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Balancing out bonding and bridging capital: Social network correlates of multicultural identity configurations among Russian migrants to Canada

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Compartmentalization (keeping identities separate) and integration (creating a single overarching identity) are two ways in which people can manage their multiple cultural identities. This study examined social network correlates of these two configurations among immigrants from the Former Soviet Union to Canada (N= 137). Drawing on sociological theories, we focused on egocentric network indices reflecting bonding capital – the benefits from being embedded in a community – and bridging capital – the benefits from outward-looking social connections. Further, we considered the differential role of three culturally-defined subnetworks: mainstream, heritage, and third-culture connections. The latter played in critical role in fostering identity integration. Network configurations striking a balance between boosting mainstream density and limiting heritage density seemed to be optimally related to identity integration

Keywords: cultural identity; social networks; identity integration; social capital; immigrants

Many people navigate multiple cultural contexts daily and accordingly incorporate multiple cultural identities within their self-concept (Amiot et al., 2007). Researchers typically study this cultural identity integration phenomenon at the individual level. Yet, identities and their management are "inescapably *both* personal *and* social," and are realized at the nexus of complex and interconnected personal, social, and cultural dynamics (Vignoles, 2018, p. 288). Building on this insight, we examine links between migrants' personal network characteristics – the web of their social relationships – and how they manage their cultural identities. A network approach is particularly appropriate because it represents an observable manifestation – a footprint of sorts – of these complex dynamics.

The sociological notion of social capital refers to the various benefits arising from the cooperation, reciprocity, trust, and information attendant to membership in social networks (Putnam, 2000). Drawing on this construct, the present work investigates how migrants' network characteristics indexing various forms of social capital are related to different ways of managing their cultural identities. Importantly, we distinguish social capital that migrants accrue from membership in different culturally-defined subnetworks – mainstream, heritage, and third-culture connections. In doing so, the present work heeds the call to move beyond binary conceptions of intergroup processes (e.g., mainstream vs. heritage or majority vs. minority) and to take into account the "complex relationality" of processes involving more than two groups (J. Dixon et al., 2020, p. 41). We integrate sociological and psychological theories with the aim of substantiating this special issue's description of identity integration as "a juggling game."

Managing multiple cultural identities

Benet-Martínez and colleagues' seminal work on bicultural identity integration (BII) has shown that there are substantial individual differences in how people reconcile their different cultural identities (Benet-Martinez & Haritatos, 2005). Picture Alyona, an immigrant from Russia to Canada. Even though she identifies strongly with both Russian and Canadian cultural groups, she could experience dif-

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ferent levels of bicultural identity integration. She could perceive her Russian and Canadian identities to be overlapping and harmonious, or distant and conflictual.

Multicultural identification is not a "one size fits all" process and researchers have probed how people organize and manage their multiple cultural identities. Over the years, several theories and models have emerged. The terminology differs among authors and important nuances distinguish these various theoretical lenses. Taking a bird's eye view, we believe two main multicultural identity configurations emerge from this literature.

Compartmentalization is a first strategy (Amiot et al., 2007; Benet-Martinez & Haritatos, 2005; Huynh et al., 2018; Roccas & Brewer, 2002), consisting in keeping one's cultural identities separate and context-specific. For example, Alyona may feel very Russian at church but very Canadian at work with her colleagues. Both identities are important in her self-concept, but they are never experienced simultaneously. Each identity is confined to specific situations and their respective salience fluctuates throughout the day. A second strategy, *integration*, consists in blending one's cultural identities by creating ties between them, selecting elements of both, and merging them into one coherent whole (Amiot et al., 2007). Alyona may over time develop a hybrid Russian-Canadian identity merging her Russian and Canadian affiliations. Through this encompassing multicultural identity, all her cultural identities are simultaneously embraced and recognized across situations.

Antecedents of compartmentalization and integration

In previous longitudinal research, we probed identity configurations' antecedents among international students newly arrived in Canada (Amiot et al., 2018). We found that experiencing greater need satisfaction via one's heritage group and Canadians both predicted greater identity integration over time. Conversely, greater discrimination was prospectively associated with greater compartmentalization. Another longitudinal study among cultural minorities members in New Zealand showed that greater intercultural abilities – skills in navigating culturally diverse environments – predicted greater hybridity (here, integration) but lower alternation (here, compartmentalization; Szabó & Ward, 2020). Both identity strategies have also been associated with greater motivation to integrate into the mainstream cultural group (Ward et al., 2018), but the strength of this relation depended on the broader sociocultural context (Israel vs. New Zealand and Mauritius). Together, these findings underscore that features of one's daily social environment strongly shape how people organize their cultural identities.

However, in-depth characterizations of people's social relationships in relation to compartmentalization and integration are still scarce. Building on Repke and Benet- Martínez (2017, 2018), we adopt a social network approach as a step toward addressing this gap. Different networks allow people to strike different equilibria between being embedded within a group vs. outward-looking. Drawing on sociological theories, we propose that this variability in network configurations is meaningfully related to identity configurations. Investigating such equilibria in the multiple cultural groups that migrants navigate daily is a novel feature of this research.

A social network perspective

Social network theory shows that people are embedded in webs of relationships and that the structure of these relationships strongly influences actors within them, in domains ranging from public health to national security (Borgatti et al., 2009). Likewise, one's social network's characteristics may influence cultural identity negotiations because they reflect affordances and constraints in the flow of information – with information construed broadly to include roles, values, norms, narratives, or identities. Social and cultural identities are also formed and experienced in the context of specific social relationships, and network science is an ideal approach to examine links between social context and identities.

A couple of studies have probed such links in the case of BII. Chinese-Americans with greater BII had a denser network of non-Chinese friends, compared to those lower on bicultural identity integration (Mok et al., 2007). Similarly, among different immigrant groups living in Barcelona, people whose social network was culturally more diverse and comprised more interconnections between coethnics and mainstream group members reported greater levels of BII (Repke & Benet-Martínez, 2018). We build on this initial work by considering how specific network characteristics indexing different forms of social capital relate to compartmentalization and identity integration.

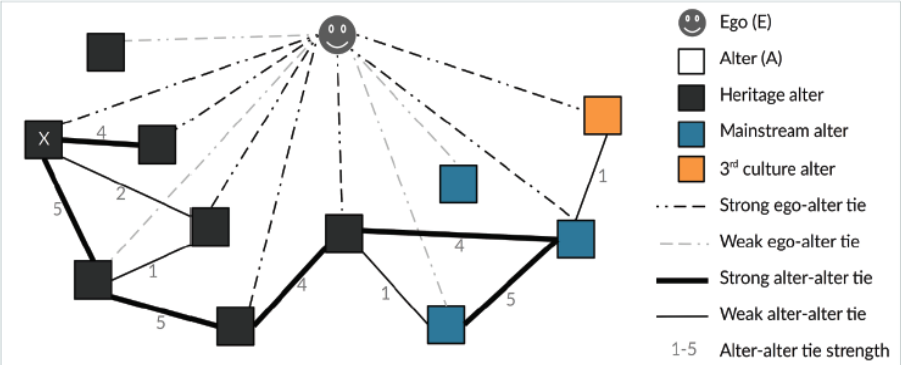
Networks and social capital

In simple terms, a network is composed of entities (*alters*), and relationships among these entities (*ties*). We focus here on immigrants' personal network, that is, the web of their social relationships. Going back to our earlier example, Alyona would be referred to as an ego in network terminology. Her friends, neighbors, acquaintances, colleagues, etc., are the entities of her personal network, and relationships among these *alters* represent network *ties*. Figure 1 illustrates such a personal network and describes network indices used in this study.

One fundamental notion at the heart of social network theorizing is that people accrue social capital through their personal network (Bourdieu, 1985; Coleman, 1988; Putnam, 1993). That is, "social networks have value" (Putnam, 2000) because they provide access to resources, broadly construed to include not only financial or practical resources, but also trust, a sense of belonging, or cultural meanings and practices. Sociologists distinguish between two main types of

Figure 1

Illustrated overview of non-directed egocentric network concepts used in this study.



Basic Network Characteristics

Characteristic	Definition/computation	Value in illustration
NS	Network size, number of alters	NS = 11, NS-Heritage = 7, NS-Mainstream = 3, NS-Third culture = 1
Degree	Number of A-A ties emanating from given alter	Alter X's degree = 3
CC tie	Cross-cultural A-A tie, As from different cultures	3 CC ties (2 Mainstream-Heritage, 1 Mainstream-Third culture)

Network Indices Used to Measure Social Capital

Network Index	Computation	Range	Meaning larger values	Value in illustration
Bonding capital				
N strong	Number strong E-A ties	0 – NS	More bonding capital	N strong-Heritage = 5 N strong-Mainstream = 1 N strong-Third culture = 1
Density	Number A-A ties / (NS·(NS-1)/2)	0 - 1	More bonding capital	Number A-A ties-Heritage=6, NS-Heritage=7 Density-Heritage = 6/(7·(7-1)/2) = .29
Alter-alter closeness	Mean A-A tie strength	0 - 5	More bonding capital	Alter-alter closeness-Heritage = (4+2+5+1+5+4)/6 = 3.5
Bridging capital				
Heterogeneity	$1-(\sum^{k} p^2)/(1-1/k)$ p = proportion As with culture k	0 – 1	More bridging capital	Heterogeneity = (1 - (7/11)² – (3/11)² - (1/11)²)/(1-1/3) = .77
N weak	Number weak E-A ties	0 – NS	More bridging capital	N weak-Heritage = 2 N weak-Mainstream = 2
Effective size	NS– Mean degree	1 – NS	More bridging capital	NS-Heritage =7, Mean degree-Heritage= (0+1+1+2+2+3+3)/7 = 1.71 Effective size-Heritage = 7-1.71 = 5.29
Brokerage				
CC Connectedness	Number CC ties Culture1-Culture2 / $\sqrt{NS-Culture\,1 \cdot NS-Culture\,2}$	$\frac{0}{\sqrt{NS\,1 \cdot NS2}}$ –	More brokerage	2 CC ties-Mainstream-Heritage CC Connectedness - Mainstream-Heritage = 2/ √7·3 = .44

Index based on EA ties *Index based on AA ties*

social capital: bonding versus bridging. Different network configurations – characterized by network indices based on ego-alter or alter-alter ties – can afford more or less of each type of capital.

Bonding capital is associated with greater provision of emotional and instrumental support. Personal networks with higher bonding capital tend to be more cohesive, comprised of stronger ties and more tightly interwoven alters (Putnam, 2000). Beyond providing social support, this interconnectedness fosters norm conformity, trust, and interdependence among network members (Coleman, 1988). Such networks afford greater exposure to unified cultural representations, shared narratives and norms, reinforced through various interconnected channels. One downside is that they also typically limit people's access to new meanings, constraining their social roles and opportunities to explore new ideas. Practically, networks with more numerous ego-alter strong ties (*N strong* in Figure 1), along with closer and denser alter-alter ties (*Alter-alter closeness* and *Density* in Figure 1, respectively) can be seen as affording greater bonding capital. Indeed, density – what proportion of possible alter-alter ties are realized – facilitates the transmission of meanings and indexes the extent to which a group is tightly-knit and cohesive (Kadushin, 2012).

In contrast, *bridging capital* is based on heterogeneous and outward-looking connections (e.g., with alters from a va-

riety of cultural backgrounds) and is associated with the provision of wider instrumental support. Bridging capital tends to rely on weaker ties and on structural holes in one's network (weaker connections between tight-knit clusters). Such outward-looking social structure creates a competitive advantage and gives access to diversified information and resources (Burt, 1995). It can also generate broader identities for people to explore and adopt (Putnam, 2000). Practically, networks that have greater alter cultural diversity (*heterogeneity* in Figure 1, computed as Agresti's index of qualitative variation; Agresti & Agresti, 1978), more numerous ego-alter weak ties (*N weak* in Figure 1), and greater effective network size (*Effective size* in Figure 1) can be seen as affording greater bridging capital. Effective size controls for the redundancy of social connections (Crossley et al., 2015) and provides a measure of how many "unique" sources of information or resources a person has access to, reflecting the presence of structural holes in the network.

Importantly, bonding and bridging capital are not mutually exclusive, nor opposite ends of a single spectrum. Having social connections affording bridging capital does not necessarily mean lacking in bonding capital. Networks can combine features affording both types of capital (Nannestad et al., 2008) and people's networks typically provide different degrees of each.

Bonding, bridging, and managing cultural identities

People draw on social capital and on their social relationships to construct and enact their identities (Reynolds, 2007). Accordingly, our overarching hypothesis is that bonding and social capital are both associated with cultural identity integration and compartmentalization. Going back to Alyona's example, blending her multiple cultural identities requires combining diverse cultural elements into one coherent integrated identity. Doing so involves that she engages with both Canadian and Russian social worlds, which likely depends on a culturally diversified network with sufficient bridging capital. In parallel, identity integration also grows out of belonging to different cultural groups (Amiot et al., 2018), which should be associated with developing sufficient bonding capital in these groups. Thus, a person's multicultural identity configuration likely reflects a fine balance between bonding and bridging capital. We propose that both types of capital are necessary for identity integration and that this balance manifests itself in people's network configuration.

Bonding capital and multicultural identity configurations

Sociologists typically consider networks' overall bonding and bridging capital. Here, we examine not only a migrant's overall network, but also culturally-defined subnetworks: alters with mainstream, heritage, or third-culture backgrounds. This feature is important because social capital – and corresponding network characteristics – may have different implications in different relational contexts. For example, greater mainstream bonding capital (from Alyona's Canadian alters) may foster multicultural identity integration, whereas excessive heritage bonding capital (from Alyona's Russian alters) may hinder it. Past studies show that greater interconnectedness among heritage alters is associated with the reinforcement of heritage cultural identity, beliefs, and attitudes (Chi & Suthers, 2015; Lee, 2014). A tight heritage network can also translate into increased network burden, with migrants facing strong expectations from their heritage social connections (Ryan et al., 2008). Still, some level of heritage bonding capital is likely necessary to help migrants maintain a sense of belonging to that cultural group, but these benefits might wane as the heritage subnetwork's fabric becomes increasingly tightly interwoven. A network with too high heritage bonding capital might constrain the range of acceptable identity options and offer little room to express one's sense of belonging to the mainstream cultural group. Strict expectations on how to be and behave could also force people to keep their heritage and mainstream cultural identities separate: namely, to adopt a compartmentalization strategy. Thus, *we expect a quadratic association between density and identity integration and compartmentalization in the heritage group* (**H1a**). Specifically, greater density should be related to greater integration until it reaches a maximum. Past this point, increasing levels of density should be related to decreasing integration.

In contrast, mainstream embeddedness – indexing repeated contact with several mainstream group members – may be necessary to initiate identity change and sustain the incorporation of new cultural elements into the self-concept (Repke & Benet-Martínez, 2017). Mok et al. (2007) found that Chinese-American students with a denser mainstream network viewed their cultural identities as more integrated than those reporting a sparser mainstream network. Among migrants in Spain and Italy, mainstream network embeddedness was positively related to mainstream identity adoption (Vacca et al., 2018). Accessing close-knit mainstream communities and building bonding capital within them is difficult (Ryan et al., 2008), but some success in doing so may support identity integration. Thus, *we expect a positive association between bonding capital indices in the mainstream group and identity integration* (**H1b**).

A generally outward-looking network may be particularly important for cultural identity integration. Mao and Shen (2015) suggest that greater cultural diversity in personal networks facilitates multiculturalism at the identity level. Indeed, Repke and Benet- Martinez found that greater network diversity was related to greater bicultural identity integration, an association they attribute to individually less salient heritage and mainstream cultures and a more open environment (Repke & Benet-Martínez, 2018, p. 928). Thus, *we expect overall bridging capital, indexed by network het-*

erogeneity, to be associated with greater identity integration (**H2a**). There may also be additional benefits from bridging capital in mainstream and heritage contexts specifically.

Identity change requires exposure to new ways of being and acting in the world, which in turn relies on the mainstream diversification of one's social relationships (Mao & Shen, 2015). Having mainstream connections in varied domains and contexts helps increase the credibility of these new cultural meanings, with a looser mainstream network also helping their efficient and fast spreading. Supporting these ideas, immigrants in Spain with more numerous weak connections in the mainstream society reported greater bicultural identity integration (Repke & Benet-Mar'inez, 2018).

On the heritage side of things, weak and sparsely-connected social connections may help maintain one's attachment and belonging to that community, but without the strictures and expectations of a denser network. Bridging capital promotes exploration and creativity (Hansen et al., 2001; Perry-Smith, 2006). In the identity domain, heritage bridging capital may allow migrants to access and try out different ways of remaining committed to one's heritage identity, while also allowing commitment to a mainstream identity. This flexibility may encourage creative ways to combine one's multiple cultural identities. Thus, *we expect bridging capital in mainstream and heritage groups to be positively associated with identity integration* (**H2b**).

Third-culture social connections and multicultural identity configurations

In many hyper-diverse areas, the mainstream-heritage dichotomy does not depict migrants' cultural engagement accurately (J. Dixon et al., 2020; Doucerain et al., 2013). Migrants socialize with third-culture individuals, who play a meaningful support role (Mao & Shen, 2015) and represent a form of "horizontal bridging" (Ryan et al., 2008). Social connections within this "third-culture" group may offer a propitious ground to try out news ways of managing one's multicultural identities. First, seeing how migrants from various backgrounds resolve this complex identity juggling game could provide templates for possible solutions. Alyona, for example, may find inspiration on how to manage her Russian and Canadian identities by witnessing how her Mexican-Canadian friend creatively hybridizes his own identities. Second, third-culture relationships could provide a neutral social space within which to experiment with identity configurations. Being "allowed" to incorporate a mainstream identity is not at stake in this social space, in contrast to the mainstream context where migrants might face identity denial (Cheryan & Monin, 2005). Allegiance is not at stake either, in contrast to heritage contexts where migrants' mainstream affiliation can put into question their loyalty to the heritage group (Padilla & Perez, 2003). In short, accruing bonding and bridging third-culture social capital may be generally beneficial for cultural identity integration. We examine this under-researched idea by considering migrants' third-culture subnetwork, with *the expectation that bridging and bonding capital in this subnetwork will be positively associated with identity integration* (**H3**).

Cross-cultural ties and brokerage

One last important aspect to consider is cross-cultural alter-alter ties, as when Alyona's Russian friend is acquainted with her English-Canadian colleague. In such cases, migrants occupy a brokerage position. Cultural brokerage is indexed here by the prevalence of alter-alter ties between two cultural groups, weighted by group sizes (CC connectedness in Figure 1; Brandes et al., 2010; cited Repke & Benet-Martínez, 2018). Some research has linked this position with multiple identities (Vacca et al., 2018) and found that greater mainstream-heritage interconnectedness was related to greater bicultural identity integration (Repke & Benet-Martínez, 2018). One explanation offered is that people who combine their multiple cultural identities cultivate such cross-cultural ties in order to "develop personal social support systems that reflect their blending of cultures" (Repke & Benet-Martínez, 2018, p. 928).

On the other hand, cross-cultural communication is notoriously difficult, as evidenced by past research (Merkin et al., 2014) and by the existence of numerous cross-cultural communication training programs. A meta-analysis showed that participants in interracial social interactions feel and do less well than those in same-racial background interactions (Toosi et al., 2012). Cross-cultural alter-alter ties might be difficult to negotiate. Picture a dinner party where both Alyona's Russian friend and Canadian colleague are present. Such inter-cultural situations are likely to activate competing cultural norms and schemas simultaneously (Goddard & Wierzbicka, 2007; Nishida, 2005), thus requiring some sort of internal cultural mediation. Because of the challenging nature of cross-cultural ties, *we expect a negative association with identity integration* (**H4a**).

Provided they are highly committed to both cultural groups and have sufficient psychological resources, migrants might develop and practice schemas to handle such demanding situations (Doucerain, 2019), which may in turn foster cultural identity integration. In the absence of psychological commitment and resources, however, such situations may remain onerous encounters that are not likely to foster identity integration. Luijters et al. (2006) found that for minorities, dual identification occasions additional conflict and diversity-related stress and is the preferred identity strategy only for minority people who are emotionally stable. In addition, mainstream-heritage cross-cultural ties could highlight cultural differences and dissonances between heritage and mainstream traditions, prompting people to compartmentalize their identities more. In short, *we expect a moderated*

*association between cultural brokerage and identity integration, depending on migrants' level of self investment in their cultural groups (indexed by their group identification leve*l) (**H4b**).

The present study

People's cultural identities are embedded in and reflect people's social ecology. This study examines associations between migrants' personal networks' characteristics and cultural integration and compartmentalization. We build on Repke and Benet-Martínez (2018) study on BII and personal networks, with several differentiating elements. First, we adopt a different theoretical model (Amiot and colleagues' cognitive-developmental model of social identity integration) and associated measurement. This model accounts for multiple identities, assesses a large spectrum of identity configurations, and emphasizes the importance of various sources of social support, which is particularly relevant here. Second, we explicitly consider the role of social networks from a social capital perspective, distinguishing bonding and bridging capital and also considering cultural brokerage – a novel feature of this research. Third, we investigate the differential roles of mainstream, heritage, and third-culture subnetworks, systematically examining each network index in all three subnetworks.

Social network studies in relation to multicultural identities are sparse. Consequently, this work is to some extent exploratory, with fairly general predictions. The present study's correlational design can shed no light on the directionality of effects. Network characteristics could lead people to manage their cultural identities in a certain way, just like having a certain multicultural identity configuration could shape the relationships one initiates and cultivates. Past research has established that migrants' personal network reflects not only – maybe even not primarily – their own volition (Ryan et al., 2008) For example, a study showed that the built environment and people's diversity views around migrants largely influenced migrants' network structure (Barwick, 2017). At a conceptual level, this work lends some credibility to the notion that migrants have limited control over their personal network and that variations in network structure might help bring about different cultural identity configurations.

We conducted this study among migrants from the Former Soviet Union (FSU) living in Canada for several reasons. First, how social relationships such as friendship are construed varies substantially across cultural contexts (e.g., Adams & Plaut, 2003; Doucerain et al., 2018), so it is preferable to focus on a group with some level of cultural homogeneity. Second, immigrants from the FSU are typically white and therefore not members of a racialized group in Canada. This facilitates the initiation of social contact in the mainstream cultural group (where racism is unfortunately present), and therefore contributes to cultural variability in participants' networks. On a more practical level, Russian-speaking immigrants form a sizable minority group in Canada, facilitating recruitment.

Methods

Participants and procedure

Participants were 137 immigrants from the Former Soviet Union to Canada, who self-identified as ethnic Russians, with a mean age of 37.26 years (SD = 10.47) and including 98 females. On average, participants had lived in Canada for 8.62 years (SD = 6.90) and the majority of them had completed higher education (78.10%). We recruited participants online through Facebook groups aimed at Russian-speaking immigrants to Canada, classifieds, and e-mails to community organizations serving Russian immigrants throughout Canada. Interested people were directed to a link to complete the study online. We also recruited participants locally in Montreal, by placing advertisements in, for example, stores targeting Russian customers or by e-mails and pamphlets describing the study distributed to Russian-language Sunday schools. Interested people were invited to complete the study online or to come to our laboratory to complete this study and also take part to a broader project on immigration and adaptation. Overall, 80 participants completed the study online and 57 participants completed the study in-lab (with paper-and-pencil versions of questionnaires).[1] The ethics review board of the authors' respective universities approved the study. Participants provided informed consent and received a small monetary compensation for their time.

Material

Participants provided demographic information such as age, sex, and number of years lived in Canada. They also completed the following measures.

Cultural identity configurations

The Multicultural Identity Integration Scale (MULTIIS; Yampolsky et al., 2016) assesses how people organize their multiple cultural identities within the self. The compartmentalization (COMP) subscale comprises 9 items, such as "I keep my cultural identities separate from each other." The integration (INT) subscale comprises 8 items, such as "My cultural identities complement each other." Items are rated on a Likert-type scale ranging from *1 Not at all* to *7 Exactly*. Internal consistency was good for both subscales (Cronbach α = .80 for MULTIIS-COMP, and .81 for MULTIIS-INT).

[1] A temporary server breakdown occurred while one participant was completing the study. The partial data from that participant was removed from our database. The sample size reported above takes this deletion into account.

Strength of cultural identification

The Inclusion of Ingroup in the Self scale (Tropp & Wright, 2001) assesses the degree to which people identify with a social group. Among seven pairs of increasingly overlapping circles representing the self and the social group queried, people select the option best representing their identification level. Participants rated their identification with the Canadian mainstream cultural group (IIS-MAIN) and with their heritage cultural group (IIS-HER).

Social network

We assessed participants' personal network using an egocentric social network approach. In a first step, we elicited the names of their *alters* using Marin and Hampton (2007) dual generator. Participants wrote down the names of people with whom they discussed matters important to them over the past six months. Then, they added the names of people with whom they enjoyed socializing and who were not yet listed. Finally, they were invited to consider a variety of life contexts (e.g., sports or leisure contexts; religious or spiritual contexts) and add any names that they might have forgotten to list previously. From that "name bank," participants then selected up to 20 alters most relevant in their life.

In a second step, participants provided each alter's cultural background, coded as "Mainstream", "Heritage", or "Third-culture". They also described their relationship with each alter by selecting all that applied among acquaintance, colleague, neighbor, family, *droog*, *priyatel*, or other. All study materials were in English, but *droog* and *priyatel*, which both translate to *friend*, were provided in Russian to capture cultural differences in friendship models (Doucerain et al., 2018, revise and resubmit). Broadly speaking, *droog* refers to a close and strong social tie, whereas priyatel designates a friendly but more casual relationship (Wierzbicka, 1997). Responses were recoded as "Strong tie" if *droog* or family were selected, and as "Weak tie" otherwise.

In a third step, participants indicated how well each alter pair knew each other, with response options ranging from *0 They don't know each other* to *5 They know one another and are extremely close*. Network indices described in Figure 1 were computed from these personal network data.

Data analysis

Univariate outliers were winsorized, whereby extreme values outside three standard deviations around the mean are replaced by the limit of that interval (W. J. Dixon, 1960), affecting <1% of values. Three multivariate outliers were detected, based on Mahalanobis distances evaluated at $p<$ .001. The pattern of results was the same with or without these outliers so we kept them in the analyses. One observation was missing for number of years in Canada, and one for sex. These two values were imputed with expectation maximization.

Before hypothesis testing, we checked whether study administration mode (in-lab vs. online) was related to identity configurations. Cultural identity integration (MULTIIS-INT) scores were similar for both modes ($M_{in\text{-}lab}$= 4.77, M_{online}= 4.96; $t(126) = -1.10$, p= .27), but cultural identity compartmentalization (MULTIIS-COMP) scores were lower among participants who completed the study online ($_{Min\text{-}lab}$= 2.93, M_{online}= 3.35; $t(109) = -2.38$, p= .02). Therefore, we included administration mode as a covariate in all analyses. Additional analyses reported in supplementary materials show that online participants had lived in Canada longer than in-lab participants. There were no sex or age differences in administration mode.

Multiple regressions with identity configurations as dependent variables served to test hypotheses. We entered predictors hierarchically, with demographic covariates (sex and proportion of lifetime lived in Canada), mode of administration (online vs. in-lab), and strength of cultural identification in the first step, and network indices in the second step. Because of multicollinearity, network indices could not all be entered simultaneously. We entered general network indices in one block (heterogeneity and cross-cultural connectedness), and culturally-specific network indices in separate blocks, with the exception of number of strong ego-alter ties and density which could be entered in a single model without multicollinearity. Variables in interactions were mean-centered to preserve main effects interpretability and to reduce multicollinearity. We used orthogonal linear and quadratic terms for heritage density, which also helps address multicollinearity. Regression diagnostics showed that assumptions of normality, homoscedasticity, linearity, and multicollinearity were respected, with two exceptions. When predicting MULTIIS-COMP scores, it was necessary to add quadratic terms for IIS-HER and heterogeneity in order to respect linearity assumptions. The results reflect these additions.

Results

Descriptive results

Table 1 shows descriptive statistics and correlations among the numerical study variables. Participants report higher levels of integration (MULTIIS-INT) than compartmentalization (MULTIIS-COMP), ΔM= 1.74, 95%CI [1.58; 1.98], $t(272) = 14.16$, $p<$ .001. These two identity configurations are uncorrelated. Participants' mainstream identification strength (IIS-MAIN) is lower than heritage identification strength (IIS-HER), ΔM= −0.72, 95%CI [−1.12; −0.32], t(272) = −3.54, $p<$ .001), but both are uncorrelated.

On average, participants' personal networks include 10.16 alters (SD = 5.45), 6.12 with a heritage background, 1.70

from the mainstream group, and 2.33 with a third-culture background. Participants hold weak ties (neither *droog* nor family) with almost half of their alters (M= 4.76, SD= 4.20). Their personal network is moderately dense overall (M= 0.50, SD= 0.28), but heritage alters are more closely-knit than either mainstream (ΔM= 0.30, 95%CI [0.22; 0.39], $t(266) = 6.89$, $p< .001$) or third-culture alters (ΔM= 0.31, 95% CI [0.23; 0.40], $t(271) = 7.60$, $p< .001$). Participants' networks are also moderately culturally heterogeneous.

Cultural identity integration

Covariates, entered in a first step, accounted for 10% of variance in MULTIIS-SCORES. Participants who more strongly identify with the mainstream cultural group (IIS-MAIN) report greater identity integration (standardized β = 0.25, 95%CI [0.09, 0.42], $t(131) = 3.00$, p= .003). There is no such relation in the case of heritage identification (IIS-HER; standardized β = 0.12, 95%CI [−0.05, 0.29], $t(131)$ = 1.36, p= .18). Demographic variables are unrelated to cultural identity integration. Table 2 displays the final integration regression results, after adding social network indices. More details on the stepwise introduction of main, interactions, linear, and quadratic effects are provided in supplementary materials.

Bridging capital results

As shown in Table 2, greater heterogeneity is positively associated with MULTIIS-INT scores (standardized β = 0.25, 95%CI [0.05, 0.45], $t(125) = 2.51$, p =.01), accounting for 4% unique variance (sr= .20). Supporting H2a, this indicates that participants with a more culturally diverse network, reflecting greater overall bridging capital, report greater identity integration.

In the third-culture subnetwork, larger weak ties numbers (standardized β = 0.21, 95% CI [0.03, 0.38], $t(128) = 2.29$, p =.02) and greater effective size (standardized β = 0.27, 95%CI [0.10, 0.45], $t(128) = 3.17$, p =.002) are related to higher MULTIIS-INT scores, accounting for 4 and 6% of unique variance, respectively (sr= .19 and .25). Consistent with H3, these results show that having more weak connections with third-culture individuals and having access to more non-redundant sources of information and resources in that community is associated with greater identity integration.

Bridging capital indices in the heritage subnetwork are not associated with MULTIIS-INT scores. In the mainstream subnetwork, there is a weak (sr around .10) and marginally significant negative relation between effective size and MULTIIS-INT (standardized β = −0.15, 95%CI [−0.33, 0.03], $t(128) = -1.67$, p= .098). This indicates that, to some extent, having not too many independent "pockets" of mainstream information is related to greater identity integration. Overall, adding number of weak ego-alter ties variables increased R^2 by .05 and adding effective size variables increased R^2 by .08.

Bonding capital results

As shown in Table 2, having a third-culture subnetwork with larger strong ties numbers (standardized β = 0.19, 95%CI [0.01, 0.38], $t(124) = 2.06$, p= .04) and alter-alter closeness (standardized β = 0.17, 95%CI [0.001, 0.34], $t(128) = 1.99$, p= .048) is related to higher MULTIIS-INT scores. These effects are consistent with H3 but fairly small in size, accounting for 3% of unique variance each (sr= .16 and .17, respectively). They indicate that participants who have more close ties with third-culture individuals and are immersed in a network where their third-culture alters know one another fairly well report higher identity integration.

Mainstream density is also positively associated with MULTIIS-INT scores (standardized β = 0.18, 95%CI [0.01, 0.35], $t(124) = 2.08$, p= .04), supporting H2b. This small effect, accounting for 3% of unique variance (sr= .17), shows that participants with a greater share of mainstream alters who know one another report higher identity integration. Fully supporting H2b, Table 2 shows that there is a significant quadratic association between heritage density and identity integration, with a small to moderate effect size (sr around .20). As illustrated in Figure 2's panel A, until a heritage density of about .50, having more tightly interwoven heritage alters is associated with greater identity integration. Beyond this mid-range value, greater interconnections among heritage alters is related to decreasing levels of identity integration.

Cultural brokerage results

Table 2 shows that mainstream-heritage cross-cultural connectedness is related to MULTIIS-INT scores through a marginally significant negative main effect (standardized β = −0.18, 95%CI [−0.38, 0.03], $t(125) = -1.68$, p= .09), and in interaction with both IIS-MAIN scores (standardized β = 0.25, 95%CI [0.08, 0.42], $t(125) = 2.89$, p= .005) and IIS-HER scores (standardized β = 0.19, 95%CI [0.02, 0.35], $t(125) = 2.21$, p= .03). Supporting H4b, this indicates that overall, there is a weak tendency for participants whose network more frequently connects mainstream and heritage alters to report their cultural identities as less integrated, a tendency that is moderated by their mainstream and heritage identification. Figure 3 shows that for participants who identify weakly with these groups, mainstream-heritage cultural brokerage in their network is negatively related to identity integration (−1SD: simple slope B=−0.47, 95%CI [−0.79, −0.14], p= .01 for IIS-MAIN; B= −0.40, 95%CI [−0.68, −0.11], p= .01 for IIS-HER). In contrast, there is no association between mainstream-heritage connectedness and identity integration for participants who identify strongly with these groups (+1SD: simple slope B= 0.08, 95%CI [−0.17,

Table 1

Descriptive statistics and correlations among numerical study variables.

	M(SD)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. Prop life Can	0.23(0.17)	−.04	.10	.13	−.15	.12	.17*	.08	.17*	.11	−.10	−.07	.14	−.20*	−.06	.07	−.10	.05	−.01	.17*	−.01	.02	.00	−.06
2. INT	4.85(1.01)		−.13	.26**	.12	.14	−.03	−.01	.02	−.01	.11	.16	−.03	.11	.24**	.04	.00	.14	.21*	−.15	.01	.13	−.03	.16
3. COMP	3.11(1.02)			−.27**	.06	−.20*	−.06	−.25**	.01	−.16	.05	−.13	−.25**	−.03	−.14	−.28***	−.05	−.13	−.17*	.09	−.13	−.19*	.01	−.11
4. IIS-MAIN	3.9(1.64)				.07	.22*	.24**	.29***	.12	.22**	−.17*	−.01	.35***	−.10	.05	.44***	.00	.15	.22*	−.05	.10	.24**	.00	.07
5. IIS-HER	4.62(1.74)					−.21*	−.08	−.14	−.08	−.05	.11	−.09	−.07	.25**	−.05	−.03	.19*	−.10	.01	−.24**	−.11	.01	−.09	.00
6. Heterogeneity	0.51(0.28)						.41***	.54***	.41***	.46***	−.12	.43***	.54***	−.03	.51***	.35***	−.12	.36***	.42***	−.04	.42***	.39***	.00	.43***
7. CCC M-H	0.62(0.93)							.48***	.53***	.26**	.02	.05	.43***	−.01	.00	.45***	.07	.03	.30***	.20*	.14	.40***	.13	.11
8. CCC M-T	0.57(0.86)								.47***	.58***	.01	.45***	.46***	−.01	.33***	.37***	−.04	.26**	.55***	.06	.46***	.47***	.14	.41***
9. CCC H-T	1.06(1.73)									.15	.14	.34***	.26**	.20*	.37***	.17*	.27**	.34***	.22*	.08	.30***	.17*	.16	.26**
10. N weak M	1.11(1.62)										−.02	.29***	.76***	−.06	.17	.20*	−.10	.04	.56***	−.02	.18*	.59***	−.07	.11
11. N weak H	2.29(2.67)											.22**	−.09	.73***	.14	−.14	.07	−.05	.06	−.22**	−.06	.03	−.11	−.02
12. N weak T	1.23(1.64)												.13	.25**	.73***	−.03	.04	.21*	.28**	−.15	.37***	.24**	−.05	.47***
13. Eff size M	1.03(1.16)													−.06	.17*	.57***	−.07	.18*	.28**	−.09	.15	.46***	−.11	.09
14. Eff size H	3.46(2.87)														.24**	−.09	.57***	.05	.04	−.47***	.02	.05	−.05	.07
15. Eff size T	1.57(1.62)															.09	.04	.69***	.13	−.23**	.23**	.10	−.06	.52***
16. N strong M	0.51(0.83)																−.06	.17*	.26**	.00	.08	.40***	.06	.11
17. N strong H	3.81(2.62)																	.01	−.03	.01	.03	.07	.32***	.03
18. N strong T	1.02(1.45)																		−.01	−.12	.39***	−.03	.02	.54***
19. Density M	0.25(0.39)																			−.05	.20*	.80***	−.06	.15
20. Density H	0.55(0.33)																				.02	.00	.60***	−.06
21. Density T	0.23(0.35)																					.13	.09	.73***
22. Close M	0.87(1.44)																						.01	.08
23. Close H	2.49(1.3)																							.10
24. Close T	0.97(1.41)																							

Note. Prop life Can = proportion of life spent in Canada; M = Mainstream; H = Heritage; T = Third-culture; CCC = Cross-cultural connectedness; Eff = Effective size; Close = Alter-alter closeness;
$p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Table 2

Results of regressions predicting cultural identity integration (MULTIIS-INT).

	Brokering and Overall Bridging Capital			Bridging Capital Indices				Bonding Capital Indices							
Predictor	*B*	95%CI	*sr*	*B*	95%CI	*sr*	*B*	95%CI	*sr*	*B*	95%CI	*sr*	*B*	95%CI	*sr*
(Intercept)	4.39***	[3.94; 4.84]		4.65***	[4.29; 5.01]		4.59***	[4.16; 5.01]		4.85***	[4.36; 5.35]		4.63***	[4.13; 5.13]	
Online mode (vs. in-lab)	0.23	[−0.12; 0.58]	0.10	0.25	[−0.11; 0.62]	0.11	0.23	[−0.13; 0.59]	0.10	0.25	[−0.13; 0.62]	0.10	0.33†	[−0.05; 0.70]	0.14
Proportion of life in Canada	−0.68	[−1.69; 0.34]	−0.10	−0.38	[−1.40; 0.64]	−0.06	−0.33	[−1.35; 0.69]	−0.05	−0.57	[−1.60; 0.45]	−0.09	−0.54	[−1.56; 0.48]	−0.09
Sex – Male (vs. Female)	0.16	[−0.20; 0.53]	0.07	0.15	[−0.22; 0.52]	0.06	0.22	[−0.15; 0.59]	0.10	0.11	[−0.27; 0.50]	0.05	0.19	[−0.19; 0.56]	0.08
IIS-MAIN	0.19**	[0.08; 0.29]	0.28	0.18**	[0.07; 0.29]	0.27	0.18**	[0.07; 0.28]	0.26	0.15**	[0.04; 0.27]	0.21	0.14*	[0.03; 0.24]	0.21
IIS-HER	0.10*	[0.00; 0.20]	0.16	0.07	[−0.03; 0.17]	0.11	0.06	[−0.04; 0.16]	0.10	0.05	[−0.05; 0.15]	0.08	0.07	[−0.03; 0.17]	0.12
Heterogeneity	0.90*	[0.19; 1.61]	0.20												
CC Connectedness Main-Her					−0.19†						[−0.42; 0.03]	−0.13			
CC Connectedness Main-3rd Cul			−0.15	[−0.40; 0.09]	−0.10										
CC Connectedness Her-3rd Cul			0.05	[−0.07; 0.17]	0.07										
IIS-MAIN x CC Connect Main-Her	0.17**	[0.05; 0.28]	0.23												
II-HER x CC Connect Main-Her	0.12*	[0.01; 0.22]	0.18												
N weak ego-alter ties Mainstream				−0.08	[−0.19; 0.03]	−0.12									
N weak ego-alter ties Heritage				0.03	[−0.04; 0.09]	0.07									
N weak 3rd Culture				0.13*	[0.02; 0.24]	0.19									

(Continued)

Table 2
(continued)

	Brokering and Overall Bridging Capital	Bridging Capital Indices			Bonding Capital Indices					
Effective size Mainstream		−0.13†	[−0.28; 0.02]	−0.13						
Effective size Heritage		0.01	[−0.05; 0.07]	0.03						
Effective size 3rd Culture		0.17**	[0.06; 0.28]	0.25						
N strong ego-alter ties Mainstream					−0.10	[−0.33; 0.14]	−0.07			
N strong ego-alter ties Heritage					−0.05	[−0.12; 0.03]	−0.10			
N strong ego-alter ties 3rd Culture					0.13*	[0.00; 0.26]	0.16			
Density Mainstream					0.47*	[0.02; 0.92]	0.17			
Density Heritage – Linear					−0.64	[−2.68; 1.39]	−0.05			
Density Heritage – Quadratic					−3.01*	[−5.28; −0.74]	−0.21			
Density 3rd Culture					−0.16	[−0.68; 0.36]	−0.05			
Alter-alter closeness Mainstream								0.04	[−0.07; 0.16]	0.06
Alter-alter closeness Heritage								0.00	[−0.14; 0.13]	0.00

(Continued)

Table 2
(continued)

	Brokering and Overall Bridging Capital	Bridging Capital Indices	Bonding Capital Indices		
Alter-alter closeness 3rd Culture				0.12* [0.00; 0.24]	0.16
R^2	.21	.15	.18	.2	.13
Δ F(df1, df2)	3.04(6,125)**	4.27(3,128)**	2.63	(3,128)†	2.36
	(7,124)* 1.56	(3,128)			

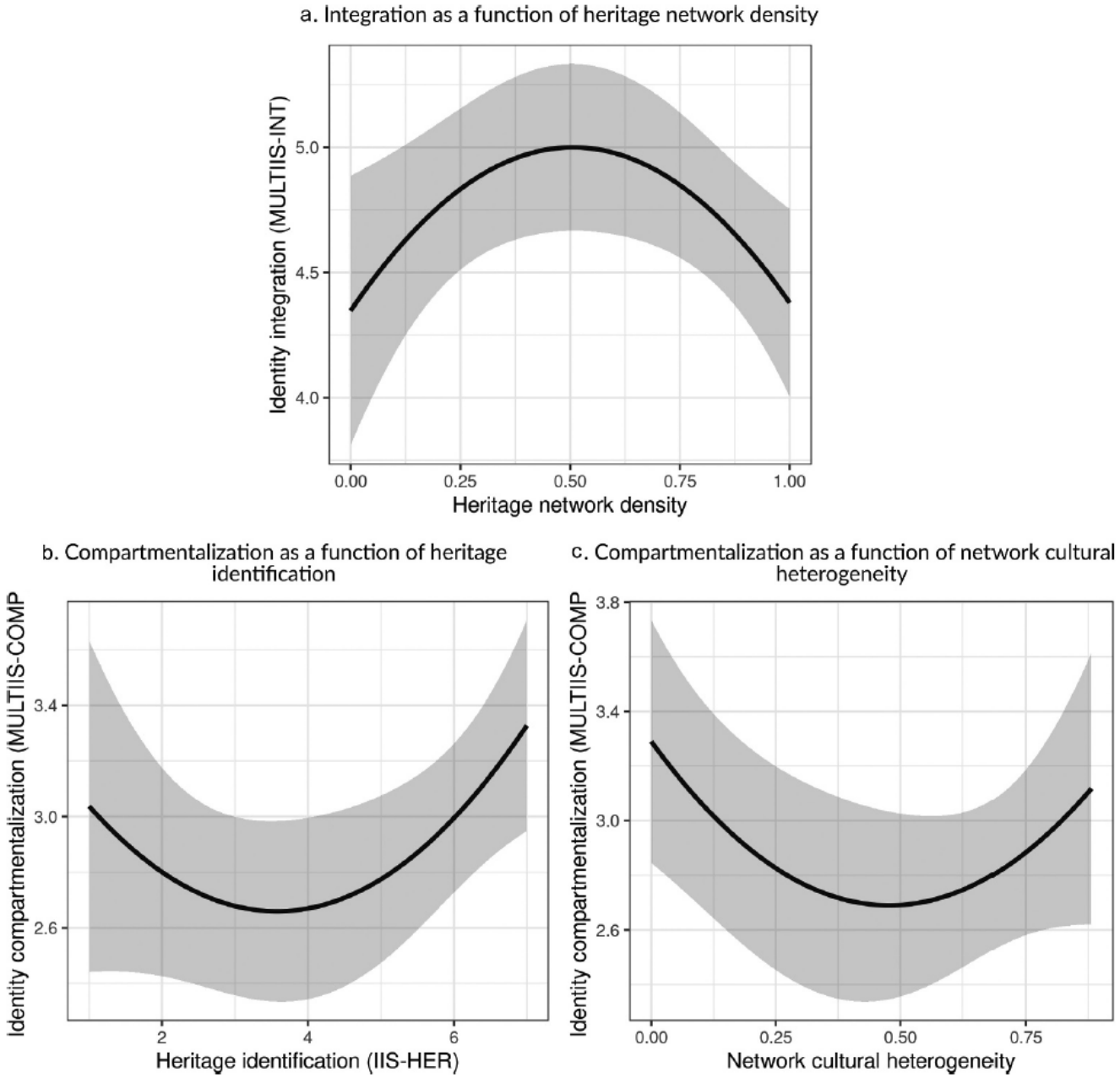
Note. *B* = unstandardized coefficient; CI = confidence interval; s*r*= semi-partial correlation; Main = Mainstream; Her = Heritage; †*p*< .10; **p*< .05; ***p*< .01; ****p*< .001

0.34], *p*= .53 for IIS-MAIN; *B*= 0.01, 95%CI [−0.29, 0.31], *p*= .94 for IIS-HER). The Johnson-Neyman interval indicates that the relation between identity integration and cross-cultural connectedness is no longer statistically significant when IIS-MAIN scores reach 0.26 points below the mean, or 0.29 points below the mean for IIS-HER.

Cultural identity compartmentalization

Covariates entered in a first regression step accounted for 17% of variance in MULTIIS-COMP scores. Participants with stronger mainstream identification (IIS-MAIN scores) report lower identity compartmentalization (standardized β = −0.29, 95%CI [−0.45, 0.13], $t(130)$ = −3.55, p < .001), accounting for 8% unique variance (*sr*= .28). Heritage identification is related to compartmentalization via a marginally significant positive linear effect (standardized β = 0.14, 95%CI [−0.02, 0.31], $t(130)$ = 1.73, p= 0.09) and a significant quadratic effect (standardized β = 0.16, 95%CI [0.001, 0.33], $t(130)$ = 1.99, p= 0.048). As illustrated in Figure 2's panel B, until IIS-HER scores of about 4, heritage identification is negatively associated with compartmental-

Figure 2
Quadratic associations between predictors and cultural identity configurations.



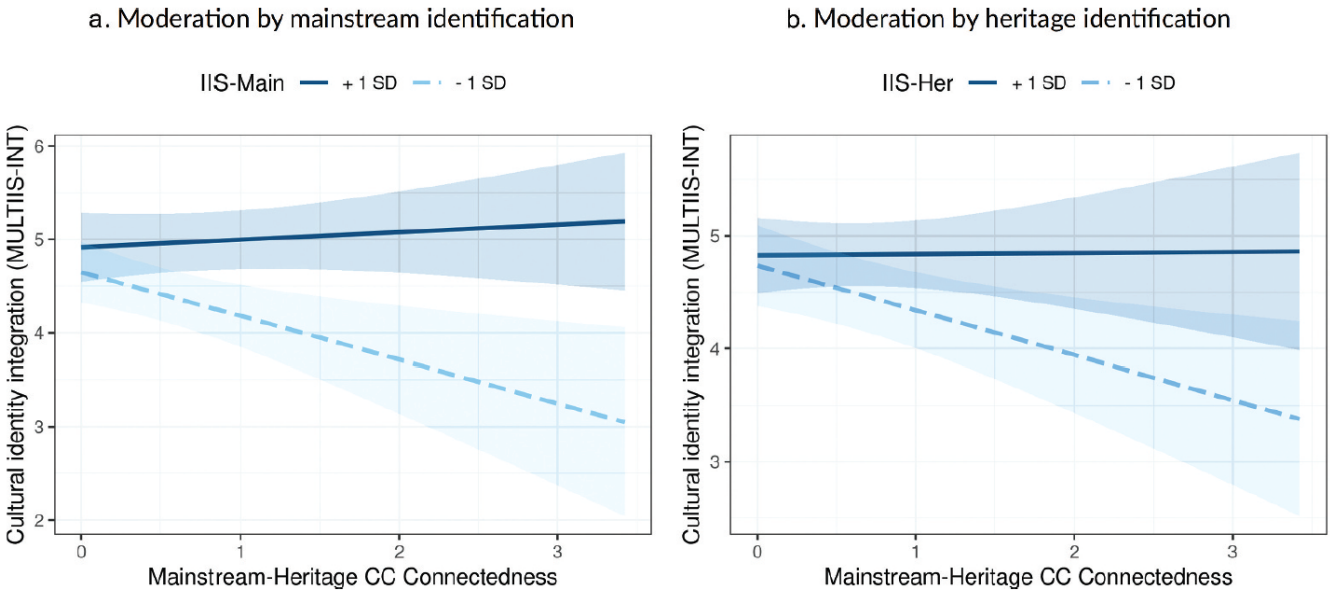
ization. Beyond this mid-range value, greater heritage identification is related to greater compartmentalization. Table 3 displays the final results of MULTIIS-COMP regressions, after adding social network indices. More details on the stepwise introduction of main, interactions, linear, and quadratic effects are provided as supplementary materials.

Network indices results

In terms of bridging capital, Table 3 shows that heterogeneity is associated with MULTIIS-COMP scores through a quadratic effect (standardized $\beta = 0.18$, 95%CI [0.01, 0.36], t (124) = 2.10, p= 0.038) explaining 3% of unique variance. This effect, illustrated in Figure 2's panel C, shows that until mid-range heterogeneity values, increasing network cultural diversity is associated with lower identity compartmentalization. Beyond this mid-range value, increasing cultural di-

Figure 3

Interactions between mainstream-heritage cross-cultural connectedness and cultural identification.



versity is related to increasing compartmentalization levels. Table 3 shows that none of the other bridging capital indices, nor any of the bonding capital indices, are associated with MULTIIS-COMP scores.

In terms of cultural brokerage, greater mainstream-third-culture cross-cultural connectedness is associated with lower MULTIIS-COMP scores (standardized $\beta = -0.28$, 95%CI [−0.49,−0.06], $t(123) = -2.52$, $p = 0.01$). This effect, accounting for 4% of unique variance, is contrary to H4a. Participants with alter-alter ties more commonly binding mainstream and third-culture alters experience their cultural identities as less compartmentalized.

Discussion

This study investigated associations between migrants' multicultural identity configurations and bonding and bridging social capital accrued through their personal network. The results mostly supported our hypotheses. Personal networks with greater mainstream density, marginally smaller mainstream effective size, higher third-culture weak ego-alter ties numbers, effective size, strong ego-alter ties numbers, and alter-alter closeness were associated with greater identity integration. Heritage network density was quadratically related to integration: positively at lower density levels, and negatively at higher density levels. Participants with culturally more diverse networks reported greater integration – which is consistent with past findings (Repke & Benet-Martínez, 2018) – and lower compartmentalization at low levels of heterogeneity. More cross-cultural connections between mainstream and third-culture alters was also related to less compartmentalization. Conversely, more frequent cross-cultural ties between mainstream and heritage alters was associated with less integration for participants with weak mainstream and heritage identification, a relation that disappeared as identification increased.

Balancing bridging and bonding capital in mainstream and heritage subnetworks

The results indicate that in the mainstream group, it may be preferable to forgo bridging capital in favor of bonding capital to promote cultural identity integration. Bonding capital also seems to matter in the heritage group, but in a temperate way. Low density is too little, high density is too much, mid-range density is optimal. A similar quadratic effect might theoretically exist in the mainstream group, but a greater range of mainstream density values would be required for that effect to be detectable. In our sample, average mainstream density was fairly low (around .25), and only half the value of heritage density (around .50). Few participants faced the issue of an exceedingly dense mainstream network – a situation we suspect is characteristic of most first-generation immigrants. Under other conditions, excessive bonding capital in a given social group would plausibly hinder integration of other group identities within the self. A more tightly knit network fosters conformity to norms and bolsters the influence of the meanings and values circulated within that network (Coleman, 1988). This is at odds with expanding the self to include new group memberships and self-definitions, a defining feature of integration. Yet, our results show that some interconnectedness within both

Table 3

Results of regressions predicting cultural identity compartmentalization (MULTIIS-COMP).

	Brokering and Overall Bridging Capital			Bridging Capital Indices							Bonding Capital Indices					
Predictor	*B*	95%CI	*sr*	*B*	95%CI	*sr*	*B*	95%CI	*sr*	*B*	95%CI	*sr*	*B*	95%CI	*sr*
(Intercept)	2.93***	[2.59; 3.27]		2.94***	[2.58; 3.29]		3.09***	[2.66; 3.51]		3.05***	[2.56; 3.55]		2.78***	[2.29; 3.27]	
Online mode (vs. in-lab)	0.55**	[0.20; 0.91]	0.24	0.52**	[0.16; 0.89]	0.23	0.49*	[0.12; 0.86]	0.21	0.49*	[0.10; 0.87]	0.20	0.56**	[0.18; 0.93]	0.24
Proportion of life in Canada	0.37	[−0.63; 1.37]	0.06	0.38	[−0.63; 1.40]	0.06	0.41	[−0.61; 1.43]	0.06	0.35	[−0.68; 1.37]	0.05	0.36	[−0.64; 1.36]	0.06
Sex – Male (vs. Female)	−0.05	[−0.42; 0.31]	−0.02	−0.08	[−0.44; 0.29]	−0.03	−0.11	[−0.48; 0.26]	−0.05	−0.08	[−0.46; 0.30]	−0.03	−0.08	[−0.45; 0.29]	−0.03
IIS-MAIN	−0.15**	[−0.25; −0.04]	−0.22	−0.17**	[−0.27; −0.06]	−0.26	−0.15**	[−0.26; −0.05]	−0.23	−0.13*	[−0.24; −0.01]	−0.17	−0.16**	[−0.26; −0.05]	−0.24
IIS-HER – Linear	1.29	[−0.68; 3.26]	0.10	1.47	[−0.51; 3.45]	0.12	1.63	[−0.40; 3.65]	0.13	1.98†	[−0.09; 4.05]	0.15	1.77†	[−0.18; 3.73]	0.14
IIS-Heritage – Quadratic	1.89†	[−0.02; 3.79]	0.15	2.08*	[0.10; 4.07]	0.17	1.83†	[−0.13; 3.79]	0.15	1.84†	[−0.10; 3.78]	0.15	1.86†	[−0.08; 3.79]	0.15
Heterogeneity – Linear	−1.12	[−3.46; 1.23]	−0.07												
Heterogeneity – Quadratic	2.17*	[0.12; 4.22]	0.16												
CC Connectedness Main-Her	0.11	[−0.12; 0.33]	0.07												
CC Connectedness Main-3rd Culture	−0.33*	[−0.58; −0.07]	−0.20												
CC Connectedness He d Culture	0.07	[−0.04; 0.19]	0.09												
IIS-MAIN x CC Connec ain-Her	−0.05	[−0.17; 0.06]	−0.07												
IIS-HER x CC Connect Main-Her	−1.26	[−3.42; 0.89]	−0.09												
N weak ego-alter ties Mainstream				−0.03	[−0.14; 0.08]	−0.05									
N weak ego-alter ties Heritage				0.01	[−0.06; 0.07]	0.02									
N weak 3rd Culture				−0.08	[−0.19; 0.03]	−0.11									
Effective size Mainstream							−0.09	[−0.25; 0.06]	−0.09						
Effective size Heritage							−0.02	[−0.08; 0.04]	−0.05						
Effective size 3rd Culture							−0.06	[−0.17; 0.05]	−0.09						
N strong ego-alter ties Mainstream										−0.17	[−0.40; 0.06]	−0.11			
N strong ego-alter ties Heritage										0.00	[−0.07; 0.07]	0.00			
N strong ego-alter ties 3rd Culture										−0.04	[−0.16; 0.09]	−0.04			
Density Mainstream										−0.25	[−0.70; 0.20]	−0.09			
Density Heritage – Linear										1.30	[−0.73; 3.32]	0.10			
Density Heritage – Quadratic										1.46	[−0.81; 3.73]	0.10			
Density 3rd Culture										−0.12	[−0.65; 0.40]	−0.04			
Alter-alter closeness Mainstream													−0.08	[−0.20; 0.03]	−0.11
Alter-alter closeness Heritage													0.06	[−0.07; 0.19]	0.07
Alter-alter closeness 3rd Culture													−0.04	[−0.16; 0.08]	−0.06
R^2	.26			.19			.19			.22			.19		
ΔF(df1, df2)	2.51(8,123)*			1.78(4,127)			1.99(4,127)†			1.61(8,123)			1.83(4,127)		

Note. *B*= unstandardized coefficient; CI = confidence interval; s*r*= semi-partial correlation; Main = Mainstream; Her = Heritage; †p< .10; *p< .05; **p< .01; ***p< .001

mainstream and heritage groups is necessary for identity integration, most likely to achieve a sense of belonging in both groups. Identity integration seems to be tied to a network structure that balances embeddedness, not too tight but not too loose, in the groups whose identities are incorporated into the self. In the present case – and we suspect among immigrants more generally – this identity integration challenge manifests itself as striking a balance between boosting mainstream density and limiting heritage density, which is a key finding of the present work.

Social capital in the third-culture subnetwork

Among third-culture connections, bridging capital (for both network indices) and bonding capital (for two out of three indices) was positively related to identity integration. These results highlight the critical role of third-culture social connections for multicultural identity work. This culturally heterogeneous group, defined by a shared experience of being a migrant or cultural minority within a society, rarely features in acculturation research (Doucerain et al., 2013), even though it can represent a substantial fraction of migrants' social environment. More broadly, Dixon et al. (J. Dixon et al., 2020) argue that such "in between", "intermediary", or "third party" groups have unfortunately been comparatively neglected in social psychological research on intergroup processes.

What mechanisms explain positive associations between third-culture social capital and identity integration remains an open question that future research should address. Pettigrew's (2009) "contact's secondary transfer effect" may provide a promising starting point. This effect refers to situations where intergroup benefits resulting from contact with one outgroup extends to another outgroup not initially involved in the contact. Through a form of secondary transfer, cultural identity negotiations stemming from third-culture engagement may foster inclusion of the mainstream identity within the self. The theory of "gateway" groups (Levy et al., 2017) offers another alternative. Embodying identity complexity and multiple cultural belongings, third-culture individuals may represent a bridge between migrants and the mainstream group. Clarifying how third-culture social capital influences cultural identity negotiations is a fruitful avenue for future research.

Cultural brokerage

In terms of cross-cultural alter-alter ties, our results are mixed. Connectedness between mainstream and third-culture alters was related to lower compartmentalization. Conversely, mainstream-heritage cross-cultural connectedness was related to lower integration for migrants who identified weakly with mainstream and heritage groups, and unrelated to integration for those who identified strongly with these groups. Two points emerge from these results.

First, cross-cultural alter-alter ties are not all created equal. Mainstream-heritage ties may be particularly challenging to negotiate, possibly because they bring up competing goals of establishing oneself in the mainstream group while maintaining one's allegiance to the heritage group. In contrast, mainstream-third-culture alter-alter ties may be easier handle and simply present multicultural social contexts mirroring one's multicultural self.

Second, the impact of cross-cultural mainstream-heritage ties seems to depend on one's psychological investment in these groups. As challenging as such cross-cultural ties may be, they are unrelated to identity integration for migrants with high mainstream and heritage self-investment. Thus, cultural identity integration may result to some extent from the interplay between a person's dispositions and the affordances and constraints of her social network.

Nevertheless, our results contrast with some previous findings, where mainstream-heritage network interconnectedness was positively associated with identity integration (Repke & Benet-Martínez, 2018). A possible explanation for this discrepancy lies in the populations sampled. Repke and Benet-Martínez's study, conducted in Catalonia, included a combination of first and second generation migrants from Ecuador, Morocco, Pakistan, and Romania. Mainstream-heritage cross-cultural ties may be easier to handle for someone born locally or for migrants who share a language (Ecuador), postcolonial connections (Morocco and Ecuador), or European membership (Romania). None of these facilitating factors where present for our study's participants. In future research, it would be interesting to explore other potential contextual moderators (e.g., psychological flexibility or institutional support for cross-cultural relations).

The case of compartmentalization

It is noteworthy that few network indices were associated with compartmentalization, compared to integration. One possible explanation is that our social network instrument assessed participants' relationships too generally. This identity configuration involves context-specific and shifting aspects, so using situational and more contextually-sensitive questions might have been more successful. Another possibility is that compartmentalization is tied to the affective quality of migrants' social environment (which was not the focus of this study), rather than its composition. Indeed, our past research showed that affectively-laden variables such as perceived discrimination predicted compartmentalization (Amiot et al., 2018). Here, we found that compartmentalization was related quadratically to heterogeneity and heritage identification. Compartmentalization was lowest for mid-range identification and heterogeneity levels but increased for very high heritage identification and heterogeneity levels. These findings suggest a constraining pattern, where exceeding heritage identification and cultural heterogeneity force cultural identities to be insulated in different sections of people's life. Accordingly, variables reflecting affective or legitimacy aspects of identity processes, such as identity denial (Cheryan & Monin, 2005), may be more closely linked to compartmentalization than network structure variables.

Limitations

This study's correlational design is a clear limitation, precluding any inference regarding causality or effect directionality. Some evidence suggests that forces outside of people's control largely influence social network characteristics, but future longitudinal studies should address that question directly. Feedback loops repeated over time seem to us more likely than network characteristics influencing cultural identity configurations or vice-versa. Our methodological approach may have underestimated participants' bridging capital, which is another limitation. This form of capital relies on more elusive and indirect social connections, that get actualized or called upon in specific situations: for example, when your car breaks down and you know to contact your colleague's neighbor, a car mechanic you met once at a picnic party. Our name elicitation technique likely over-sampled close relationships and would not have been able to capture such social capital.

Conclusion

This study examined associations between cultural identity configurations and personal network configurations reflecting different forms of social capital. The results uncovered the critical role of third-culture social ties in fostering identity integration. Throughout, notions of equilibrium also stand out. The ideal network configuration for cultural identity integration does not seem to follow a simple "more is better" adage. Rather, the trick seems to be to achieve a network with a balanced architecture. Describing identity integration as a "juggling game" is an apt metaphor, as this configuration seems to emerge from a delicate equilibrium between different social contexts, affordances, and constraints.

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