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Closer the relatives are, more intimate and similar we are: Kinship effects on self-other overlap

Qianbao Tan [a,b], Youlong Zhan [a], Shanshan Gao [a], Wei Fan [a], Jie Chen [c], Yiping Zhong [a,*]

[a] Department of Psychology, Hunan Normal University, Changsha, Hunan, China
[b] School of Education, Hunan University of Science and Technology, Xiangtan, Hunan, China
[c] School of Psychology, Liaoning Normal University, Dalian, Liaoning, China

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ABSTRACT

This study examined the degree of self-other overlap among relatives. We hypothesize that the proximity of blood relationship and the closeness of social interactions are two factors that tend to increase self-other overlap. Participants evaluated their self-other overlap with various blood relatives. The target people were generated by a 3 (lineal relatives, collateral relatives, and remote relatives) × 2 (close/distant social interactions) design. Participants identified each target person from blood relatives they knew personally. The IOS scale, the Dynamic IOS scale, and the absolute difference in personality attribute ratings were used to measure self-other overlap. The results indicated that closer blood relations were associated with greater self-other overlap, and that experience of social interactions increased the self-other overlap.

1. Introduction

People often feel that close others, such as family members, significant others, and close friends are similar to themselves. Furthermore, people tend to process information about close others in a fashion similar to how they process information about themselves (Aron, Lewandowski, Mashek, & Aron, 2013). Previous research has attempted to investigate the hypothesis that close relationships result in the overlap between the self-concepts of two people (Aron, Aron, Tudor, & Nelson, 1991). Greater self-other overlap is associated with more closeness (Aron & Fraley, 1999; De Cremer, 2004), positive emotions (Waugh & Fredrickson, 2006), goal congruence (Bohns et al., 2013), and perspective-taking (Myers, Laurent, & Hodges, 2014). It may also serve as a mechanism that maintains and strengthens social bonds.

Of all forms of social bonds, the primary bond is kinship, which is based on blood ties and marriage. Since the development of Hamilton's inclusive fitness theory, kinship has become a key construct for understanding social phenomena from the perspective of evolutionary biology (Daly, Salmon, & Wilson, 1997). In everyday life, cooperation with relatives is critically important. For instance, people may even help relatives at the cost of their own fitness, so as to better enable their genes to multiply (Hamilton, 1964). As a result, it is crucial for individuals to evolve psychological mechanisms to recognize their kin (Daly et al., 1997). Such kin recognition mechanisms rely on specific cues, such as spatial location, familiarity, and similarity (Hamilton, 1964). From this perspective, we speculated that self-other overlap might be one psychological phenomenon associated with kinship. Nonetheless, previous studies have only focused on limited aspects of kinship, such as parenthood and conjugal relationships (Dykstra, 2009). There have been only a few studies on the association between kinship and self-other overlap. Our research is an attempt to address this issue.

The idea of self-other overlap originated from research by Aron and his colleagues, who measured close relationships (Aron & Aron, 1996, 1997; Aron et al., 1991). In particular, Aron et al. (1991) developed the Inclusion of Others in the Self (IOS) scale to measure the close relationships, based on the self-expansion model (Aron & Aron, 1986). According to this model, a person expands his or her self by treating resources, perspectives, and identities of close others as relevantly to him or her (Aron et al., 2004). As a result, certain studies have described the self-other overlap as "lessened self-other distinction" (Aron et al., 1991). Other studies have directly measured self-other overlap using IOS (Hodges, Sharp, Gibson, & Tipsord, 2013; Kang, Hirsh, & Chasteen, 2010; Myers & Hodges, 2012). Self-other overlap has also been understood as a cognitive representation of the self and others (Davis, Conklin, Smith, & Luce, 1996). For instance, Batson

* Corresponding author. Tel.: +86 731 88872112.
E-mail address: ypzhong@163.com (Y. Zhong).

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and colleagues interpreted self-other overlap as "psychological indiscernibility" causing an individual to be confused between the self and the other (Batson et al., 1997). Based on this understanding, self-other overlap was assessed by the extent to which participants used the same attributes to describe themselves and other people (Batson et al., 1997; Myers & Hodges, 2012).

However, different measures of self-other overlap have yielded different results, even in relation to the identical research topic (e.g., self-other overlap and empathy), raising the possibility that the measurements were not based on the identical concept. Although moderate correlations have been observed for different self-other overlap measures, Myers and Hodges (2012) found that different assessment methods measured different features of this phenomenon. Specifically, IOS and Dynamic IOS loaded on the Perceived Closeness factor, whereas ratings of attributes loaded on the Overlapping Representations factor. Regardless of the type of target people, IOS, Dynamic IOS, and absolute difference of attributes consistently loaded on these two factors. Based on these findings, we assumed that the concept of self-other overlap should include two factors: (1) the degree of closeness that is judged to be present, and (2) the degree of similarity in cognitive representations of one's own attributes and others' attributes.

Research on self-other overlap involves the operationalization of the other. In previous studies, the other included intimate people, as well as those judged to be important to oneself (Andersen, Glassman, & Gold, 1998; Aron, Aron, & Smollan, 1992; Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; Myers & Hodges, 2012). Yet, in some studies, the other was also defined as a group (Coats, Smith, Claypool, & Banner, 2000; De Cremer, 2004; Otten & Epstude, 2006; Smith, Coats, & Walling, 1999; Smith & Henry, 1996; Tropp & Wright, 2001). Recently, researchers have also become interested in the self-God overlap (Hodges et al., 2013) and the self-brand overlap (Trump & Brucks, 2012). In most such studies examining self-other overlap, the target other was varied and sampled based on his or her importance to the self and the closeness of the relationship between the self and the target, ranging from one's close family members, to one's acquaintances, and to complete strangers (Aron et al., 1991; Cialdini et al., 1997). Among these categories, "acquaintances versus strangers" were based on interaction frequency, and "family members" were based on blood relationship. In our opinion, this approach has failed to distinguish the type of blood relationship from the actual relational interactions, and thus has ignored the impact of social interactions on reshaping the nature and structure of the ascribed relationships such as kinship.

Kinship is traditionally based on blood ties and marriage, including lineal generational bonds (children, parents, grandparents, and great grandparents), collateral bonds (siblings, cousins, and aunts and uncles), and ties with in-laws (Dykstra, 2009). It is arranged on the basis of blood proximity. The kin selection theory predicts that an individual's psychological detection and perception of proximity, or closeness between oneself and one's relatives should correlate positively with the degree of their genetic relatedness (Daly et al., 1997). Natural factors (e.g., genetic relatedness) affect the closeness of kinship, which has been illustrated that genetic relatedness is a factor mediating social closeness towards one's nieces and nephews in previous studies (Segal & Marelich, 2011; Segal, Seghers, Marelich, Mechanic, & Castillo, 2007). The frequency and depth of daily interactions also play a crucial role in social relationships. This is evident in Granovetter's (1973) study indicating that the strength of social bonding depends on the amount of interaction time, emotional intensity, intimacy (mutual confiding), and reciprocity of services. More recently, Carpenter and Spottswood (2013) also found that closeness of Facebook interaction between romantic partners, such as the frequency of partner tagging and the amount of effort spent evaluating common interests, were associated with their self-partner IOS scores. Therefore, we propose that the effect of kinship is not only related to blood proximity, but is also qualified by daily interaction between a person and his or her relatives. Previous research on self-other overlap, however, has not examined the simultaneous effects of the proximity of blood relationship and the closeness of social interactions on self-other overlap. In the current study, we operationalized the closeness of social interactions as the duration of relationship and interactional frequency in daily life. We hypothesized that both the proximity of blood relationship and closeness of social interactions would tend to increase self-other overlap.

2. Method

2.1. Participants

Participants in the current study were 302 Chinese undergraduates (128 male, 174 female). Participants' mean age was 20.3 years (SD = 1.30). All participants were physically healthy and had normal or corrected vision. By inquiring about the life experiences of each participant during recruitment, we ensured that all participants could identify a sufficient number of target people that were lineal, collateral, and remote relatives with whom they had different levels of interactional experiences. Each participant was paid 20 RMB for his, or her participation.

2.2. Design and measures

This study used a 3×2 within-subjects design. The independent variables of the study were proximity of blood relationship (lineal relatives, collateral relatives, and remote relatives) and closeness of social interactions (close vs. distant). The dependent variable was self-other overlap, which was assessed by using the IOS, Dynamic IOS and absolute difference of attribute ratings.

This study used the IOS, which consists of seven pairs of circles (Aron et al., 1992), with one circle representing the self and the other circle representing a target person. The degree of intersection of the circles represents the degree of self-other overlap. Participants are instructed to choose a pair of circles that best describes their relationship with a target person. A higher IOS score indicates more self-other overlap.

The Dynamic Inclusion of Others in the Self Scale (Dynamic IOS), a computerized version of the IOS (Hodges et al., 2013; Myers & Hodges, 2012), was also used. In the Dynamic IOS, participants see two circles (both 24 mm in diameter) displayed 3 cm apart on a computer screen. One circle represented the self whereas the other circle represented a target person. Participants are instructed to move the two circles on the screen until the location of the circles best describe their relationship with the target person. In the test, left or right positions of the "self" circle and the "other" circle are counterbalanced. The computer automatically calculates the distance (0–100) between the two circles as a measure of the degree of overlap (Le, Moss, & Mashek, 2007). In this study, the original scores were multiplied by -1, so that a higher number indicated a greater self-other overlap.

The third measure was absolute difference in attribute ratings. Participants rated themselves and the six target people on 32 personality attributes using a 9-point scale, ranging between 1 (*not at all*) to 9 (*extremely*). The 32 personality attribute words that included 16 positive and 16 negative words were selected from the Chinese Personality Adjective Library (Huang & Zhang, 1992). There was a significant difference between positive and negative words in desirability ($t(15) = 32.31$, $p < .01$). The words were matched for meaningfulness and familiarity and there were no significant differences in either meaningfulness ($t(15) = .77$, $p > .05$), or familiarity ($t(15) = .41$, $p > .05$) between the words. To assess