

Residential Mobility, Self-Concept, and Positive Affect in Social Interactions

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The present research examined (a) the link between personal history of residential mobility and the self-concept and (b) the implications of such a link for positive affect in social interactions. Study 1 showed that the personal self was more central to the self-definition of frequent movers than to that of nonmovers, whereas the collective self was more central to the self-definition of nonmovers than to that of frequent movers. Results from a laboratory and a 2-week event sampling study (Studies 2 and 3) demonstrated that frequent movers felt happier when an interaction partner accurately perceived their personal selves, whereas nonmovers felt happier when a partner accurately perceived their collective selves. These findings present the first direct evidence on how personal history of residential mobility is linked to important individual differences in the self and positive affect in social interactions.

Keywords: residential mobility, individual differences, self-concept, positive affect, social interactions

Americans are constantly on the move. Each year, over 40 million Americans, or about 20% of the population, change their residence (Schmitt, 2001). However, this is not a recent trend. As early as 1830, foreign visitors were amazed by the ease and eagerness with which many Americans moved from one city to another (van Minnen & Hilton, 2002). Despite the pervasiveness of residential mobility in American society, few psychologists have systematically investigated the role of residential mobility in the shaping of the self-concept and positive affective experience. To address this gap, we present a theoretical model of the self—based on historical and evolutionary analysis—that ties history of residential mobility to the structure of the self-concept. In support of this model, we report three studies that demonstrate (a) that residential mobility is associated with the relative importance of the personal self (i.e., the self defined by personality traits, skills, and abilities) over the collective self (i.e., the self defined by group membership and social background) and (b) that this association has ramifications for individuals' positive affect in daily social interactions.

Theoretical Background

On the basis of various historical writings, Baumeister (1986, 1987) proposed that the personal self became the prominent aspect

of the self during the Early Modern Period (1500–1800 AD) in Western Europe, when social changes brought about residential mobility. Many people no longer lived in the community where they were born and raised. As they changed their jobs, residences, and friendship networks, the basis of self-definition shifted from collective attributes (e.g., group membership and social-organizational affiliation) to individual attributes (e.g., unique skills and abilities). Baumeister's historical analysis of societal changes suggests that residential mobility is associated with increased centrality of the personal self and decreased centrality of the collective self.

In addition to the sociohistorical evidence, evidence from research on nonhuman primates, which often live in small and relatively stable groups, presents corroborating views on the link between high residential stability and the relative importance of collective over personal attributes. Among chimpanzees, status and kinship provide an overwhelming amount of information regarding with whom one can play and groom (de Waal, 1996). Chimpanzees A and B might share an interest in dangerous play, but if they belong to different subgroups or have mothers with different social statuses, then they are less likely to affiliate with each other than otherwise. This is not to deny the existence and importance of individual differences in skills and abilities among chimpanzees (e.g., King & Figueredo, 1997; see Gosling, 2001, for a review), as these are likely to influence their survival. Nevertheless, at least in social contexts, relational characteristics such as social status and kinship provide the main guiding principles for chimpanzee behavior.

Evolutionary analysis comes to a similar conclusion on the relative importance of collective versus personal selves in preindustrialized society. It is believed that for much of our evolutionary history, our ancestors lived in small groups of 50–200 individuals (Dunbar, 1993). In a small community where membership is stable, collective attributes like status, role, and kinship provide a great deal of information about individuals because implicit codes of conduct are often based on such attributes. There is no

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doubt that individual differences in personality traits existed in those eras and provided valuable social information to other group members (Buss, 1996). However, in a small, stable community, personality traits may be used less often than social statuses, roles, and kinship as tools for communication. Instead, when communicating about a particular person in such a community, it is often sufficient to say that he is a son of "X." Conversely, personality traits are very useful when one has to describe a person to a stranger because, unlike kinship and group memberships, traits do not require both parties to share any information about the target's family or group. Consequently, it is reasonable to assume that personal selves became an important aspect of self-identity later in human history, when people started interacting with strangers with whom they shared neither a common background nor knowledge about particular groups or clans.

The Socioecological Model of the Self

The aforementioned historical and evolutionary analyses motivate the present proposal of the socioecological model of the self. According to this model, the stability of individuals' social environment shapes the ways in which they organize their self-concepts. When children and adolescents move several times during their short lives, they are asked to form a new set of friends and join a new group every few years. This can disrupt their social environment and routines (e.g., Adam, 2004; Pribesh & Downey, 1999). Meanwhile, their personal identities (e.g., "good at math") may be less susceptible to this change in their social environment. Furthermore, given the transient nature of group membership and affiliation among frequent movers, it is conceivable that, over time, these children come to base their identity more and more on their enduring skills, abilities, and traits rather than on their ever-changing roles, memberships, and upbringing. For instance, an adolescent soccer player who moves frequently may begin to view herself primarily as a good soccer player rather than as a member of any particular local team; she knows that although team membership can only last as long as she stays in the area, her skills will remain constant regardless of where she lives. Therefore, we predict that residential mobility is associated with increased importance of the personal self but decreased importance of the collective self. The strength of this association, however, may diminish after a certain number of moves (e.g., the first move may be more influential than the fifth). We assessed this possibility in all three studies by testing for a curvilinear, as well as a linear, association between the number of residential moves and the self-concept.

The hypothesized link between residential mobility and relative centrality of the personal versus the collective self is consistent with relevant work in cross-cultural psychology. For instance, Kashima et al. (2004) found that people living in metropolitan cities regarded their personal self as more important than did their counterparts in regional cities, where residential mobility is presumably lower than it is in metropolitan cities (but see Vandello & Cohen, 1999). Likewise, Cousins (1989) found that Americans who live in a high-mobility society used personality traits to define who they are more often than did Japanese who live in a low-mobility society (see Markus & Kitayama, 1991; Triandis, 1989, for a review). In summary, individuals who move more frequently should place greater importance on their personal selves, whereas

individuals who move relatively less frequently should place greater importance on their collective selves.

Because residential mobility pertains to the self-concept, the socioecological model of the self predicts that personal history of residential mobility should guide individuals' felt happiness in social interactions. Influential theories and research on the self and social relationships have demonstrated that individuals gravitate toward, and feel closer to, those who verify their self-views (e.g., Swann, Stein-Seroussi, & Giesler, 1992; see Swann, Rentfrow, & Guinn, 2003, for a review). Moreover, people tend to seek verification of self-views that are considered to be important and central to the self (Chen, Chen, & Shaw, 2004). Finally, people feel intimacy and form a close relationship when their partner responds to the central aspects of the self (Reis, Clark, & Holmes, 2004; Reis & Shaver, 1988). This collection of research and theory suggests that individuals may particularly enjoy social interactions in which the central aspects of their selves are perceived accurately. Integrating this view into our model, we draw the following hypotheses: During social interaction, frequent movers should feel more positively when their personality, skills, and abilities (i.e., personal selves) are perceived accurately by an interaction partner than when these attributes are perceived inaccurately. In contrast, the model also predicts that nonmovers should feel more positively when their upbringing and important group memberships (i.e., collective selves) are perceived accurately than when these attributes are perceived inaccurately.

The Present Studies

We conducted the first study to examine the direct link between personal history of residential mobility and the relative centrality of the personal self versus the collective self. The goals of the two subsequent studies were to demonstrate how this link between mobility and self-concept guides individuals' felt happiness in social interactions. The motives for the present research were twofold. First, although the historical and evolutionary analyses described above provide a sensible, logical background for the socioecological model of the self, there is no empirical research to date that has directly tested this model. In historical and evolutionary analyses (Baumeister, 1986, 1987; Dunbar, 1993), the relative centrality of the personal self versus the collective self is assumed and inferred but not actually measured. Likewise, residential mobility was not assessed in the previous research on regional differences in the self-concept (Kashima et al., 2004). These interesting analyses and research warrant a direct empirical examination of the link between personal history of residential mobility and the self-concept. Second, in the broader literature on culture, personality, and well-being, none of the previous research has examined how socioecological factors, such as personal history of residential mobility, may have subtle but profound influences on individuals' positive affect in social interactions (see Diener, Oishi, & Lucas, 2003, for a review). In summary, the present research delineates a pathway that links residential mobility, self-concepts, and happiness felt in social interactions that, to our knowledge, no research has investigated.

Study 1

Method

Participants. Participants were 231 University of Minnesota students and their friends (98 men, 131 women; 2 did not report). One hundred eighty-five participants (80%) identified themselves as European American, 19 participants (8.2%) as Asian, 9 participants (3.9%) as Hispanic American, 7 participants (3%) as African American, 2 participants (0.9%) as Native Indian, and 8 participants (3.5%) as “other” (1 did not report race). The average age of the participants was 20.37 years ($SD = 1.83$).

Procedure. To assess the personal self, we asked participants to list up to five personality traits (e.g., hardworking, intelligent, stubborn) that described themselves. For each trait, they were asked to rate the centrality of this trait in describing who they are, using a 7-point scale ranging from 1 (*not at all central*) to 7 (*absolutely central to me*). Next, to assess the collective self, we asked participants

Please list up to five groups you belonged to in high school or now at the University of Minnesota (e.g., social clubs, sports, performing arts groups). For each group, please indicate how central belonging to this group is to you in describing who you are, using the 7-point scale (1 = *not at all central* to 7 = *absolutely central to me*).

Finally, participants were asked to list the city or town and the state where they were born. They were also asked to list any city or town to which they had moved and how old they were when they moved. Thus, any move within the same city or town was not included. Research assistants counted the number of times participants moved before they entered college. Moves before age 5 were not counted because children younger than this age are unlikely to have formed enduring peer relationships and group memberships or to have developed a clear sense of the collective self (Ladd & Troop-Gordon, 2003). The number of moves ranged from 0 to 9 ($M = 1.54$, $SD = 1.59$). Sixty-three participants (27.3%) never moved before entering college, 75 participants (32.5%) moved once, 47 participants (20.3%) moved twice, 22 participants (9.5%) moved three times, 10 participants (4.3%) moved four times, 7 participants (3%) moved five times, 2 participants (0.9%) moved six times, 1 participant (0.4%) moved seven times, 2 participants (0.9%) moved eight times, and 1 participant (0.4%) moved nine times (1 did not provide this information).

Results and Discussion

Out of 231 participants, 28 (12.12%) did not write any group affiliation, although all participants provided personality traits information. Because the decision to omit information regarding group affiliation likely reflects a deemphasized collective self, we examined whether the proportion of participants who omitted this information was associated with residential mobility. Individuals who had moved twice or more were collapsed into a single category (92 participants in total, or 39.8%) for chi-square analysis because there were too few participants who had moved three times or more to be analyzed separately (doing so might violate the assumption of homogeneity of variance; Hays, 1994). Consistent with our prediction, the proportion of participants who did not provide any information regarding the collective self was the largest among those who moved twice or more (17 out of 92, or

18.48%), followed by those who moved once (8 out of 75, or 10.67%), and the smallest among those who never moved (3 out of 63, or 4.76%), $\chi^2(2, N = 231) = 6.82$, $p < .05$.¹ This result indicates that a disproportionately large number of frequent movers did not provide information about their collective selves. We further confirmed this hypothesis with a logistic regression analysis that allowed us to examine the relationship with the full range of the number of moves (0–9). To conduct such analysis, we assigned “1” to the participants who provided group affiliation information and “0” to those who did not provide such information. Consistent with the chi-square result, the more residential moves that participants had experienced, the less likely it was that they listed any important group affiliations ($B = -.22$, $SE = .11$, $Wald = 4.32$, $p < .05$).

Centrality of the personal self. Among the 203 participants who did provide centrality ratings for their personal and collective selves, we first tested our hypothesis on the centrality of the personal self with a regression analysis. Specifically, we examined whether there was a linear as well as a curvilinear association between the full range of residential moves and the centrality of the personal self, controlling for centrality ratings of the collective self. This inclusion of ratings on the collective self allowed us to control for individual differences in overall centrality ratings. With respect to the test of a curvilinear association, the squared number of moves was also entered into the regression model as a predictor. Following the guidelines provided by Aiken and West (1991), all predictors in the model were centered around the grand mean (i.e., z scored), and the squared number of moves was computed on the basis of the centered residential moves to reduce multicollinearity among predictors.

In support of our main prediction, there was a positive linear association between the number of moves and the centrality of the personal self ($B = .22$, $SE = .07$, $\beta = .27$), $t(201) = 2.93$, $p < .01$, $\Delta r^2 = .04$. It is interesting to note that there was also a curvilinear relationship between the number of moves and the centrality of the personal self, as the squared number of the moves was associated with the centrality of the personal self ($B = -.13$, $SE = .03$, $\beta = -.37$), $t(201) = -4.05$, $p < .001$, $\Delta r^2 = .08$. As predicted, the centrality of the personal self increased from nonmovers ($M = 5.17$, $SD = .95$) to those who moved once ($M = 5.56$, $SD = .68$), and increased further for those who moved twice ($M = 5.74$, $SD = .55$). However, the increase in the centrality of the personal self tapered off for those participants who moved three times ($M = 5.66$, $SD = .55$) or more. Next, we estimated the exact point at which the centrality of the personal self peaked, based on the formula provided by Aiken and West (1991). The theoretical peak (i.e., the point where centrality of the personal self was at its greatest) was achieved at the value of 2.89 moves, at which point the centrality of the personal self leveled off.

Centrality of the collective self. Next, we conducted a similar regression analysis predicting the centrality of the collective self

¹ We grouped those who had moved twice or more into a single category for the chi-square analysis because the proportion of “no social self” can be best interpreted when the number of participants in each cell is equivalent. When the whole distribution of the move (0–9) is used in the chi-square analysis, however, the result was essentially the same, $\chi^2(9, N = 231) = 18.93$, $p < .05$.

from the full range of residential moves and the squared number of moves, controlling for centrality ratings of the personal self, following the same procedure described above. Because we did not find a curvilinear association between residential mobility and centrality of the collective self ($B = -.04$, $SE = .06$, $\beta = -.05$), $t(202) = -0.55$, $p = .58$, $\Delta r^2 = .001$, we dropped the squared number of moves from the regression. Our prediction was again supported by a linear association between the number of residential moves and the centrality of the collective self ($B = -.26$, $SE = .10$, $\beta = -.18$), $t(202) = -2.52$, $p < .05$, $\Delta r^2 = .03$. The more times that participants had moved, the less centrality they placed on the collective self.

In summary, Study 1 presented the first direct evidence that personal history of residential mobility is systematically associated with the relative centrality of the personal versus the collective self, thereby supporting the first prediction of the socioecological model of the self. As expected, personal history of residential mobility was linearly associated with a decrease in the centrality of the collective self. In contrast, residential mobility, up to three moves, was linearly associated with an increase in the centrality of the personal self. After three moves, more residential moves were not associated with increased centrality of the personal self.

Study 2: A Laboratory Interaction Study

Because we found support for our model in Study 1, we went on to examine the important ramifications of the link between personal history of residential mobility and the central aspect of the self for positive affect experienced in the context of social interactions. We predict that personal history of residential mobility guides how a person feels in social interactions. Although it might not be intuitive that the number of times an individual had moved would have any influence on one's positive affective experience in social interactions, the results of Study 1 and previous research on self-verification (Swann et al., 2003) suggest that this is rather plausible. For instance, people prefer and seek to interact with others who verify central aspects of the self, whether it is the personal self (Swann et al., 1992) or the collective self (e.g., Chen et al., 2004). Individuals do so presumably because they strive to maintain a coherent sense of the self and anticipate smooth and harmonious social interactions with those who understand them as who they are (Swann et al., 1992). Moreover, people have happier relationships with their partners when the partner sees them the same way as they see themselves (Swann, de la Ronde, & Hixon, 1994). Thus, people should particularly enjoy social interactions in which their interaction partners accurately perceive the central aspect of their self-concepts. The integration between these perspectives and the results of Study 1 leads to the novel prediction that the accurate perception of the personal self by an interaction partner should lead to greater positive affect among frequent movers than among nonmovers, whereas the accurate perception of the collective self should lead to greater positive affect among individuals who had never moved than among those who had moved repeatedly.

Method

Participants. Participants were 65 University of Minnesota students (15 men, 50 women) enrolled in an introductory course in

psychology. Of the participants, 59 identified themselves as European American (91%), 3 participants (4.5%) as African American, and 3 participants (4.5%) as Hispanic American.² Students received extra credit in their course for participating. The average age of the participants was 19.80 years ($SD = 3.21$).

Materials and procedure. The experiment was run in three phases and usually with 2 participants at a time. There was one session in which it was run with 3 participants. There were also 25 sessions in which only 1 participant attended the experiment; in these cases, the experimenter, who was blind to the hypothesis, played the role of the interaction partner in the interaction tasks. Participants were told that they would be participating in a study about social interactions and impression formation. During the first phase, participants were seated separately and instructed to complete a short survey on their personal and collective selves. To assess their personal self, we asked participants to choose two personality traits from a list of 10 that described them most accurately. The 10 traits included in the list were "hardworking," "intelligent," "fun-loving," "friendly," "stubborn," "cooperative," "relaxed," "leader," "emotional," and "rational." Next, to assess the collective self, we asked participants to indicate personally important group memberships (e.g., student newspaper, sorority). Then, they listed the city or town where they were born as well as places to which they had moved. Research assistants counted the number of moves before participants entered college using exactly the same criteria described in Study 1 (i.e., moves before age 5 and within the same city or town were excluded). Twenty-two participants (33.8%) never moved before entering college, 20 (30.8%) moved once, 15 (23.1%) moved twice, and 8 (12.3%) moved three times (range = 0–3). The full range of the number of moves was used as a continuous variable in the following analyses. The mean number of moves in this study was 1.14 ($SD = 1.03$).

During Phase 2, participants were brought together and asked to engage in a discussion task and a recreational task. Discussion topics concerned the use of illegal drugs, dropping out of college, and career choice. The discussion task, which lasted approximately 10–15 min, was designed to give participants an opportunity to express their personal opinions and discover their interaction partner's opinions in a formal setting. Next, the participants were asked to engage in a recreational basketball task. For this task, we mounted a small basketball hoop on the wall of the room used for this study. They took 10 free throws, each in turn. The basketball task was designed to give participants an opportunity to interact with their partner in an informal setting. After these interactions, participants were seated separately before they began the third phase of the experiment. In the final phase, participants were asked to pick two personality traits that described their interaction partner most accurately from the same list used in the first phase of the experiment. Finally, they were asked to guess group affiliations of their interaction partner. There was one occasion in which there were 3 participants. In this case, Participant A rated Participant B,

² We did not include Asian American participants in Studies 2 and 3 because in our previous work, using the laboratory procedure similar to Study 2 and the identical event sampling method used in Study 3 (Oishi, Akimoto, & Koo, 2006), we found that the predictors of positive affect were markedly different between Asian and European Americans.

Participant B rated Participant C, and Participant C rated Participant A.

Then, the participants turned in “the impression sheet” to the experimenter, who, in turn, gave it to their interaction partner. After receiving the impression sheet completed by their interaction partner, participants rated how happy they felt about the impression that the partner formed of them on a 7-point scale ranging from 1 (*not at all*) to 7 (*very strongly*). They also rated how good they felt about the impression. Cronbach’s alpha was .90 for the two positive moods, happy and good, and these scores were averaged to form a single index of positive affect with a mean score of 5.46 ($SD = 1.03$).

After the experiment, research assistants compared personality traits chosen by the participants with those chosen by their interaction partner and counted the number of accurate perceptions of the personal self. The range of the accurate perceptions of the personal self was 0–2, with a mean of 0.66 ($SD = 0.60$) and a median of 1. The assistants also compared each participant’s self-description of group affiliations with the partner’s descriptions and counted the number of accurate perceptions of the collective self, namely, when the partner’s descriptions matched the participant’s self-description perfectly (e.g., “Christian Youth Group” and “Christian Youth Group”) or nearly perfectly (e.g., “Christian Youth Group” and “a church group”). The range of the accurate perceptions of the collective self was 0–4, with a mean of 0.85 ($SD = 0.90$) and a median of 1.

Results and Discussion

Because this experiment was done in a dyadic (or triadic) fashion, we analyzed the data using hierarchical linear modeling (HLM, Version 5.04; Raudenbush, Bryk, Cheong, & Congdon, 2001). Following Campbell and Kashy’s (2002) guidelines, a participant’s positive affect about the impression formed by the partner was predicted by the number of accurate perceptions of the personal self provided by the partner, the number of accurate perceptions of the collective self provided by the partner, the number of the participant’s residential moves, and the interaction terms. The Level 1 model was as follows:

$$\begin{aligned} \text{Positive affect} = & \beta_0 + \beta_1(\text{gender}) + \beta_2(\text{personal}) \\ & + \beta_3(\text{collective}) + \beta_4(\text{move}) + \beta_5(\text{personal} \times \text{move}) \\ & + \beta_6(\text{collective} \times \text{move}) + r. \end{aligned}$$

All Level 1 variables except gender were centered around the grand mean (i.e., z scored), and the interaction terms were formed on the basis of the centered variables (Aiken & West, 1991). Gender was coded as female = 0 and male = 1. Level 2 variables were two characteristics of the dyad; namely, whether the dyad consisted of the same gender or not (different gender = 0; same gender = 1) and whether the dyad involved an experimenter (with an experimenter = 0; with a real participant = 1). First, in the initial analyses, all Level 1 variables (coefficients and an intercept) were predicted from these two dyad characteristics. However, none of these Level 2 variables was significant ($lts < 1.01$, $ps > .32$). Thus, we did not include the variables at Level 2 in the final analysis. We also examined whether there was a nonlinear interaction between the number of moves and the accurate perceptions

of the personal and the collective self, respectively, by including the interaction terms with the squared number of moves in the regression equation. None of these curvilinear interactions was significant ($lts < 0.62$, $ps > .52$). Thus, these curvilinear interaction terms were not included in the final analysis.

Table 1 shows the results from the HLM analysis. Our hypothesis concerning the personal self was supported, as we found an expected interaction between the number of residential moves and accurate perceptions of the personal self ($\gamma_{50} = 0.23$, $t = 2.34$, $p < .05$, $d = .67$).³ As seen in the top panel of Figure 1, the more accurately their personal selves were perceived by the interaction partner, the more positively frequent movers felt about the impression formed by the interaction partner. In contrast, individuals who had never moved before entering college felt slightly worse about the impression when their interaction partner accurately perceived their personal selves than when their interaction partner inaccurately perceived them. It should be noted that because all the personality traits used in this experiment were positive, inaccuracy did not mean negative (e.g., self-perception of “hardworking” vs. partner perception of “relaxed”). In the present context, therefore, nonmovers might have felt that they were too “predictable” when the partner accurately perceived their personal selves after a short interaction.

Our prediction regarding the collective self was also supported by a negative interaction between residential mobility and the accurate perception of the collective selves ($\gamma_{60} = -0.28$, $t = -3.04$, $p < .01$, $d = -.87$). Specifically, participants who had never moved felt more positive affect about the impression when the interaction partner perceived their collectives selves accurately than when the partner did not perceived their collective selves accurately (see Figure 1b). Unlike those who had never moved, those who had moved a lot did not feel more positive affect as a result of the partner’s accurate perception of their collective selves.

It is interesting that, overall, frequent movers felt more positive affect about the impression formed by their interaction partner than those who had moved less frequently ($\gamma_{40} = 0.35$, $t = 3.57$, $p < .01$, $d = 1.02$). This might be due to the fact that the laboratory interaction was limited to an unacquainted partner and that individuals who had moved frequently were more facile in a “stranger” situation than those who had never moved.

In summary, Study 2 provided additional support for the sociological model of the self. Frequent movers felt more positive affect about the impression formed by their interaction partner when they thought that the interaction partner had perceived their personal selves accurately, whereas nonmovers felt more positive affect when they thought that the interaction partner had perceived their collectives selves accurately. Therefore, Study 2 indicates that personal history of residential mobility is associated with specific interpersonal conditions in which individuals feel positive

³ To our knowledge, a consensus has not been reached regarding the appropriate effect size for multilevel analysis (J. K. Roberts & Monaco, 2006). To provide some idea regarding the magnitude of the effects from the HLM analyses reported in Studies 2 and 3, however, we converted t values to r s, using Formula 2.5 in Rosenthal, Rosnow, and Rubin (2000) and then converted r s to d s using Formula 2.14. Because HLM analysis provides only approximate d s, we used the approximate d in place of the d in the Formula 2.5. This might result in some bias in the estimation.

Table 1
HLM Analysis of Study 2: The Moderating Role of Residential Mobility in the Relation Between the Accurate Perception of the Personal versus Collective Selves and Positive Affect

Variable	Unstandardized coefficient	SE	t	p
Intercept, β_0				
Intercept, γ_{00}	5.68	0.11	51.31	.000
Sex, β_1				
Intercept, γ_{10}	-0.64	0.24	-2.70	.010
Personal self slope, β_2				
Intercept, γ_{20}	-0.10	0.10	-0.95	.347
Collective selves slope, β_3				
Intercept, γ_{30}	0.36	0.12	3.07	.004
No. of move slope, β_4				
Intercept, γ_{40}	0.35	0.10	3.57	.001
Personal self \times Move interaction slope, β_5				
Intercept, γ_{50}	0.23	0.10	2.34	.024
Collective self \times Move interaction slope, β_6				
Intercept, γ_{60}	-0.29	0.10	-3.04	.004

Note. HLM = hierarchical linear modeling; No. = Number.

affect about the partner's perception of the self. However, two limitations should be noted. First, because this study took place in a laboratory setting in which participants interacted with a stranger for a short period of time, it was unclear whether these findings could be generalized to everyday social interactions. Second, we measured participants' positive affect specifically about the impression formed by the interaction partner. However, positive affect about the partner's impression might be quite distinct from positive affect felt during the social interaction. We sought to examine these remaining questions in Study 3.

Study 3: An Event Sampling Study

In order to examine the relationship between residential mobility and affective experience in a more ecologically valid context than the laboratory setting used in Study 2, we conducted an event sampling study (see Reis & Gable, 2000, for the benefits of event sampling method). For 2 weeks, for each interaction lasting 10 min or longer, participants recorded their positive affect and the degree to which they perceived that their personal and collective selves were understood by their interaction partners. This methodology allows us to examine the socioecological model in more naturalistic settings and to demonstrate that the relationship between residential mobility and the self-concept has a significant implication for positive affect experienced in daily social interactions.

Method

Participants. Participants were 64 students (25 men and 39 women) at the University of Virginia. They received either \$25 or 4 hr of research credit toward an introductory psychology course upon completion of the study. Of the 64 participants, 49 identified themselves as European Americans, 8 identified themselves as African Americans, 5 identified themselves as Hispanic Americans, and 2 did not provide this information. Eight participants

were born outside of the United States. Residential mobility was measured in exactly the same way as in Studies 1 and 2. Twenty-six (40.6%) participants had never moved before entering college, 12 (18.8%) had moved once, 10 (15.6%) had moved twice, 4 (6.3%) had moved three times, 3 (4.7%) had moved four times, and 2 (3.1%) had moved five times (i.e., range = 0–5). Seven participants did not provide this information. The mean number of moves was 1.16 ($SD = 1.40$).

Materials and procedure. Participants came to a research laboratory and met individually with an experimenter. The experimenter gave participants a personal digital assistant (PDA) that was programmed with a short survey and told participants to complete this survey each time they engaged in a social interaction that lasted more than 10 min. They were told to document their social interactions in this way for the next 2 weeks. The experimenter defined a social interaction as one that involves a face-to-face conversation, a shared activity (e.g., playing cards together), a phone conversation, or an online Instant Message conversation. Participants were informed that all of their entries would be automatically time-stamped.

Event sampling items. Participants indicated how much they felt happy and pleasant during the interaction using a 7-point scale ranging from 1 (*not at all*) to 7 (*extremely*). Positive affect (PA) is indicated by participants' average rating of "happy" and "pleasant" ($\alpha = .87$). In addition, participants reported the extent to which their interaction partner understood their personal selves (i.e., their "personality" and their "abilities and skills," $\alpha = .86$) and the extent to which the partner understood their collective self (i.e., their "social and cultural background" and their "social roles/situations," $\alpha = .89$). The mean number of valid reports completed by each participant over the 2-week period was 37.19 ($SD = 21.61$).⁴ The event sampling method, therefore, provided ample opportunity to estimate the within-person covariation between confirmation of the self-concept and PA experienced in everyday social interactions.

Results and Discussion

We tested our hypotheses with multilevel random coefficient models (MRCMs) using HLM (5.04 program) because our data were nested within each person (Kenny, Kashy, & Bolger, 1998). The specific model that we tested was as follows:

Level 1: Within person

$$PA = \beta_0 + \beta_1 \times \text{Personal self} + \beta_2 \times \text{Collective self} + \text{error.}$$

Level 2: Between person

$$\beta_0 = \gamma_{00} + \gamma_{01} \times (\text{gender}) + \gamma_{02} \times (\text{born U.S.}) + \gamma_{03} \times (\text{move}) + \gamma_{04} \times (\text{move}^2) + u_0.$$

⁴ We checked the time stamp and reaction times for each entry. If more than half of the questions were answered within 50 ms, which is unreasonably fast for the judgments to be valid, the reports were excluded. As a result, 11 participants had fewer than 10 valid reports. Thus, these participants were removed from the rest of the analyses.

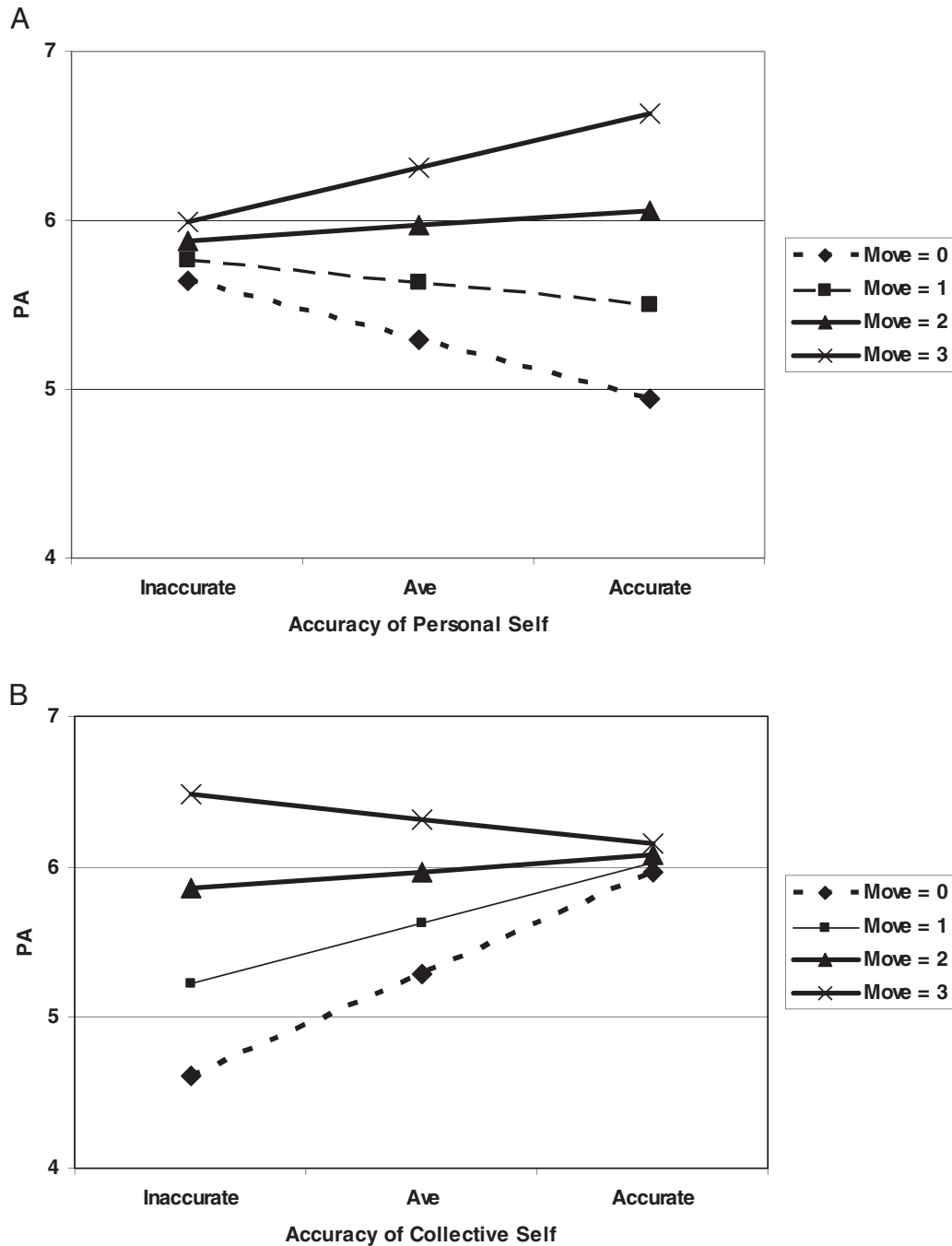


Figure 1. The association between accurate perception of a participant’s collective/personal self by the interaction partner and the participant’s positive affect (PA) in Study 2. On the x-axis, “inaccurate” indicates 1 standard deviation below the mean in accuracy of collective/personal self and “accurate” indicates 1 standard deviation above the mean in accuracy of collective/personal self. Ave = Average.

$$\beta_1 = \gamma_{10} + \gamma_{11} \times (\text{gender}) + \gamma_{12} \times (\text{born U.S.}) + \gamma_{13} \times (\text{bove}) + \gamma_{14} \times (\text{move}^2) + u_1.$$

$$\beta_2 = \gamma_{20} + \gamma_{21} \times (\text{gender}) + \gamma_{22} \times (\text{born U.S.}) + \gamma_{23} \times (\text{move}) + \gamma_{24} \times (\text{move}^2) + u_2.$$

Level 1 predictors were centered around each individual’s mean. Level 2 predictors were centered around the grand mean, except for gender (0 = female, 1 = male) and whether they were born in the United States (0 = outside the U.S., 1 = in the U.S.). We included this variable because the meaning of a residential move might be quite different for immigrants than for U.S. born partic-

ipants. As in Studies 1 and 2, the squared number of moves was computed on the basis of the centered number of moves.

Level 1 analysis examined whether the degree to which perceived understanding of the personal and collective self was associated with PA for each participant. Because these Level 1 predictors were centered around each participant's mean, β_0 indicates each participant's mean PA, and β_1 and β_2 indicate the degree to which fluctuations in perceived understanding of the personal self and the collective self, respectively, were associated with fluctuations in PA for each participant. Level 2 analysis examined the degree to which interindividual differences in Level 1 coefficients, β_0 , β_1 , β_2 , were associated with their history of residential mobility, gender, and whether they were born in the United States.

The results of the HLM analysis confirmed our main hypotheses (see Table 2 for details). As expected, the cross-level interaction between perceived understanding of the personal self and the number of residential moves was significant ($\gamma_{13} = .32$, $t = 3.55$, $p < .01$, $d = 1.12$). In addition, the cross-level interaction between perceived understanding of the personal self and the squared number of residential moves was also significant ($\gamma_{14} = -.21$, $t = -3.84$, $p < .01$, $d = 1.21$). These results indicate that the association between the understanding of the personal self and PA became increasingly larger from those who had never moved (unstandardized coefficient of 0.37 in a simple slope analysis, i.e., one-point increase in perceived understanding of the personal self was associated with 0.37-point increase in PA) to those who had moved once (simple slope coefficient of 0.74), to twice (simple slope coefficient of 0.90). Then, the size of the association became gradually smaller for those who had moved three times (coefficient of 0.84) or more. As in Study 1, we computed the theoretical peak of the association between perceived understanding of the personal

self and PA on the basis of the coefficients obtained in Table 2, following Aiken and West's (1991) formula. The association between perceived understanding of the personal self and PA reached the peak at the value of 2.25 moves.

Our prediction regarding the collective self was also supported, as the cross-level interaction between perceived understanding of the collective self and the number of moves was significantly negative ($\gamma_{23} = -.24$, $t = -3.16$, $p < .01$, $d = -1.00$). In addition, the cross-level interaction between perceived understanding of the collective self and the squared number of moves was also significant ($\gamma_{24} = .14$, $t = 2.71$, $p < .05$, $d = 0.85$). These results indicate that the association between the understanding of the collective self and PA became increasingly negative from those who had never moved (unstandardized coefficient of 0.06 in a simple slope analysis) to those who had moved once (simple slope coefficient of -0.21) to those who had moved twice (simple slope coefficient of -0.33). Then, the negative association became gradually smaller for those who had moved three times (simple slope coefficient of -0.31) or more. The theoretical nadir of the association between perceived understanding of the collective self and PA was at the value of 2.36 moves.

In addition to the main findings above, we also found interaction effects between perceived understanding of the personal and collective self and demographic variables. For instance, the association between perceived understanding of the personal self and PA was stronger for participants who were born in the United States than for those who were born outside of the United States ($\gamma_{12} = .56$, $t = 2.91$, $p < .05$, $d = 0.92$), whereas the association between perceived understanding of the collective self and PA was stronger for participants who were born outside of the United States than for those who were born in the United States ($\gamma_{22} = -.38$, $t = -2.42$, $p < .05$, $d = -0.76$). Of interest is that the association between the understanding of the collective self and PA was also stronger for male participants than for female participants ($\gamma_{21} = .37$, $t = 3.45$, $p < .01$, $d = 1.09$).

In summary, the results of this study conceptually replicated the findings from the laboratory interaction study (see Study 2), but in participants' natural daily contexts. These results illustrate that individuals who moved once or twice in their formative years felt more positive affect when their personal selves were believed to be perceived more accurately in their social interactions, whereas nonmovers felt more positive affect when their collective selves were believed to be perceived more accurately. Finally, as in Study 1, we found a curvilinear association involving the number of residential moves. These results suggest that the impact of residential mobility on the centrality of the personal versus the collective selves may start to decline when the number of moves is more than two or three.

General Discussion

In this research, we found support for the socioecological model of the self, which was built on a diverse collection of social and behavioral science literatures, ranging from historical changes in societal structure (Baumeister, 1986, 1987) to the evolutionary importance of small group life (Dunbar, 1993). We showed that residential mobility was associated with the relative centrality of the personal over collective self (see Study 1). Moreover, we found evidence that individual differences in history of residential mo-

Table 2

HLM Analysis of Study 3: The Moderating Role of Residential Mobility in the Within-Person Association Between the Understanding of the Personal and Collective Self and Positive Affect

Variable	Unstandardized coefficient	SE	t	p
Intercept, β_0				
Intercept, γ_{00}	5.33	0.32	17.58	.000
Sex, γ_{01}	0.07	0.22	0.36	.719
Born in U.S., γ_{02}	-0.71	0.34	-2.21	.033
Move, γ_{03}	-0.33	0.17	-2.08	.043
Move ² , γ_{04}	0.19	0.11	1.89	.066
Personal self, β_1				
Intercept, γ_{10}	0.22	0.18	1.29	.203
Sex, γ_{11}	-0.25	0.13	-2.09	.043
Born in U.S., γ_{12}	0.56	0.21	2.91	.006
Move, γ_{13}	0.32	0.10	3.55	.001
Move ² , γ_{14}	-0.21	0.06	-3.84	.001
Collective self, β_2				
Intercept, γ_{20}	0.14	0.16	1.06	.297
Sex, γ_{21}	0.37	0.12	3.45	.002
Born in U.S., γ_{22}	-0.38	0.18	-2.42	.020
Move, γ_{23}	-0.24	0.09	-3.16	.003
Move ² , γ_{24}	0.14	0.06	2.71	.010

Note. HLM = hierarchical linear modeling; U.S. = United States; Move² indicates the squared number of moves.

bility and self-concepts guide positive affective experiences in social interactions (see Studies 2 and 3). Both in laboratory and natural, daily social contexts, individuals who had moved once or twice felt more PA than did nonmovers when their interaction partner perceived their skills and personality traits accurately. In contrast, nonmovers felt more PA than did frequent movers when their interaction partner perceived their group memberships and social background accurately.

Results of Studies 2 and 3 are consistent with previous research and theories, which suggests that individuals prefer others who accurately perceive (e.g., Chen et al., 2004; Swann et al., 1992) and respond to the central aspects of the self (e.g., Reis et al., 2004). However, the present research also extends previous research on self-verification, in that individuals may prefer to interact with those who perceive them accurately because these accurate perceptions enhance PA experienced in social interaction, and perhaps long-term well-being. Moreover, the present research demonstrated, for the first time, that specific aspects of the self that need to be understood are systematically different across individuals, depending on one's personal history of residential mobility. In summary, the present research highlights important individual differences along the dimension of personal history of residential mobility in understanding the self-concept, and it delineates a process that links personal history of residential moves to happiness felt in social interactions.

Implications of Residential Mobility and the Self

The present consideration of residential mobility and its role in shaping self-concepts and PA in social interactions has several important implications for research on culture, personality, and well-being. First, most personality psychologists deem traits and self-concepts to be central constituents of personality (e.g., Allport, 1937; McAdams & Pals, 2006; McCrae & Costa, 1999). Although there is a great deal of evidence on genetic foundations of personality traits (e.g., Bouchard, 1994), empirical evidence linking specific life experiences to personality is limited to specialized topics such as posttraumatic growth (e.g., Bonanno, 2005) and work experiences (e.g., B. W. Roberts, Caspi, & Moffitt, 2003). The present findings, then, add to the larger literature on life experiences and personality by demonstrating that childhood and adolescence experiences of residential moves contribute to the self-concept in a concrete way. Namely, the more residential moves an individual experiences, the more central the personal self becomes and the less central the collective self becomes to the self-concept, at least up to two or three moves. Our findings, then, suggest that the experience of residential moves during formative years shifts the centrality of the different aspects of the self.

Second, we demonstrated that personal history of residential mobility modulated the relationship between interpersonal understanding of the personal self versus the collective self and happiness felt in social interactions. Previous research on relocation and well-being has focused on the main effect of relocation on the levels of global well-being (Adam, 2004; Scanlon & Devine, 2001, for review). Our findings suggest that the experience of residential moves during childhood and adolescence alter one's basis for happiness felt in social interactions via shaping the relative importance of the personal versus collective self. The more often individuals move, at least up to roughly three moves, the more

others' understanding of the personal self becomes a source of happiness in social interactions. However, the fewer times individuals move, the more others' understanding of the collective self becomes a source of happiness in their social lives.

Third, previous social psychological research on the self has repeatedly shown the power of situations and contexts on the salient aspect of the self (e.g., Brewer, 1991; Cialdini et al., 1976; McGuire, McGuire, Child, & Fujioka, 1978). Most of the situations and contexts examined in the past, however, were transient in nature (e.g., priming procedures, being the only Black person in a group). In contrast, the present studies have demonstrated the importance of considering stable socioecological factors such as personal history of residential mobility in the shaping of self-concepts. In other words, we discovered important individual differences associated with personal history of residential mobility, demonstrating that stable socioecological factors (e.g., residential mobility) play a much larger role in one's self-concept and affective patterns than previously acknowledged.

Finally, the present research suggests that the previous cross-cultural and cross-regional difference findings on the self-concept (e.g., Cousins, 1989; Kashima et al., 2004) might be due in part to societal differences in residential mobility. For instance, American society is more mobile than Japanese society, as each year more than 20% of Americans move, compared with less than 5% of Japanese (Schmitt, 2001; Statistics Bureau & Statistics Center of Japan, 2001). One reason why Americans' spontaneous self-descriptions are, on average, concerned more with their personality traits than Japanese may be related to greater residential mobility among Americans. A recent study from our lab shows preliminary evidence of this assertion (Oishi, Akimoto, & Koo, 2006). Like nonmovers in the present studies, Asian Americans felt happier when their interaction partner understood their collective selves. Resembling frequent movers, European Americans, on average, felt happier when their interaction partner understood their personal selves. Hence, these research findings suggest that residential mobility presents an explanation for cultural differences in well-being that may underlie the individualism-collectivism dimension (e.g., Oishi, Diener, Lucas, & Suh, 1999; Suh, Diener, Oishi, & Triandis, 1998). Although it is premature to draw such a conclusion at this point, our findings present an appealing explanatory variable for within-societal changes over time as well as present cross-societal differences. An exciting possibility of this approach is that we might be able to predict cultural changes in the salient aspects of the self-concept and interpersonal bases of happiness felt in social interactions from societal changes in residential mobility.

Future Direction on Mobility and Other Psychological Consequences

In the present research, we examined how residential mobility links to the centrality of different aspects of the self-concept and the ramifications of this link for PA in social interactions. It is critical to investigate other psychological consequences of residential mobility in the future. For instance, it is probable that as society becomes more mobile, a strong sense of community and neighborhood will become more difficult to achieve. As a result, increased mobility could adversely affect the fostering of cohesiveness in a community or organizational loyalty within the

workplace (e.g., Putnam, 2000). In addition, it would be worthwhile to compare the consequences of individuals' mobility on a personal as well as societal level. It might be that mobility will increase individuals' personal happiness (Kling, Ryff, & Essex, 1997), but communities, neighborhoods, and organizations as a whole may suffer from such mobility. Although the present research assumed the causal direction from residential mobility to self-concepts, it is also important to examine the other causal direction: how individuals' self-concept (relative centrality of the personal vs. collective self) influences where they live, how often they move, and what kind of close relationships and communities they form. This could be examined among adults because they, unlike children, have considerable control over whether they stay in the same community or move to another.

As articulated by Cohen (2001), a number of other political, geographical, historical, and economic factors should be examined as potential moderators of the influence of residential mobility on a number of psychological outcomes. With technological developments (e.g., video conferencing), for instance, the psychological impact of residential mobility on the disconnection of social ties may be substantially mitigated. Also, the effect of residential mobility on individuals living in a small country (e.g., Denmark, Japan) might be quite different from that on individuals living in a large country (e.g., the United States) because there may be fewer cultural and regional differences within a smaller country. Furthermore, the reasons for residential moves were not assessed in this study, partly because it was unlikely that the present participants had any control over their moves as children. When examining adults' mobility, however, the motives (e.g., economic reasons, occupations) should become critical (Smider, Essex, & Ryff, 1996).

Finally, in Studies 1 and 3, we found a curvilinear association between personal history of residential mobility and centrality of the personal versus collective self. The pattern of this association suggests that the impact of residential moves on the self-concept is strongest for the first 2–3 moves, and the relationships begin to level off or decline after 3 moves. Namely, the effect of a residential move becomes smaller after the first 2–3 moves. In the two studies in which we found the curvilinear effect, however, the interpretation of the curvilinear associations requires some caution because the number of participants who had experienced residential moves of three or more was small (10% in Study 1 and 14% in Study 3). These individuals may have had other experiences that were associated with their history of residential mobility that influenced how they saw themselves. For example, those who moved more than three times during childhood and adolescence might belong to military or missionary families who emphasize the collective aspects of the self. Future research may examine other factors associated with frequent residential moves and whether these factors also play a role in shaping one's self-concept.

Conclusion

Residential mobility has been one of the defining features of American society. Mobility presents enormous opportunities and challenges to individuals and to society. Naturally, it has received a great degree of research attention in other social sciences (e.g., Coleman, 1988; Sampson, Morenoff, & Earls, 1999). In contrast, it has received little research attention in personality and social

psychology (see Kling et al., 1997; Smider et al., 1996; Yamagishi, 1998, for notable exceptions). As advocated by Rozin, Kabnick, Tete, Fischler, and Shields (2003), socioecological factors cannot continue to be neglected if a main goal of psychological science is to understand and predict human behaviors in a rapidly changing world. To this end, our findings demonstrate that residential mobility is a promising avenue through which researchers can advance their understanding of the dynamic interactions between the self and society.

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