**Different Groups, Different Motives: Identity Motives Underlying Changes In Identification With Novel Groups.**

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**Abstract**

Social identity research has consistently shown that identifying with social groups has wide-reaching implications, yet, there is little consensus about what motivates people to do so. We integrate motivated identity construction theory with recent research into social identity to develop new predictions about which motives predict changes in participants’ identification with two types of groups: interpersonal networks and social categories. We investigated social identity processes among 268 new university residents in a longitudinal study across five time points. As expected, multilevel analyses showed that motives involved especially in identity enactment processes—self-esteem, belonging and efficacy—significantly predicted within-person changes in participants’ identification with their interpersonal network group of flatmates. In contrast, motives involved especially in identity definition processes—meaning, self-esteem, and distinctiveness—significantly predicted within-person changes in participants’ identification with their halls of residence, an abstract social category. We discuss the implications for research into identity motives and social identity.

**Key words***:* Identity motives, Social identity, Social groups, Types of groups, Identity enactment, Identity definition, Motivation, Motivated identity construction, Social categories, Interpersonal networks, Multilevel modelling.

**Introduction**

Social psychologists have known for a long time that people’s memberships in social groups can become part of their self-concept and consequently influence how they see themselves and the world. For example, identification with a social group has been shown to affect cognitions (e.g. Pickett, Silver, & Brewer, 2002; Sherman, Castelli, & Hamilton, 2002), affective evaluations (e.g. Brewer, 1999; Prentice, Miller, & Lightdale, 1994), and behaviour (e.g. Livingstone, Haslam, Postmes, & Jetten, 2011; Steinel et al., 2010), and more recent evidence has demonstrated the large benefits to psychological health that can be gained by identifying with social groups (e.g. Haslam et al., 2010). Given these wide reaching effects, it is vitally important to get a clear understanding of the underlying motivations that are involved when people identify with social groups.

Here, we investigate the *processes* involved when people identify with social groups. Specifically, we examine how within-person changes over time in the satisfaction of six *identity motives* predict concurrent changes in social identification with two novel social groups. Furthermore, by integrating motivated identity construction theory (Vignoles, 2011) with recent research into social identification (e.g., Amiot, Terry, Wirawan, & Grice, 2010; Johnson et al., 2006), we propose that there are different identity motives involved in identifying with interpersonal network groups compared to more abstract social categories, reflecting the different identity processes that are involved. We test these predictions in the context of a 5-wave longitudinal study into new students’ identification with their flat­­—an interpersonal network group—and their halls of residence—an abstract social category.

**Identity motives and social identification**

Social identity theorists have proposed a variety of motivations that may be involved in identification with groups. For example, a key premise of Tajfel and Turner’s (1979) social identity theory is that groups strive for a sense of positive distinctiveness, which researchers have understood subsequently to reflect motives for self-esteem and distinctiveness (Abrams & Hogg, 1988; Spears, 2011). Brewer’s (1991) optimal distinctiveness theory suggests that people identify with groups to satisfy basic motivations for inclusion and distinctiveness, whereas Hogg’s (2000) uncertainty-identity theory proposes that the need for subjective meaning motivates identification with groups. Other theorists have suggested that people are motivated to construct identities that provide continuity between their past, present, and future, (Chandler, Lalonde, Sokol, & Hallett, 2003; Sani et al., 2007) and that give them feelings of efficacy or mastery over their environment (Breakwell, 1993).

**Motivated Identity Construction Theory.**

Motivated identity construction theory (MICT, Vignoles, 2011) takes a holistic approach to identity processes by incorporating this diverse range of motives into a unified theory. MICT proposes that, beyond basic needs such as water, food, and security, people have other, more psychological needs called *identity motives*. Identity motives differ from basic human needs in that they are psychological motivations that predispose people towards *seeing themselves* in certain ways. According to MICT, those aspects of one’s identity that best satisfy these motivations are seen as more central to self-definition, arouse more positive affect, and are behaviourally enacted more often, compared to those aspects of one’s identity that frustrate the same motives (Vignoles, Regalia, Manzi, Golledge, & Scabini, 2006).

Vignoles and colleagues (2006, 2011) have shown that people are motivated to construct identities that give them a sense that their life is meaningful (the meaning motive); that distinguish them from others (the distinctiveness motive); that connect their past, present and future identities across time (the continuity motive); that allow them to see themselves in a positive way (the self-esteem motive); that give them a sense of inclusion or acceptance by important others (the belonging motive); and that make them feel competent and capable of influencing their environment (the efficacy motive). [[1]](#endnote-1) These motives have been found to influence identity construction at individual, relational, and group levels of self-representation (Vignoles et al., 2006) and across a range of cultures (Vignoles et al., 2011).

However, an important finding is that these motives are differentially relevant to different identity processes. Following Reicher (2000), Vignoles (2011) distinguishes between processes of identity definition and identity enactment: *Identity definition* refers to the mainly cognitive processes of defining oneself as a symbolic object with particular characteristics and descriptive labels, whereas *identity enactment* refers to the processes of behaviourally acting out aspects of one’s identity. Using a cross-lagged longitudinal design, Vignoles et al. (2006, Study 4) found that identity definition was directly influenced by the motives for meaning, distinctiveness, continuity, and self-esteem, with people placing the greatest importance within their self-definitions on aspects of their identity that best satisfied these motives. In contrast, identity enactment was directly influenced by the motives for self-esteem, belonging, and efficacy, and participants reported enacting more in their everyday behaviours those aspects of their identity that best satisfied these particular motives.

We propose that the theoretical framework of MICT and the concept of identity motives are particularly well suited for the study of social identification for several reasons. As noted above, MICT integrates predictions from several established theories of the motivations underlying social identification. Furthermore, identifying with a social group is essentially an identity process where group memberships become assimilated into one’s self-concept (Amiot, de la Sablonnière, Terry, & Smith, 2007; Tajfel & Turner, 1979) and hence influence people’s behaviour (e.g. Postmes, Haslam, & Swaab, 2005). Thus, motives that have consistently been shown to influence identity construction processes seem particularly appropriate concepts for the study of identification. Moreover, the six identity motives have been shown to influence identity processes at the group level of self-representation (Vignoles et al., 2006, Study 2), suggesting that people will identify most strongly with group memberships that best satisfy the motives, whereas they will identify less, if at all, with group memberships that frustrate the same motives. Although we do not claim that identity motives are the only important construct to study when predicting social identity change, there is a good theoretical and empirical basis for applying MICT to the study of social identification.

We aim to address several limitations of the extant research into MICT. Firstly, whereas identity motives have been shown to influence identity processes associated with existing identity elements (Vignoles et al., 2006) and possible desired and feared future identities (Vignoles, Manzi, Regalia, Jemmolo, & Scabini, 2008), no previous research has investigated the motives’ applicability to the assimilation of *new* identities into one’s self-concept. The assimilation of new social identities into one's self-concept is a particularly important area of study, as identification with new social groups can act as a buffer against the negative psychological consequences of life transitions (Iyer, Jetten, Tsivrikos, Postmes, & Haslam, 2009). Secondly, previous studies have shown that the six motives predict within-person variation in the relative importance of multiple aspects of identity in both cross-sectional and time-lagged analyses (Vignoles et al., 2006), but no study has investigated their ability to predict the process of within-person change in identification with the same identity aspect across multiple time points, something which is seen as essential to the study of identity processes (see Amiot et al., 2007, 2010).

**Research from other perspectives.**

Beyond MICT, a handful of studies have focused on which motives or needs social group memberships can satisfy, and the consequences for the group members. Bettencourt and Sheldon (2001) showed that groups can satisfy needs for competence and social connectedness, and that people who best satisfy these needs from their group memberships display greater subjective and psychosocial well-being. Similarly, Iyer and Jetten (2011) found that people can gain self-continuity from their social identities and that this may lead to positive psychological effects. Others have shown that group members with high collective self-esteem show greater psychological adjustment to a life transition (Bettencourt, Charlton, Eubanks, Kernahan, & Fuller, 1999). These studies suggest that group memberships can satisfy the motives for continuity, self-esteem, belonging, and efficacy and highlight the psychological benefits that can be gained from this. However, most research in this area focuses only upon one or two motives, and results may therefore be confounded by the influence of the other, unmeasured motives, which previous research has shown can be quite strongly related to each other (Vignoles et al., 2006, Table 2). Moreover, most studies focus on single group memberships, preventing any conclusions about how the influence of the motives may differ in different social contexts (for an exception see Johnson et al., 2006, reviewed below). Most crucially, none of these studies addressed questions regarding the motivations underlying group identification.

Amiot and colleagues (2010) provide perhaps the most direct test of the influence of psychological needs on social identification. Using a time-lagged design, they investigated the within-person identity processes that occur over time by assessing if the satisfaction of needs for autonomy, competence, and relatedness predicted changes in participants’ identification with both a university and an on-line gaming community. Need satisfaction positively predicted within-person change in social identification with both groups over a 3-4 month period. Although this research clearly shows that psychological need satisfaction is involved in social identification processes, Amiot and colleagues use a composite measure of need satisfaction, collapsing together satisfaction of the three hypothesized needs into a single score for each participant. This makes it impossible to establish which specific needs were involved in identification, or whether this differed between different groups. Furthermore, Amiot and colleagues first measured participants’ identification with their university within the first 2 months of the new academic term, and identification with the on-line gaming community within the first 3 months of its opening. Research has shown that identification can change meaningfully over time scales between 2-3 months (Jetten, Iyer, Tsivrikos, & Young, 2008; Vignoles et al., 2006), hence, by the time participants completed the measures they may have already assimilated these social identities into their self-concepts; the initial stages of identification may have already passed. We sought to address these issues within the design of our study by measuring satisfaction of the six identity motives separately along with identification levels across multiple time points.

**Different motives underlying identification with different groups**

We also sought to address another important issue upon which MICT has been silent previously. Although identity motives have been applied to identity processes operating at the group level of self-representation (Vignoles et al., 2006, Study 2), the conceptions, dynamics, and functions of groups can be diverse (Hamilton & Sherman, 1996; Lickel, Hamilton, Lewis, Sherman, & Uhles, 2000; Prentice et al., 1994). A distinction is often made in the psychological literature between interpersonal network groups (or common bond groups) and social categories (or common identity groups), and it has been argued that different identity processes are involved in identification and attraction to these different groups (e.g. Deaux & Martin, 2003; Stets & Burke, 2000).

Social categories are mainly founded upon shared characteristics. These shared characteristics are the basis of perceiving people as similar or connected in some important respects, and thus as part of the same category, but different from members of other, related categories (Deaux & Martin, 2003; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). These types of groups are often both abstract and sparse, such as nationality or political affiliation, with most members rarely, if ever, coming into close contact. Theorists have argued that social categories offer people a meaningful cognitive self-definition, providing distinguishing characteristics, social norms, and a sense of self-esteem and historical continuity (Deaux & Martin, 2003; Stets & Burke, 2000). This implies that identifying with social categories may be based upon the extent to which the category membership satisfies the more symbolically-focused motives associated with identity definition processes; meaning, distinctiveness, continuity, and self-esteem (see Vignoles, 2011).

It has been suggested that these motives are involved in both the process of defining the self and identifying with social categories. Following from social identity theory (Tajfel & Turner, 1979), researchers have argued that strivings for self-esteem (Abrams & Hogg, 1988) and distinctiveness (Brewer, 1991) motivate people to identify with social categories, and research has demonstrated that people both seek out and identify with social categories that are both distinctive (Brewer & Pickett, 1999; Vignoles et al., 2006) and positively valued (e.g. see Bettencourt et al., 1999). Other theorists have argued that some sense of continuity across time is necessary for a coherent and meaningful identity (Chandler et al., 2003; Taylor, 1989; Wiggins, 2001), and research has suggested that collective continuity is important for groups (Sani et al., 2007). Consistent with the view people strive for a sense of subjective meaning in their self-definitions (Baumeister, 1991; Heine, Proulx, & Vohs, 2006; Proulx & Heine, 2007), research has shown that people gain subjective meaning and reduce self-uncertainty by identifying with social groups (Hogg, 2000; Hogg, Siegel, & Hohman, 2011). Thus, people seem to define who they are in part through their social category memberships, identifying most with those social categories that best satisfy the motives for meaning, distinctiveness, continuity, and self-esteem.

In contrast, other groups can be seen as interpersonal network groups, which are based mainly upon the social interactions among the group members, rather than upon a shared self-definition. Theorists argue that these groups provide their members with a context within which to *enact* their identities by performing social roles and interacting with other group members (Deaux & Martin, 2003; Stets & Burke, 2000; Stryker, 1980). Newly formed interpersonal network groups often lack a well-defined group identity, so that group members only come to see themselves as a group and share a common social identity through their behavioural interactions (Postmes, Spears, Lee & Novak, 2005). This suggests that identity enactment processes are primarily involved when people first identify with an interpersonal network group, and thus people’s identification with network groups may be based upon the extent to which they satisfy the more behaviourally-focused motives for self-esteem, belonging, and efficacy (see Vignoles, 2011).

These motives do indeed seem to be involved in the identity enactment processes implicated in interpersonal network groups. Self-presentation research suggests that people strive to gain feelings of self-esteem through social interactions (Schlenker, 2003), and sociological research suggests that self-esteem is achieved through people’s behavioural enactments of their roles within small, interpersonal groups (Burke & Stets, 1999; Stets & Burke, 2000). Self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000) suggests that the needs for relatedness and competence—similar concepts to belonging and efficacy—are satisfied through people’s behaviour, with others arguing that both belonging (Baumeister & Leary, 1995; Bettencourt & Sheldon, 2001) and efficacy (Burke & Stets, 1999; De Vries, Dijkstra, & Kuhlman, 1988; Stets & Burke, 2000) can be satisfied through the performance of social roles within interpersonal networks. Furthermore, people commit more strongly to groups that provide them with greater feelings of interpersonal relatedness, a concept synonymous with belonging (Sheldon & Bettencourt, 2002). It seems, then, that identity enactment processes operate within interpersonal network groups, and it may be the case that people come to identify most with interpersonal networks within which they can best satisfy the motives associated with this process: self-esteem, belonging, and self-efficacy.

More direct evidence that different groups satisfy different psychological needs is provided through a series of four studies by Johnson and colleagues (2006). In the first two studies, participants rated social category memberships as satisfying what Johnson and colleagues' called ‘identity needs’; a composite of the motives for distinctiveness and meaning described above. In contrast, memberships within intimacy groups and task groups—two forms of interpersonal network groups—were rated respectively as satisfying needs similar to belonging (acceptance, comfort, belonging, and support needs) and efficacy (achievement, success, accomplish goals, and mastery needs). Two further studies found that participants made these links implicitly, and that priming the different needs led participants to freely list a greater proportion of the associated group type. Johnson and colleagues’ clearly demonstrate that people associate different types of needs with different types of groups, but did not measure the motives for self-esteem or continuity, preventing conclusions about the roles these motives play in different types of groups. Furthermore, in all but the first study, they did not distinguish between the needs for distinctiveness and subjective meaning, ignoring the possibility that these needs may be implicitly related to different types of groups, or that priming these two needs may lead to different effects. Crucially, participants’ identification with the various groups was not measured, preventing any conclusion about the relationship between identification and psychological need satisfaction.

We sought to address the limitations of this research and to test our theoretical perspective within our study design. We measured participants’ identification with a social category and an interpersonal network group together with the satisfaction of each of the six identity motives associated with each group, allowing us to draw specific conclusions regarding which motives are involved in identification with which type of group. We predicted that within-person changes in identification with a social category will be based especially upon concurrent changes in how much the category membership satisfies the motives associated with identity definition—meaning, self-esteem, continuity, and distinctiveness. In contrast, within-person changes in identification with an interpersonal network group will be based especially upon concurrent changes in how much the behavioural interactions between the group members satisfy the motives associated with identity enactment—self-esteem, belonging, and efficacy (see figure 1).

**The current study**

Previous research has shown that the transition that many students go through at the beginning of their university studies is an excellent opportunity to investigate identity processes (e.g. Jetten et al., 2008; Ruble & Seidman, 1996). To test our theoretical perspective, we chose to study aspects of students’ university life that represented interpersonal network groups—students’ groups of flatmates—and social categories—students’ halls of residence.

We conducted our research at a campus university in the south of England with guaranteed accommodation on campus for first-year undergraduates and postgraduates numbering just under 3,500. There are several different halls of residence, ranging in structure, location, quality, and cost, and each has developed its own reputation and atmosphere over the years; some being renowned as lively and friendly, others as quiet and reserved. All residences are large, and, especially at the beginning of a new academic year, it is highly unlikely that all residents will know each other. Nonetheless, different residences have clearly defined shared identities derived from their historical reputation, and thus can be seen as abstract social categories within the university context.

The flat that one lives in is also likely to influence students’ experiences, with many students sharing accommodation with peers for the first time. For some, their flatmates will become their primary friendship group; for others, flatmates may be of little importance. However, the flats do not have any pre-existing reputations or shared identities, and thus the flat that a student lives in can be seen as a novel interpersonal network group whose identity will be based upon the members’ behavioural interactions[[2]](#endnote-2).

The data collection period covered the whole of the 10-week-long first term of the new academic year, keeping the study period within a meaningful length of time within the study’s context and avoiding any influence of the students returning to their pre-university accommodation during the Christmas break. The first time wave of data collection was completed within the first two weeks of term; much earlier than previous research in this area (e.g. Amiot et al., 2007), allowing us to investigate the initial stages of social identification and the influence of the motives on identification with *novel* groups. Identity processes have been shown to operate over the time frame of the study (Amiot et al., 2010; Jetten et al., 2008; Vignoles et al., 2006), and our use of five discrete time points over this period enables us to investigate the process of within-person change in social identification across time. This is a major advantage that allows us to go beyond previous cross-sectional (e.g. Johnson et al., 2006) and cross-lagged (e.g. Amiot et al., 2010; Vignoles, et al., 2006) designs to directly test our theoretical perspective that changes in the satisfaction of identity motives associated with particular group memberships will predict concurrent changes in identification with those groups. The longitudinal design allows us to investigate this as a process occurring both within people and across multiple time points.

One interesting feature of this research design is the relationship between the two identities; flats are nested within the residences. Self-categorisation theory (Turner et al., 1987) proposes that all but the most inclusive and exclusive social identities have sub- and super-ordinate social identities, and previous research has shown that these identities can influence each other in meaningful ways (Cinnirella, 1997; Hornsey & Hogg, 2000; Jetten, O’Brien, & Trindall, 2002). In the current research context, it seems likely that students’ experiences of living in a particular residence would be substantially coloured by their experiences of living in a particular flat within that residence—and *vice versa*. Rather than studying these social identities as isolated entities, we decided to take account of the nested relationships between them, controlling statistically for the relationship between the two identities in our analysis. This allows us to gain a clearer insight into the separate processes that are involved when people identify with these two different groups.

Based on our theoretical perspective, we expected that changes in students’ identification with their halls of residence would be predicted especially by changes in how much their membership within the residences satisfied the motives associated with identity definition: Meaning (H1), self-esteem (H2), continuity (H3), and distinctiveness (H4). In contrast, we expected that changes in students’ identification with their flat would be predicted especially by changes in how much their flat membership satisfied the motives associated with identity enactment: Self-esteem (H5), belonging (H6), and efficacy (H7).

**Method**

**Procedure**

Shortly before the start of a new academic year and during the first week of the residents’ stay at university accommodation, the University’s residential services department sent an email to every resident of University accommodation inviting them to take part in a longitudinal research project conducted jointly with the University’s psychology department. The email stated that those who completed all five time-points would be entered into a draw for one prize of £100 and four prizes of £50, and provided a link to the first questionnaire. The initial questionnaire was on-line for the first two weeks of the new term. A link to a new questionnaire was emailed to respondents at the beginning of weeks four, six, eight, and ten, with each being on-line for one week. To reduce attrition, we created a second draw with two prizes of £25 for participants who missed one or more of the intermediary time points (times 2-4) of the questionnaire.

**Participants**

Five hundred and thirty three residents completed the Time 1 questionnaire. However, we included in the analysis only those who completed two or more time-points. Two hundred and seventy eight (85 males, 192 females, 1 respondent did not report their gender, mean age = 20.8 years, SD = 4.29) from 202 flats completed two or more of the five time-points, with 135 completing all five waves.

To check for selective attrition, we first conducted a MANOVA comparing the sample of those who only completed the time 1 questionnaire (N=255) against the sample of those who completed 2 or more questionnaires (N=278) on all of the time 1 variables and the appropriate demographic variables. The MANOVA revealed no systematic multivariate differences between the samples at time 1, *F*(17, 375) = 1.38, *p* =.14, η2 = .05. However, analysis at the univariate level showed that those who dropped out were slightly older (*M* = 21.62, *SD* = 5.90) than those who stayed in (*M* = 20.66, *SD* = 4.46), *F*(1, 391) = 5.76, *p* =.02, η2 = .02, were more likely to be male (54% attrition) than female (44% attrition), χ2(1) = 25.56, *p*<.001, and had lived in the UK for less time (*M* = 10.60 years vs. 13.69 years), *F*(1, 391) = 708.03, *p* = .002, η2 = .02. Nevertheless, we found no significant differences between those who dropped out and those who remained in the study on any of the measures of identity motive satisfaction or identification ratings for either flat or residence identities. We conducted three further MANOVAs to investigate if there were any systematic multivariate differences between those who dropped out of the study after time 2, time 3, and time 4 compared those who stayed in the study. The results showed no systematic differences between the samples compared, *ps* > .05*,* η2*s* < .06.

We also tested whether the pattern of covariances among the time 1 identity motive and identification ratings differed between the two samples. Using AMOS 18, we conducted multigroup analyses to compare the fit of a model that freely estimated the covariances for the two samples against one that constrained these covariances to be equal across the samples. Cheung and Rensvold (2002) suggest that a change in CFI of less than 0.01 from the unconstrained model to the constrained model indicates equivalence. The model comparison revealed that the covariances among the ratings were equivalent between the two samples, ∆CFI = .004, further suggesting that there were no meaningful differences between those who dropped out of the study and those who stayed in.

**Questionnaire**

We created on-line questionnaires using Macromedia Dreamweaver MX software (Macromedia, Inc., US). Measures were identical across the five time-points.

First, respondents indicated which residential block they lived in (*residence*) and the flat or floor number that contained their individual bedroom (*flat*).

These answers were automatically inserted into the wording of subsequent items asking participants to rate these identities on a six-item measure of identification using an 11-point scale (see Table 1 for items and scale anchors). The six items, adapted in part from previous work by Vignoles et al. (2006), covered various facets of identification: feelings of solidarity, satisfaction with, and cognitive centrality of, the group membership, and behavioural involvement with the group identity (see Ashmore, Deaux, & McLaughlin-Volpe, 2004; Leach et al., 2008), and showed excellent reliabilities for residence (T1-T5: α = .78-.87) and flat (T1-T5: α = .84-.89) identities.

Respondents then completed a series of 12 ratings measuring feelings of meaning, self-esteem, continuity, distinctiveness, belonging, and efficacy associated with each of the two identities (adapted from Vignoles et al., 2006).[[3]](#endnote-3) Questions and scale anchors are included in Table 1.

Finally, participants provided some personal details and were thanked for their participation. After the final wave, we emailed participants with a debriefing sheet thanking them again and providing contact details in case they wanted any further information.

**Analytic Strategy**

We analysed our longitudinal data by constructing multilevel models for change (Singer & Willett, 2003). This approach treats repeated measures data as multilevel, with time points (Level 1) nested within people (Level 2), and allows participants who completed less than five time-points to be included within the analyses.[[4]](#endnote-4) Autoregressive multivariate multilevel regression analyses (Singer & Willett, 2003) were conducted separately for residence and flat identities using HLM version 6.08 to conduct full maximum likelihood estimation (Raudenbush, Bryk, & Congdon, 2004).

As a baseline for analyses, we first computed an *unconditional growth model* (model 1). This model included ‘time’ (coded 0-4 for times 1-5, respectively) as the only substantive predictor. The parameter estimate for time models the degree and direction of linear change in identification within people, over time. We allowed the effect of time to be random, so that the change in identification across time could vary between people. A significant variance component for time (*τ(time)*) indicates significant between-person variation in the degree and/or direction of linear change in identification[[5]](#endnote-5).

This model partitions variance in the outcome variable into several meaningful components that can be compared with subsequent models: *τ(time)* represents the between-person variation in the linear trajectory of the outcome across the five time points, interpretable as representing the meaningful linear change in identification over the 10-week time scale of the study. *σ2* represents the variation in the outcome between the time points, after controlling for linear change over time, and thus can be interpreted as representing non-systematic, short-term, within-person fluctuations in identification. *τ(π)* represents between-person variation in identification at time 1.

To assess how much variance in the outcome is accounted for by the predictors in subsequent models, we calculated the proportional reduction in these residual error (PRE) terms for a model containing the predictors compared to a nested model without the additional predictors (Singer & Willett, 2003). Thus, PRE statistics can be interpreted in a similar way to the partial R2 statistic in ordinary least squares regression.

Next, we added the identity motive ratings into the model (model 2). Our primary aim was to investigate if within-person changes in the motive satisfaction ratings predicted concurrent changes in identification. To investigate this directly, we expressed the within-person motive satisfaction ratings as *deviations* from the initial time 1 ratings and entered these as within-person predictors at Level 1. Significant parameter estimates for these predictors would indicate that within-person changes from the initial time 1 motive satisfaction rating significantly predicted concurrent changes in identification, over time.

Since this rescaling removes between-person differences from the model (Duckworth, Tsukayama, & May, 2010; Paccagnella, 2006), we also included the initial time 1 motive ratings in the model as between-person (Level 2) predictors. These parameters tested if initial levels of motive satisfaction predicted initial levels of identification, allowing us to investigate the amount of between-person variation in identification (*τ(π)*) that the motives account for.

As discussed earlier, we expected that identification with one’s residence would influence identification with one’s flat, and vice versa. Model 2 ignores the relation between the two identities, which may confound the results. To control for this and better separate the effects on the two identities, we added either flat or residence identification—whichever was not the outcome of the analysis—into the model (model 3). As with the identity motive ratings, we added time 1 identification as a between- person predictor (Level 2), and changes from this time 1 rating as a within-person predictor (Level 1). Thus, comparing Model 3 with Model 2 shows the impact of controlling statistically for the interdependence of the two identification measures, and ensures that motivational effects on the two identities are separated in the analyses.

**Results**

Descriptive statistics for the items are shown in Table 2, and both within-person and between-person inter-item correlations are shown in Table 3. [[6]](#endnote-6)

**Residence identities**

Table 4 shows the analyses for residence identities. In Model 1, the parameter estimate for time, *B* = -0.08 *p* < .001, indicates that, on average, respondents’ residence identification decreased significantly over time. However, the variance component for time, *τ(time)* = 0.06, *p* < .001, indicates the presence of significant individual differences in the strength and direction of linear change in residence identification over time. Thus, we could try to account for some of this variation by adding predictors to the model and calculating the PRE for *τ(time)*.

Supporting our hypotheses, Model 2 showed thatwithin-person changes in the satisfaction of motives for meaning (H1), self-esteem (H2), and distinctiveness (H4) positively predicted concurrent changes in identification. We also found significant effects of changes in belonging. However, contrary to H3, changes in continuity did not predict concurrent changes in identification. In Model 3, the highly significant parameter estimate for flat identification, *B* = 0.49, *p* = <.001, confirms that changes in identification with one’s residence and one’s flat are closely related. Crucially, H1, H2, and H4 were still supported when controlling for flat identification*,* whereas the unpredicted effect of belonging was no longer significant in this model.

Although our hypotheses were focused on predicting change, we also looked at the cross-sectional effects of initial motive satisfaction. These appear in the 'between-person' (Level 2) part of our models. These results showed a consistent pattern with the preceding findings. In Models 2 and 3, initial levels of meaning, self-esteem, and distinctiveness positively predicted initial levels of identification, whereas initial levels of continuity did not. [[7]](#endnote-7) The unpredicted effect of belonging was significant in Model 2 only, whereas feelings of efficacy predicted initial identification in both models.

PREs calculated from the variance components between Models 1 and 2 show that the 6 identity motives accounted for 66.1% of the between-person variation in the degree and the direction of linear change in residence identification over time (*τ(time)*), and 69.6% of the between-person variation in initial levels of residence identification (*τ(π)*). The motives also accounted for 28.2% of the non-systematic, within-person variation in identification (*σ2*). Comparing the variance components between Models 2 and 3, flat identification accounted for no additional between-person variation in the degree and direction of linear change in residence identification over time (*τ(time)*), nor in initial between-person levels of residence identification (*τ(π)*). However, flat identification accounted for 39.7% of the remaining non-systematic, within-person variation in residence identification (*σ2*).

**Flat identities**

Table 5 shows the analyses for flat identities. In Model 1, the non-significant parameter estimate for time, *B* = -0.02 *p* = .527, indicates that respondents’ flat identification showed no significant *average* increase or decrease over time. However, the significant variance component for time, *τ(time)* = 0.11, *p* < .001, indicates that respondents' flat identification did change over time, and that there was significant between-person variation in the strength and direction of this change.

Supporting our hypotheses, within-person changes from the initial motive satisfaction ratings for self-esteem (H5), belonging (H6), and efficacy (H7), as well as continuity positively predicted concurrent changes in identification in Model 2, whereas changes in the ratings for meaning and distinctiveness did not. The highly significant parameter estimate for residence identification in the Model 3, *B* = 0.62, *p* = <.001, confirms that identification with one’s residence and one’s flat are closely related. Once residence identification was controlled for*,* the predicted effects of self-esteem, belonging, and efficacy remained significant, supporting hypotheses H5, H6, and H7, whereas the unpredicted effect of continuity was no longer significant.

Although not our main focus, we again looked at the between-person (Level 2) effects of initial levels of motive satisfaction. These showed a largely consistent pattern with the preceding findings. In Models 2 and 3, initial levels of belonging and efficacy positively predicted initial levels of flat identification, whereas initial levels of meaning, continuity, and distinctiveness did not. The initial level of self-esteem was a marginal predictor of initial identification in Model 2, but not in Model 3.

PREs calculated from the variance components between Models 1 and 2 show that the 6 identity motives accounted for 58.7% of the between-person variation in the degree and the direction of linear change in flat identification over time (*τ(time)*), and 66.9% of the between-person variation in initial levels of flat identification (*τ(π)*). The motives also accounted for 18.6% of the non-systematic, within-person variation in flat identification (*σ2*). PREs calculated from the variance components between Models 2 and 3 indicate that residence identification accounted for 25.5% of the remaining between-person variation in the degree and the direction of linear change in flat identification over time (*τ(time)*) and 23.5% of the remaining between-person variation in initial levels of flat identification (*τ(π)*). However, residence identification accounted for 41.3% of the remaining non-systematic, within-person variation in flat identification (*σ2*).

**Summary of the main findings**

Within-person changes in the satisfaction of the motives for meaning (H1), self-esteem (H2), and distinctiveness (H4) associated with participants’ *halls of residence* predicted concurrent changes in participants’ identification with their *halls of residence*, whereas changes in the satisfaction of continuity (H3), belonging, and efficacy did not. In contrast, within-person changes in the satisfaction of the motives for self-esteem (H5), belonging (H6), and efficacy (H7) associated with participants’ *flats* predicted concurrent changes in participants’ identification with their *flat*, whereas changes in the satisfaction of meaning, continuity, or distinctiveness did not.

**Discussion**

Supporting our predictions, changes over time in satisfaction of the motives thought to be most implicated in the process of identity definition—meaning (H1), self-esteem (H2), and distinctiveness (H4)—predicted concurrent changes in respondents’ identification with their residence, a novel social category. In contrast, but in line with our predictions, changes in the satisfaction of the motives thought to be most implicated in the process of identity enactment—self-esteem (H5), belonging (H6), and efficacy (H7)—predicted concurrent changes in respondents’ identification with their flat, a novel interpersonal network group. These effects represent processes, occurring within-individuals across multiple time points, and were found whilst controlling for individual differences in initial motive satisfaction ratings, the nested nature of the identities studied, and the main effects of time.

Unexpectedly, changes in the satisfaction of the continuity motive did not predict concurrent changes in identification with the respondents’ halls of residence. This may reflect the novelty of the groups involved, since students had no prior experience with the halls of residence from which feelings of continuity might have been derived. Perhaps the continuity motive comes into play in social identification once a category membership has become an established part of one’s identity, but not in the initial stages.

Although our main focus here was on within-person change processes, cross-sectional relationships between individual differences in initial motive satisfaction and initial identification were also consistent with our hypotheses. Initial satisfaction of the motives for meaning, self-esteem, distinctiveness, and efficacy positively predicted initial levels of residence identification, whereas initial satisfaction of belonging and efficacy motives predicted initial flat identification. The similarity of the results at both levels of analysis provides further support for our theoretical perspective.

Our findings extend previous work into motivated identity construction and social identification in several ways. This is the first demonstration that the identity motives proposed by MICT influence identity processes surrounding the assimilation of novel group memberships into the current self-concept. Previous research has found that successfully assimilating new group memberships into one's self-concept can act as a buffer against the negative psychological effects associated with life transitions (Iyer et al., 2009), and our results clearly suggest that such assimilation depends upon the extent to which the new group memberships satisfy the identity motives applicable to that type of group. To our knowledge this is also the first study of the motivations underlying social identification that has applied a five-wave longitudinal design. This allowed us to go beyond previous cross-sectional and cross-lagged studies to investigate the processes involved in within-person changes in social identification, something which has been recognised as an important area for study (Amiot et al., 2010, 2007). Notably, our finding that changes in the satisfaction of identity motives accounted for around 60% of the between-person variance in identification with both groups suggests that the concept of identity motives is an important one for the field of social identification.

Our results also build upon work into the motivations involved in changes in identification with different types of group memberships. Johnson and colleagues (2006) previously showed that people perceive different group memberships to satisfy different motivations, whereas Amiot and colleagues (2010) showed that people’s psychological need satisfaction associated with a group membership predicted their identification with that group. Our findings bridge the gap between these two lines of research, showing which specific identity motives are most directly involved in social identification with different types of groups.

A strength of our research is its simultaneous focus on multiple identity motives and multiple group memberships. Here, by systematically focusing on the effects of six motives on two meaningfully different social group memberships, we can avoid all-or-nothing conclusions about the influence of the motives that may arise when only single motives are studied, and enables us to draw more detailed conclusions about the influences of the specific motives. For example, our work extends previous research into self-esteem (e.g Bettencourt et al., 1999), confirming that this is indeed an important and pervasive motive relevant to identification with both interpersonal networks and social categories. In contrast, our results suggest that the distinctiveness motive may not be involved in identifying with novel interpersonal network groups (but see Jans et al., 2011). Notably, controlling for the relationship between the two identities helped us to isolate more clearly the differing patterns of direct motivational predictors of residence and flat identification: for both identities, a relatively diffuse pattern of predictors was found in Model 2, whereas the predicted effects remained significant and unpredicted ones became non-significant in Model 3. This highlights the need to investigate the satisfaction of the various identity motives simultaneously within studies, but also the need to separate the effects of the motives, as different motives may be involved in different social contexts, something which previous research has sometimes neglected (e.g. Amiot et al., 2010).

Interestingly, the PRE statistics indicate that identity motives mainly account for meaningful long-term change in identification, whereas the covariance between the two nested identities mainly accounts for short-term, unsystematic fluctuations in identification. We can speculate that these short-term fluctuations that seem to affect both identities simultaneously may be attributable to additional variables not measured in the study. Perhaps they represent concurrent changes in the transient mood of the students, or changes in other prominent areas of the students’ life at university, such as their academic studies.

Although previous researchers have independently argued that the six motives we studied are involved in identification processes (e.g. Brewer, 1991; Breakwell, 1987; Hogg, 2007), MICT is the only theoretical model that combines this range of motives into a unified theory and relates these various motives to the different identity processes involved when people identify with different groups. Nevertheless, these six motives are not necessarily an exhaustive list of the motivations underlying identity processes, nor of the constructs that can facilitate changes in social identification. For example, there is convincing evidence that humans are motivated by a need for autonomy (Deci & Ryan, 2000; Ryan & Deci, 2000) which has recently been applied to identity processes (Ryan & Deci, 2003; but see Vignoles, 2011; and note 1), and other research has shown that the levels of social support received within social groups can influence identification (Amiot et al., 2010). Future research should incorporate these as well as any other additional variables that may be involved in identity processes.

Future research should also address some possible limitations with the current study. Although we demonstrated the relationships between different motives and identification over time, the simultaneous measurement of motive satisfaction and identification at each time point prevents firm conclusions regarding causal directionality. Both theory and previous research suggest that identification is a consequence rather than a cause of motive satisfaction (Brewer, 1991; Hogg, 2007; Vignoles et al., 2006), but further confirmation of this causality would be beneficial. Future studies experimentally manipulating the satisfaction of the motives and measuring resulting changes in identification would provide further empirical support for the causal influence of motives on identification. Future research could also investigate the motivations involved in identification with other types of groups. For example, several researchers have made a distinction between intimacy and task groups (Johnson et al., 2006; Lickel, Hamilton, & Sherman, 2001; Lickel et al., 2000; Sherman et al., 2002), and direct tests of the motivations involved when people identify with these different types of social network groups would further enhance our theoretical framework and deepen understanding of social identification processes within different groups.

Despite these limitations, however, our results suggest that the specific motivations involved when people identify with a social group depend upon the properties of the group in question, and on the historical and contextual foundation of the group. Our results suggest that people identify with newly formed interpersonal network groups if the behavioural interactions with the group members provide them with a sense of efficacy, belonging, and self-esteem, whereas new group members identify with established social categories if they associate the symbolic meaning of group membership with feelings of meaning, self-esteem, and distinctiveness. Our research is among the first to demonstrate that there are different motivations involved when people identify with different types of groups.

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**Notes**

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|  |  |  |  |
| --- | --- | --- | --- |
| Table 1.  List of constructs and questions in the questionnaires | | | |
| Construct | |  | Question |
| Identification Items | |  |  |
|  | 1 |  | How loyal do you feel towards 'X'? |
|  | 2 |  | How often do you show or tell people you are a resident of 'X' in your every day actions?a |
|  | 3 |  | How central or marginal is being a resident of 'X' to your sense of who you are?b |
|  | 4 |  | How happy or unhappy do you feel about being a resident of 'X'?c |
|  | 5 |  | How often do you think about the fact that you a resident of 'X'?d |
|  | 6 |  | How much do you like people to know you are a resident of 'X'? |
| Motive Items | |  |  |
|  | Meaning |  | How much does being a resident of 'X' give you a sense that your life is meaningful? |
|  | Belonging |  | How much does being a resident of 'X' give you a sense that you "belong" - that you are included among or accepted by people that matter to you? |
|  | Self-esteem |  | How much does being a resident of 'X' make you see yourself positively? |
|  | Continuity |  | How much does being a resident of 'X' make you feel that your past, present and future are connected? |
|  | Distinctiveness |  | How much do you feel that being a resident of 'X' distinguishes you - in any sense - from other people? |
|  | Efficacy |  | How much does being a resident of 'X' make you feel competent and capable? |
|  | *Note.* Items shown are for residence identities only. For flat identity items, the words "resident of" in these items was replaced with "member of flat (or floor)". | | |
|  |
|  | All questions are rated on an 11-point scale ranging from 0-10. Except where stated, scale anchors were 0 = Not at all, 5 = moderately,  10 = extremely | | |
|  | a Scale anchors were 0 = *Never,* 5 = *sometimes,* 10 = *extremely often.* | | |
|  | b Scale anchors were 0 =  *Extremely marginal,*  5 = *intermediate,* 10 = *extremely central* | | |
|  | c Scale anchors were 0 = *Extremely unhappy,* 5 = *neutral,* 10 = *extremely happy* | | |
|  | d Scale anchors were 0 = *Never,* 5 = *sometimes,* 10 = *extremely often* | | |

Table 2. Means and standard deviations for identity motives and identification scales at each time point.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Time 1 | | Time 2 | | Time 3 | | Time 4 | | Time 5 | |
|  |  | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD |
| Residence identity data set | |  |  |  |  |  |  |  |  |  |  |
|  | Meaning | 3.44 | 2.83 | 3.50 | 2.65 | 3.42 | 2.64 | 3.56 | 2.61 | 3.58 | 2.70 |
|  | Self-esteem | 5.08 | 2.74 | 4.68 | 2.57 | 4.50 | 2.66 | 4.57 | 2.70 | 4.32 | 2.71 |
|  | Continuity | 3.29 | 2.92 | 3.18 | 2.75 | 2.95 | 2.84 | 3.30 | 2.79 | 3.35 | 2.94 |
|  | Distinctiveness | 4.29 | 2.89 | 4.25 | 2.61 | 4.40 | 2.65 | 4.51 | 2.58 | 4.22 | 2.66 |
|  | Belonging | 5.11 | 2.83 | 4.77 | 2.62 | 4.41 | 2.72 | 4.38 | 2.66 | 4.28 | 2.72 |
|  | Efficacy | 4.96 | 2.82 | 4.55 | 2.77 | 4.47 | 2.72 | 4.64 | 2.71 | 4.54 | 2.77 |
|  | Residence identification | 5.79 | 1.63 | 5.78 | 1.65 | 5.50 | 1.65 | 5.41 | 1.74 | 5.35 | 1.87 |
|  | Flat identification | 5.52 | 1.93 | 5.76 | 1.93 | 5.50 | 1.93 | 5.41 | 1.90 | 5.41 | 2.04 |
| Flat identity data set | |  |  |  |  |  |  |  |  |  |  |
|  | Meaning | 3.63 | 2.95 | 3.83 | 2.83 | 3.74 | 2.77 | 3.89 | 2.95 | 3.80 | 2.97 |
|  | Self-esteem | 4.65 | 2.89 | 4.80 | 3.01 | 4.58 | 2.91 | 4.71 | 3.09 | 4.37 | 3.08 |
|  | Continuity | 3.36 | 2.96 | 3.33 | 2.84 | 3.19 | 2.89 | 3.38 | 3.09 | 3.44 | 3.09 |
|  | Distinctiveness | 3.85 | 2.91 | 4.13 | 2.80 | 4.27 | 2.86 | 4.20 | 2.98 | 4.41 | 2.96 |
|  | Belonging | 4.82 | 3.00 | 4.96 | 3.02 | 4.81 | 2.95 | 4.90 | 3.15 | 4.74 | 2.99 |
|  | Efficacy | 4.60 | 3.00 | 4.73 | 2.91 | 4.63 | 2.99 | 4.83 | 3.12 | 4.56 | 3.13 |
|  | Residence identification | 5.78 | 1.62 | 5.77 | 1.65 | 5.52 | 1.64 | 5.38 | 1.76 | 5.31 | 1.86 |
|  | Flat identification | 5.53 | 1.92 | 5.77 | 1.92 | 5.53 | 1.90 | 5.38 | 1.92 | 5.41 | 2.01 |

Table 3. Inter-item correlations and the appropriate means and standard deviations. Within-person correlations (based on participant-centred items) are shown above the diagonal. Between-person correlations (based on averaged scores across time points) are shown below the diagonal.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Ratings for residence identity | | | | | | | Ratings for flat identity | | | | | | | |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | SD |
| Ratings for residence identity | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | Meaning | - | .45 | .39 | .30 | .50 | .33 | .37 | .48 | .33 | .26 | .28 | .31 | .34 | .33 | 1.34 |
| 2 | Self-esteem | .80 | - | .38 | .34 | .64 | .50 | .47 | .31 | .44 | .27 | .24 | .37 | .39 | .40 | 1.32 |
| 3 | Continuity | .79 | .70 | - | .33 | .30 | .37 | .28 | .29 | .25 | .57 | .29 | .18 | .28 | .26 | 1.30 |
| 4 | Distinctiveness | .62 | .65 | .58 | - | .31 | .47 | .31 | .28 | .26 | .28 | .34 | .25 | .31 | .29 | 1.41 |
| 5 | Belonging | .76 | .89 | .65 | .59 | - | .44 | .46 | .29 | .36 | .20 | .19 | .45 | .31 | .43 | 1.38 |
| 6 | Efficacy | .73 | .84 | .64 | .70 | .77 | - | .32 | .31 | .35 | .30 | .26 | .26 | .46 | .26 | 1.31 |
| 7 | Identification | .68 | .80 | .55 | .61 | .77 | .73 | - | .25 | .28 | .25 | .16 | .29 | .26 | .67 | 0.76 |
| Ratings for flat identity | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | Meaning | .84 | .79 | .74 | .60 | .76 | .72 | .67 | - | .60 | .45 | .43 | .58 | .49 | .37 | 1.35 |
| 2 | Self-esteem | .70 | .82 | .63 | .56 | .78 | .75 | .68 | .87 | - | .48 | .43 | .68 | .65 | .42 | 1.44 |
| 3 | Continuity | .77 | .68 | .91 | .58 | .63 | .63 | .54 | .84 | .73 | - | .43 | .44 | .51 | .36 | 1.36 |
| 4 | Distinctiveness | .70 | .68 | .64 | .75 | .67 | .70 | .62 | .80 | .73 | .74 | - | .39 | .52 | .30 | 1.47 |
| 5 | Belonging | .60 | .73 | .55 | .49 | .80 | .66 | .62 | .82 | .90 | .66 | .69 | - | .56 | .46 | 1.39 |
| 6 | Efficacy | .67 | .77 | .62 | .59 | .74 | .84 | .67 | .81 | .89 | .72 | .78 | .84 | - | .41 | 1.37 |
| 7 | Identification | .57 | .70 | .52 | .47 | .74 | .63 | .77 | .76 | .82 | .62 | .68 | .83 | .78 | - | 0.84 |
|  | Mean | 3.58 | 4.80 | 3.31 | 4.32 | 4.75 | 4.73 | 5.65 | 3.85 | 4.71 | 3.40 | 4.19 | 4.89 | 4.71 | 5.57 |  |
|  | SD | 2.33 | 2.30 | 2.55 | 2.30 | 2.37 | 2.44 | 1.52 | 2.54 | 2.57 | 2.64 | 2.49 | 2.64 | 2.68 | 1.75 |  |

Table 4. Autoregressive multivariate multilevel regression analyses predicting respondents’ identification with the *residences* across time points (Level 1: *N* = 1,007) nested within participants (level 2: *N* = 278).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Model 1 | | |  | Model 2 | | |  | Model 3 | | |
|  |  |  |  |  |
| Parameter | |  | *B* | *SE* | *p* |  | *B* | *SE* | *p* |  | *B* | *SE* | *p* |
| *Fixed parameters* | |  |  |  |  |  |  |  |  |  |  |  |  |
|  | *Within-person ratings (level 1)* |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Intercept |  | 2.12 | 0.15 | <.001 |  | 3.30 | 0.13 | <.001 |  | 2.12 | 0.15 | <.001 |
|  | Time |  | -0.08 | 0.02 | <.001 |  | -0.07 | 0.02 | .001 |  | -0.08 | 0.02 | <.001 |
|  | Meaning |  |  |  |  |  | 0.07 | 0.02 | .002 |  | 0.05 | 0.02 | .003 |
|  | Self-esteem |  |  |  |  |  | 0.11 | 0.02 | <.001 |  | 0.07 | 0.02 | .001 |
|  | Continuity |  |  |  |  |  | 0.03 | 0.02 | .119 |  | 0.01 | 0.02 | .363 |
|  | Distinctiveness |  |  |  |  |  | 0.06 | 0.02 | .001 |  | 0.04 | 0.01 | .015 |
|  | Belonging |  |  |  |  |  | 0.12 | 0.02 | <.001 |  | 0.03 | 0.02 | .075 |
|  | Efficacy |  |  |  |  |  | 0.02 | 0.02 | .306 |  | 0.01 | 0.02 | .577 |
|  | Flat identification |  |  |  |  |  |  |  |  |  | 0.49 | 0.02 | <.001 |
|  | *Between-person ratings (level 2)* | | | |  |  |  |  |  |  |  |  |  |
|  | T1 Meaning |  |  |  |  |  | 0.06 | 0.03 | .048 |  | 0.07 | 0.03 | .013 |
|  | T1 Self-esteem |  |  |  |  |  | 0.21 | 0.04 | <.001 |  | 0.15 | 0.04 | <.001 |
|  | T1 Continuity |  |  |  |  |  | -0.04 | 0.03 | .187 |  | -0.05 | 0.02 | .039 |
|  | T1 Distinctiveness |  |  |  |  |  | 0.08 | 0.03 | .003 |  | 0.07 | 0.02 | .002 |
|  | T1 Belonging |  |  |  |  |  | 0.12 | 0.04 | .001 |  | 0.01 | 0.03 | .706 |
|  | T1 Efficacy |  |  |  |  |  | 0.09 | 0.03 | .010 |  | 0.07 | 0.03 | .023 |
|  | T1 Flat identification |  |  |  |  |  |  |  |  |  | 0.39 | 0.03 | <.001 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Residual Variance* | |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Autoregressive ρ |  | 0.30 | 0.10 |  |  | 0.14 | 0.09 |  |  | 0.06 | 0.08 |  |
|  | Within-person σ2 |  | 0.75 | 0.12 |  |  | 0.54 | 0.06 |  |  | 0.32 | 0.03 |  |
|  | Between-person *τ(π)* |  | 1.82 | 0.25 |  |  | 0.55 | 0.11 |  |  | 0.56 | 0.08 |  |
|  | Time τ(time) |  | 0.06 | 0.02 |  |  | 0.02 | 0.01 |  |  | 0.02 | 0.01 |  |
|  | Cov *τ(π)* \* τ(time) |  | 0.00 | 0.05 |  |  | 0.00 | 0.03 |  |  | -0.04 | 0.01 |  |
|  | Deviance |  | 3149.08 | | |  | 2670.13 | | |  | 2292.07 | | |
|  | Estimated Parameters |  | 7 | | |  | 19 | | |  | 21 | | |

Table 5.  Autoregressive multivariate multilevel regression analyses predicting respondents’ identification with the *flats* across time points (Level 1: *N* = 1,013) nested within participants (level 2: *N* = 278).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Model 1 | | |  | Model 2 | | |  | Model 3 | | |
|  |  |  |  |  |
| Parameter | |  | *B* | *SE* | *p* |  | *B* | *SE* | *p* |  | *B* | *SE* | *p* |
| *Fixed parameters* | |  |  |  |  |  |  |  |  |  |  |  |  |
|  | *Within-person ratings (level 1)* |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Intercept |  | 5.63 | 0.11 | <.001 |  | 3.08 | 0.13 | <.001 |  | 0.91 | 0.20 | <.001 |
|  | Time |  | -0.02 | 0.03 | .527 |  | -0.04 | 0.02 | .054 |  | 0.03 | 0.02 | .091 |
|  | Meaning |  |  |  |  |  | 0.04 | 0.03 | .085 |  | 0.00 | 0.02 | .808 |
|  | Self-esteem |  |  |  |  |  | 0.06 | 0.03 | .033 |  | 0.04 | 0.02 | .043 |
|  | Continuity |  |  |  |  |  | 0.05 | 0.02 | .018 |  | 0.01 | 0.02 | .428 |
|  | Distinctiveness |  |  |  |  |  | 0.03 | 0.02 | .126 |  | 0.02 | 0.02 | .130 |
|  | Belonging |  |  |  |  |  | 0.15 | 0.03 | <.001 |  | 0.11 | 0.02 | <.001 |
|  | Efficacy |  |  |  |  |  | 0.08 | 0.03 | .003 |  | 0.05 | 0.02 | .027 |
|  | Residence identification |  |  |  |  |  |  |  |  |  | 0.62 | 0.03 | <.001 |
|  | *Between-person ratings (level 2)* | | | |  |  |  |  |  |  |  |  |  |
|  | T1 Meaning |  |  |  |  |  | 0.03 | 0.04 | .552 |  | -0.03 | 0.04 | .450 |
|  | T1 Self-esteem |  |  |  |  |  | 0.08 | 0.05 | .094 |  | -0.01 | 0.04 | .853 |
|  | T1 Continuity |  |  |  |  |  | 0.03 | 0.03 | .441 |  | 0.02 | 0.03 | .417 |
|  | T1 Distinctiveness |  |  |  |  |  | 0.04 | 0.03 | .267 |  | 0.01 | 0.03 | .791 |
|  | T1 Belonging |  |  |  |  |  | 0.24 | 0.04 | <.001 |  | 0.26 | 0.04 | <.001 |
|  | T1 Efficacy |  |  |  |  |  | 0.14 | 0.04 | <.001 |  | 0.08 | 0.03 | .011 |
|  | T1 Residence identification |  |  |  |  |  |  |  |  |  | 0.54 | 0.04 | <.001 |
|  | T1 Efficacy |  |  |  |  |  |  |  |  |  |  |  |  |
| *Residual Variance* | |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Autoregressive ρ |  | 0.12 | 0.09 |  |  | 0.01 | 0.08 |  |  | -0.02 | 0.08 |  |
|  | Within-person σ2 |  | 0.74 | 0.08 |  |  | 0.61 | 0.06 |  |  | 0.36 | 0.03 |  |
|  | Between-person *τ(π)* |  | 2.83 | 0.31 |  |  | 0.94 | 0.13 |  |  | 0.72 | 0.09 |  |
|  | Time τ(time) |  | 0.11 | 0.02 |  |  | 0.04 | 0.01 |  |  | 0.03 | 0.01 |  |
|  | Cov *τ(π)* \* τ(time) |  | -0.10 | 0.06 |  |  | -0.10 | 0.03 |  |  | -0.08 | 0.02 |  |
|  | Deviance |  | 3404.57 | | |  | 2916.30 | | |  | 2461.9 | | |
|  | Estimated Parameters |  | 7 | | |  | 19 | | |  | 21 | | |

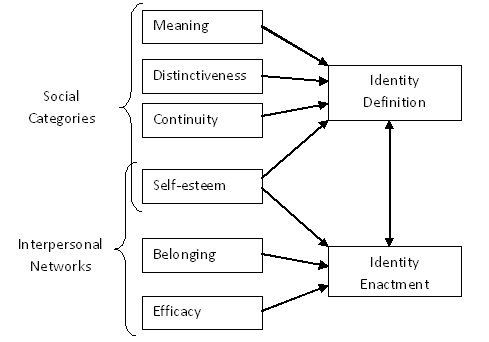


Figure 1: The hypothesised identity processes and identity motives involved when people identify with different types of groups.

1. . Readers familiar with Self-determination theory (SDT) may be surprised by the absence of an 'autonomy motive' in MICT. Whereas the SDT needs for relatedness and competence have been shown to have conceptually similar identity motives for belonging and efficacy, this does not mean that there is any reason to assume a perfect one-to-one correspondence between basic needs and identity motives (see Vignoles, 2011).  Indeed, one of the most common definitions of the autonomy need is a need for one’s behaviour to be in accordance with one’ self-views (Deci & Ryan, 2000; Ryan & Deci, 2000).  This definition suggests that autonomy may have some role to play in the congruence between identity definition and enactment but forecloses it from playing a role in the assimilation of new group memberships into one’s identity: One’s behaviour cannot closely match a self-view that does not exist yet.  It also suggests that autonomy may not be involved in the specific content of one’s identity but come into play once people have an established self-view.  [↑](#endnote-ref-1)
2. **.** Over 60% of students are allocated their first choice halls, and most are allocated one of their top three choices. The University’s Residential Services Department places them in a flat within the residence. However, there are opportunities for residents to move. Thus, both groups might be characterized as ascribed, but not wholly impermeable. [↑](#endnote-ref-2)
3. . To minimise the load on participants, single item measures were used to assess satisfaction of the six motives. The use of carefully worded single item measures is well established when participants are required to make repeated ratings on the same dimension (e.g. Reis, Sheldon, Gable, Roscoe, & Ryan, 2000; Vignoles et al., 2006). [↑](#endnote-ref-3)
4. . This approach also allows us to account for higher-level clustering of people within flats, and flats within residences. We initially analysed four-level models using MLwiN version 2.22 (Rasbash, Browne, Healy, Cameron, & Charlton, 2010). However, these models consistently failed to converge. Variance components analyses showed negligible flat-level (0.18%) and residence-level (1.44%) variance in flat identification, and zero flat-level and residence-level variance in residence identification. Hence, for simplicity we report two-level analyses, with time-points (Level 1) nested within people (Level 2). Alternative analyses using different Level 1 covariance structures showed substantively identical results to those reported here. [↑](#endnote-ref-4)
5. . We also investigated the effects of Time2 and Time3 for both identities. Neither effect was significant for residence identities. When analysing flat identities, both Time2 and Time3 had significant parameter estimates, but including these in the model did not change the substantive pattern of estimates or significance levels. We therefore opted for the simpler model reported here. [↑](#endnote-ref-5)
6. . Missing data at Level 1 were dealt with by listwise deletion, hence, analyses for the two different identities have slightly different sample sizes. [↑](#endnote-ref-6)
7. . The small negative effect of the initial level of continuity in Model 3 may be a statistical artefact, as this effect was not found in Model 2, and it was not found in alternative analyses using different covariance structures. [↑](#endnote-ref-7)