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Ethnic Dissimilarity Predicts Belonging Motive Frustration and Reduced Organizational
Attachment

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Abstract

Some empirical studies show negative consequences of being demographically different from one's group, but the underlying psychological mechanisms are not well understood. To address this gap, we investigated the role of the belonging and distinctiveness motives in individuals' experiences of being ethnically dissimilar from their group. We propose that ethnic dissimilarity satisfies group members' need for distinctiveness whereas it frustrates members' need for belonging, and this frustration reduces their organizational attachment. An experimental study showed that ethnic dissimilarity led to heightened arousal of the belonging motive, indicating that this motive was frustrated. In a naturalistic study of real-life student groups, ethnic dissimilarity was associated with frustrated belonging, which in turn was associated with reduced organizational attachment. This paper contributes to the literature of demographic dissimilarity in groups by closely examining the effect of demographic dissimilarity on group members' fundamental motives and reactions to group membership.

Keywords: demographic dissimilarity; group diversity; belonging motive; distinctiveness motive; identity shift

Both academics and management practitioners highlight the value of demographic diversity, particularly with regards to group tasks. Diversity in work groups can lead to high quality group outcomes because of the varied perspectives and knowledge within the group (Cox, Lobel, & McLeod, 1991; McLeod, Lobel, & Cox, 1996), tolerance of dissenting ideas (Phillips & Loyd, 2006), and thorough information processing (Sommers, Warp, & Mahoney, 2008). However, diversity can also have detrimental effects on individual group members. Indeed, individuals who are demographically dissimilar from their group, at times, suffer from a host of individual problems, such as reduced satisfaction and commitment, as well as higher absenteeism and turnover (e.g., Chatman & Flynn, 2001; Guillaume, Brodbeck, & Riketta, 2012; Jackson et al., 1991; Liao, Joshi, & Chuang, 2004; Riordan & Shore, 1997; Tsui, Egan, & O'Reilly, 1992; but see Guillaume, Van Knippenberg, & Brodbeck, 2014).

One key mechanism proposed to explain these negative effects is motivated identity construction, or how individuals define themselves to satisfy basic identity motives (Ashforth & Mael, 1989; Vignoles, 2011). Drawing on social identity (SIT; Tajfel & Turner, 1986) and self-categorization theories (SCT; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), group diversity researchers have suggested that group members routinely categorize themselves in relation to other members based on salient demographic

characteristics, and these self-definition processes affect members' experiences in groups through motive satisfaction/frustration (Chatman, Polzer, Barsade, & Neale, 1998; Tsui et al., 1992).

Among several motives that can guide identity processes (Ashforth & Mael, 1989; Vignoles, 2011), group diversity researchers often focus on motives for self-esteem and uncertainty reduction (Hogg & Terry, 2000). Researchers have commonly proposed that individuals fare worse in demographically dissimilar groups because such groups do not provide a good basis upon which to form favorable and certain identities, and hence they may frustrate these motives (Chattopadhyay, 1999; Chattopadhyay, George, & Lawrence, 2004; Goldberg, Riordan, & Schaffer, 2010; Tsui et al., 1992). In turn, frustration of these identity motives is associated with negative outcomes, such as reduced group identification and citizenship behavior (Chattopadhyay, 1999; Chattopadhyay et al., 2004).

Despite the accepted role of motivated identity processes in explaining the link between demographic dissimilarity and individual outcomes, research has focused on a limited range of motives. Indeed, calls have been made to examine a wider range of underlying motives, to elucidate why dissimilar individuals struggle in groups (Lawrence, 1997; Ormiston, 2016; Ormiston & Wong, 2008; Riordan, 2000). Shore and colleagues (2011) theorized that two motives of critical importance for understanding the experience

of being dissimilar are the belonging motive—a desire to feel connected with others (Baumeister & Leary, 1995)—and the distinctiveness motive—a desire for differentiation from others (Brewer, 1991; Lynn & Snyder, 2002; Vignoles, Chryssochoou, & Breakwell, 2000). Despite their theoretical relevance, no previous studies in our knowledge have examined the role of satisfaction/frustration of these motives within dissimilar small work groups.

We address this gap by examining how group members' motives for belonging and distinctiveness are differentially affected by demographic dissimilarity. We focus on salient demographic characteristics because, as Tsui, Egan and Porter (1994) note, these “physical, observable, and immutable personal and background characteristics....play a critical role in the initial categorization process” (as cited in Harrison, Price, & Bell, 1998) and thus would affect satisfaction/frustration of identity motives. We focus on ethnic dissimilarity, in particular, because group members commonly categorize one another into ethnic categories based on observable surface-level differences early in group life, and ethnicity is a prototypical attribute of “diversity” (Daniels, Neale, & Greer, 2017; Mannix & Neale, 2005). Ethnic categorizations in daily social interaction are fluid and informal (Jenkins, 1994; Okamura, 1981) and are based on contextual similarities and differences in observable (e.g., visible or audible) characteristics such as skin color or use of language

(Maddox & Chase, 2004; Rakić, Steffens, & Mummendey, 2011).

Our paper has two goals: First, we examine how ethnic dissimilarity affects members' needs for distinctiveness and belonging. We predict that dissimilarity satisfies the distinctiveness motive but frustrates—and thus arouses—the belonging motive. Second, we examine how motive frustration relates to an often-studied individual outcome within group diversity research, organizational attachment, or “psychological and behavioral involvement in a social group or unit” (Tsui et al., 1992, p. 554). The presented studies contribute to understanding why dissimilarity often negatively impacts members' reactions to group membership, with clear implications for managing diverse work groups.

Demographic Dissimilarity and Strivings for Belonging and Distinctiveness

Although people are influenced by a range of identity motives (Ashforth & Mael, 1989; Cooper & Thatcher, 2010; Vignoles, Regalia, Manzi, Golledge, & Scabini, 2006), psychologists have long shown that two critical motives for self-definition are belonging and distinctiveness. Humans' desire for belonging is considered a basic and universal need (Baumeister & Leary, 1995; Bowlby, 1969; Maslow, 1968); hence, people experience low academic achievement, reduced meaning in life, emotional distress, or even physical pathology when they are socially disconnected (Barden, Garber, Leiman, Ford, & Masters, 1985; Leary, 1990; Lynch, 1977; Murphy, Steele, & Gross, 2007; Stillman et al., 2009;

Walton & Cohen, 2007, 2011). However, individuals also have a basic need to be distinct from others (Lynn & Snyder, 2002; Snyder & Fromkin, 1980; Vignoles et al., 2000).

Failing to differentiate oneself is an unpleasant experience (Fromkin, 1972), and, at the extreme, can be associated with psychological disorders (de Bonis, De Boeck, Lida-Pulik, & Feline, 1995).

Contextual factors that highlight an individual's difference from, or similarity to, others are likely to either frustrate or satisfy these two motives. For instance, Murphy and colleagues (2007) found that when female math, science, and engineering (MSE) undergraduates viewed a supposed advertising video for an MSE leadership conference that was composed of 3 men and 1 woman, they reported lower anticipated belonging at the conference than when the video was gender balanced. This suggests that having one's social group numerically underrepresented affects a sense of belonging. Elsewhere, university honors students who were told that their personality scores diverged from those of their fellow university honors students subsequently described themselves as highly stereotypical honors students (Pickett, Bonner, & Coleman, 2002). This suggests that these students' belonging motive was frustrated, and, to compensate, they attempted to re-affirm their sense of belonging by highlighting their similarity to the group stereotype.

Conversely, when participants found themselves to have similar aesthetic preferences to

three confederates, they judged themselves as highly dissimilar to in-group members, suggesting they had experienced a frustrated distinctiveness motive and were attempting to re-affirm a sense of distinctiveness (Markus & Kunda, 1986). These studies indicate that feeling highly similar or highly different frustrates the distinctiveness or the belonging motives, respectively. However, to our knowledge, no previous study has directly tested motive frustration in response to demographic dissimilarity in small work groups.

In the two studies we report here, we operationalize demographic dissimilarity as being ethnically dissimilar from one's group. Ethnicity, as we understand it here, is not reducible to ancestry, genetics, skin color or race (Hirschman, 2004): Ethnicities are social categories that people attribute to themselves and each other (Turner et al., 1987). Although individuals may develop stable ethnic identities based on a variety of information and influences, ethnic categorizations in daily social interaction are likely to be much more fluid and informal (Jenkins, 1994; Okamura, 1981), based on contextual similarities and differences in observable (e.g., visible or audible) characteristics such as skin color or use of language (Maddox & Chase, 2004; Rakić et al., 2011). Thus, as suggested in SCT (Turner et al., 1987), we argue that being ethnically dissimilar in a group is a salient social situation that may differentially frustrate or satisfy these two motives.

When individuals are placed into a group in which they perceive members are

ethnically different from them, they are likely to be concerned that they do not belong in the group due to their dissimilarity and experience belonging motive frustration. However, ethnic dissimilarity is likely to satisfy the distinctiveness motive, because it allows group members to differentiate themselves easily from others.

Hypothesis 1. Ethnic dissimilarity frustrates the belonging motive (but not the distinctiveness motive).

Demographic Dissimilarity, Belonging Motive Frustration and Organizational Attachment

Demographic dissimilarity is often associated with reduced organizational attachment (e.g., Jackson et al., 1991; Riordan & Shore, 1997; Tsui et al., 1992). Following previous research, we define organizational attachment as psychological and behavioral involvement in a social group or unit (Tsui et al., 1992). Psychological involvement reflects positive attitudes towards the social unit, such as satisfaction and commitment toward one's organization, whereas behavioral involvement manifests in less withdrawal from the social unit, such as lower absences and turnover in organizations. We examine the role of belonging frustration on organizational attachment for two key reasons. First and foremost, the two constructs are clearly linked conceptually. Indeed, Riordan and Shore (1997) explained their finding that ethnic dissimilarity for African Americans was linked to

attachment outcomes (e.g., commitment) but not performance-type outcomes (e.g., productivity) by arguing that “commitment more strongly reflects social identification with and attraction to the work group than either productivity or advancement, and social identification and attraction are the underlying reasons for the effects predicted by relational demography theory (Tsui et al., 1992)” (pp. 353-354). Second, much previous relational demography research has looked at how dissimilarity links to elements of organizational attachment (e.g., satisfaction, commitment, absenteeism, turnover; Chatman & Flynn, 2001; Riordan & Shore, 1997; Tsui et al., 1992), because these elements have critical performance implications for organizations (Hom & Xiao, 2011). Despite the organizational importance of organizational attachment, little research has explored the underlying psychological mechanisms explaining demographic dissimilarity’s negative effect on this outcome.

Past research suggests that satisfaction of the belonging motive positively affects individuals’ psychological involvement in groups. For example, a sense of belonging is positively associated with cooperation to one’s group (De Cremer & Van Knippenberg, 2002), commitment, and experiences of positive mood and interest in group activities (Sheldon & Bettencourt, 2002). As such, to the extent that individuals' belonging motive is frustrated by demographic dissimilarity within a group, their attitudes towards that group

are likely to be more negative.

Research also indicates that satisfaction of the belonging motive positively predicts individuals' favorable behavior towards their organization, whereas frustrated belonging results in less behavioral engagement. Minority students who are underrepresented in academic settings are thought to feel that "people like me do not belong here" (Walton & Cohen, 2007, p. 83), resulting in less academic engagement (Mahoney & Cairns, 1997). In an observational study of classroom involvement, Jones and Gerig (1994) found that individuals who felt they were not accepted by their peers, and thus presumably experienced belonging motive frustration, were more likely to be classified as "silent" students—those who spoke up, on average, less than once over the course of fourteen observations. However, the authors also noted that these silent students were just as likely to perform well on tests. Other research finds that a lack of acceptance is related to low attendance and dropout rates (Elliott & Voss, 1974; Parker & Asher, 1987).

Together these studies highlight the detrimental impact that frustrated belonging can have on one's organizational attachment. Drawing on this work, we argue that being ethnically dissimilar from one's group frustrates members' belonging, which in turn will be negatively related to organizational attachment.

Hypothesis 2. The relationship between ethnic dissimilarity and organizational

attachment is mediated by belonging motive frustration.

Current Studies

We report two studies examining how ethnic dissimilarity differentially affects the belonging and distinctiveness motives (Study 1), and how frustrated belonging in ethnically dissimilar groups predicts members' organizational attachment (Study 2).

As noted already, we view ethnicities as situated and fluid social categories that people attribute to themselves and each other using salient information in a given context (Jenkins, 1994; Okamura, 1981; Turner et al., 1987). Based on this, we operationalized ethnic dissimilarity with a dichotomous categorization, Anglo (i.e. White, English-speaking) versus non-Anglo. We believe that this distinction is likely a meaningful basis for informal ethnic categorization in the research setting (i.e., a British University). Past research finds that individuals often categorize others based on “a dichotomous higher-order category, rather than multiple subcategories” (Guillaume et al., 2014, p. 1292) because membership in different subcategories is often associated with comparable meaning such as high or low status within a context (Chattopadhyay et al., 2004; Australians and non-Australians in Australia; Joshi, Hui, & Jackson, 2006; White Americans and non-Americans in North America). In Britain, Anglo is the dominant group and thus non-Anglos in the presence of a majority Anglo participant may contrast

themselves against the higher-status mainstream majority, rather than rely on finer-grained categorizations such as national or racial groups (Guillaume et al., 2014; Phinney, 1996). Thus, in Study 1, we manipulated ethnic dissimilarity by assigning Anglo participants to a group whose other members were either all non-Anglo (dissimilar condition) or all Anglo (control condition). Study 2 measured ethnic dissimilarity in real-world groups by categorizing MBA students into Anglo versus non-Anglo, and examined whether ethnic dissimilarity predicted frustrated belonging and reduced attachment.

Notably, direct measures of motive frustration may not provide valid results (Vignoles, 2014) because people may deny experiencing motive frustration when they are explicitly questioned. First, reactions to identity threatening situations are often automatic, such that individuals may not be aware when a threat has occurred or that they have responded to it (Breakwell, 1988). Second, even when individuals are aware of frustrated motives, social desirability concerns may hinder public expression of motive frustration. For example, individuals who are ethnically dissimilar from their group might be concerned that they would be viewed as prejudiced if they express feelings of frustrated belonging (Apfelbaum, Sommers, & Norton, 2008; Trawalter, Adam, Chase-Lansdale, & Richeson, 2012). Hence, it is often preferable to use indirect means to establish when identity motives are frustrated, rather than asking explicit questions (Vignoles, 2014). Hence, in both studies

we avoided direct verbal measures of frustrated belonging in favor of implicit measures based on identity shift (Study 1) or an abstract pictorial measure (Study 2).

Study 1

Study 1 aimed to test Hypothesis 1 that ethnic dissimilarity frustrates the belonging motive while it satisfies the distinctiveness motive. In this experiment, participants were asked to imagine working with five group members. Ethnic dissimilarity was manipulated by presenting photographs of hypothetical group members (See Bauman, Trawalter, & Unzueta, 2014, for a similar methodology).

Study 1 used an implicit measure of motive frustration based on *identity shift*, which we define as the process through which individuals emphasize or de-emphasize self-aspects across social situations (e.g., Markus & Kunda, 1986; Pickett et al., 2002). This relies on three features of identity. First, identity is multifaceted (Burke, 1980; Deaux, 1992). Thus, people define themselves with multiple *identity aspects* including traits, behaviors, roles, relationships, and group memberships (McConnell, 2010; Vignoles et al., 2006). Second, identity is malleable (Markus & Wurf, 1987). Thus, in different situations, different identity aspects are perceived as more or less central to self-definition (Markus & Kunda, 1986; Tajfel & Turner, 1979). Finally, identity may shift as a function of contextual changes in motive arousal. When a given identity motive is frustrated, identity aspects that better

satisfy that motive may be emphasized in self-definition over those that frustrate the same motive (Vignoles, 2011, 2014).

Hence, we argue that when an individual's sense of belonging is threatened by being ethnically dissimilar to other group members, motive frustration can be detected by a compensatory identity shift: she may emphasize elements of her identity that provide a sense of belonging and/or she may marginalize elements of her identity that deplete her sense of belonging. In contrast, when a motive is satisfied, identity shift is not expected because motive satisfaction does not require a compensatory response (e.g., Tesser, Crepaz, Collins, Cornell, & Beach, 2000). Thus, although we expect frustrated belonging to result in identity shift, satisfaction of the distinctiveness motive in dissimilar groups may not cause any identity shift associated with the distinctiveness motive.

To investigate whether ethnic dissimilarity leads to identity shift, we adapted the method of Vignoles et al. (2006) for examining identity motives. Participants described themselves by freely generating a series of identity aspects, and then rated how central each aspect was for their identity, and how much each aspect satisfied their needs for belonging and distinctiveness. We then manipulated ethnic dissimilarity and tested whether there was any selective shift in the centrality of those identity aspects that were associated with more or less belonging or distinctiveness motive satisfaction.

Method

Participants and procedure. Eighty-three members of a British university-affiliated participant pool took part in our online study in exchange for a £3 voucher. We used two exclusion criteria. First, we excluded 8 non-British participants who mistakenly participated in this study for which we recruited British White females only. Second, we excluded 12 participants (one of whom was non-British) who failed to follow an instruction on an unexpected question (i.e., “If you are reading this question, please do not answer this question.”) in order to increase the validity of the online data (Oppenheimer, Meyvis, & Davidenko, 2009). Final participants ($N = 64$) were all White British females with a mean age of 22.53 ($SD = 2.87$). The online experiment had one manipulated between-participants factor (ethnic dissimilarity: dissimilar versus control) and two measured within-participants predictors (belonging and distinctiveness) of shifts in the perceived centrality of different aspects of identity. The experiment was conducted in three stages.

Pre-manipulation stage. Participants were told that they would participate in a study concerning individual identity and be asked to answer some questions about themselves. First, participants were asked to provide ten answers to the question “Who am I?” (adapted from Kuhn & McPartland, 1954), each representing an identity aspect (e.g. “I am a sister,” “I am a daughter,” “I am single”). Next, participants were asked to rate each of

their identity aspects on three dimensions on a 7-point scale (1 = not at all, 7 = very much). First, two items measured how central each aspect was in their identity (henceforth, pre-centrality; e.g. “You stated “I am a daughter.” How much do you see this aspect of yourself as central or marginal to your identity?”). Participants’ responses to the two pre-centrality items were highly correlated ($r = .82$), therefore, the responses were averaged to measure pre-centrality (See Appendix A for items and scales). Second, they completed one item that measured how much each identity aspect gave them a sense of belonging (e.g. “You stated “I am a daughter.” How much does this aspect of yourself make you feel close to other people?”). Third, they completed one item that measured how much each identity aspect gave them a sense of distinctiveness (e.g. “You stated “I am a daughter.” How much do you feel that this aspect of yourself distinguishes you from other people?”).

Manipulation stage. After the pre-manipulation survey, participants were told that they would be asked to imagine themselves working in a group and would be provided with photos of their five group members. Participants were asked to visualize a situation in which they work with the five members on a group task and think of what their experience in the group would be like. On the next page, participants in the dissimilar condition read the following, “Please imagine that you are a part of the following work group composed of one African member, one Latin member, one Indian member, one East Asian member, one

Russian member, and yourself.” On the same page, they saw photos of five female students, all with different ethnic backgrounds from themselves (i.e., African, Latin, Indian, East Asian, and Russian [White Slavic]). In the control condition, participants were told to imagine themselves as a part of a group composed of “5 White members and yourself” and they saw photos of five White female students. Photos were selected from multiple photo databases (Caltech archive categories, 1999; CBCL, 2004; Hancock, 2008; Jain & Mukherjee, 2002; Thomaz, 2006). Research suggests that target attractiveness affects judgments and treatments of targets (Langlois et al., 2000). Thus the photos were piloted with a separate sample of 57 participants to confirm that their perceived attractiveness did not differ across conditions: $F(1, 56) = 1.67, p = .20, \eta_p^2 = .03$.

Post-manipulation stage. After imagining themselves working in their assigned groups, participants re-rated their identity aspects for perceived centrality (e.g. “You stated before “I am a daughter.” Right now, how much do you see this aspect of yourself as central or marginal to your identity?”). Again, participants’ responses on the two centrality items were highly correlated ($r = .89$); thus we took the average of these to measure post-centrality. This re-rating of centrality allowed us to examine whether participants in each condition would selectively centralize or decentralize aspects of their identities that differed in their prior associations with a sense of belonging/distinctiveness. We predicted that those

identity aspects listed in the pre-manipulation stage that were rated as providing a greater sense of belonging would be rated as more central after the dissimilarity manipulation than the control condition. On the other hand, identity aspects listed in the pre-manipulation stage that were rated as providing a lesser sense of belonging would be rated as less central after the dissimilarity manipulation than the control condition.

After completing this post-manipulation rating, manipulation check items were presented: Participants rated their agreement with two items about the group they had been asked to imagine working in, on a 7-point scale (1 = strongly disagree, 7 = strongly agree): “All group members have different ethnicities,” “All group members have the same ethnicity (reversed)” (demographic dissimilarity: $\rho = .95$). Finally, participants answered demographic questions and were then debriefed.

Results

Manipulation check. Results from a one-way ANOVA indicated that participants’ perception of demographic dissimilarity was significantly higher in the dissimilar (Mean = 6.36) than in the control (Mean = 2.57) condition, $F(1, 62) = 187.09, p < .0001, \eta_p^2 = .75$, indicating that our manipulation worked as intended.

Hypothesis testing. The data have a nested structure where identity aspects (Level 1: within-persons) are clustered within participants (Level 2: between-persons) (Vignoles,

2004). Hence, we used hierarchical linear modeling (HLM; Raudenbush, Bryk, & Congdon, 2002), where identity aspects rather than individual participants were treated as our primary unit of analysis. We assessed the degree to which the belonging/distinctiveness motives were satisfied or frustrated by modelling the relationship between the belonging/distinctiveness ratings of each participant's ten identity aspects and post-centrality, controlling for pre-centrality. An increase in the strength of the relationship between the motive and post-centrality ratings brought about by our manipulation of ethnic dissimilarity would indicate that the manipulation frustrated and thus activated that motive, resulting in those identity aspects that satisfy the motive becoming more central to a person's sense of identity (and/or those identity aspects that frustrate the motive becoming less central). Thus, our hypothesis is concerned with predicting *within-person* variance in perceived centrality rather than *between person* variance. To obtain unconfounded estimates of the within-person slopes, all Level 1 predictors (i.e., pre-centrality, belonging, and distinctiveness) were centered around participant means (Vignoles, 2004). Table 1 presents descriptive statistics and correlations between all Level 1 variables.

Hypothesis 1 predicted that ethnic dissimilarity frustrates the belonging motive (but not the distinctiveness motive), which would be indicated by an increased strength of the within-person relationship between belongingness ratings and post-centrality of the identity

aspects. To test this, we specified a multilevel regression model that tested the cross-level moderation effect of our ethnic dissimilarity manipulation on the predictive effects of the two motive ratings (i.e., belonging and distinctiveness) on post-centrality ratings, while controlling for pre-centrality ratings. At Level 1, post-centrality was regressed on pre-centrality, belonging, and distinctiveness ratings. At Level 2, ethnic dissimilarity was entered as a Level 2 moderator of both the belonging \rightarrow post-centrality and the distinctiveness \rightarrow post-centrality slopes, and as a Level 2 predictor of the intercept. Figure 1 visualizes the analytical model.

The predicted cross-level moderating effect of the ethnic dissimilarity manipulation was marginally significant for the belonging \rightarrow post-centrality slope ($B = .14, p = .06$). Moreover, investigating the simple slopes revealed clear support for our prediction that ethnic dissimilarity frustrates and thus arouses the belonging motive. In the dissimilar condition, belonging ratings of identity aspects significantly predicted how central participants rated those aspects to their identity, after controlling for pre-centrality ratings ($B = .14, p = .01$). In the control condition, however, the corresponding effect was non-significant ($B = .00, p = .93$). As presented in Figure 2, participants placed in dissimilar groups tended to marginalize those identity aspects that provided a lower sense of belonging, compared to those in the control condition. Consistent with our prediction, the

moderating effect of ethnic dissimilarity was non-significant for the distinctiveness \rightarrow post-centrality slope ($B = -.01, p = .95$). Thus, Hypothesis 1 was supported.

Discussion

Being ethnically dissimilar from one's group led to the expected pattern of identity shift, indicating arousal of the belonging motive. Specifically, Anglo participants who were in the dissimilar condition were more likely to marginalize aspects of their identities that did not provide them with a sense of belonging, compared to Anglo participants who were in the control condition. In contrast, also as expected, Anglo participants in the dissimilar condition did not engage in identity shift to alter their sense of distinctiveness, suggesting that this motive was satisfied and there was no motivation to engage in compensatory action. These findings support our prediction that ethnic dissimilarity frustrates the belonging motive but not the distinctiveness motive.

Study 2

Given our results from Study 1, we focus on the belonging motive in Study 2. Specifically, we aimed to replicate that ethnic dissimilarity frustrates the belonging motive using an alternative measure of belonging motive frustration, as well as examine how the frustrated belonging resulting from dissimilarity affects organizational attachment. In Study 2, we again avoided using a direct verbal measure of belonging motive frustration, by

adopting an abstract pictorial measure (Aron, Aron, & Smollan, 1992). As mentioned in the introduction, we focus on organizational attachment as it is an often-studied outcome of ethnic dissimilarity that may be explained, in part, by belonging frustration given its conceptual links to the belonging motive.

Method

Participants and procedure. Participants were 406 MBA students at a large British business school. At the start of their program, students were assigned to 64 study groups consisting of six/seven members with whom they would work together over the next year. Study groups were assigned by the school based on gender, age, professional background, and GMAT (Graduate Management Admission Test) score, such that groups were as balanced as possible on these background variables.

Data were gathered at four time points. First, prior to students' arrival at the school, a personality assessment was sent out to measure students' personality traits (Costa & McCrae, 1992), which served as control variables. Second, after the first week of term students were asked voluntarily to complete a questionnaire including items on frustrated belonging and satisfaction with study groups. In this first week, students had been assigned to groups and spent substantial time with their group members on team activities (e.g., a decision-making simulation, formulating a team contract, case discussions) as part of a

leadership assessment orientation program. In total, 366 out of 406 students provided usable responses: a response rate of 90%. Third, two months into the school term, demographic data were collected and coded by four external raters in terms of whether the student was White/non-White. (See the Measures section for detailed information.) For three students, raters did not reach agreement on this coding, reducing our sample to 363 students: a final response rate of 89%. Finally, we collected all students' class participation grades from the school at the end of their first academic year.

Our final 363 participants were 34% female with an average age of 28.62 years ($SD = 2.56$), and on average 5.48 years of work experience ($SD = 1.98$). Participants originated from the following regions: EU mainland Europe (22%), North America (15%), Asia (14%), Latin America (11%), UK (9%), Australia/New Zealand (8%), Middle East (7%), India (7%), Non-EU Europe (6%), and Africa (2%).

Measures.

Frustrated belonging motive. Frustrated belonging was measured by asking students to indicate their “actual” and “desired” belonging, on the Inclusion of Other in the Self scale (IOS; Aron et al., 1992). IOS is a single-item graphical measure that assesses individuals' perceived overlaps between their self and another person, group, or any other social entity, interpreted as representing ones' perceived belonging to social units (Schubert

& Otten, 2002). IOS has been used to measure both actual and desired belonging, capturing frustrated belonging by assessing the discrepancy between the two (Thau, Aquino, & Poortvliet, 2007).¹

The actual belonging item presented seven pictures, each of which contained two circles, one representing the self and one representing the study group. The seven pictures indicated different degrees of overlap between the self and one's group, and were ordered such that the degree of overlap increased from the first to the seventh picture. The item was titled as "Graphic scale of your relationship with your study group," and the instructions asked participants to indicate the number of the picture (from 1 to 7) that best represented the relationship they had with their group at the moment. Participants were asked to think about their relationship with their study group rather than with any particular group member. Also, participants were told that "The closer you feel you relate to your study group, the more the circles overlap." Beneath the actual belonging item, the desired belonging item was shown, presenting the same set of seven pictures: participants were asked which picture best captured the kind of relationship they desired to have with their

¹ Because the IOS scale is based around a spatial metaphor, respondents cannot be entirely sure what the scale measures (Schubert & Otten, 2002). We believe that the metaphorical rather than propositional content of the measure reduces respondents' concerns about the social desirability of their responses, which may have a confounding influence on more explicit measures of feelings of group belonging—especially in the context of ethnically dissimilar groups.

study group. Following Thau et al. (2007), we explicitly instructed participants to choose the same set of circles if their current state of relationship equaled their desired state. We operationalized frustration of belonging as a difference score between actual and desired belonging (i.e., desired belonging – actual belonging) such that a higher difference score meant higher levels of frustrated belonging. Scores ranged from -4 to 5.

Ethnic dissimilarity. Participants' ethnic background was operationalized as a dichotomous category, Anglo (i.e., White native English speakers) versus non-Anglo (i.e. non-White and/or non-native English speakers), based on two criteria: Skin color and language. These criteria are often used to categorize others in initial social interactions (Maddox & Chase, 2004; Rakić et al., 2011). Moreover, in the context of Study 2 (i.e., diverse international business school in Britain), it is likely that students are identified with either a high status majority group (Anglo) or a low status minority group (non-Anglo) based on these two characteristics, rather than identified with more finely-grained subcategories (Guillaume et al., 2014). Indeed, our own observation from teaching in this setting confirms this as Anglo students (i.e., White native English speakers) often dominate in-class discussion or group work compared to non-Anglo students. Research supports this notion that individuals do identify with pan-minority groups that consist of consolidated national identities such as “Latino” (McConnell & Delgado-Romero, 2004) or “Asian”

(Wong, Ramakrishnan, Lee, & Junn, 2011) groups in North America (Okamoto & Mora, 2014).

Ethnic dissimilarity was therefore calculated by using the two data, skin color and first language. As the MBA program office did not have ethnicity-related data, students' skin color (White or non-White) was coded based on their photos by four external raters who were unaware of our research question. Inter-rater reliability was high, Cohen's kappa = .82 (Krippendorff, 2012). It was coded as White (or Non-White) when at least three out of the four raters rated his or her skin color as White (Non-White). First language data for all participants were retrieved from the MBA program office files ($N = 406$, including both respondents and non-respondents). On the basis of this categorization, 21% (76 out of 363) of students in our sample were Anglo.

Following previous group diversity studies (particularly, studies on relational demography; e.g., Chattopadhyay, 1999; Tsui et al., 1992), we calculated ethnic dissimilarity as the Euclidean distance between the focal student and all other members of his/her study group on ethnic background (Anglo vs. non-Anglo). The Euclidian distance considers how different an individual is from each member of his/her team on a particular characteristic, in this case ethnicity. In particular, it is the square root of the summed square

differences between an individual (Anglo/non-Anglo) and each group member (Anglo/non-Anglo), divided by the group's size:

$$\left[\frac{1}{n} \sum_{j=1}^n (S_i - S_j)^2 \right]^{1/2}$$

Ethnic dissimilarity scores can therefore range from zero to approaching but never reaching 1.00. For example, an Anglo student who is in a 7-person group composed of six non-Anglo students would have an ethnic dissimilarity score of .93. An Anglo student would have a score of .38 when his or her 7-person group is composed of only one non-Anglo. As such, a larger dissimilarity score meant that a student was more different from other members of his or her group in terms of ethnic background. Scores ranged from .00 to .93.

Organizational attachment. Since organizational attachment involves both attitudes and behavior (Tsui et al., 1992), we operationalized it in two ways. First we measured group members' satisfaction with their group. Students' satisfaction with their group was measured with four items ($\alpha = .94$) adapted from Peterson (1997), on a 7-point scale (1 = not at all, 7 = totally): e.g., "How satisfied are you working with this team?"

As a behavioral measure of organizational attachment, we examined students' classroom participation, which incorporates attendance and actual participation in the

classroom. This represents the behavioral element of organizational attachment as defined by Tsui and colleagues (1992; "less withdrawal and lower absences"). A student's class participation grade was operationalized as an average of participation scores received in the nine core courses during the first year of the MBA. For each of the nine courses, students received numeric participation scores on the basis of class attendance and in-class contribution. We standardized, and then averaged the nine numeric scores to compute one participation score ($\alpha = .80$). Scores ranged from -1.59 to 2.04.

Control variables. Because students' simple demographic characteristics can influence attitudes and behaviors in groups and organizations (Tsui et al., 1992), we controlled for each student's ethnic background (non-Anglo = 0; Anglo = 1), gender (female = 0; male = 1), and age. Group diversity studies examine dissimilarity on multiple demographic characteristics such as gender, and age (Chattopadhyay, 1999; Farh, Tsui, Xin, & Cheng, 1998; Tsui et al., 1992). In order to control for potential effects of these other forms of demographic dissimilarity, we also controlled for gender dissimilarity and age dissimilarity; each was calculated as the Euclidean distance between the focal student and all other members of his/her study group on the characteristic (Range_{gender dissimilarity} = .53 - .85, Range_{age dissimilarity} = .93 - 9.14) (Chattopadhyay, 1999; Tsui et al., 1992). We obtained data on group size from the MBA program office, which we dummy coded (0 =

six members, 1 = seven members) and controlled for, as this can affect students' satisfaction with and engagement in groups. We also measured and controlled for the Big Five personality traits (Costa & McCrae, 1992) because these traits predict satisfaction with teams (Peeters, Rutte, van Tuijl, & Reymen, 2006) and organizational attachment (Erdheim, Wang, & Zickar, 2006; Zimmerman, 2008). Moreover, by controlling for individual differences we can be more confident that differences in belonging frustration are related to dissimilarity as opposed to personality characteristics that might make someone more prone to experience belonging frustration (e.g., higher neuroticism; Downey & Feldman, 1996; Seidman, 2013). The Big Five personality traits were measured using the NEO PI-R (Costa & McCrae, 1992) which consisted of five 48-item subscales: Agreeableness (e.g., I would rather cooperate with others than compete with them; $\alpha = .86$), Conscientiousness (e.g., I'm known for my prudence and common sense; $\alpha = .91$), Extraversion (e.g., I like to have a lot of people around me; $\alpha = .88$), Neuroticism (e.g., I often feel tense and jittery; $\alpha = .89$), and Openness (e.g., I think it's interesting to learn and develop new hobbies; $\alpha = .85$).²

² When we exclude the Big Five factors in our model we find the same pattern of statistically significant results. Specifically, the effect of ethnic dissimilarity on frustrated belonging ($\beta = .19, p = .02$) as well as the effects of frustrated belonging on satisfaction ($\beta = -.20, p < .01$) and class participation ($\beta = -.18, p < .01$) remain significant. Also, the indirect effects of ethnic dissimilarity on satisfaction ($\beta = -.04, p < .05$) and on class participation ($\beta = -.03, p < .05$) remain significant.

Results and Discussion

Descriptive statistics and correlations are reported in Table 2. Our data have a nested structure where six or seven students are clustered within each group. To deal with non-independence of responses by members of the same group, we conducted our analyses using the TYPE=COMPLEX command in Mplus 5.0 software (Muthén & Muthén, 2010). This analysis uses a sandwich estimator to produce accurate standard errors while accounting for the nested data structure.

Hypothesis 2 predicted that frustrated belonging mediates the relationship between ethnic dissimilarity and organizational attachment. We tested a path model estimating the indirect paths from ethnic dissimilarity to forms of organizational attachment via frustrated belonging whilst controlling for the direct paths from ethnic dissimilarity to organizational attachment. Our two measures of organizational attachment, satisfaction and class participation, were examined simultaneously (Preacher & Hayes, 2004; see Figure 3 for the theorized and estimated model). All control variables were entered as predictors of frustrated belonging, satisfaction, and class participation.

First, we found that ethnic dissimilarity was positively related to students' frustrated belonging ($\beta = .20, p = .01$) suggesting that group members who are more different from their group in terms of ethnicity reported greater belonging frustration. Along with our

finding from Study 1, this result supports our prediction that ethnic dissimilarity frustrates the belonging motive (Hypothesis 1).³

Second, we found that frustrated belonging was negatively related to satisfaction with the group ($\beta = -.19, p < .01$) and class participation ($\beta = -.16, p < .01$). Moreover, there was a negative and significant indirect effect of ethnic dissimilarity via frustrated belonging on satisfaction ($\beta = -.04, p = .03$) and class participation ($\beta = -.03, p = .04$) respectively, supporting Hypothesis 2.⁴ The direct effect of ethnic dissimilarity on satisfaction was non-significant ($\beta = .002, p = .98$), while the direct effect of ethnic dissimilarity on class participation was marginally significant and positive ($\beta = .13, p = .05$).

³ In addition to ethnic dissimilarity, we entered gender dissimilarity and age dissimilarity scores into the path analysis model to examine whether such demographic dissimilarity has comparable effects on frustrated belonging, satisfaction, and class participation. There was a marginal positive association between age dissimilarity and frustrated belonging ($\beta = .12, p = .06$), although the indirect effects of age dissimilarity on organizational attachment outcomes did not reach significance (the indirect effect on satisfaction, $\beta = -.02, p = .13$; the indirect effect on class participation, $\beta = -.02, p = .09$). In contrast, there was a non-significant association between gender dissimilarity and frustrated belonging. This may be due to the MBA program office's study group assignment policy, which ensures fairly balanced gender representation in the study groups. Consequently, despite some variance in gender dissimilarity at the individual level ($SD_{\text{gender dissimilarity}} = .12$), the gender dissimilarity in our groups might not have been large enough to cause belonging frustration. Moreover, gender dissimilarity was almost perfectly confounded with participants' own gender ($r = -.96$; Table 2), so the chances of finding a significant unique effect of gender dissimilarity, while controlling for participants' own gender, would be extremely unlikely.

⁴ The indirect effects of ethnic dissimilarity on satisfaction and class participation through frustrated belonging were also confirmed with bootstrapping analysis (Preacher & Hayes, 2008). Because TYPE=COMPLEX command does not allow bootstrapping, we bootstrapped the sampling distribution of the indirect effect without specifying the nested structure of our data. With 5000 Bootstrapped resamples, the estimated indirect effects of ethnic dissimilarity via frustrated belonging on satisfaction (-.15) and class participation (-.09) were significant with 95% Bias-Corrected Confidence Intervals excluding zero (CI for satisfaction -.36 to -.02; CI for class participation -.22 to -.02).

In sum, using a sample of real interacting groups and a different indicator of frustrated belonging from Study 1, Study 2 again finds that ethnic dissimilarity from one's group was associated with increased frustration of the belonging motive. Additionally, we find that through this increased frustrated belonging, ethnic dissimilarity indirectly predicted lower organizational attachment.

Supplementary analyses.

Moderating role of ethnicity. Past work on relational demography has, at times, found asymmetric effects for Anglo and non-Anglo participants' reactions to dissimilarity; sometimes Anglos may react more negatively to dissimilarity than non-Anglos (Chattopadhyay, 1999; Tsui et al., 1992) and at other times it may be the opposite (Avery, McKay, & Wilson, 2008; Liao et al., 2004; Riordan & Shore, 1997). We argue, however, that given how fundamental the need to belong is, anyone who feels different from their group along a salient dimension, irrespective of their ethnic group, will experience belonging frustration. To ascertain whether the influence of ethnic dissimilarity on belonging frustration was similar for both Anglos and non-Anglos, we tested post hoc whether ethnicity moderated the effect of ethnic dissimilarity on belonging, satisfaction, and participation. Consistent with our argument that ethnic dissimilarity has the same effects irrespective of ethnic group, the interactions were not approaching significance ($\beta =$

-.43, $p = .35$ for frustrated belonging, $\beta = .54$, $p = .37$ for satisfaction, $\beta = .33$, $p = .58$ for class participation).

Overall academic performance. In addition to class participation grades, we obtained data on students' overall academic performance (which includes scores for various exams, assignments, and class participation for the nine core courses in the 1st year MBA program) and tested the identical path analysis models in which class participation was replaced with academic performance. We estimated two alternative models, measuring academic performance either including or excluding class participation grades (see Appendix B). In both models, both the effect of frustrated belonging on academic performance and the indirect effect of ethnic dissimilarity on academic performance via frustrated belonging were statistically non-significant. Thus, although ethnic dissimilarity indirectly leads to lower engagement (i.e., class participation), it may not lower overall academic performance, replicating previous findings in school settings (Jones & Gerig, 1994).

General Discussion

Despite calls to examine more closely the underlying motives that may explain why dissimilar individuals struggle in groups (Lawrence, 1997; Riordan, 2000), few studies have done so. Moreover, little research has examined how motive frustrations may help to

explain members' reactions to being different from their group. Hence, our goal was to test the effect of demographic dissimilarity on the belonging and distinctiveness motives. In Study 1, we found evidence of a frustrated belonging motive such that Anglo participants made to feel dissimilar were more likely to marginalize aspects of their identities that did not offer a sense of belonging than Anglo participants made to feel similar. In contrast, participants did not show identity shift to alter their sense of distinctiveness, suggesting this motive was satisfied. In Study 2, we examined the effects of ethnic dissimilarity on belonging motive frustration within real interacting groups, and found that those who were dissimilar to their group in terms of ethnic background, irrespective of ethnicity (Anglo/non-Anglo), experienced a frustrated belonging motive. Moreover, we found that these group members felt less satisfied with their group membership and participated less in class, and these effects were mediated by their frustrated belonging.

Implications

The present findings have important theoretical implications. First, they contribute to the literature on demographic dissimilarity by elucidating the motivational mechanisms underlying demographically dissimilar members' experiences in groups. Although many studies on group diversity have investigated individual outcomes associated with being dissimilar to groups, the underlying processes that link dissimilarity to outcomes often have

been assumed and not directly studied (Lawrence, 1997; Riordan, 2000; van Knippenberg & Schippers, 2007). A few studies have examined such mechanisms by exploring cognitive mechanisms (Phillips & Loyd, 2006; Sommers et al., 2008) or focusing on motives such as self-esteem and uncertainty reduction (Chattopadhyay et al., 2004; Goldberg et al., 2010). Extending this research, our studies highlight that the belonging motive is affected by dissimilarity and consequently shapes dissimilar members' reactions.

Second, our research has implications for the literature on identity motives, specifically on belonging and distinctiveness. Although scholars view these two motives as essential for self-definition in relation to groups (Brewer, 1991; Hornsey & Jetten, 2004), no previous studies in our knowledge have looked at how they are frustrated or affirmed by demographic dissimilarity in small work groups. Our study shows that ethnic dissimilarity can frustrate belonging and consequently reduce members' attachment, thereby suggesting the importance of reaffirming belonging in groups. Conversely, ethnic dissimilarity did not affect members' distinctiveness motive, suggesting that their needs for distinctiveness were satisfied in dissimilar groups. Thus, our study presents how belonging and distinctiveness motives are differentially affected by dissimilarity in groups.

Additionally, the current study has methodological strengths that hopefully can stimulate future studies on motivated identity processes in groups. We used both

experimental and correlational survey designs, allowing us to be confident that our findings are not an artifact of a specific methodology. Also, in both Studies 1 and 2, we avoided using direct measures of motive frustration which may not effectively capture potentially unconscious or socially sensitive processes of belonging frustration (Apfelbaum et al., 2008; Breakwell, 1988; Trawalter et al., 2012). We addressed this potential issue by using an indirect measure of identity shift (Study 1) and a pictorial measure of IOS (Study 2). The use of identity shift particularly allowed us to capture a subtle but dynamic process of how group members change their self-definition seemingly to cope with frustrated motives. Future research should continue to explore such compensatory intrapsychic responses to frustrated motives and their possible impacts on individual and group outcomes.

Future Directions

Future research might extend our findings in several directions, transcending some limitations of the current studies. We focused here on ethnic dissimilarity. Clearly, other types of demographic, as well as deep-level, differences matter. We examined ethnicity as one instance of surface-level characteristics that group members easily use to categorize one another when differences are salient (Harrison et al., 1998). Thus, we expect that other readily observable demographics such as age and gender can also frustrate a group member's sense of belonging when these attributes become salient. As our data in Study 2

did not include enough variance to test this (see Footnote 4), future research can examine these other types of demographic dissimilarity in different settings, to test generalizability of our findings. Also, future research can look at whether being dissimilar on deep-level characteristics such as attitudes, values, beliefs, skills, and knowledge can also arouse belonging/distinctiveness motives in work groups.

Here, we focused on the experience of being highly dissimilar from one's group, for example, the experience of being dissimilar from every other member. Given that group composition in real organizations vary greatly, future research can explore how other patterns of difference affect the belonging and distinctiveness motives. For example, subgroups within groups may allow members to simultaneously satisfy both their needs for belonging and distinctiveness within the group (Hornsey & Hogg, 2000; Thatcher & Patel, 2012). Alternatively, being a minority member in an otherwise highly homogeneous group may heighten distinctiveness in an unfavorable way (Kanter, 1977).

Although we found that both Anglos and non-Anglos experienced belonging frustration when they were more ethnically dissimilar from their group, we acknowledge that the experience of being ethnically (dis)similar may be qualitatively different for the two groups. In particular, we assumed that non-Anglo participants could derive feelings of similarity not from being in a particular national/racial group, but from a shared identity

position of not being Anglo (i.e., being in non-Anglo category), which is often associated with comparative meaning such as low status within a context (Guillaume et al., 2014; Phinney, 1996). Future research should explore how non-Anglo group members derive a sense of belonging in dissimilar groups and how such sense of belonging affects their attitudes and behaviors in groups.

Our focus on dissimilarity rather than similarity raises a question of how being *similar* influences group members' motivational experiences. Notably, Study 1 found that ethnic similarity did not frustrate distinctiveness motive. This may seem to contradict past findings that similarity heightens people's desire to stand out (e.g., Fromkin, 1972). However, previous manipulations designed to undermine distinctiveness used rather extreme forms of similarity, such as participants' bogus test scores that very closely matched their fellow members' scores (Pickett et al., 2002; Pickett & Brewer, 2001). This is subjectively quite different from our manipulation where Anglo participants were asked to imagine working with all Anglo members. This is likely to be a fairly common occurrence in Britain and may not have been threatening. Indeed, past work suggests that Anglo individuals are less aware of their ethnic identity unless exposed to non-Anglo individuals because Anglo is the "norm" (Knowles & Peng, 2005; Perry, 2001, 2002). Future studies could examine other situations that make demographic similarity a salient

contextual feature, such as when working only with demographically similar group members in a demographically diverse organization.

Finally, future research should explore interventions to manage belonging frustration in dissimilar groups, which could work not only for non-Anglos but also for Anglos. Prior work indicates important ways for managing minority individuals' belonging frustration (e.g., non-Anglos' belonging concerns in achievement settings), such as altering the attributions one makes about belonging uncertainty (Walton & Cohen, 2007, 2011) and highlighting one's social belonging (Shnabel, Purdie-Vaughns, Cook, Garcia, & Cohen, 2013). Other research has explored the role of multiculturalism to reduce negative experiences of diversity (see Rattan & Ambady, 2013, for a review). Interestingly, some work indicates that the "inclusive" ideology of multiculturalism is not perceived as such by Anglos, suggesting that the purportedly inclusive message may not be able to address Anglos' potential belonging frustration (Plaut, Garnett, Buffardi, & Sanchez-Burks, 2011). Given that our findings suggest that both Anglos and non-Anglos experience belonging frustration when they are dissimilar from their group, future research should investigate the types of interventions that can foster belonging when someone is dissimilar from their group, irrespective of their ethnic background.

Despite these limitations, our work is the first to demonstrate that ethnic

dissimilarity in small groups frustrates the belonging motive, causing compensatory identity shift and a reduction in satisfaction and class participation. Identity motives seem, therefore, to play an important role in the dynamics of small groups.

References

- Apfelbaum, E. P., Sommers, S. R., & Norton, M. I. (2008). Seeing race and seeming racist? Evaluating strategic colorblindness in social interaction. *Journal of Personality and Social Psychology, 95*(4), 918-932. doi:10.1037/a0011990
- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology, 63*(4), 596-612. doi:10.1037/0022-3514.63.4.596
- Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review, 14*(1), 20-39. doi:10.5465/AMR.1989.4278999
- Avery, D. R., McKay, P. F., & Wilson, D. C. (2008). What are the odds? How demographic similarity affects the prevalence of perceived employment discrimination. *Journal of Applied Psychology, 93*(2), 235-249. doi:10.1037/0021-9010.93.2.235
- Barden, R. C., Garber, J., Leiman, B., Ford, M. E., & Masters, J. C. (1985). Factors governing the effective remediation of negative affect and its cognitive and behavioral consequences. *Journal of Personality and Social Psychology, 49*(4), 1040-1053. doi:10.1037/0022-3514.49.4.1040

Bauman, C. W., Trawalter, S., & Unzueta, M. M. (2014). Diverse according to whom?

Racial group membership and concerns about discrimination shape diversity judgments. *Personality and Social Psychology Bulletin*, *40*(10), 1354-1372.

doi:10.1177/0146167214543881

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal

attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3),

497-529. doi:10.1037/0033-2909.117.3.497

Bowlby, J. (1969). *Attachment and loss*. New York: Basic Books.

Breakwell, G. M. (1988). Strategies adopted when identity is threatened. *Revue*

Internationale De Psychologie Sociale, *1*, 189–203.

Brewer, M. B. (1991). The social self: On being the same and different at the same time.

Personality and Social Psychology Bulletin, *17*(5), 475-482.

doi:10.1177/0146167291175001

Burke, P. J. (1980). The self: Measurement requirements from an interactionist perspective.

Social Psychology Quarterly, *43*(1), 18-29. doi:10.2307/3033745

Caltech archive categories. (1999). *Frontal face dataset*. Retrieved from:

<http://www.vision.caltech.edu/html-files/archive.html>

CBCL, M. (2004). *Face recognition database*. Retrieved from:

<http://cbcl.mit.edu/software-datasets/heisele/facerecognition-database.html>.

Chatman, J. A., & Flynn, F. J. (2001). The influence of demographic heterogeneity on the emergence and consequences of cooperative norms in work teams. *Academy of Management Journal*, *44*(5), 956-974. doi:10.2307/3069440

Chatman, J. A., Polzer, J. T., Barsade, S. G., & Neale, M. A. (1998). Being different yet feeling similar: The influence of demographic composition and organizational culture on work processes and outcomes. *Administrative Science Quarterly*, *43*(4), 749-780. doi:10.2307/2393615

Chattopadhyay, P. (1999). Beyond direct and symmetrical effects: The influence of demographic dissimilarity on organizational citizenship behavior. *Academy of Management Journal*, *42*(3), 273-287. doi:10.2307/256919

Chattopadhyay, P., George, E., & Lawrence, S. A. (2004). Why does dissimilarity matter? Exploring self-categorization, self-enhancement, and uncertainty reduction. *Journal of Applied Psychology*, *89*(5), 892-900. doi:10.1037/0021-9010.89.5.892

Cooper, D., & Thatcher, S. M. B. (2010). Identification in organizations: The role of self-concept orientations and identification motives. *Academy of Management Review*, *35*(4), 516-538. doi:10.5465/AMR.2010.53502693

Costa, P. T., & McCrae, R. R. (1992). *Revised Neo Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.

Cox, T. H., Lobel, S. A., & McLeod, P. L. (1991). Effects of ethnic group cultural differences on cooperative and competitive behavior on a group task. *Academy of Management Journal*, *34*(4), 827-847. doi:10.2307/256391

Daniels, D. P., Neale, M. A., & Greer, L. L. (2017). Spillover bias in diversity judgment. *Organizational Behavior and Human Decision Processes*, *139*, 92-105. doi:10.1016/j.obhdp.2016.12.005

de Bonis, M., De Boeck, P., Lida-Pulik, H., & Feline, A. (1995). Identity disturbances and self-other differentiation in schizophrenics, borderlines, and normal controls. *Comprehensive Psychiatry*, *36*(5), 362-366. doi:10.1016/S0010-440X(95)90117-5

De Cremer, D., & Van Knippenberg, D. (2002). How do leaders promote cooperation? The effects of charisma and procedural fairness. *Journal of Applied Psychology*, *87*(5), 858-866. doi:10.1037/0021-9010.87.5.858

Deaux, K. (1992). Personalizing identity and socializing self. In G. M. Breakwell (Ed.), *Social psychology of identity and the self-concept* (pp. 9-33). London: Surrey University Press.

- Downey, G., & Feldman, S. I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology: Personality Processes and Individual Differences*, 70(6), 1327-1343. doi:10.1037/0022-3514.70.6.1327
- Elliott, D. S., & Voss, H. L. (1974). *Delinquency and dropout*. Lexington, MA: Lexington Books.
- Erdheim, J., Wang, M., & Zickar, M. J. (2006). Linking the big five personality constructs to organizational commitment. *Personality and Individual Differences*, 41(5), 959-970. doi:10.1016/j.paid.2006.04.005
- Farh, J.-L., Tsui, A. S., Xin, K., & Cheng, B.-S. (1998). The influence of relational demography and guanxi: The Chinese case. *Organization Science*, 9(4), 471-488. doi:10.1287/orsc.9.4.471
- Fromkin, H. L. (1972). Feelings of interpersonal undistinctiveness: An unpleasant affective state. *Journal of Experimental Research in Personality*, 6(2-3), 178-182.
- Goldberg, C. B., Riordan, C., & Schaffer, B. S. (2010). Does social identity theory underlie relational demography? A test of the moderating effects of uncertainty reduction and status enhancement on similarity effects. *Human Relations*, 63(7), 903-926. doi:10.1177/0018726709347158

- Guillaume, Y. R. F., Brodbeck, F. C., & Riketta, M. (2012). Surface- and deep-level dissimilarity effects on social integration and individual effectiveness related outcomes in work groups: A meta-analytic integration. *Journal of Occupational and Organizational Psychology*, 85(1), 80-115. doi:10.1111/j.2044-8325.2010.02005.x
- Guillaume, Y. R. F., Van Knippenberg, D., & Brodbeck, F. C. (2014). Nothing succeeds like moderation: A social self-regulation perspective on cultural dissimilarity and performance. *Academy of Management Journal*, 57(5), 1284-1308. doi:10.5465/amj.2013.0046
- Hancock, P. (2008). *Psychological image collection at stirling*. Retrieved from: <http://pics.psych.stir.ac.uk/>
- Harrison, D. A., Price, K. H., & Bell, M. P. (1998). Beyond relational demography: Time and the effects of surface- and deep-level diversity on work group cohesion. *Academy of Management Journal*, 41(1), 96-107. doi:10.2307/256901
- Hirschman, C. (2004). The origins and demise of the concept of race. *Population and Development Review*, 30(3), 385-415. doi:10.1111/j.1728-4457.2004.00021.x
- Hogg, M. A., & Terry, D. J. (2000). Social identity and self-categorization processes in organizational contexts. *Academy of Management Review*, 25(1), 121-140. doi:10.5465/AMR.2000.2791606

- Hom, P. W., & Xiao, Z. (2011). Embedding social networks: How guanxi ties reinforce Chinese employees' retention. *Organizational Behavior and Human Decision Processes*, 116(2), 188-202. doi:10.1016/j.obhdp.2011.06.001
- Hornsey, M. J., & Hogg, M. A. (2000). Assimilation and diversity: An integrative model of subgroup relations. *Personality and Social Psychology Review*, 4(2), 143-156. doi:10.1207/S15327957PSPR0402_03
- Hornsey, M. J., & Jetten, J. (2004). The individual within the group: Balancing the need to belong with the need to be different. *Personality and Social Psychology Review*, 8(3), 248-264. doi:10.1207/s15327957pspr0803_2
- Jackson, S. E., Brett, J. F., Sessa, V. I., Cooper, D. M., Julin, J. A., & Peyronnin, K. (1991). Some differences make a difference: Individual dissimilarity and group heterogeneity as correlates of recruitment, promotions, and turnover. *Journal of Applied Psychology*, 76(5), 675-689. doi:10.1037/0021-9010.76.5.675
- Jain, V., & Mukherjee, A. (2002). *Indian face database*. Retrieved from: <http://vis-www.cs.umass.edu/~vidit/IndianFaceDatabase/>
- Jenkins, R. (1994). Rethinking ethnicity: Identity, categorization and power. *Ethnic and Racial Studies*, 17(2), 197-223. doi:10.1080/01419870.1994.9993821

- Jones, M. G., & Gerig, T. M. (1994). Silent sixth-grade students: Characteristics, achievement, and teacher expectations. *The Elementary School Journal*, 169-182.
doi:10.1086/461797
- Joshi, A., Hui, L., & Jackson, S. E. (2006). Cross-level effects of workplace diversity on sales performance and pay. *Academy of Management Journal*, 49(3), 459-481.
doi:10.5465/AMJ.2006.21794664
- Kanter, R. M. (1977). Some effects of proportions on group life: Skewed sex ratios and responses to token women. *American Journal of Sociology*, 82(5), 965-990.
doi:10.1086/226425
- Knowles, E. D., & Peng, K. (2005). White selves: Conceptualizing and measuring a dominant-group identity. *Journal of Personality and Social Psychology: Personality Processes and Individual Differences*, 89(2), 223-241.
doi:<http://dx.doi.org/10.1037/0022-3514.89.2.223>
- Krippendorff, K. (2012). *Content analysis: An introduction to its methodology*. Beverly Hills, CA: Sage.
- Kuhn, M. H., & McPartland, T. S. (1954). An empirical investigation of self-attitudes. *American Sociological Review*, 19, 68-76. doi:10.2307/2088175

Langlois, J. H., Kalakanis, L., Rubenstein, A. J., Larson, A., Hallam, M., & Smoot, M.

(2000). Maxims or myths of beauty? A meta-analytic and theoretical review.

Psychological Bulletin, 126(3), 390-423. doi:10.1037/0033-2909.126.3.390

Lawrence, B. S. (1997). The black box of organizational demography. *Organization*

Science, 8(1), 1-22. doi:10.2307/2635225

Leary, M. R. (1990). Responses to social exclusion: Social anxiety, jealousy, loneliness,

depression, and low self-esteem. *Journal of Social and Clinical Psychology*, 9(2),

221-229. doi:10.1521/jscp.1990.9.2.221

Liao, H., Joshi, A., & Chuang, A. (2004). Sticking out like a sore thumb: Employee

dissimilarity and deviance at work. *Personnel Psychology*, 57(4), 969-1000.

doi:10.1111/j.1744-6570.2004.00012.x

Lynch, J. J. (1977). *The broken heart: The medical consequences of loneliness*. New York:

Basic Books.

Lynn, M., & Snyder, C. R. (2002). Uniqueness seeking. In C. R. Snyder & S. J. Lopez

(Eds.), *Handbook of positive psychology* (pp. 395-410). New York: Oxford

University Press.

Maddox, K. B., & Chase, S. G. (2004). Manipulating subcategory salience: exploring the link between skin tone and social perception of Blacks. *European Journal of Social Psychology, 34*(5), 533-546. doi:10.1002/ejsp.214

Mahoney, J. L., & Cairns, R. B. (1997). Do extracurricular activities protect against early school dropout? *Developmental Psychology, 33*(2), 241-253. doi:10.1037/0012-1649.33.2.241

Mannix, E., & Neale, M. A. (2005). What differences make a difference? *Psychological Science in the Public Interest, 6*(2), 31-55. doi:10.1111/j.1529-1006.2005.00022.x

Markus, H., & Kunda, Z. (1986). Stability and malleability of the self-concept. *Journal of Personality and Social Psychology, 51*(4), 858-866. doi:10.1037/0022-3514.51.4.858

Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective. *Annual Review of Psychology, 38*(1), 299-337.
doi:10.1146/annurev.psych.38.1.299

Maslow, A. H. (1968). *Toward a psychology of being*. New York: Van Nostrand.

McConnell, A. R. (2010). The multiple self-aspects framework: Self-concept representation and its implications. *Personality and Social Psychology Review, 15*, 3-27.
doi:10.1177/1088868310371101

- McConnell, E. D., & Delgado-Romero, E. A. (2004). Latino panethnicity: Reality or methodological construction? *Sociological Focus*, *37*(4), 297-312.
doi:10.1080/00380237.2004.10571248
- McLeod, P. L., Lobel, S. A., & Cox, T. H. (1996). Ethnic diversity and creativity in small groups. *Small Group Research*, *27*(2), 248-264. doi:10.1177/1046496496272003
- Murphy, M. C., Steele, C. M., & Gross, J. J. (2007). Signaling threat: How situational cues affect women in math, science, and engineering settings. *Psychological Science*, *18*(10), 879-885. doi:10.1111/j.1467-9280.2007.01995.x
- Muthén, L. K., & Muthén, B. O. (2010). *Mplus User's Guide: Statistical Analysis with Latent Variables: User's Guide*: Muthén & Muthén.
- Okamoto, D., & Mora, G. C. (2014). Panethnicity. *Annual Review of Sociology*, *40*, 219-239. doi:10.1146/annurev-soc-071913-043201
- Okamura, J. Y. (1981). Situational ethnicity. *Ethnic and Racial Studies*, *4*(4), 452-465.
doi:10.1080/01419870.1981.9993351
- Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology*, *45*(4), 867-872. doi:10.1016/j.jesp.2009.03.009

- Ormiston, M. E. (2016). Explaining the link between objective and perceived differences in groups: The role of the belonging and distinctiveness motives. *Journal of Applied Psychology, 101*(2), 222-236. doi:10.1037/apl0000051
- Ormiston, M. E., & Wong, E. M. (2008). To be enhanced, understood, distinct, or to belong? The role of multiple identity motives in homogeneous and diverse groups. In E. M. M. Neale & K. Phillips (Eds.), *Research on managing groups and teams: Diversity and groups* (pp. 167–193). Greenwich, CT: JAI Emerald.
- Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin, 102*(3), 357-389.
doi:10.1037/0033-2909.102.3.357
- Peeters, M. A. G., Rutte, C. G., van Tuijl, H. F. J. M., & Reymen, I. M. M. J. (2006). The big five personality traits and individual satisfaction with the team. *Small Group Research, 37*(2), 187-211. doi:10.1177/1046496405285458
- Perry, P. (2001). White means never having to say you're ethnic: White youth and the construction of "cultureless" identities. *Journal of Contemporary Ethnography, 30*(1), 56-91. doi:10.1177/089124101030001002
- Perry, P. (2002). *Shades of white: White kids and racial identities in high school*. Durham, NC: Duke University Press.

- Peterson, R. S. (1997). A directive leadership style in group decision making can be both virtue and vice: Evidence from elite and experimental groups. *Journal of Personality and Social Psychology*, 72(5), 1107-1121. doi:10.1037/0022-3514.72.5.1107
- Phillips, K. W., & Loyd, D. L. (2006). When surface and deep-level diversity collide: The effects on dissenting group members. *Organizational Behavior and Human Decision Processes*, 99(2), 143-160. doi:10.1016/j.obhdp.2005.12.001
- Phinney, J. S. (1996). When we talk about American ethnic groups, what do we mean? *American Psychologist*, 51(9), 918-927. doi:10.1037/0003-066X.51.9.918
- Pickett, C. L., Bonner, B. L., & Coleman, J. M. (2002). Motivated self-stereotyping: Heightened assimilation and differentiation needs result in increased levels of positive and negative self-stereotyping. *Journal of Personality and Social Psychology*, 82(4), 543-562. doi:10.1037/0022-3514.82.4.543
- Pickett, C. L., & Brewer, M. B. (2001). Assimilation and differentiation needs as motivational determinants of perceived in-group and out-group homogeneity. *Journal of Experimental Social Psychology*, 37(4), 341-348. doi:10.1006/jesp.2000.1469

- Plaut, V. C., Garnett, F. G., Buffardi, L. E., & Sanchez-Burks, J. (2011). "What about me?" Perceptions of exclusion and Whites' reactions to multiculturalism. *Journal of Personality and Social Psychology: Interpersonal Relations and Group Processes*, *101*(2), 337-353. doi:10.1037/a0022832
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, *36*(4), 717-731. doi:10.3758/bf03206553
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*(3), 879-891. doi:10.3758/brm.40.3.879
- Rakić, T., Steffens, M. C., & Mummendey, A. (2011). Blinded by the accent! The minor role of looks in ethnic categorization. *Journal of Personality and Social Psychology: Attitudes and Social Cognition*, *100*(1), 16-29. doi:10.1037/a0021522
- Rattan, A., & Ambady, N. (2013). Diversity ideologies and intergroup relations: An examination of colorblindness and multiculturalism. *European Journal of Social Psychology*, *43*(1), 12-21. doi:10.1002/ejsp.1892
- Raudenbush, S. W., Bryk, A. S., & Congdon, R. (2002). *Hierarchical linear modeling: Applications and data analysis methods*. Thousand Oaks, CA: Sage Publications.

- Riordan, C. M. (2000). Relational demography within groups: Past developments, contradictions, and new directions. In K. M. Rowland & G. R. Rerris (Eds.), *Research in personnel and human resources management* (Vol. 19, pp. 131-173). Greenwich, CT: JAI.
- Riordan, C. M., & Shore, L. M. (1997). Demographic diversity and employee attitudes: An empirical examination of relational demography within work units. *Journal of Applied Psychology*, 82(3), 342-358. doi:10.1037/0021-9010.82.3.342
- Schubert, T. W., & Otten, S. (2002). Overlap of self, ingroup, and outgroup: Pictorial measures of self-categorization. *Self & Identity*, 1(4), 353-376.
doi:10.1080/152988602760328012
- Seidman, G. (2013). Self-presentation and belonging on Facebook: How personality influences social media use and motivations. *Personality and Individual Differences*, 54(3), 402-407. doi:10.1016/j.paid.2012.10.009
- Sheldon, K. M., & Bettencourt, B. A. (2002). Psychological need-satisfaction and subjective well-being within social groups. *British Journal of Social Psychology*, 41, 25-38. doi:10.1348/014466602165036
- Shnabel, N., Purdie-Vaughns, V., Cook, J. E., Garcia, J., & Cohen, G. L. (2013). Demystifying values-affirmation interventions: Writing about social belonging is a

key to buffering against identity threat. *Personality and Social Psychology Bulletin*, 39(5), 663-676. doi:10.1177/0146167213480816

Shore, L. M., Randel, A. E., Chung, B. G., Dean, M. A., Holcombe Ehrhart, K., & Singh, G. (2011). Inclusion and diversity in work groups: A review and model for future research. *Journal of Management*, 37(4), 1262-1289.

doi:10.1177/0149206310385943

Snyder, C. R., & Fromkin, H. L. (1980). *Uniqueness: The human pursuit of difference*.

New York: Plenum.

Sommers, S. R., Warp, L. S., & Mahoney, C. C. (2008). Cognitive effects of racial diversity: White individuals' information processing in heterogeneous groups. *Journal of Experimental Social Psychology*, 44(4), 1129-1136.

doi:10.1016/j.jesp.2008.01.003

Stillman, T. F., Baumeister, R. F., Lambert, N. M., Crescioni, A. W., DeWall, C. N., & Fincham, F. D. (2009). Alone and without purpose: Life loses meaning following social exclusion. *Journal of Experimental Social Psychology*, 45(4), 686-694.

doi:10.1016/j.jesp.2009.03.007

- Tajfel, H. T., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA: Brooks/Cole.
- Tajfel, H. T., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7-24). Chicago: Nelson-Hall.
- Tesser, A., Crepaz, N., Collins, J. C., Cornell, D., & Beach, S. R. H. (2000). Confluence of self-esteem regulation mechanisms: On integrating the self-zoo. *Personality and Social Psychology Bulletin*, 26(12), 1476-1489. doi:10.1177/01461672002612003
- Thatcher, S. M. B., & Patel, P. C. (2012). Group faultlines: A review, integration, and guide to future research. *Journal of Management*, 38(4), 969-1009. doi:10.1177/0149206311426187
- Thau, S., Aquino, K., & Poortvliet, P. M. (2007). Self-defeating behaviors in organizations: The relationship between thwarted belonging and interpersonal work behaviors. *Journal of Applied Psychology*, 92(3), 840-847. doi:10.1037/0021-9010.92.3.840
- Thomaz, C. E. (2006). FEI face database.
- Trawalter, S., Adam, E. K., Chase-Lansdale, P. L., & Richeson, J. A. (2012). Concerns about appearing prejudiced get under the skin: Stress responses to interracial contact

- in the moment and across time. *Journal of Experimental Social Psychology*, 48(3), 682-693. doi:10.1016/j.jesp.2011.12.003
- Tsui, A. S., Egan, T. D., & O'Reilly, C. A. (1992). Being different: Relational demography and organizational attachment. *Administrative Science Quarterly*, 37(4), 549-579. doi:10.2307/2393472
- Tsui, A. S., Egan, T. D., & Porter, L. W. (1994). *Performance implications of relational demography in vertical dyads*. Paper presented at the the annual meeting of the Academy of Management, Dallas.
- Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A social categorization theory*. New York: Basil Blackwell.
- van Knippenberg, D., & Schippers, M. C. (2007). Work group diversity. *Annual Review of Psychology*, 58, 515-541. doi:10.1146/annurev.psych.58.110405.085546
- Vignoles, V. L. (2004). Modelling identity motives using multilevel regression. In G. M. Breakwell (Ed.), *Doing social psychology research* (pp. 174-204). Oxford, United Kingdom: Blackwell.
- Vignoles, V. L. (2011). Identity motives. In K. L. Schwartz & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 403-432). New York: Springer.

- Vignoles, V. L. (2014). Quantitative approaches to researching identity processes and motivational principles. In R. Jaspal & G. M. Breakwell (Eds.), *Identity process theory: Identity, social action, and social change* (pp. 65-94). Cambridge, UK: Cambridge University Press.
- Vignoles, V. L., Chrysoschoou, X., & Breakwell, G. M. (2000). The distinctiveness principle: Identity, meaning, and the bounds of cultural relativity. *Personality and Social Psychology Review*, 4(4), 337-354. doi:10.1207/s15327957pspr0404_4
- Vignoles, V. L., Regalia, C., Manzi, C., Gollledge, J., & Scabini, E. (2006). Beyond self-esteem: Influence of multiple motives on identity construction. *Journal of Personality and Social Psychology*, 90(2), 308-333. doi:10.1037/0022-3514.90.2.308
- Walton, G. M., & Cohen, G. L. (2007). A question of belonging: Race, social fit, and achievement. *Journal of Personality and Social Psychology*, 92(1), 82-96. doi:10.1037/0022-3514.92.1.82
- Walton, G. M., & Cohen, G. L. (2011). A brief social-belonging intervention improves academic and health outcomes of minority students. *Science*, 331(6023), 1447-1451. doi:10.1126/science.1198364

Wong, J., Ramakrishnan, S. K., Lee, T., & Junn, J. (2011). *Asian American political participation: Emerging constituents and their political identities*. New York: Russell Sage Foundation.

Zimmerman, R. D. (2008). Understanding the impact of personality traits on individuals' turnover decisions: A meta-analytic path model. *Personnel Psychology*, *61*(2), 309-348. doi:10.1111/j.1744-6570.2008.00115.x

Table 1

Descriptive statistics and correlations between Level-1 (within persons) variables (N = 640 identity aspects) for perceived centrality and motive satisfaction ratings (Study 1)

Variables	<i>M</i>	<i>SD</i>	1	2	3	4
1. Post-centrality	4.41	1.87	--	.44**	.23**	.30**
2. Pre-centrality	5.07	1.61	.57**	--	.40**	.51**
3. Belonging	3.85	1.90	.30**	.45**	--	.20**
4. Distinctiveness	4.07	1.86	.37**	.53**	.27**	--

Note. Values below diagonal use raw pre-centrality and motive ratings. Values above diagonal use participant-mean centered ratings. * $p < .05$. ** $p < .01$.

Table 2
Descriptive statistics and correlations between study variables (Study 2)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Age	28.62	2.56	--														
2. Gender (Male = 1)	.66	.47	.16**	--													
3. Ethnic background	.21	.41	-.06	-.01	--												
4. Group size (0 = six members, 1 = seven members)	.38	.49	-.01	.02	-.04	--											
5. Ethnic dissimilarity	.50	.25	-.08	.00	.73**	-.10	--										
6. Age dissimilarity	3.18	1.34	.31**	-.03	.00	-.09	.01	--									
7. Gender dissimilarity	.65	.12	-.15**	-.96**	.01	-.07	.01	.03	--								
8. Openness	3.53	.35	-.01	-.21**	.08	.09	.04	.05	.20**	(.85)							
9. Conscientiousness	3.74	.40	.01	-.01	-.02	.00	.05	.06	-.02	.02	(.91)						
10. Extraversion	3.62	.37	-.07	-.01	.09	-.01	.04	-.06	.01	.38**	.17**	(.88)					
11. Agreeableness	3.41	.34	-.04	-.14**	-.06	-.08	.00	.07	.13*	.14**	.19**	.09	(.86)				
12. Neuroticism	2.60	.40	-.08	-.19**	-.04	.03	-.09	-.02	.18**	-.07	-.39**	-.30**	-.22**	(.89)			

13. Frustrated belonging	1.40	1.22	.12*	-.06	-.04	-.04	.05	.14**	.07	-.04	-.08	-.03	-.02	.05	--		
14. Satisfaction	6.09	.94	-.05	-.02	-.08	-.14*	-.06	-.11*	.01	.06	.08	.10	.18**	-.08	-.20**	(.94)	
15. Class participation	.00	.63	-.03	.03	.21**	-.09	.21**	.05	-.03	.11*	.08	.10	.07	-.09	-.17**	.05	(.80)

Note. $N = 363$. Cronbach's alpha coefficients are in parentheses along the diagonal. * $p < .05$. ** $p < .01$.

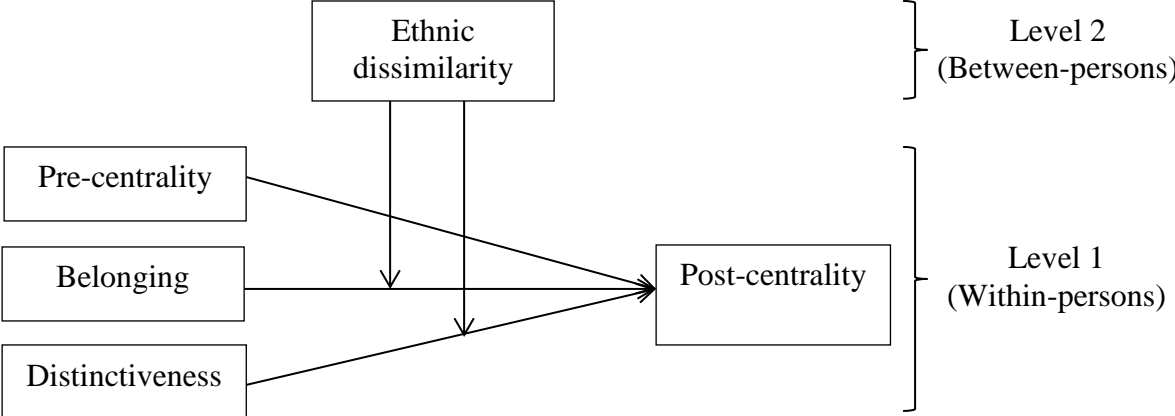


Figure 1. Analytical model (Study 1). For the sake of presentation, the main effect of ethnic dissimilarity on post-centrality is not depicted.

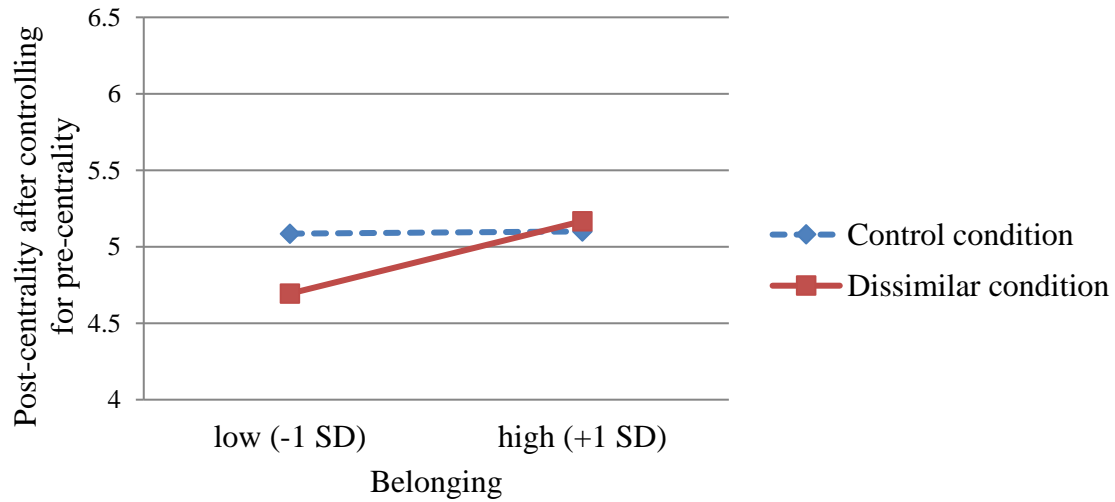


Figure 2. Plot of the cross-level moderating effect of ethnic dissimilarity in the relationship between belonging and post-centrality ratings of identity aspects, estimated at the participant mean values of pre-centrality and distinctiveness (Study 1).

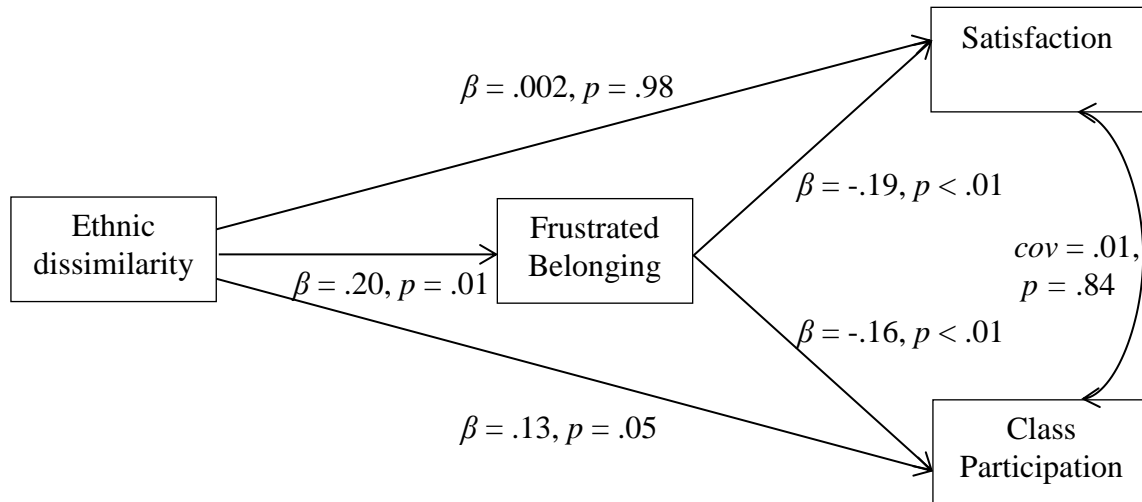


Figure 3. Analytical model and parameter estimates (Study 2).

Note. $N = 363$. Indirect effect from ethnic dissimilarity to satisfaction via frustrated belonging: $-.04, p = .03$; Indirect effect from ethnic dissimilarity to class participation via frustrated belonging: $-.03, p = .04$

For the sake of presentation, paths from control variables (i.e., ethnic background, gender, age, gender dissimilarity, age dissimilarity, group size, and Big Five personality traits – agreeableness, openness, conscientiousness, neuroticism, and extraversion) are not depicted.

Appendix A

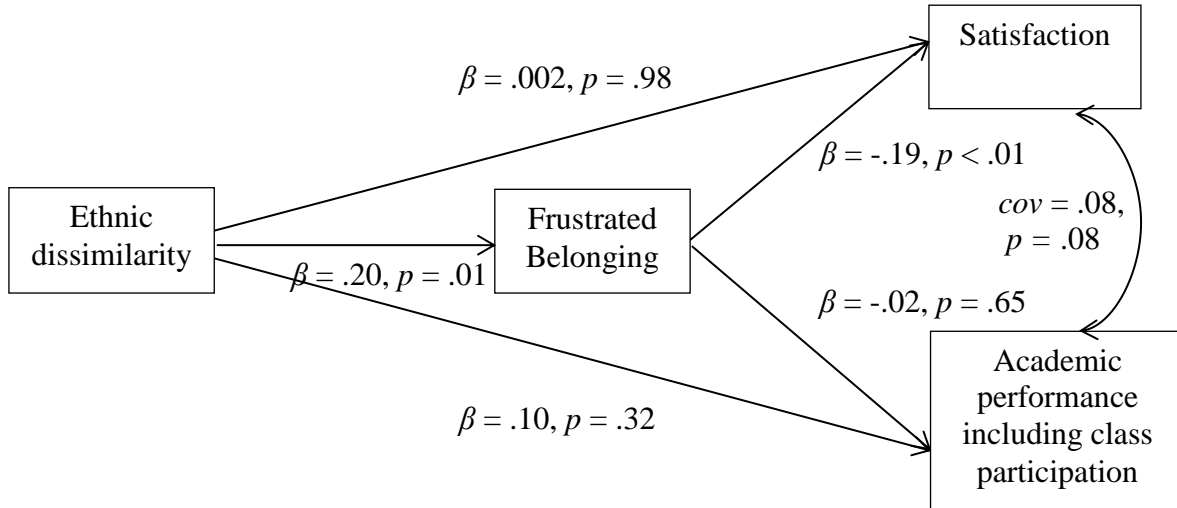
Items used for identity aspect ratings in Study 1 (adapted from Vignoles et al, 2006)

Construct	Question
Perceived Centrality (two items)	How much do you see this aspect of yourself as central or marginal to your identity? ^a How important is this aspect of yourself in defining who you are? ^b
Belonging	How much does this aspect of yourself make you feel close to other people? ^b
Distinctiveness	How much do you feel that this aspect of yourself distinguishes you from other people? ^b

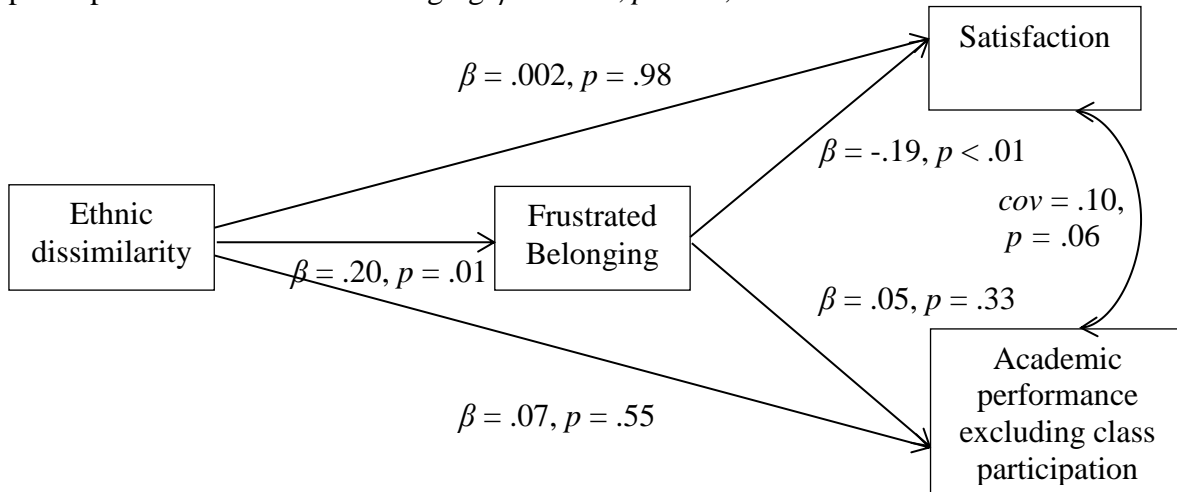
Note. ^a Rated on a 7-point Likert scale (1 = very much marginal, 7 = very central). ^b Rated on a 7-point Likert scale (1 = not at all, 7 = very much).

Appendix B

Supplementary analysis: Path analysis model with academic performance



Note. Indirect effect from ethnic dissimilarity to academic performance including class participation via frustrated belonging: $\beta = -.004, p = .66, N = 363$



Note. Indirect effect from ethnic dissimilarity to academic performance excluding class participation via frustrated belonging: $\beta = .01, p = .38, N = 363$