

The development of self–other overlap from childhood to adolescence

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Abstract

This study aimed to clarify the developmental course of self–other overlap from mid-childhood to late adolescence. Results showed that the development of self–other overlap varied across relationship type: whereas self–stranger overlap increased, overlap with mother, father, friend, and classmate all decreased, with that for parents decreasing most.

KEYWORDS

adolescence, inclusion of other in self, interpersonal relationships, self, self–other overlap

Self–other overlap (SOO) is an index of perceived psychological closeness between self and other (Aron et al., 1992). SOO is a useful way to characterize one's relationships with parents, friends, romantic partners, acquaintances, and strangers (Aron & Fraley, 1999; Braams & Crone, 2017; Collyer & Marcovitch, 2019). Moreover, it is often via the role of SOO that various interventions aiming to promote empathy and prosocial behavior work (Cooke et al., 2018; Feng et al., 2020).

Despite its importance for understanding and shaping interpersonal relationships, the developmental course of SOO is poorly understood. A remarkable transition in interpersonal relationships takes place from mid-childhood to late adolescence (Smetana et al., 2006). As a cognitive representation of self–other relationships, SOO may also change during that period. Preliminary evidence supports this possibility. In a sample of 9–26 year-olds, SOO with mother and best friend decreased with age (Braams & Crone, 2017). Another study found that, although 5- to 6-year-olds and 7- to 8-year-olds were comparable on self–peer overlap, older (compared with younger) children showed a larger difference between SOO level for a best friend and an acquaintance (Collyer & Marcovitch, 2019). Those studies are, however, limited in relationship range (mother and peers), sample size ($N = 233$ or 90), and cultural background (individualistic culture only). Moreover, the finding that the interaction of age group with relationship type influences SOO (Collyer & Marcovitch, 2019) implies that the development of SOO varies across relationship type, but this possibility remains untested.

Given the potential relevance of SOO to children's development in critical domains of social interactions, such as

motivation for social engagement, a sense of belonging, and social learning (Collyer & Marcovitch, 2019), it is necessary to increase our understanding of SOO in childhood and adolescence. We set that as the goal for this study, alongside the aim of addressing limitations in the literature. We recruited a large sample ($N = 2097$; 1198 boys, 899 girls) across a broad age range (7–18 years, $M = 13.58$, $SD = 2.83$) in a collectivistic culture (China). We assessed SOO across diverse relationships: mother, father, friend, classmate, celebrity, and stranger, by using the Inclusion of Other in Self (IOS) scale (Aron et al., 1992). The IOS scale is a single-item measure of psychological closeness, with good convergent validity (Aron & Fraley, 1999). Participants viewed seven pairs of circles: for each pair, the first circle represented the self, and the second represented another person. The space between the two circles varied from no overlap (1) to almost complete overlap (7). Participants indicated which pair reflected their relationship with another person. They completed the IOS scale six times, with the second circle representing their mother ($M = 5.48$, $SD = 1.57$), father ($M = 4.93$, $SD = 1.70$), friends ($M = 4.52$, $SD = 1.52$), classmates ($M = 3.79$, $SD = 1.50$), a Chinese celebrity (Ming Yao, a former basketball player; $M = 2.01$, $SD = 1.56$), or anonymous strangers ($M = 1.60$, $SD = 1.35$). This study was approved by the Ethics Committee of the Institute of Psychology of the Chinese Academy of Sciences. All participants provided written informed consent.

Our study design had a hierarchically structured dataset, with the six IOS scores nested within-subjects. We adopted multilevel analysis (via SPSS26), which can account for associations among the IOS scores from the same participant. We

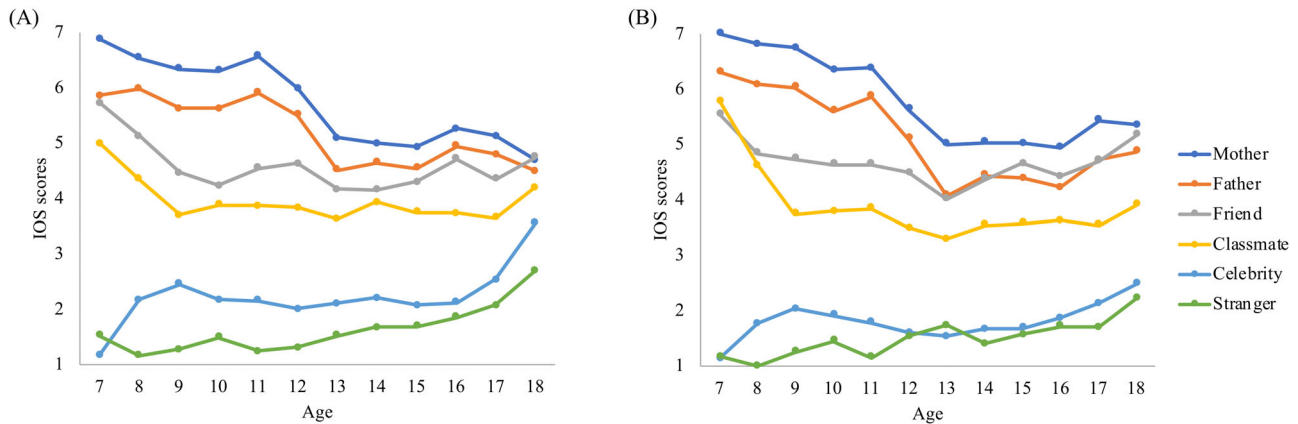


FIGURE 1 (A) Developmental course of self–other overlap for boys. (B) Developmental course of self–other overlap for girls.

used a generalized linear mixed model (GLMM) to handle the ordinal nature of the IOS scores. To test whether the development of SOO varies across relationship type, we included the Relationship Type \times Age interaction in the model. In addition, we tested exploratorily the Relationship Type \times Sex and Relationship Type \times Age \times Sex interactions to examine whether boys and girls differed on SOO while relationship type (and their age) varied.

Age interacted with relationship type to influence SOO, $F(6, 12,506) = 123.37, p < .001$. Overlap with mother ($B = -0.35$, 95% confidence interval [95% CI] $[-0.38, -0.31]$, odds ratio [OR] = 0.71, $p < .001$) and with father ($B = -0.21$ $[-0.24, -0.18]$, OR = 0.81, $p < .001$) clearly decreased across age, whereas the decrease in self–classmate ($B = -0.08$ $[-0.11, -0.05]$, OR = 0.92, $p < .001$) or in self–friend ($B = -0.04$ $[-0.07, 0.00]$, OR = 0.97, $p = .028$) overlap was relatively small. In contrast, self–stranger overlap increased across age ($B = 0.26$ $[0.22, 0.31]$, OR = 1.30, $p < .001$). Self–celebrity overlap did not vary by age ($p = .174$).

Sex interacted with relationship type in predicting SOO, $F(6, 12,506) = 11.31, p < .001$. Results revealed no sex differences on SOO for mother, friend, or classmate (p 's $> .09$), but significant sex differences on SOO for father ($B = 0.23$ $[0.06, 0.41]$, OR = 1.26, $p = .010$), celebrity ($B = 0.71$ $[0.51, 0.90]$, OR = 2.02, $p < .001$), and stranger ($B = 0.30$ $[0.07, 0.52]$, OR = 1.35, $p = .009$), with girls reporting less SOO than boys. Given such sex differences, we display the developmental trend of SOO separately for boys and girls (Figure 1). Notably, the Relationship Type \times Age \times Sex interaction was not significant ($p = .162$).

We have illustrated the developmental course of SOO from mid-childhood to late adolescence. SOO for mother, father, classmates, and friends decreased with age. This finding replicates prior results that self–mother and self–friend overlaps decrease chronologically in an individualistic culture (Braams & Crone, 2017). We extended the literature by demonstrating that the decrease in SOO varied by relationship type, with the decrease being stronger for self–parent than for self–peer overlap. The decrease of self–parent overlap supports the proposition that parental influence wanes constantly throughout adolescence (Harris, 2009; Smetana

et al., 2006). The decrease of self–peer closeness indicates that peer influence does not increase monotonically. This result pattern opposes popular views that peer influence increases as youths progress from childhood to adolescence (Harris, 2009; Smetana et al., 2006), implying that the pattern of peer influence is complex. The finding of increasing self–stranger overlap suggests rises in relatedness with generalized others from mid-childhood to late adolescence. Exploring this transition could complement research on social interactions between strangers (Feng et al., 2020).

Besides age, SOO was also influenced by sex, with the effect qualified by relationship type. Girls manifested a smaller SOO for father, celebrity, and stranger than boys, whereas boys and girls showed comparable levels of SOO for mother, friend, and classmate. However, a prior study on a Western sample reported a sex difference in self–friend overlap, with it being larger among girls (Braams & Crone, 2017). The inconsistency may arise from the fact that (1) the prior study focused on best friend, whereas we focused on non-specific friends, and/or (2) the prior study was underpowered. Nevertheless, the prior finding and ours together suggest that sex plays a role in shaping children's psychological closeness with others.

In conclusion, our study begins to clarify the developmental course of SOO from middle childhood to late adolescence. Follow-up investigations might use additional SOO measures (e.g., the trait misattribution task; Collyer & Marcovitch, 2019) and longitudinal designs, which can eliminate cohort effects and uncover development at both group and individual levels.

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CONFLICT OF INTEREST

There is no conflict of interest.

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