

**Low Relational Mobility Leads to Greater Motivation
to Understand Enemies but not Friends and
Acquaintances**

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Abstract

Enemyship occurs across societies, but it has not received as much attention as other types of relationships such as friendship in previous research. This research examined the influence of relational mobility on people's motivation to understand their personal enemies by measuring different dependent variables across three studies. First, a cross-cultural comparison study found that Hong Kong Chinese, from a low-relational-mobility society, reported a stronger desire to seek proximity to enemies relative to European Canadians, from a high-relational-mobility society (Study 1). To test causality, two manipulation studies were conducted. Participants were presented with images of coworkers, including enemies, friends, and acquaintances, in a hypothetical company. The results showed that the participants who perceived lower relational mobility paid more attention to their enemies in an eye-tracking task (Study 2) and had a higher accuracy rate for recognizing the faces of the enemies in an incidental memory test (Study 3). In contrast, the influence of relational mobility on motivation to understand friends and acquaintances was minimal. Implications for research on interpersonal relationships and relational mobility are discussed.

Low Relational Mobility Leads to Greater Motivation to Understand Enemies but not Friends and Acquaintances

Humans, as social animals, form different types of social relationships to achieve a sense of belonging (Baumeister & Leary, 1995). From these social relationships, we gain mental and practical supports for achieving positive outcomes (e.g., Yamaguchi, 2013). However, not all interpersonal relationships are positive.

There are negative interpersonal relationships, such as enemyship. Enemyship occurs across cultures (e.g., Abecassis, Hartyp, Haselager, Scholte, & Van Lieshout, 2002; Adams, 2005; Card, 2007; Li & Masuda, 2016). However, it has not received as much attention as other relationships (e.g., friendship and romantic relationships), although some previous studies have examined it closely (Adams, 2005; Li & Masuda, 2016; Mead & Maner, 2012; Motro & Sullivan, 2017; Sullivan, Landau, & Rothschild, 2010; Wiseman & Duck, 1995). Most previous work has focused on attitudes, emotions, and perceptions in enemyship. Several researchers have found that some personal characteristics, such as low perceived control (Sullivan et al., 2010), prevention-oriented regulatory focus (Li & Masuda, 2016), and interdependent self-construal (Adams, 2005), increased concerns about enemies. Situational factors also play an important role in shaping people's enemyship experience. For instance, instability of power status increased concern about enemies (Mead & Maner, 2012).

Instead of examining temporary situational factors such as instability of power, this research examined the influence of stable chronic objective social habitats on people's psychological processes and behaviours. Here, we examined the role of relational mobility, which is defined as the number of opportunities afforded by the given environment that allow people to voluntarily form new social relationships and to terminate undesirable social

relationships (Yuki et al., 2007), in shaping people's enemyship experiences. Specifically, we examined how this chronic socio-ecological factor may affect people's self-protective strategies to deal with enemies, which are regarded as a source of threats across cultures (Sullivan et al., 2010). We tested whether low relational mobility would encourage greater motivation to understand enemies instead of keeping them away.

Relational mobility and enemyship

Enemyship

Personal enemyship is a hostile relationship because enemies often make use of the available resources to undermine an individual's goals and well-being (Adams, 2005; Sullivan et al., 2010). Enemies are defined as those who hate us personally and want to sabotage our progress (Adams, 2005). Therefore, enemies are usually perceived as a source of threats/misfortune, and this perception promotes intense negative emotion (Motro & Sullivan, 2017).

To defend against this source of threats, people are required to adopt some self-protective strategies. To fight (to attack enemies) or to flight (to avoid enemies) are some possible strategies (e.g., Blanchard, Hynd, Minke, Minemoto, & Blanchard, 2001; Newman & McKinney, 2002; Park, Faulkner, & Schaller, 2003; Schlund, Hudgins, & Dymond, 2013). However, these strategies are less available in some environments. For example, when enemies appear in ingroups (e.g., Adams, 2005; Marwick, 1967; Mead & Maner, 2012), which implies frequent interaction with the enemies, it may be better to keep a closer eye on the enemies instead of avoiding or directly fighting against them. Keeping proximity to enemies may allow people to monitor the enemies' actions and react quickly when enemies plan to do harm to them (Mead & Maner, 2012).

Relational mobility and enemyship

Prior research has consistently shown that the degree of (relational) mobility affects people's relationship construction as well as the form of their social networks (see Oishi, 2010; for a review). For instance, high mobility (vs. low mobility) would promote larger friendship networks (Lun, Roth, Oishi, & Kesebir, 2012), fewer cautions about friendship and less concern about existences of enemies (Li, Adams, Kurtis, & Hamamura, 2015). Mobility also extensively shapes people's strategies used in different types of social relationships (e.g., Li, Hamamura, & Adams, 2016; Lou & Li, 2017; Sato, Yuki, & Norasakkunkit, 2014). For instance, self-disclosure in friendship (Schug, Yuki, & Maddux, 2010) and intimacy seeking in both friendship and romantic relationships (Yamada, Kito, & Yuki, 2015) are more likely to be adopted as a commitment device to strengthen relationships in high-relational-mobility societies.

People in high-relational-mobility environments separate social relationships from the context, as social relationships are developed mainly based on personal choice (Adams, Kurtis, Salter, & Anderson, 2012). An environment with a greater number of available choices allows people freedom to select similar others to be best friends (Schug, Yuki, Horikawa, & Takemura, 2009), but it also requires people to actively put more efforts in maintaining rather fragile social relationships in such an 'open social market' (Schug et al., 2010). While seeking for desirable social relationships, people in high-relationalmobility environments can keep enemies away easily because they can form new relationships easily to replace undesirable ones. In contrast, due to the limited number of opportunities to meet new people, social relationships in low-relational-mobility environments are rooted in the context, which implies that pre-existing relationships are rather stable. Thus, fewer efforts are needed to maintain social relationships (Schug et al., 2010). However, inherent stable social relationships create accumulated tensions,

which become difficult to express and resolve (Marwick, 1967), in turn making negative forms of relationships such as enemyship an inevitable part of one's life (Oishi, Schug, Yuki, & Axt, 2015).

These theoretical notions led to an expectation that low relational mobility would make the enemyship construct more salient. Prior work supported this expectation. Adams (2005) examined enemyship in Ghana, where social relationships are embedded in the contexts (i.e., a low-relational-mobility society), and the United States, where social relationships are formed based on personal choice (i.e., a high-relational-mobility society). He found that Ghanaians reported having more enemies than Americans. However, the question of how relational mobility would affect people's enemyship experience has not been directly tested until recently. Although enemyship was not the focus, a study of Li et al. (2015) found that people were more likely to perceive that they have enemies in the lower relational mobility societies. Except this piece of evidence, no further empirical tests have been conducted to closely examine the influence of relational mobility on enemyship. In addition, to the best of our knowledge, no research directly tested the influence of relational mobility on people's self-protective strategies to enemies. Furthermore, causal evidence supporting a significant relation between relational mobility and strategies adopted in enemyship was absent.

Two types of self-protective strategies against enemies and relational mobility

People develop different self-defensive strategies when they encounter threats. Despite the fact that people automatically attend to threatening stimuli initially (West, Anderson, & Pratt, 2009), we get motivated to avoid them, as attending to them or being closer to them can induce a lot of psychological stress (e.g., Baumeister, Heatherton, & Tice, 1994; Park et al., 2003; Schlund et al., 2013). Following this rationale, the easy way to deal with enemies is to avoid

them. However, the use of self-protective strategies is highly depended by the features of the situation in which the treat is encountered (Blanchard et al., 2001). High-relational-mobility environments provide available alternatives and allow people to terminate undesirable relationships, making it easy to avoid the enemies. In contrast, people from low-relational-mobility environments have limited options to replace the undesirable social relationships. Instead, these negative social relationships become an inevitable part in the daily life. In other words, encountering threats (i.e., meeting the enemies) may become a chronic social experience. To be adaptive in these environments, people need to develop a different self-defensive strategy. When avoiding enemies is almost impossible, it may be better to understand enemies, which would allow people to monitor the actions of their enemies. This may reduce possible threats imposed by their enemies (Mead & Maner, 2012).

Overview of the current research

We tested the hypothesis that people in low-relational-mobility environments, where enemies are an inevitable part of social life, would be more motivated to understand their enemies than those in high-relational-mobility environments, where they can easily free themselves from enemies.

To test the hypothesis, we conducted one cross-cultural comparison study and two manipulation studies. In the cross-cultural comparison study, we recruited European Canadian and Hong Kong Chinese participants, which were found to be significantly different in relational mobility in the previous study (Lou & Li, 2017). In the relational mobility manipulation studies, we recruited participants from a single culture (i.e., European Canadians) with the aim of controlling possible confounding influences associated with bicultural background (e.g., Benet-Martinez, Leu, Lee, & Morris, 2002). We measured participants' responses to their enemies in a

hypothetical company, which was low or high in relational mobility. We examined the influence of relational mobility on the motivation to understand enemies with different measures across three studies, including participants' desire to keep proximity to their enemies in Study 1, fixation duration in an eye-tracking task in Study 2, and the accuracy rate for recognizing the faces in a memory test in Study 3.

STUDY 1

We first examined the influence of relational mobility on motivation to understand enemies by assessing people's desire to keep proximity to the enemies. Mead and Maner (2012) argued that keeping proximity to their enemies would help people to understand and monitor the actions of the enemy, and this strategy was more likely to be adopted when the concern of enemies was activated. We hypothesized that low relational mobility (vs. high relational mobility) would promote a stronger desire to keep proximity to enemies.

Participants

The effect size of the group difference in relational mobility between North Americans and East Asians varied from small (Zhang & Li, 2014; $d = .284$) to large (Lou & Li, 2017; $d = .868$); thus, we expected a medium effect size. A statistically significant medium effect (i.e., $d = .5$, $p = .05$) would require about 65 participants per culture to attain 80% power by G*Power (Faul, Erdfelder, Buchner, & Lang, 2009). Finally, we have recruited 54 Hong Kong Chinese (33 females, two did not report their gender; mean age = 22.093, $SD = 3.509$) living in a low-relational-mobility society (i.e., Hong Kong), and 59 European Canadians (45 females; mean age = 19.322, $SD = 1.479$) living in a high-relational-mobility society (i.e., Canada), suggested by previous work (Lou & Li, 2017). With the expected medium effect size and the given sample

size, the achieved power of this study was 75%. Hong Kong Chinese participated for a lottery of the prize of HK\$200, while European Canadians participated for partial course credits.

Materials and procedure

To test people's motivation to understand their enemies, we modified the material developed by Mead and Maner (2012), assessing how 'close' they want to keep themselves to their enemies. In this study, participants were asked to imagine that they were attending an event. They were presented with a seating plan, in which their enemy was sitting in the middle of a row. The participants were asked to indicate which seat they preferred (see Figure 1). If participants were motivated to keep their enemies closer, they would be more likely to choose the seat closer to the enemy. We recoded the seat closest to the enemy (i.e., Seat E or F) as 5 and the seat farthest to the enemy (i.e., Seat A or J) as 1.

After that, participants completed a 12-item Relational Mobility Scale (Yuki et al., 2007; Hong Kong Chinese: $\alpha = .796$; European Canadians: $\alpha = .786$) with a 6-point rating scale, ranging from 1 (strongly disagree) to 6 (strongly agree). The sample items were "They (people around them) have many chances to get to know other people" and "If they did not like their current groups, they would leave for better ones".

Results and discussion

Relational mobility

Consistent with the previous work (Lou & Li, 2017), the results showed that European Canadians reported higher perceived relational mobility ($M = 4.454$, $SD = 0.643$) than Hong Kong Chinese did ($M = 3.937$; $SD = 0.631$), $t(113) = 4.330$, $p < .001$, Cohen's $d = .821$, 95% CI [0.280, 0.754].

Distance to enemies

The t-test analysis revealed a marginally significant cultural difference in the distance to enemies, showing that Hong Kong Chinese ($M = 2.339$; $SD = 1.326$) preferred greater proximity to their enemies than European Canadians did ($M = 1.966$; $SD = 1.259$), $t(113) = 1.668$, $p = .098$, Cohen's $d = .288$, 95% CI $[-0.070, 0.816]$. This indicated that Hong Kong Chinese had a stronger motivation to understand their enemies than European Canadians did.

The influence of relational mobility

First, perceived relational mobility was negatively correlated with the desire to keep close proximity to the enemies, $r(114) = -.312$, $p = .001$, 95% CI $[-0.473, -0.139]$. To test the mediating role of relational mobility in explaining the cultural variation in the desire to keep proximity to the enemies, we conducted a mediation analysis. Adopting the procedure developed by Preacher and Hayes (2008), we conducted the analysis with 5,000 bootstrap samples and a bias-corrected confidence interval. The mediation analysis showed that European Canadians perceived higher relational mobility than Hong Kong Chinese, $\beta = .379$, $p < .001$, and lower perceived relational mobility promoted the desired proximity to the enemies, $\beta = -.298$, $p = .003$. More importantly, the cultural difference in the desire to keep proximity to the enemies was significantly explained by the perceived relational mobility, indirect effect = $-.273$, 95% CI $[-0.540, -0.104]$ (based on the unstandardized coefficients) (β for c path: $-.155 \rightarrow -.037$) (see Figure 2).

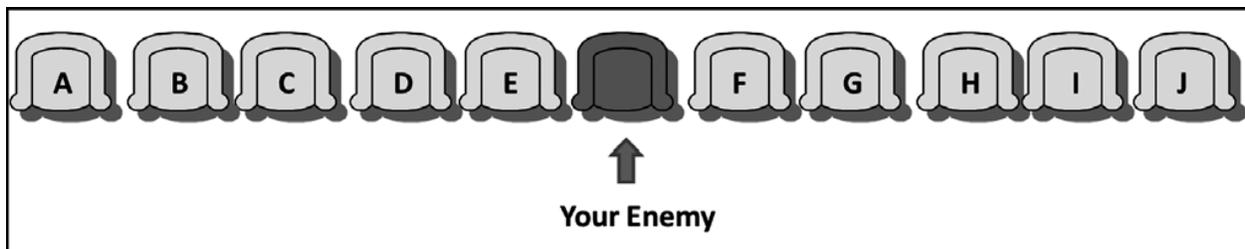


Figure 1. The seating plan used in Study 1.

The results supported our hypothesis, showing that low relational mobility (vs. high relational mobility) across cultures promoted greater desire to keep their enemies closer, which indicates a stronger motivation to understand their enemies.

This was a self-reported study, which made it unclear whether similar patterns could be obtained when we examine the influence of relational mobility on less direct behavioural measures. In addition, the correlational nature of the data did not allow us to make any causal claims regarding the influence of relational mobility on enemyship. To overcome these limitations, Studies 2 and 3 were conducted.

STUDY 2

To investigate people's motivation to understand their enemies, Study 2 examined people's modes of attention to enemies. Attention is an important indicator showing what stimuli (objects or people) are relevant to individuals and what stimuli can be ignored (e.g., Brinck, 2001; Pessoa & Ungerleider, 2004). In general, motivational state directs people's attention to specific aspects of stimuli that are relevant to the goals (Balcetis & Dunning, 2006; Isaacowitz, 2006; Mogg, Bradley, Field, & De Houwer, 2003). Thus, attention is found to be a good indicator of motivation (e.g., Balcetis & Dunning, 2006; Isaacowitz, 2005; Mogg et al., 2003; Rupp & Wallen, 2007; Vogt & De Houwer, 2014; Xing & Isaacowitz, 2006), and eye-tracking studies are frequently conducted to record people's visual attention to study people's motivation (see, e.g., Masuda, Ishii, & Kimura, 2016; Senzaki, Masuda, Takada, & Okada, 2016; Isaacowitz, 2006; for a review). The fixation duration recorded in eye-tracking studies is confirmed as a reliable indicator of visual attention (Parkhurst, Law, & Niebur, 2002). The fixation durations on specific features of a stimulus vary with the motivations of people

(Isaacowitz, 2006), so these fixation patterns reflect what aspects of stimuli are important to people. To support these arguments, evidence has been accumulated to support that people's fixation patterns meaningfully reflect people's motivational goals (see Ersner-Hershfield, Carvel, & Isaacowitz, 2009; Isaacowitz, 2006, for a review).

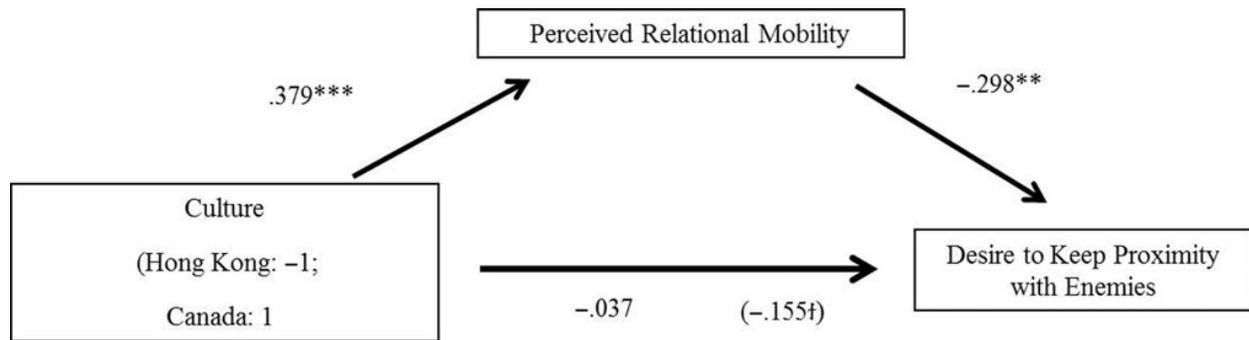


Figure 2. Indirect effect of perceived relational mobility in explaining the cultural difference in the desire to keep proximity with the enemies in Study 1. Direct effect is shown in parentheses. Numbers represent standardized regression coefficients. *** $p < .001$; ** $p < .01$; † $p = .098$.

We hypothesized that low-relational-mobility environments, compared with high-relational-mobility environments, would encourage greater attention to one's enemies. We also explored the influence of relational mobility on attention to other types of relationships, that is, friends and acquaintances.

Method

Participants

As the causal linkage between relational mobility and motivation to understand enemies was not directly tested in the previous work, the sample size was determined by the effect size of the manipulation paradigm for this study. As shown in the previous studies that used the same manipulation paradigm, the effect size of the manipulation-check items was large (Li et al., 2016), $d = .98$. A statistically significant large effect (i.e., $d = .80$, $p = .05$) would require about 60 participants to attain 80% power by G*Power (Faul et al., 2009). In the end, 75 European

Canadians (35 females; mean age = 19.72, $SD = 2.845$) participated in this study for partial course credits. The data of two participants were excluded from the analysis because these participant's eye movements could not be calibrated.

Materials and procedure

After filling out the consent form and being escorted to a research room, the participants were told that this study examined a picture-viewing process in daily life. We modified the manipulation procedure of relational mobility developed by Li et al. (2016). The participants were randomly assigned to one of the following conditions. In the high-relational-mobility condition, the company was described as follows:

The company has a fluid, project-based organizational structure in which employees come together on temporary teams to work on particular projects. The teams dissolve once the project is complete and recombine in different configurations for the next set of projects. In other words, employees work on non-overlapping teams that change membership frequently, and they have frequent opportunities to meet and work with different members of the organization.

In the low-relational-mobility condition, the company was described as follows:

The company has a stable workforce and organizational structure in which employees work together as an interconnected unit for an extended period of time across a number of different projects. Turnover is low, and employees work with the same small set of people in slightly different configurations depending on the project. In other words, employees are linked to each other in a dense network with overlapping ties, and they have frequent opportunities to interact with the same set of coworkers.

To strengthen the manipulation effect, the participants orally answered three questions regarding the hypothetical company, including ‘What would it be like to work with the same team for a long time?’, ‘What would be good and bad about it?’, and ‘How do you think it would affect your relationships with other coworkers?’

Participants were told that to facilitate their active and realistic engagement in the task, they would view pictures of people from the hypothetical company. Specifically, the participants were told that they had made some friends (i.e., people who liked them personally and wanted to support their progress), some enemies (i.e., people who hated them personally and wanted to sabotage their progress), and some acquaintances (i.e., people they knew but to whom they did not feel close).

The images were displayed at a resolution of 1024 x 768 pixels on a 17-inch monitor. A chin and forehead rest placed 15 inches away from the monitor was used to standardize the viewing distance and minimize head movements. Bilateral eye movements were recorded by a Tobii 1750 eye tracker with the Tobii Studio™ 2.1 software. Following a procedure used in previous research (e.g., Masuda et al., 2016), the areas of interest (i.e., the target persons) were set, and the Tobii Studio fixation filter determined the gaze fixation on the areas of interest based on the eye’s angular velocity (>the velocity threshold of 40 pixels). Finally, the total gaze fixation duration in each area of interest was generated by Tobii Studio.

All sessions started with a standard 5-point calibration task. Then, the participants engaged in the viewing task, in which a fixation cross (+) would be displayed first, followed by a picture consisting of the faces of six people (one friend, one enemy, and four acquaintances). To make the stimuli as close as possible to what we experience in a real-life

situation, we chose different numbers of friends, enemies, and acquaintances because the number of friends and enemies should be smaller than that of acquaintances in reality. Each picture (in total eight pictures) was presented for 20 s after a fixation cross. The hypothetical relationship was presented for each person. The same person appeared twice. The gender and ethnicity for the friend and enemy targets were counterbalanced among the participants. The order of presented stimuli was also counterbalanced. We measured total fixation duration for each type of relationship (i.e., enemies, friends, and acquaintances) and averaged fixation duration per target person for each type of relationship.

After the viewing task, the participants answered five manipulation-check items for relational mobility manipulation with a 6-point scale, ranging from 1 (strongly disagree) to 6 (strongly agree). The same set of questions was used in the previous research (Li et al., 2016). The sample items included ‘People working in this company have many chances to get to know other people’ and ‘It is uncommon for the people working in this company to have a conversation with people they have never met before’ (reverse item). An average score for all items was computed ($\alpha = .861$), with higher scores indicating higher perceived relational mobility in the hypothetical company.

Results and Discussion

Perceived relational mobility (manipulation check)

The manipulation effect was significant, $t(71) = 6.534, p < .001$, showing that the participants perceived greater relational mobility in the high-relational-mobility company ($M = 4.978, SD = 0.859$) than in the low-relational-mobility company ($M = 3.497, SD = 1.063$), Cohen’s $d = 1.532$, 95% CI of the difference [1.029, 1.932].

The effect of relational mobility on fixation durations

To investigate the effect of relational mobility manipulation, a one-way MANOVA with fixation duration to enemies, friends, and acquaintances entered as the dependent variables was conducted. The multivariate main effect of mobility manipulation was not significant, $F(3, 69) = 0.188, p = .904, \eta_p^2 = .008$. The effect of mobility manipulation in predicting fixation duration to enemies, $F(1, 71) = 0.423, p = .518, \eta_p^2 = .006$, to friends, $F(1, 71) = 0.003, p = .957, \eta_p^2 < .001$, and to acquaintances, $F(1, 71) = 0.085, p = .772, \eta_p^2 = .001$, separately was non-significant.

However, we found a significant effect of perceived relational mobility, which showed that perceiving lower relational mobility in the hypothetical company led to longer fixation duration to enemies, $r(73) = -.236, p = .045, 95\% \text{ CI } [-0.462, 0.072]$. This pattern was marginally moderated by relational mobility manipulation, $t = 1.803, p = .076$, which showed that perceiving lower relational mobility predicted longer fixation duration to enemies in the low-relational-mobility condition, $r(37) = -.394, p = .016, 95\% \text{ CI } [-0.619, -0.080]$, but not in the high-relational-mobility condition, $r(36) = .020, p = .908, 95\% \text{ CI } [-0.285, 0.313]$.

In contrast, higher perceived relational mobility marginally predicted longer fixation duration to acquaintances, $r(73) = .207, p = .079, 95\% \text{ CI } [-0.015, 0.403]$. However, perceived relational mobility was not significantly correlated with fixation duration to friends, $r(73) = -.031, p = .795, 95\% \text{ CI } [-0.266, 0.215]$.

The effect of relational mobility on total duration of fixations

The effect of relational mobility manipulation, $t(71) = 0.149, p = .882, 95\% \text{ CI } [-6.139, 7.129]$, and that of perceived relational mobility scores, $r(73) = .065, p = .584, 95\% \text{ CI } [-0.167,$

0.244], were both non-significant in predicting the participants' total duration of fixations to the stimuli.

The indirect effect of manipulation via changing perceived relational mobility

Although there was no significant manipulation effect on fixation duration on enemies, we found a significant correlation between perceived relational mobility, which was induced by the relational mobility manipulation, and fixation duration on enemies. Thus, it was possible that perceived relational mobility induced by the manipulation would in turn affect attention to enemies (i.e., the indirect effect of relational mobility manipulation). To test this possibility, we conducted a mediation analysis by following the procedures used in Study 1.

The analysis showed that the participants perceived greater relational mobility in the high-mobility condition than in the low-mobility condition, $\beta = .613$, $p < .001$, and lower perceived relational mobility led to longer fixation duration to enemies, $\beta = -.302$, $p = .043$. More importantly, the indirect effect of relational mobility manipulation in changing attention to enemies via inducing different level of perceived relational mobility was significant: the indirect effect = -240.680 , 95% CI $[-607.217, -7.298]$ (based on the unstandardized coefficients) (β for c path: $-.077 \rightarrow .108$) (see Figure 3).

To summarize, people who perceived low relational mobility in a given environment paid more attention to their enemies, which was consistent with our hypothesis. An opposite influence of relational mobility on people's attention to acquaintances was found, in which people who perceived high relational mobility paid more attention to acquaintances although the evidence was marginally significant, while relational mobility did not affect people's attention to friends. Taken together, the results suggested that the effect of relational mobility on the modes of attention to social relationships may depend on the type of social relationships. Importantly,

low perceived relational mobility only promoted greater attention to enemies but not to friends or acquaintances (refer to General Discussion for a detailed discussion).

Interestingly, the results revealed a stronger effect of perceived relational mobility on fixation duration to enemies in the low-relational-mobility condition than in the high-relational-mobility condition. The manipulated low-relational-mobility company setting may make people have very stable but small social networks at workplace. This may impose great constraints on using direct strategies such as flight or fight strategy, which may intensify the influence of perceived relational mobility on enemyship. Further research is required to test how stable this interaction would be.

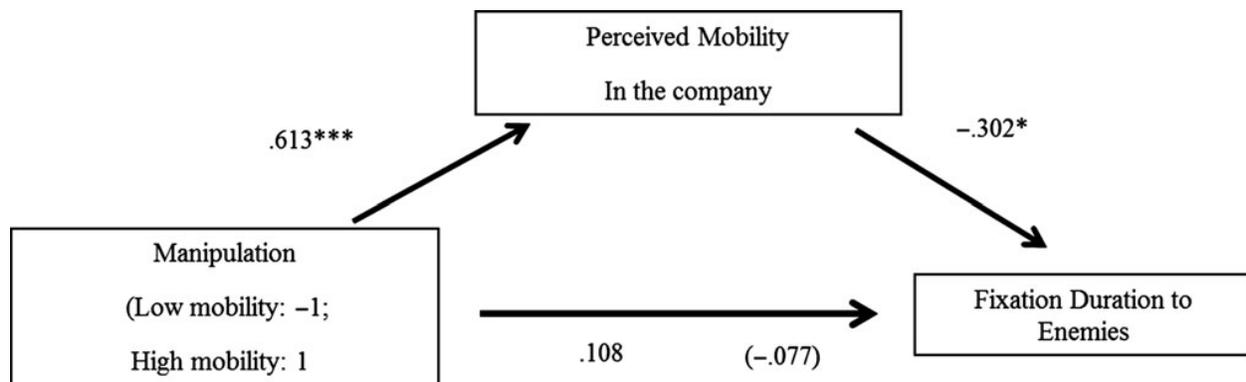


Figure 3. Indirect effect of perceived relational mobility between the relationship of mobility manipulation and average fixation duration to enemies in Study 2. Direct effect is shown in parentheses. Numbers represent standardized regression coefficients. *** $p < .001$; * $p < .05$.

STUDY 3

Studies 1 and 2 provided evidence supporting our hypothesis, with findings showing that perceiving lower relational mobility in a given environment promoted a stronger desire to keep proximity to the enemies and made people more attentive to their enemies. Although the amount of viewing time indicated by fixation duration in the eye-tracking task is an important indicator of motivation, the viewing time may not perfectly indicate the extent to which people are motivated to process the information. It is believed that motivational factors govern the

processes of learning, which is reflected in the resulted memory outcomes (e.g., Murty & Dickerson, 2016; Renner, 2003). Generally, greater motivation facilitates learning relevant stimuli, resulting in better performance in memory tasks. Thus, if people in low-relational-mobility environments are more motivated to understand their enemies than those in high-relational-mobility environments, they would not only spend more time on seeking information related to their enemies but also memorize information related to their enemies better.

Method

Participants

Following the same procedure in Study 2, a statistically significant large effect (i.e., $d = .80$, $p = .05$) would require about 60 participants to attain 80% power by G*Power (Faul et al., 2009). In the end, 61 European Canadians (43 females; mean age = 19.66, $SD = 1.940$) participated in this study for course credits.

Materials and procedure

Participants completed the study in separate cubicles. The participants were randomly assigned to either the high- or low-relational-mobility condition. The manipulation material was the same as in Study 2 (Li et al., 2016). The reliability for the same set of manipulation-check items was satisfactory ($\alpha = .843$).

As in Study 2, the participants were told that they would meet different people, including friends, enemies, and acquaintances, in a hypothetical company. While imagining working in the hypothetical company, the participants were told that they would play a game with a person from there in the subsequent task. Before playing the game, the participants needed to familiarize themselves with people from the company. To do so, they were asked to view a series of pictures.

In contrast to the previous study, we made the number of persons for the three target relationships (i.e., enemyship, friendship, and acquaintanceship) equal. Despite the fact that the design of the previous study was closer to reality, we wanted to exclude the possibility that the low frequency of enemies made the participants pay more attention to them. In addition, the previous design required the participants to view six faces at the same time, whereas this study showed one face at a time. This change allowed us to explore whether the specific role of relational mobility in enemyship can be replicated when there is no competition (in terms of cognitive resource allocation) among different relationships.

Participants were told that “to facilitate and deepen your understanding of this imagined situation, we have prepared sets of pictures displaying people (friends, enemies, or acquaintances) that you may meet in this company. Before engaging in the games, please get familiarized with your colleagues in the hypothetical company. Each picture displays a person, who can be your friend, enemy, or acquaintance that you have met in the hypothetical company, for 5 s. You can find the corresponding relation with you under the picture.”

After reading the instructions, participants were presented with the stimuli. Each stimulus displaying a person with a different target type of relationship formed in the hypothetical company was presented automatically for 5 s, one by one. The stimuli were identical to all participants except that the presentation order of the stimuli among the participants was randomized. In total, there were 24 target people: eight enemies, eight friends, and eight acquaintances. Each type of stimuli (enemies, friends, and acquaintances) included both genders (male and female) and different ethnicities (Asians and Europeans).

After the picture-viewing session, the participants completed three unrelated scales, which were used as the distraction tasks, before the memory test. In the incidental memory test,

the participants were shown the pictures presented previously and asked to identify the relationship (enemy, friend, or acquaintance) associated with the person in the hypothetical company. The accuracy rate for correctly identifying the relationship type was computed for each type of relationship.

Results and discussion

Perceived relational mobility (manipulation check)

The manipulation effect was significant, $t(48.580) = 7.360, p < .001$, showing that the participants perceived greater relational mobility in the high-relational-mobility company ($M = 5.071, SD = 0.742$) than in the low-relational-mobility company ($M = 3.207, SD = 1.180$), Cohen's $d = 1.891$, 95% CI [1.361, 2.367].

The effect of relational mobility on accuracy in the memory test

A one-way MANOVA showed that the multivariate main effect of relational mobility manipulation was significant, $F(3, 57) = 2.821, p = .047, \eta_p^2 = .129$. Specifically, the effect of mobility manipulation was significant in predicting the accuracy rate for identifying enemies, $F(1, 59) = 8.628, p = .005, \eta_p^2 = .128$, in that the participants in the low-relational-mobility condition ($M = .692, SD = 0.188$) had a higher accuracy rate for identifying enemies than did those in the high-relational-mobility condition ($M = 0.549, SD = 0.201$) (see Figure 4). In contrast, the effect of the mobility manipulation was nonsignificant in predicting the accuracy rate for identifying friends, $F(1, 59) = 0.017, p = .897, \eta_p^2 < .001$, or acquaintances, $F(1, 59) = 1.723, p = .194, \eta_p^2 = .028$.

Similarly, perceived relational mobility was negatively associated with the accuracy

rate for recognizing enemies, $r(61) = -.390$, $p = .002$, 95% CI $[-0.571, -0.174]$, which was not moderated by manipulation condition, $t = .367$, $p = .715$. However, it was not significantly correlated with the accuracy rate for recognizing friends, $r(61) = -.106$, $p = .417$, 95% CI $[-0.327, 0.110]$, or acquaintances, $r(58) = -.097$, $p = .456$, 95% CI $[-0.322, 0.155]$.

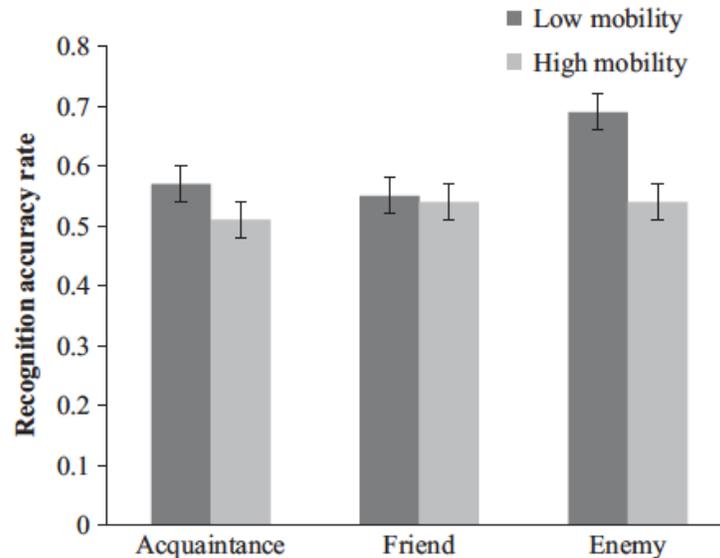


Figure 4. Accuracy rate for recognizing acquaintances, friends, and enemies between two mobility conditions (with standard error bars) in Study 3.

The indirect effect of manipulation via changing perceived relational mobility

We followed the same procedure used in previous studies to examine the indirect effect of manipulation via inducing different levels of perceived relational mobility in memory performance related to enemies. The analysis showed that the participants perceived lower relational mobility in the low-relational-mobility condition than in the high-relational-mobility condition, $\beta = .694$, $p < .001$. However, with considering the effect of relational mobility manipulation, the relation between perceived relational mobility and accuracy rate for identifying enemies was weakened, $\beta = -.275$, $p = .104$. This led to a non-significant indirect effect of

manipulation on the participants' memory performance related to enemies via perceived relational mobility, indirect effect = $-.033$, 95% CI $[-0.094, 0.006]$ (based on the unstandardized coefficients) (β for c path: $-.357 \rightarrow -.166$) (see Figure 5).

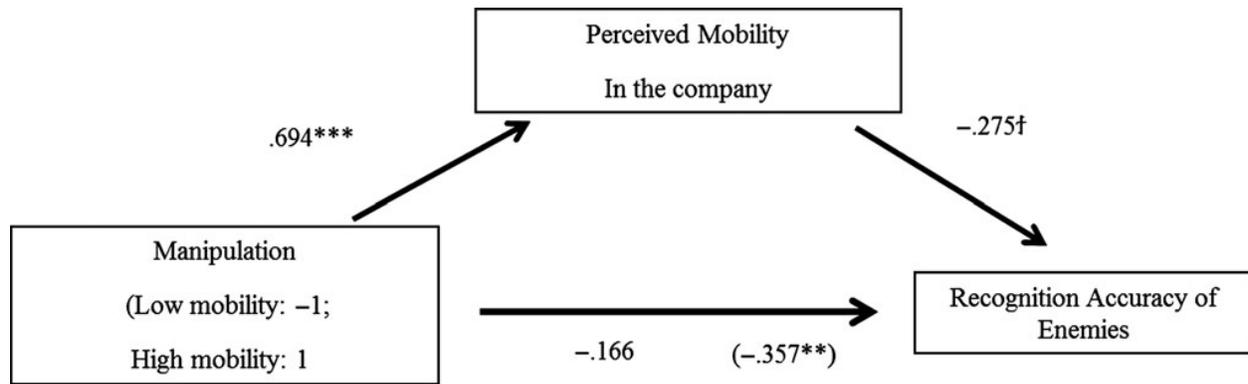


Figure 5. Indirect effect of perceived relational mobility between the relationship of mobility manipulation and accuracy rate for recognizing enemies in Study 3. Direct effect is shown in parentheses. Numbers represent standardized regression coefficients. $^{***}p < .001$; $^{**}p < .01$; $^{\dagger}p = .104$.

To summarize, low-relational-mobility environments (compared with high-relational-mobility environments) encouraged the participants to accurately memorize information about their enemies. As in Study 2, we found that the effect of relational mobility was not significant in people's memory performance related to friends. Different from Study 2, Study 3 did not find any evidence suggesting a notable influence of relational mobility on people's memory performance related to acquaintances. These results were consistent with the notion that motivational factors facilitate the memory-related processes of relevant stimuli but not irrelevant stimuli (e.g., Murty & Dickerson, 2016; Renner, 2003).

GENERAL DISCUSSION

We examined how environmental relational mobility would affect people's motivation to understand their enemies. The results converged to support the hypothesis that low-relational-mobility environments make people more motivated to understand their enemies. Specifically,

low relational mobility in the environment led to greater desired proximity to the enemies (Study 1), longer fixation durations on their enemies (Study 2), and better recall of the faces of their enemies (Study 3). In contrast, the effect of relational mobility on the modes of attention to and memory about friends was not significant (Studies 2 and 3), whereas the effect of relational mobility on acquaintances was not consistent across two manipulation studies.

Due to the inherent connected nature of interpersonal relationships in low-relational-mobility contexts, negative forms of relationships are inevitable parts of people's lives (Oishi, 2014), which makes people more concerned about enemies (Adams, 2005). The current research provided further evidence: To be adaptive in the environment with this chronic threat, people become more motivated to understand their enemies, including having a stronger desire to keep proximity to their enemies, paying greater attention to their enemies, and having better memory regarding the information about their enemies, than do those in high-relational-mobility environments. These self-defensive strategies would help people to monitor the actions of their enemies in the low-relational-mobility environments where avoiding enemies is not always possible.

Implications

The current research brings some implications in relational mobility. Evidence supporting the significant influence of relational mobility on interpersonal relationships has been accumulating (Li et al., 2015, 2016; Lou & Li, 2017; Sato et al., 2014; Schug et al., 2009, 2010; Yamada et al., 2015). However, enemyship has not been extensively examined from the perspective of relational mobility. In addition, the question of whether the influence of relational mobility would be similar across different types of social relationships was not explored simultaneously.

Three studies with different measures converged to show that low relational mobility encouraged greater motivation to understand enemies but not to friends and acquaintances. In contrast, Study 2 provided some evidence showing an opposite effect of relational mobility, in which high relational mobility encouraged attention to understand acquaintances, although this pattern was absent in Study 3. These findings may reflect the fact that people in high-mobility environments would have a stronger motivation to expand their social networks (Oishi et al., 2013). Acquaintances are a possible source of friendship, which is more likely to attract attention among people from high-relational-mobility environments.

Studies 2 and 3 did not find any evidence supporting a significant influence of relational mobility on friendship, which seemed to be inconsistent with previous findings. Compared to friendship in low-relational-mobility environments, friendship reflects personal preference in high-relational-mobility environments (Adams et al., 2012; Schug et al., 2009), and it also requires stronger commitments to maintain (Schug et al., 2010). These arguments would lead to a hypothesis that a stronger motivation to understand friends should be observed in high-relational-mobility environments. The non-significant influence of relational mobility on motivation to understand friends in the current research may be caused by the manipulation scenario, a company setting, where relational mobility is relatively low. However, friendship was found to be more complex in low-relational-mobility environments. For instance, people had greater cautions about their close relationships in low-relational-mobility environments (Li et al., 2015), which may encourage strong motivation to understand their friends. Through these opposite mechanisms, we may not be able to observe significant direct influences of relational mobility on motivation to understand friends. Further research should explore whether a similar level of motivation to understand friends would be replicated, and whether people get motivated

to understand their friends with different mechanisms in low- versus high-relational- mobility environments.

Although interpersonal relationships have been a popular research domain in psychological research, positive interpersonal relationships such as friendship and romantic relationships were the primary focus. Negative interpersonal relationships such as enemyship have not been well studied, although these relationships may be even more important in affecting an individual's current state. Recently, many efforts have been made to understand experiences with personal enemies (e.g., Adams, 2005; Adams & Plaut, 2003; Li & Masuda, 2016; Mead & Maner, 2012; Motro & Sullivan, 2017; Sullivan et al., 2010). To comprehensively understand people's social lives, it is important to examine both the 'bright side' and 'dark side' of interpersonal experiences. The current research contributes to the research on interpersonal relationships by providing evidence showing the specific influence of chronic stable socio-ecological factors, specifically relational mobility, on enemyship. It was found that low relational mobility makes people more attentive to their enemies, while it does not obviously affect their attention to friendship. Future research should continue to explore what factors, both socioecological and personal, would affect enemyship experiences, which will further advance the research on interpersonal relationships.

Limitations and future directions

There were several limitations in the current research. First, we did not directly measure people's motivation to understand their real-life enemies. Although we believe that the responses corresponding to the scenarios or the manipulation reflect people's tendencies cultivated in real-life experiences (Yuki, Sato, Takemura, & Oishi, 2013), it would be good to replicate the current findings by investigating actual experiences in daily life. For example, we could ask participants

to recall their responses when they are with the enemies and code whether participants responses would be affected by relational mobility. Next, to confirm whether low mobility encourages motivation to understand enemies or high mobility discourages motivation to understand enemies, future studies should include a control, high-, and low-mobility condition, which will help to determine whether low or high relational mobility drives the obtained effect.

Conclusion

Enemyship occurs across all societies; however, it has not received much attention in previous psychological research. The current research extends enemyship research by providing evidence that chronic characteristics of social habits, specifically relational mobility, affect people's motivation to understand their enemies, which not only contributes to the research on interpersonal relationships but also advances the socioecological approach in psychology.

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