation as main effects and the gap as the interaction term between two migrants' acculturation scores (Aumann & Titzmann, 2018; Sun et al., 2020). This approach will be used here, as it has been recommended for simultaneously permitting comparison of different types of gaps while also considering individual levels of acculturation (Birman, 2006; Telzer, 2010).

Researchers have linked parent-child acculturation gaps with intergenerational conflict and children's maladjustment. The *acculturation gap-distress model* was proposed to describe the negative consequences of acculturation gaps for individuals and families (Portes & Rumbaut, 2001). While some studies have found that children's and family's adjustment were indeed associated with parent-child acculturation gaps (Bámaca-Colbert et al., 2012; Chen et al., 2014), other studies have shown these outcomes were associated with individual levels of acculturation but not the acculturation gap (Sun et al., 2020; Telzer et al., 2016). Although the gap-distress model has been well studied in child-parent dyads, there is a paucity of research on other relationship structures within migrant families, such as couples, with regards to differences in acculturation and how these converging or differing experiences may play out in influencing one another within the relationship (Rusbult & Van Lange, 2008).

Acculturation in Couples

People need to believe that their social world is capable of keeping them safe and supporting them in times of need (Feeney & Collins, 2015). When the world is scary or confusing, people rely on partners to help maintain a sense of meaning and understanding (Murray et al., 2018; Rossignac-Milon & Higgins, 2018). These dynamics are potentially more important among migrant couples facing both the psychological and sociocultural challenges typically associated with migration (Searle & Ward, 1990). Indeed, migrants are faced with new norms, expectations, and unexpected interactions as they establish themselves in a new cultural context. However, just as parents and children do not necessarily acculturate to their heritage and settlement cultures in the same way, the acculturation process between partners can differ as well (see for examples, Ataca & Berry, 2002; Costigan & Dokis, 2006).

There are theoretical reasons to believe that acculturation gaps between partners may undermine personal and relational well-being. Acculturation gaps within couples may undermine personal and relational well-being by threatening the couples' shared understanding of reality. Shared realities represent the belief that another person, such as a romantic partner, experiences the same inner states (e.g., feelings, beliefs, concerns) in response to experiences within the world (Echterhoff et al., 2009). When people encounter situations or experiences that violate their ability to make sense of the world around them, they can draw from the perceived shared reality with their partnerships to reaffirm meaning and order (Murray et al., 2018; Rossignac-Milon et al., 2021). By contrast, a lack of perceived shared reality can lead to negative consequences for the relationship, including dissolution (Rossignac-Milon & Higgins, 2018). If one partner is more oriented towards either the settlement or heritage culture than the other partner, then the point of reference for their daily experiences and interactions will not be aligned. Thus, an acculturation gap between couples would negatively affect their perceptions of their relationship. Consistent with this hypothesis, prior research has found that within-couples' differences in acculturation toward the settlement-culture were associated with lower relationship satisfaction (Kanat-Maymon

et al., 2016; Kisselev et al., 2010). Likewise, within-couple similarities in acculturation toward the settlement were associated with greater perceived relationship warmth and relationship quality (Cruz et al., 2014). Thus, we would expect greater within-couple acculturation gaps to be associated with lower relationship quality.

Within-couple acculturation gaps may also impact personal well-being. For example, within-couple acculturation gaps have previously been positively associated with psychological adaptation (Rapaport et al., 2021). However, the findings from other studies are more nuanced. For example, Spiegler and colleagues (2015) found that acculturation gaps between couples were either unrelated or related to lower levels of acculturation stress. However, greater relationship quality is also associated with greater personal well-being (Braithwaite & Holt-Lunstad, 2017). Thus, if within-couple acculturation gaps undermine relationship quality, they may also have a similarly negative impact on personal well-being. Furthermore, within-person acculturation gaps may have a more direct impact on personal well-being than interpersonal processes. Consequently, while we expected within-couple acculturation gaps to be negatively associated with relationship quality, we were theoretically agnostic regarding the impact on personal well-being given the mixed evidence.

Current Study

Although individuals will undergo their own acculturation process, like many social phenomena, individuals are not islands unto themselves (Arriaga, 2013; Rusbult & Van Lange, 2008). Acculturation differences in child-parent relations have been linked with personal and relational maladjustment. However, little research has examined the acculturation gap and its consequences in other relationship structures within migrant families (e.g., romantic partners). The extent to which a person experiences their own acculturation gaps between settlement and heritage cultures, as well as the extent to which their partner's acculturation is similar to or different from theirs, should have important

implications for both personal and relational well-being. Understanding how romantic partnerships contribute to acculturation gap distress will help provide a better understanding of the unique challenges for the millions of migrant families adjusting to life in a new culture.

Past research on migrant couples (e.g., Cruz et al., 2014; Kanat-Maymon et al., 2016; Kisselev et al., 2010; Rapaport et al., 2021; Spiegler et al., 2015) and relationships (e.g., Rossignac-Milon et al., 2018; Rusbult & Van Lange, 2008) provides theoretical grounds for examining whether acculturation gaps are indeed detrimental for well-being of the individual and the relationship. To explore these ideas, the current study examined associations between acculturation, acculturation gaps and personal well-being as well as relationship quality among migrant couples. The APIM (Kenny et al., 2006) was used to examine both the effects of the individual's *own* acculturation to heritage and settlement cultures on a) their *own* personal well-being and relationship quality (i.e., actor effects), and b) their *partner*'s well-being and relationship quality (i.e., partner effects).

We identified two ways in which the acculturation gap could be conceptualised: first as a discrepancy within the individual between their heritage and settlement cultures (i.e., a within-person acculturation gap), and second as a discrepancy within couples' acculturation to either their heritage or settlement cultures (i.e., a within-couple acculturation gap).

Accordingly, the present study examined associations of personal well-being and relationship quality with within-couple acculturation gaps and within-person gaps in separate analyses. Separate variances and coefficients were estimated for men and women using the distinguishable dyadic approach of APIM. As shown in Figure 1, the following hypotheses were made. Both individuals' acculturation (actor effects, *path a*) and the acculturation of their partner (partner effects, *path p*) would be positively associated with the individual's personal well-being and relationship quality. In the examination of the within-person acculturation gap, acculturation towards the heritage and settlement culture

is predicted to interact (intra-individually), such that higher levels of acculturation towards either culture would be associated with higher levels of the individual's personal well-being (actor effect, $path \ a_{gap}$) and their partners' (partner effect, $path \ p_{gap}$). Because of inconsistencies in the findings of earlier empirical studies, an exploratory analysis was incorporated to determine how within-person acculturation gaps would further affect spouses' relationship quality. When examining the within-couple acculturation gaps, greater discrepancies between couples would be associated with lower relationship quality ($path \ c$). However, due to conflicting findings in the literature, we don't have a specific hypothesis to whether within-couple acculturation gaps would influence personal well-being.

--- Insert Figure 1 about here ---

Methods

The present study's hypotheses, inclusion/exclusion criteria, sample size and planned primary analyses were preregistered and are available at https://osf.io/7ce4r/?view_only=be5464e4dfe54b438568556e7f36cd5d. We report all measures and exclusions in this study.

Participants

The data in the current study consisted of migrant couples in romantic relationships. The data is a subset of a larger migrant family project, involving any household consisting of at least 2 people (e.g., parents and children; couples; siblings). The sampling frame of the present study was migrant couples from various ethnic backgrounds living in the British Isles (United Kingdom: 96.6%; Republic of Ireland: 3.4%). While homogenous in their settlement culture, they varied in their heritage cultures. A total of 32 heritage cultures were recorded (see Table 1). The most frequently occurring regions were South Asia (28.8%), South Europe (25.4%), and West Africa (14.4%). Inclusion criteria were for families to have a migrant background, to reside in the British Isles, and for both adult partners to belong to the same heritage culture. No further inclusion criteria were specified.

The original sample consisted of 298 adults, nested in 180 families. Excluding those families (N=62) where data was missing from one partner (e.g. single parent households or non-response) resulted in a final sample of 236 participants nested within 118 couples. Although neither gender identity nor sexual orientation were eligibility criteria for the study, all of the couples in our study were in mixed-gender relationships between self-identified men and women. Thus, participants consisted of 118 male partners (M_{age} =47.98, SD_{age} =10.44; 91.5% 1st generation migrants) and 118 female partners (M_{age} =44.44, SD_{age} =9.71; 90.7% 1st generation migrants).

A sensitivity power analysis using the APIMPower Program (Ackerman & Kenny, 2016) for our main analysis (actor and partner effects for an APIM analysis with distinguishable dyads) assuming an alpha of .05, was conducted. Standard effect sizes for the current models are unknown due to these processes not being tested previously. However, recent work suggests that partner effects often have small associations with relationship quality, whereas actor effects appear to have two to four times the predictive power of partner effects (Joel et al., 2020). We therefore calibrated our sensitivity analysis for medium (partial r=.25) and small (partial r=.10) actor and partner effects respectively. The sensitivity analyses suggest that a sample of 118 dyads should have 78% power to detect medium actor effects and 19% power to detect small partner effects.

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Procedure

Participants were recruited by means of snowball sampling in migrant community groups and through social media. Questionnaires were deployed online, where questions were allowed to be personalized with regards to participants' heritage culture. The questionnaires consisted of two sections: an initial screening survey, followed by the actual survey. Consent was obtained at the start of each survey. The initial screening survey was filled in by one partner of each couple, assisted by one of our experimenters. This survey

was designed to collect some basic information from each couple to determine the eligibility of this couple and to tailor the subsequent survey. The actual survey consisted of a number of measures, including acculturation, flourishing, depression, satisfaction with relationship, and affectual solidarity. Where appropriate, questions were customized to individual respondents, such that they referred to the individual's own heritage and settlement cultures, and referenced their partner's name in the relationship questionnaires. Both partners were then invited to complete the actual survey. Participation was voluntary and uncompensated.

Measures

The present study consisted of a subset of questions from a larger project¹.

Measures relevant to this study are presented as followed.

Demographic Variables

Participants were asked to answer some demographic questions related to their family and themselves, including their heritage culture, family role, gender, age, country of birth, and migration generation. If participants identified themselves as 1st generation migrants, they were asked to report the year of moving to the UK. However, 72% of the participants did not report their year of moving to the UK, so it was not controlled in the main analyses.

Acculturation

Based on the bidimensional model of acculturation, acculturation orientations towards the heritage and settlement cultures were measured using the Vancouver Index of Acculturation (Ryder et al., 2000; Testa et al., 2019). For each culture, participants were

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¹ The overall project included different family members, of which only couples are analysed here. Other measures for adult participants included work satisfaction and satisfaction with colleagues, but those measures are not relevant to the current study. Children completed the same measures as presented in the Methods, and further specific measures included school engagement (Finlay, 2006) and satisfaction with peers (adapted from Murray et al., 2011).

asked to report their agreement with 9 statements, using a scale from 1 (strongly disagree) to 7 (strongly agree) on items such as "I enjoy social activities with British people" (settlement culture) and "I enjoy social activities with [name-of-the-heritage-culture] people" (heritage culture). Both scales had excellent reliability (both α s>.90).

Personal Well-being

Participants' personal well-being was a composite variable (α =.87) calculated using two well-being variables, flourishing and depression.

Flourishing. The extent of migrant couples' flourishing was measured using the 8-item Flourishing Scale (α =.91; Diener et al., 2010). Participants' self-perceived success in a range of domains was measured on a scale from 1 (strongly disagree) to 7 (strongly agree), on items such as "I am a good person and live a good life".

Depression. Participants' depressive symptoms in the last 2 weeks were measured using the 11-item Iowa Short Form of the CES-D Depression Symptoms Index (α =.82; Kohout et al., 1993). Men and women were asked to indicate their agreement on a scale from 1 (hardly ever or never) to 3 (much or most of the time), on items like "I felt that everything I did was an effort". To compute an overall personal well-being variable, the depression scores were reversed, so the higher scores indicate lower levels of depression.

Patterns of associations between flourishing and depression with acculturation and acculturation gaps were identical. Therefore, a composite score was computed using flourishing and depression scores to represent a single personal well-being variable.

Flourishing and depression (reversed) measures were z-transformed and then averaged to create this single personal well-being measure which was used in the analyses.

Relationship Quality

Participants' relationship quality was a composite variable (α =.92) computed using two relationship-related variables, satisfaction with relationship and affectual solidarity.

Satisfaction with Relationship. Across 4 items, participants were asked to indicate

their satisfaction with their relationship with their partner (α =.94; Murray et al., 2011) using a scale from 1 (strongly disagree) to 7 (strongly agree), on items like "I have a very strong relationship with my partner".

Affectual Solidarity Measure. Using the affectual solidarity measure (α =.88; Walen, & Lachman, 2000), couples were asked to indicate their agreement with 4 support-related statements and 4 strain-related statements using a scale from 1 (strongly disagree) to 7 (strongly agree), on items such as "I rely on my partner for help if I have a serious problem" (support subscale), and "My partner often criticizes me" (strain subscale). An average score was obtained across 4 support and 4 strain (reverse scored) items, so that higher scores reflect more positive assessments of the relationship quality.

Associations between the two relationship quality variables (i.e., relationship satisfaction and affectual solidarity) and acculturation and acculturation gaps were also identical. Thus, a composite score was calculated to represent a relationship quality variable as well. Satisfaction with relationship and affectual solidarity measures were z-transformed and then averaged to create a single relationship quality measure which was used in the analyses.

Data Analytic Strategy

Data Structure

This study examined associations of participants' personal well-being and relationship quality with individual acculturation, within-person and within-couple acculturation gaps. This type of dyadic, distinguishable data requires analyses that can accommodate nested and correlated structures (Kenny et al., 2006; Snijders & Bosker, 2011). The APIM (Kenny et al., 2006) was used to account for the non-independence of our data (i.e., correlation between partners), as well as to allow us to test for both the direct effects of the actor (i.e., the effect of Idris' acculturation to the UK on his <u>own</u> well-being; symbolized by *a* in Figure 2) as well as the indirect effects of the partner (i.e., the effect of

Idris' acculturation to the UK on <u>Safiya's</u> well-being; symbolized by *p* in Figure 2). A multilevel model approach was used to account for the nested structure of the data, with each partner (level 1) from a migrant couple being grouped within their couple "dyad" (level 2). Furthermore, previous research on acculturation within couples has found different effects for men and women. Thus, we made the decision a priori to treat our dyads as distinguishable based on gender. We therefore used a Heterogeneous Covariance Structure (CSH) in the MIXED command in SPSS (version 25), which allowed for the estimation of separate variances and coefficients for men and women, while still accounting for their interdependence (Kenny et al., 2006).

--- Insert Figure 2 about here ---

Measuring Acculturation Gaps

Within-person and within-couple acculturation gaps were computed using the interaction term. For the within-person acculturation gap, acculturation orientations towards the heritage and settlement cultures were examined as main effects (e.g., the main effect of Idris' acculturation towards the UK and the main effect of his acculturation towards Jordan) and the within-person gap between two cultures was examined as the interaction (e.g., the interaction between Idris' acculturation towards the UK and towards Jordan). For the within-couple acculturation gaps, each individual's acculturation towards either culture was examined as main effects (e.g., the main effect of Idris' acculturation towards the UK, the main effect of Safiya's acculturation towards the UK), and the within-couple gaps were examined as the interaction between each partner's acculturation for each culture (e.g., the interaction between Idris' acculturation towards the UK and Safiya's acculturation towards the UK). Significant interactions were decomposed using simple slopes (Aiken & West, 1991). The measure of effect size (Cohen's d) was calculated using the following formula²: d=B/SD; with SD=sqrt(n)*SE (Cohen, 1988).

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² Note: B=unstandardized coefficient; SD=standard deviation; n: sample size; SE=standard error

Results

Descriptive statistics and correlations between male and female partners' age, acculturation, personal well-being (flourishing and depression) and their relationship quality (satisfaction with relationship and affectual solidarity) are shown in Table 2.

--- Insert Table 2 about here ---

Acculturation Gaps Between Partners

More exploratory in nature, acculturation gaps between partners were examined using a 2 (gender: men vs. women) by 2 (culture: heritage vs. settlement) repeated measures ANOVA³. This analysis revealed a significant main effect of gender, F(1, 117)=6.63, p=.011, $\eta^2=.05$, showing that across cultures, women (M=5.44, SD=.69) reported higher levels of acculturation than men (M=5.25, SD=.80). The main effect of culture was also significant, F(1, 117)=103.37, p<.001, $\eta^2=.47$, indicating that across gender, participants were more oriented towards their heritage culture (M=5.98, SD=.88) than the settlement culture (M=4.71, SD=1.15). However, the interaction of gender by culture was not significant (F<1). In sum, women had higher acculturation orientation than men across both cultures. This may indicate that relative to men, women were more integrated as suggested by differences in their acculturation scores.

Within-Person Acculturation Gap

To examine the associations of personal well-being and relationship quality with individual acculturation and within-person acculturation gaps between the heritage and settlement cultures, a series of multilevel modelling analyses were conducted (hypothesized path a, p, a_{gap} and p_{gap} in Figure 1). All predictors were grand-mean centred. First, individuals' heritage and settlement acculturation (main effects) were entered at step 1

influence acculturation differences between two partners.

³ We also conducted multilevel modelling analyses to examine whether gender equality of the heritage culture plays a role in acculturation gaps within migrant couples. However, no significant 2-or 3-way interactions emerged, indicating that gender equality of the heritage culture did not

($path\ a$), then the interaction of individual heritage by settlement acculturation (within-person acculturation gap) was added at step 2 ($path\ a_{gap}$). To examine the partner effects of acculturation on actor outcomes, partner heritage and settlement acculturation were added to the model at step 3 ($path\ p$). Next, the interaction of their partners' heritage by settlement acculturation (within-person acculturation gap) was entered at the last step (step 4; $path\ p_{gap}$). Analyses were repeated for both outcomes and both partners.

Personal Well-being

Results are reported in Table 3 and Figure 3⁴. Looking at men first, in line with hypotheses, there were significant actor effects (path a). Men who identified more strongly with either heritage (p=.008) or settlement culture (p=.008) experienced greater personal psychological well-being. However, the within-person acculturation gap ($path a_{aao}$) did not significantly impact their personal well-being, p=.865. Next, the female partner's acculturation towards heritage and settlement cultures was added (column self-partner). Partially consistent with path p, women's settlement acculturation (p=.042), but not heritage acculturation (p=.767), was positively related to men's well-being (partner effects). This main effect was qualified by the partner gap (path p_{qap}). Indeed, the interaction of the partner was a significant predictor of men's personal well-being (p=.014). This interaction was decomposed to test for the simple slopes of women's heritage acculturation on men's personal well-being when women were high (+1SD) and low (-1SD) on settlement acculturation (see Figure 4, Top Panel). Men's personal well-being was negatively impacted by their partners' heritage acculturation when partners' settlement acculturation was low (B=-.30, p=.037, d=.14, 95 % CI=[-.58, -.02]), but not high (B=.17, p=.202, d=.09, 95 %)CI=[-.09, .44]). Thus, men's personal well-being was negatively affected when their partners were highly oriented towards their heritage culture and simultaneously less oriented

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⁴ To determine the robustness of our findings additional sensitivity analyses were conducted. The associations between within-person acculturation gaps and personal well-being remained consistent when controlling for relationship quality.

towards their settlement culture. The simple slopes of settlement acculturation for high (+1SD) and low (-1SD) heritage acculturation were significant, such that men experienced greater personal well-being as a function of their partner's greater settlement acculturation when women's heritage acculturation was high (B=.26, p=.002, d=.21, 95% Cl=[.09, .42]) but not low (B=-.16, p=.239, d=08.95% Cl=[-.42, .11]). Taken together, men's well-being was negatively impacted by their partners being highly oriented towards their heritage culture only when the women's settlement culture was low (separation strategy). Otherwise, men's well-being benefited from a greater settlement acculturation of their partners if they were also highly oriented towards their heritage culture (integration strategy).

- --- Insert Table 3 about here ---
- --- Insert Figure 3 about here ---
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Actor effects also emerged for the women. Women with a stronger identification to their heritage (marginal effect, p=.056) and settlement culture (p<.001), reported better personal well-being, supporting path~a. However, the within-person acculturation gap for women was not related to their own well-being (p=.691), contradicting the $path~a_{gap}$. In addition, there were no partner effects of acculturation on women's personal well-being (p>>.20), thereby not supporting $path~p_{gap}$. Taken together, contrary to men, women's personal well-being was more uniquely related to their own acculturation, whereas men's well-being was impacted by their female partners' acculturation in addition to their own.

Relationship Quality

The same analytic strategy was used to explore how individual acculturation and within-person acculturation gaps influenced perceptions of relationship quality (see Table 4)⁵. For men, neither of the actor effects of their own acculturation (ps>.57) nor of within-

⁵ Sensitivity analyses showed that associations between within-person gaps and relationship quality remained consistent when controlling for personal well-being.

person acculturation gap (p=.714) on their perceived relationship quality appeared. Similarly, men's relationship quality was not significantly influenced by their partners' acculturation (ps>.06) or within-person acculturation gap (p=.780). As for women's outcomes, there were no significant actor (ps>.20) or partner effects (ps>.10) of acculturation influencing wives' perceived relationship quality. Taken together, those results suggest that couples' relationship quality is unaffected by within-person gaps, either at the actor or partner level.

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Within-Couple Acculturation Gaps

To examine associations of personal well-being and relationship quality with within-couple acculturation gaps towards each culture, a series of multilevel modelling analyses were conducted (hypothesized path a, p and c in Figure 1). All predictors were grand-mean centred. For each culture, self and partner's acculturation (main effects) were entered at step 1 ($path\ a\ and\ p$), then the interaction of self by partner acculturation (within-couple acculturation gap) was added at step 2 ($path\ c$). Next, the same analyses were conducted for the settlement culture. In the last step, we entered both partners' heritage and settlement acculturation and two within-couple acculturation gaps towards both cultures (the full model) into the model. Analyses were repeated for both partners' outcomes.

Personal Well-being

The associations between acculturation and their personal well-being were examined for both partners, and across both cultures (see Table 5) ⁶.

--- Insert Table 5 about here ---

Heritage Culture. Looking at actor and partner effects for heritage culture first, an actor effect emerged between men's heritage acculturation and personal well-being

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⁶ Sensitivity analyses revealed that associations between within-couple gaps and personal well-being remained consistent when controlling for relationship quality.

(p=.015), which was consistent with earlier analyses. More importantly, a within-couple heritage acculturation gap emerged for men's personal well-being (p=.014) (see Middle Panel in Figure 4). Simple slope analysis showed that men's heritage acculturation was positively associated with their personal well-being, only when their partner's heritage acculturation was high (B=.38, p<.001, d=.22, 95 % CI=[.17, .60]), but not when low (B=.11, p=.199, d=.08, 95 % CI=[-.06, .28]). The simple slopes of women's heritage acculturation on men's personal well-being when men were high (+1SD) and low (-1SD) in heritage acculturation were not significant (ps>.20). Thus, when women were highly acculturated with their heritage culture, male partners had higher personal well-being when they too were highly acculturated with their heritage culture. In contrast, the within-couples' heritage gap was not related to women's personal well-being (p=.778). Taken together, while men's personal well-being benefited from being highly oriented towards their heritage culture when their partners were as well, there seemed to be no influence of heritage acculturation on women's personal well-being.

Settlement Culture. For men, both the actor and partner effects were not significantly related to men's well-being (ps>.06). For women, the actor effect was positively associated with personal well-being (p<.001). The within-couples settlement gap was not associated with men's well-being (p=.165) but was marginally linked with the female partners' personal well-being (p=.066) (see Bottom Panel in Figure 4). Simple slope analyses revealed that women's settlement acculturation positively predicted their personal well-being both when their male partners' settlement acculturation was high (B=.37, P<.001, D=.27, 95 % CI=[.19, .56]) or low (D=.19, D=.011, D=.18, 95 % CI=[.04, .34]). Although both associations were significant, the link between women's settlement acculturation and outcomes was more pronounced when their partner's settlement acculturation was high. The simple slopes of men's settlement acculturation for women's high (+1SD) and low (-1SD) settlement acculturation were not significant (D=.16). Therefore, when women were highly

acculturated with their settlement culture, they experienced greater personal well-being when their partners were also highly acculturated with the settlement culture. Taken together, women experienced greater personal well-being when both partners were more oriented towards the settlement culture. No such effect emerged for the personal well-being of the men.

Full Model. Finally, as an exploratory set of analyses, we explored the full model of acculturation, with both heritage and settlement acculturation, as well as the within-couple acculturation gap for each culture examined simultaneously. Most of those results remained unchanged in the full model compared to previous analyses, with a few exceptions. The link between women's settlement acculturation was significantly associated with men's well-being when heritage acculturation was included in the model (p=.017). For women, the within-couples' settlement gap was no longer related to women's personal well-being (p=.100), after controlling for the interaction between partners' heritage acculturation. In sum, males' personal well-being was related to both males' heritage and females' settlement acculturation, as well as the heritage acculturation gap between two partners, whilst females' personal well-being was solely predicted by their own settlement acculturation.

Relationship Quality

Next, the links between couples' acculturation and their relationship quality were examined (see Table 6 and Figure 5) 7.

--- Insert Table 6 about here ----- Insert Figure 5 about here ---

Heritage Culture. For both partners, there were no significant actor or partner effects predicting relationship quality (*ps*>.60), which was in line with previous analyses.

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⁷ Sensitivity analyses showed that associations between within-couple gaps and relationship quality remained consistent when controlling for personal well-being.

Importantly however, the result also didn't yield any significant effects of heritage acculturation gaps between two partners predicting their relationship quality (ps>.25), thus contradicting $path\ c$.

Settlement Culture. There were no significant actor or partner effects for settlement culture (*ps*>.06). More importantly, neither partner's relationship quality was related to the within-couple settlement gap (*ps*>.59), thereby not supporting *path c*. Taken together, results show that perceived relationship quality was largely unaffected by discrepancies between partner's acculturation.

Full Model. As an exploratory set of analyses, we further examined effects of both heritage and settlement acculturation, as well as the within-couple heritage and settlement acculturation gaps on couples' relationship quality, replicating results of the previous analyses.

Discussion

Navigating two or more cultural identities is a reality that 281 million migrants face across the world on a daily basis. The implications of acculturation towards two different cultures and differences in how family members navigate the acculturation process have been linked with important personal consequences, as well as consequences for parent-child relationships. However, less attention has been paid to how acculturation is both affected dyadically within romantic partnerships or how couples navigating acculturation in different ways may impact on their relationship. Given the importance of the acculturation for migrant couples, the current study took a relationship-centred approach to understanding the personal and relational consequences of acculturation gaps. Acculturation gaps were conceptualised as both within individuals (i.e., within-person gaps) and between couples (i.e., within-couple gaps), as well as both the individual (i.e., actor) and dyadic (i.e., partner) effects on personal well-being and relationship quality. In general, both partners were oriented more towards their heritage culture than the settlement culture. Women reported

greater acculturation orientations than their male partners across cultures. This may indicate that women were relatively more culturally integrated than men. However, there were no significant gender differences within each culture. This could be due to the fact that first-generation migrants were more oriented towards their heritage culture and less identified with the settlement culture (Birman & Trickett, 2001; Martinovic & Verkuyten, 2012), implying the usage of the separation acculturation strategy. Ataca and Berry (2002) found no gendered differences with regard to using a separation strategy, which is consistent with our findings.

In most cases, within-person acculturation gaps between the heritage and settlement cultures were not associated with personal well-being or relationship quality. However, women's within-person acculturation gaps were linked with their male partners' personal well-being. Men reported higher levels of well-being when their partners were more oriented towards both their heritage and settlement cultures. This result is in line with research on bicultural identity (integration strategy). Despite a recent correlational and longitudinal meta-analysis revealing only a limited effect of integration on migrants' adaption (Bierwiaczonek & Kunst, 2021), integration has long been considered as the optimal strategy for migrants (Nguyen & Benet-Martinez, 2013). Migrant couples who identify and engage in both cultures would benefit from two cultures' support and resources, and are skilled at navigating both societies. The social capital that is gained from participating in two social and cultural activities might be the key to success in plural societies (Berry, 2013). Thus, strong identification towards both cultures was beneficial for migrants. Even though those findings refer to an actor effect, where an individual's own acculturation impacts on their own outcomes, our results suggest that the beneficial effect of one person's bicultural identification could be extended to this person's partner's outcomes. When women had greater identification to both their heritage and settlement cultures, their male partners appeared to be more psychologically well.

Similarly, results of within-couple acculturation gaps partially support the gapdistress model. Men's personal well-being benefited when they and their partners were simultaneously more oriented towards their shared heritage culture. In contrast, women's personal well-being benefited the most when both partners were more oriented towards the settlement culture. Those results are in line with the assumption of the acculturation gap-distress model and the findings of some previous studies. Rapaport and colleagues (2021) reported that settlement acculturation gaps between couples were detrimental to their psychological adaptation. These findings are also consistent with shared reality theory (Echterhoff et al., 2009) and the idea that romantic partners fulfil an important epistemic need to affirm and maintain one's understanding of the world (Murray et al., 2018; Rossignac-Milon & Higgins, 2018). For migrant families navigating new, and at times surprising, cultural experiences, having a partner similarly oriented towards those cultural realities should help reaffirm that they are not alone in their struggles. Surprisingly, our findings for heritage acculturation gaps between couples are inconsistent with findings from Rapaport and colleagues (2021). They found that couples' heritage acculturation gaps advantaged their psychological adaptation. For individuals low in heritage acculturation, psychological adaptation was higher when they had a partner whose heritage acculturation was high. Their psychological adaptation decreased when their partner was also low in heritage acculturation. However, heritage acculturation was positively associated with their personal well-being in this study. This is consistent with other acculturation research (Kisselev et al., 2010; Sun et al., 2020) and also ethnic identity research, showing that a strong, secure ethnic identity positively contributes to migrants' psychological well-being (Phinney et al., 1997, 2001). One possible reason is that people who establish a secure and strong ethnic identity, would develop a positive perception of their ethnic group and themselves (Phinney et al., 2001). Heritage identification could also serve as a secure harbour to provide a sense of security for migrants to explore the outside world (e.g., the

settlement society; Ward & Rana-Deuba, 1999). Having a partner who does not identify with the heritage culture in the same way would shake their understanding of the cultural reality, therefore hinder their personal well-being.

Importantly however, inconsistent with our predictions or these theoretical frameworks, relationship quality was not related to any within-couple acculturation gaps, suggesting that although there may be personal benefits to having a similar acculturation orientation to your partner, discrepancies are not necessarily harmful for the relationship. This result did not come as a surprise as other studies examining parent-child acculturation gap-distress have also failed to find these significant associations (Sun et al., 2020; Telzer et al., 2016). However, our finding is inconsistent with Cruz and colleagues (2014), where within-couple similarities in settlement cultural values and heritage language-use were associated with greater relationship warmth and relationship quality. This discrepancy could be due to several reasons. For example, the present study measured acculturation using a general inventory instead of the separate cultural value and language usage measures adopted by Cruz and colleagues (2014). The usage of different measures and domains of acculturation could cause different results in gap-distress studies (Birman, 2006; Telzer, 2010). Another explanation is that our sample's average age was 7 years older than Cruz and colleagues' (2014) sample, at over 47 and 44 for men and women respectively. Speculatively, it could be that our sample was in more established relationships on average. If couples in our sample had indeed been together for a longer time, and have had more time to become similar to one another or because they are simply accustomed to the fact that their acculturation differs from that of their partners, this could explain why dyadic acculturation gaps had less of an impact compared to what might occur in relatively newer relationships.

Both an individual's acculturation and the acculturation of their partner appeared to play a role in personal well-being. Men's heritage and settlement orientation was protective for men's personal well-being (actor effect), as was their *partner's* settlement orientation

(partner effects). By contrast, women's personal well-being seemingly only benefitted from their own heritage and settlement acculturation (actor effects), with little influence of their partner's acculturation (no partner effects). These actor effects were consistent with the acculturation gap-distress model in parent-child dyads and of studies in migrant couples (Kisselev et al., 2010; Sun et al., 2020). Individuals' identification towards either culture was protective for their own personal outcomes. The interdependent nature of couples' interactions and influence on each other has been long studied by close relationship researchers, showing that an individual's outcomes are not simply a response of their own predictors but of their partner's predictors as well (Rusbult & Van Lange, 2008). Aron and colleagues (2013) also suggest that people tend to benefit from their partners' resources as a consequence of integrating their partners' self-concept into their own. Those could explain why, in the present study, men with partners who were more oriented towards the settlement culture had better personal well-being. When women established more connections with and had more experience in the settlement society, they could use their settlement cultural knowledge and social connections to help their male partners adjust to the settlement culture, which might be beneficial for men. Interestingly, such partner effects were not true for women. One possible reason is that women were more oriented towards the settlement culture than men. The majority of our sample (90.7%) are parents. Despite societal changes, mothers are still the primary caregivers of the family and typically have more time and opportunities to directly involve with their children (Craig & Mullan, 2011). In this case, women may build stronger ties to the settlement society through their children's networks, such as teachers and parents of their children's classmates or friends. They could therefore internalize settlement cultural knowledge and create new social networks faster than men. Men could then integrate their female partners' cultural resources into their own self-concepts, facilitating their adjustment.

Strengths and Limitations

The present study has a number of strengths. This study employed a multicultural sample of migrant couples living in the UK, allowing us to generalize our findings to the greatest extent. It also expanded previous research on acculturation gaps within couples by including not only romantic outcomes (i.e., relationship quality) but also individual-level outcomes (i.e., personal well-being), highlighting that there were personal benefits to having a similar acculturation orientation to your partner, but dyadic discrepancies were not necessarily harmful for their relationship. Another strength of this study is that we adopted a multilevel modelling APIM framework, which allows to account for the interdependence between partners and reveal unique partner effects, where individuals' bicultural orientation (integration) has dyadic consequences, specifically contributing to their partners' personal well-being. In addition, the multilevel APIM considers the unit of analysis to be the couple dyad as opposed to the individual, yielding more accurate results than multiple regression.

Despite those strengths, the current study also has some limitations. First, our a priori sensitivity analysis suggests that our sample had less than 80% power to detect both actor and partner effects. As these couples were drawn from a larger sample of 202 migrant families, it was not possible to increase the sample size of this unique population. As this is an initial examination of these processes in migrant couples, additional work is clearly needed both to replicate these findings and to continue to focus on the unique dyadic acculturation processes couples experience. Second, the findings of the present study should be generalized on account of the nature of our sample which consisted of mostly foreignborn 1st generation migrant couples. Research on generation status has shown that migrants display stronger identification towards their settlement culture over generations (i.e., 1st, 2nd, 3rd, or later generation) without necessarily dissociating from their heritage culture (Maveras et al., 1989; Montgomery, 1992). Thus, conclusions drawn from this study might be difficult to generalize to other generation groups. Third, the present study found some

evidence that the acculturation gap-distress model in parent-child dyads could be expanded to the migrant couple dyads living in the UK. However, future studies should examine the generalization of those results in a different settlement context as the social climate of the settlement society and acculturation preferences of majority groups vary in different settlement countries and those might affect the acculturation process of migrants (Berry & Sam, 2006). Next, two partners of all couples shared the same heritage culture in this sample where they already had a shared understanding of the world as a consequence. Thus, our findings might not be applicable to intercultural couples as the acculturation processes might not work the same way when two partners' heritage cultures are different to start with. Additionally, although gender identity and sexual orientation were not eligibility criteria for this study, all relationships of this study were mixed-gender couples composed of self-identified men and women. Therefore, our findings cannot be generalized to gender and sexual minority populations since they are not represented. Lastly, although relationship length was not measured, the average age of our sample was over 47 and 44 for men and women respectively, presumably implying a longer marriage length in general. Thus, within-couple acculturation gaps did not affect couples' relationship quality presumably because they have been married for a long time and have had more time to become similar to one another or they have been used to the existence of the difference between their and their partners' acculturation. The effect of partner discrepancy acculturation gaps may be more impactful on relationship quality for couples in earlier stages of their partnership who are less cognitively enmeshed or less confident in their shared perceptions of the world. Thus, future research should examine these processes among younger migrant couples and those who have more recently initiated their relationships. Meanwhile, another possible reason of the lack of effects for relational wellbeing could be due to the cultural heterogeneity of our sample. For a majority of people and in all the world's cultures, romantic love is a universal emotion. However, how love

manifests cross-culturally can vary as culture affects perceptions and feelings of love, and how people think, feel and behave in romantic relationships (Karandashev, 2015). In the present study, migrant couples came from diverse heritage cultures, involving 32 heritage cultures. Individualism scores ranged from the lowest 8 (Ecuador) to the highest 91 (America) in this study (Hofstede, 2001). Diversity in individualism of the current sample might impact on couples' perception of relationship quality and its association with within-couple acculturation gaps. Future studies should measure migrant couples' individualism level or other cultural indexes to directly examine how the culture plays a role in acculturation gap-distress research.

Conclusion

The findings of the present study partially demonstrate the plausibility of the acculturation gap-distress model in migrant couple dyads. Some acculturation gaps were found to be related to personal well-being but not related to their relationship quality.

Specifically, men's personal well-being benefitted from being highly oriented towards their heritage culture when their female partners were as well. Women's personal well-being benefitted the most when both partners were more oriented towards the settlement culture. Individuals' bicultural orientation also has dyadic consequences, specifically contributing to their partners' personal well-being. Findings of the current study highlight the importance to examine the acculturation gap and its consequences in migrant couples.

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Table 1. Distribution of Couples' Origin by Geographical Region

Region		Countries	N	%
Asia	N	Countries (IOC codes)		
South Asia	5	BGD, IND, NEP, PAK, SRI	68	28.8
East Asia	2	CHN, JPN	14	5.9
Southeast Asia	2	MAS, SGP	6	2.5
West Asia	1	IRI	2	0.8
Asia total	10		90	38.1
Africa				
West Africa	2	GHA, NGR	34	14.4
North Africa	1	MAR	2	0.8
South Africa	1	RSA	2	0.8
Africa total	4		38	16.1
Latin America				
Caribbean	1	JAM	4	1.7
South America	2	BRA, ECU	8	3.4
Latin America total	3		12	5.1
Other America				
North America	1	USA	13	5.5
Other America total	1		13	5.5
Europe				
South Europe	4	CYP, GRE, POR, TUR	60	25.4
West Europe	6	GBR, NED, FRA, IRL, ITA, NOR	14	5.9
East Europe	3	CRO, HUN, POL	12	5.1
North Europe	1	DEN	4	1.7
Europe total	14		90	38.1

Table 2. Descriptive Statistics and Bivariate Correlation between Covariates (i.e., Self and Partners' Age), Acculturation of Male and Female Partners and Their Personal Well-being and Relationship Quality.

		men	women										
		M (SD)	M (SD)	1	2	3	4	5	6	7	8	9	10
1	self-age	47.98 (10.44)	44.44 (9.71)	-	.93**	.01	.12	.16	.00	.04	.12	05	08
2	partner age	-	-	.93**	-	.03	.11	.23*	.02	.06	.12	08	10
3	self-heritage acculturation	5.90 (1.13)	6.06 (.88)	.23*	.16	.56***	.01	.56**	06	.29**	04	.04	.02
4	self-settlement acculturation	4.59 (1.11)	4.83 (1.18)	.02	.00	11	.41***	09	.41**	.22*	16	.11	.16
5	partner heritage acculturation	-	-	.03	.01	.56**	06	-	11	.07	.00	.11	.04
6	partner settlement acculturation	-	-	.11	.12	09	.41**	.01	-	.28**	11	.05	.05
7	flourishing	5.87 (.83)	6.02 (.78)	.14	.07	.19*	.52**	.14	.19*	.43***	38**	.27**	.40**
8	depression	1.42 (.33)	1.47 (.31)	04	05	02	14	.00	14	32**	.40***	17	29**
9	satisfaction w relationship	6.55 (.80)	6.15 (1.32)	11	14	.05	.23*	02	.21*	.36**	22*	.55***	.77**
10	affectual solidarity	5.70 (1.27)	5.93 (1.02)	08	11	.05	.24**	.04	.12	.39**	27**	.65***	.59***

Values above the diagonal are for male partners; Values below the diagonal are for female partners; Values in the centre diagonal are for the correlations between couples on the same variables. *p<.05, **p<.01, ***p<.001

Table 3. Results of the Multilevel Analysis Models on Personal Well-being as function of Heritage and Settlement Acculturation of Individual and Within-person Acculturation Gaps.

				Se	elf							Self-pa	artner	-			
		mai	n eff	ects		+ int	erac	tion		mair	effe	ects		+ int	erac	tion	
	b	р	d	95% CI	b	р	d	95% CI	b	р	d	95% CI	b	р	d	95% CI	
male partners																	
self																	
heritage	.16	.008	.17	[.04,.28]	.16	.008	.17	[.04,.28]	.18	.021	.15	[.03,.33]	.18	.020	.15	[.03,.33]	
settlement	.16	.008	.17	[.04,.28]	.16	.010	.17	[.04,.29]	.12	.097	.11	[02,.27]	.13	.088	.12	[02,.27]	
heritage x settlement					01	.865	.01	[13,.11]	02	.762	.02	[14,.11]	04	.593	.04	[18,.10]	
partner																	
heritage									03	.767	.02	[23,.17]	06	.530	.04	[26,.14]	
settlement									.14	.042	.13	[.01,.27]	.05	.505	.05	[10,.20]	
heritage x settlement													.20	.014	.16	[.04,.37]	
female partners																	
self																	
heritage	.15	.056	.12	[004,.30]	.15	.053	.12	[002,.31]	.15	.134	.10	[05,.35]	.11	.262	.07	[09,.31]	
settlement	.23	<.001	.25	[.11,.34]	.24	<.001	.22	[.11,.37]	.27	<.001	.25	[.13,.42]	.25	.001	.23	[.10,.39]	
heritage x settlement					03	.691	.03	[17,.12]	03	.671	.03	[17,.11]	.01	.949	.01	[16,.17]	
partner																	
heritage									001	.987	.00	[15,.15]	.01	.951	.00	[15,.16]	
settlement									.03	.632	.03	[11,.17]	.01	.906	.01	[14,.15]	
heritage x settlement													.08	.239	.07	[06,.23]	
Model statistics																	
Deviance (df)		54	4.43	(9)		551	.42(11)		559	.44(1	L 5)		557	.91(19)	
chi-2 (df)						6	6.99(2)					1.53					
p							.03								.82		

Unstandardized coefficients (b), original probability (p), Cohen's d (d) and 95% confidence Intervals (95% CI) are provided for each predictor. Benjamini and Hochberg (1995)'s procedure was adopted to correct p values for multiple testing, where false discovery rate (FDR) was specified as .10. Significant results based on the Benjamini-Hochberg procedure were highlighted in grey.

Table 4. Results of the Multilevel Analysis Models on Relationship Quality as function of Heritage and Settlement Acculturation of Individual and Within-person Acculturation Gaps.

				Se	elf							Self-pa	rtner				
		mai	n eff	ects		+ int	terac	tion		maiı	า eff	ects		+ int	erac	tion	
	b	р	d	95% CI	b	р	d	95% CI	b	р	d	95% CI	b	р	d	95% CI	
male partners																	
self																	
heritage	.01	.824	.01	[11,.14]	.01	.846	.01	[11,.14]	01	.924	.01	[18,.16]	01	.943	.01	[17,.16]	
settlement	.03	.573	.03	[09,.16]	.03	.641	.03	[10,.16]	.05	.507	.04	[11,.21]	.04	.605	.03	[12,.20]	
heritage x settlement					.02	.714	.02	[10,.15]	.004	.948	.00	[12,.13]	.04	.644	.03	[12,.19]	
partner																	
heritage									.08	.455	.05	[14,.30]	.07	.545	.04	[15,.29]	
settlement									.14	.055	.13	[003,.29]	.13	.122	.11	[03,.29]	
heritage x settlement													.03	.780	.02	[16,.21]	
female partners																	
self																	
heritage	.03	.683	.02	[12,.19]	.02	.793	.02	[14,.18]	.07	.500	.04	[14,.29]	.05	.647	.03	[17,.27]	
settlement	04	.543	.04	[15,.08]	07	.272	.07	[20,.06]	04	.593	.03	[20,.11]	05	.571	.04	[21,.12]	
heritage x settlement					.09	.204	.08	[05,.24]	.08	.255	.07	[06,.23]	.07	.423	.05	[11,.25]	
partner																	
heritage									01	.878	.01	[18,.15]	01	.933	.01	[17,.16]	
settlement									.13	.102	.11	[03,.28]	.10	.209	.08	[06,.26]	
heritage x settlement													.08	.330	.07	[08,.23]	
Model statistics																	
Deviance (df)	569.63(9)					575	5.11(11)		579	.38(15)	584.41(17)				
chi-2 (df)						5	.48(2	2)					5.03(2)				
p							.06								.08		

Unstandardized coefficients (b), original probability (p), Cohen's d (d) and 95% confidence intervals (95% CI) are provided for each predictor. Benjamini and Hochberg (1995)'s procedure was adopted to correct p values for multiple testing, where false discovery rate (FDR) was specified as .10. Significant results based on the Benjamini-Hochberg procedure were highlighted in grey.

Table 5. Results of the Multilevel Analysis Models on Personal Well-being as a function of Heritage and Settlement Acculturation of Individual and Withincouple Acculturation Gaps.

				Her	itage							Settle	mer	nt				Accu	ltura	ition
		mai	n ef	fects		+ inte	erac	tion		mai	n ef	fects		+ int	erac	tion		full	mo	del
	b	р	d	95% CI	b	р	d	95% CI	b	р	d	95% CI	b	р	d	95% CI	b	р	d	95% CI
male partners																				
heritage																				
acculturation self	.20	.015	.16	[.04,.36]	.25	.003	.20	[.09,.41]									.23	.005	.19	[.07,.38]
acculturation partner	09	.402	.06	[29,.12]	.0003	.998	.00	[21,.21]									.05	.656	.03	[16,.25]
self x partner					.13	.014	.17	[.03,.24]									.13	.017	.17	[.02,.23]
settlement																				
acculturation self									.13	.075	.12	[01,.27]	.13	.064	.12	[01,.27]	.09	.196	.08	[05,.23]
acculturation partner									.13	.061	.12	[01,.26]	.15	.029	.14	[.02,.29]	.16	.017	.15	[.03,.30]
self x partner													.06	.165	.10	[03,.15]	.02	.611	.03	[06,.11]
female partners																				
heritage																				
acculturation self	.09	.375	.06	[11,.30]	.10	.350	.06	[11,.32]									.15	.156	.10	[06,.35]
acculturation partner	.01	.907	.01	[15,.17]	.02	.855	.02	[.15,.18]									02	.843	.02	[17,.14]
self x partner					.02	.778	.03	[09,.12]									.01	.917	.01	[10,.11]
settlement																				
acculturation self									.25	<.001	.23	[.12,.38]	.28	<.001	.26	[.14,.42]	.29	<.001	27	[.15,.42]
acculturation partner									.03	.722	.03	[11,.17]	.03	.653	.03	[11,.17]	.04	.592	.04	[10,.18]
self x partner													.08	.066	.13	[01,.16]	.07	.100	.11	[01,.16]
Model statistics																				
Deviance (df)		560	0.72	2 (9)		561	.99(2	11)		54	9.23	3(9)		554	l.31(11)		560	.33(17)
chi-2 (df)						1.	27(2	.)						5.	.08(2	<u>2</u>)				
ρ							.53								.08					

Unstandardized coefficients (b), original probability (p), Cohen's d (d) and 95% confidence intervals (95% CI) are provided for each predictor. Benjamini and Hochberg (1995)'s procedure was adopted to correct p values for multiple testing, where false discovery rate (FDR) was specified as .10. Significant results based on the Benjamini-Hochberg procedure were highlighted in grey.

Table 6. Results of the Multilevel Analysis Models on Relationship quality as a function of Heritage and Settlement Acculturation of Individual and Withincouple Acculturation Gaps

				Heri	tage							Sett	leme	nt				Accu	ltura	ation
		mai	n eff	ects		+ int	erac	tion		mai	n ef	fects		+ int	terac	tion		full	l mo	del
	b	р	d	95% CI	b	р	d	95% CI	b	р	d	95% CI	b	р	d	95% CI	b	р	d	95% CI
male partners																				
heritage																				
acculturation self	.002	2.982	.00	[17,.17]	.02	.841	.01	[16,.19]]								.01	.959	.01	[17,.18]
acculturation partner	.05	.669	.03	[17,.26]	.08	.513	.04	[15,.30]]								.11	.330	.06	[12,.34]
self x partner					.04	.447	.04	[07,.16]]								.05	.449	.05	[07,.16]
settlement																				
acculturation self									.05	.519	.04	[10,.20]	.05	.504	.04	[10,.20]	.05	.557	.04	[11,.20]
acculturation partner									.14	.060	.13	[01,.28]	.15	.051	.12	[001,.30]	.16	.043	.13	[.004,.31]
self x partner													.03	.588	.04	[29,.18]	.02	.761	.03	[08,.11]
female partners																				
heritage																				
acculturation self	.06	.604	.04	[16,.27]	.10	.384	06. ا	[13,.33]]								.12	.282	.07	[10,.35]
acculturation partner	.01	.934	.01	[16,.17]	.03	.731	.02	[14,.20]]								.003	.972	.00	[17,.18]
self x partner					.07	.251	.08	[05,.18]]								.06	.353	.07	[06,.17]
settlement																				
acculturation self									01	.865	.01	[16,.13]	002	.974	.00	[15,.15]	.003	.964	.00	[15,.15]
acculturation partner									.12	.106	.10	[03,.28]	.13	.10	.11	[03,.28]	.12	.124	.10	[03,.28]
self x partner													.02	.611	.03	[07,.12]	.01	.813	.01	[09,.11]
Model statistics																				
Deviance (df)		56	8.43	(9)		575	.19(11)		56	1.70	(9)		570	0.24(11)		589	9.19(17)
chi-2 (df)						6	.76(2	2)						8	.54(2	2)				
p							.03								.01					

Unstandardized coefficients (*b*), original probability (*p*), Cohen's d (*d*) and 95% confidence intervals (*95% CI*) are provided for each predictor. Benjamini and Hochberg (1995)'s procedure was adopted to correct p values for multiple testing, where false discovery rate (FDR) was specified as .10. Significant results based on the Benjamini-Hochberg procedure were highlighted in grey.

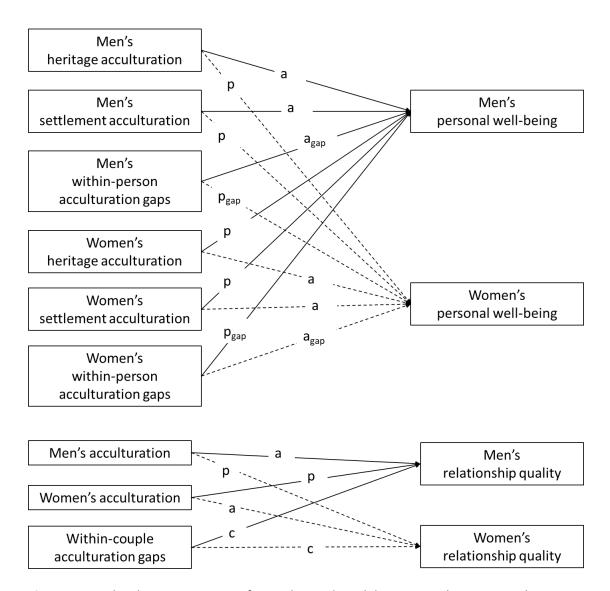


Figure 1. Graphical Representation of Hypothesized Models. Top panel represents the hypothesized model of associations between men's and women's personal well-being and within-person acculturation gaps. Bottom panel represents the proposed model of associations between men's and women's relationship quality and within-couple acculturation gaps. The predictions for the within-couple gap were independent of culture (heritage vs settlement), and thus the cultures are not specified in the model. Symbol a denotes an actor effect of individual acculturation on their outcomes while a_{gap} specifically defines the effect of a within-person acculturation gap on their outcomes; symbol a0 denotes a partner effect of an individual's acculturation on their partner's outcomes while a1 partner's outcomes while a2 partner's outcomes; symbol a3 denotes the effect of individual own within-person acculturation gap on their partner's outcomes; symbol a4 denotes the effect of within-couple acculturation gap on each spouse's outcomes.

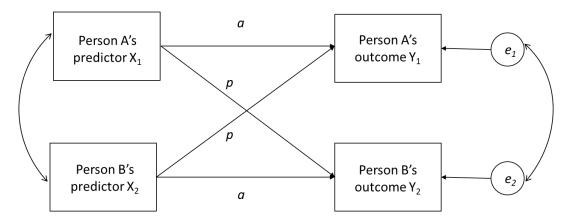


Figure 2. Theoretical Framework of Actor-Partner Interdependence Model (APIM). Symbol a denotes an actor effect of person A's predictors on their own outcomes; Symbol p denotes a partner effect of person A's predictors on their partner's (person B) outcomes; e_1 and e_2 denote the residual variance for person A's and person B's outcomes respectively. The curved double-arrow lines represent the correlations between two predictors and residual variance of two outcomes.

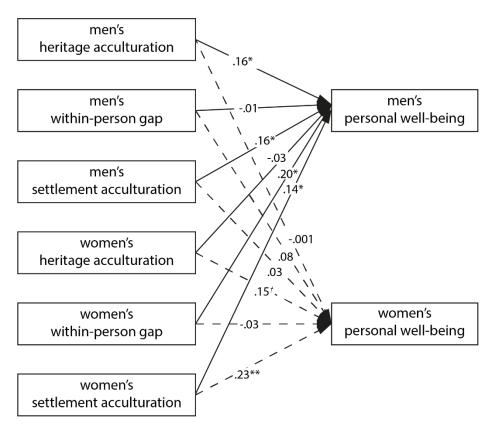


Figure 3. Path Diagram of Individuals' and Partners' Acculturation and Within-person Acculturation Gaps on Personal Well-being. Solid lines specify the links of male partners' personal well-being with predictors. Dashed lines specify the links of female partners' personal well-being with predictors. † p \leq .08, * p<.05, ** p<.001

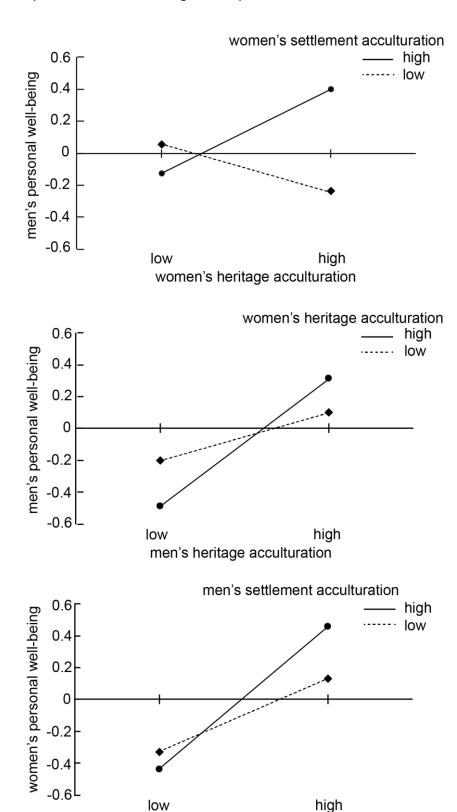


Figure 4. Top Panel Represents Personal Well-being of Men as a Function of Partners' Heritage Acculturation and Partners' Settlement Acculturation; Middle Panel Represents Personal Well-being of Men as a Function of Actors' Heritage Acculturation and Partners' Heritage Acculturation; Bottom Panel Represents Personal Well-being of Women as a Function of Actors' Settlement Acculturation and Partners' Settlement Acculturation.

women's settlement acculturation

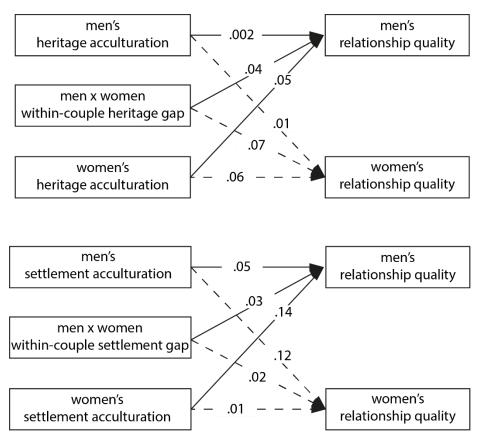


Figure 5. Path Diagram of Individuals' and Partners' Acculturation and Within-couple Acculturation Gaps on Couples Relationship Quality. Top Panel represents associations in the heritage culture, bottom represents associations in the settlement culture. Solid lines specify the links of men's relationship quality with predictors. Dashed lines specify the links of women's relationship quality with predictors.