



Commentary

Friends, friendlessness, and social cognition

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I applaud the methods and findings of the target article by Fink and colleagues (*Brit. J. Dev. Psychol.*, 2015; 33, 1–17) who demonstrate an important link between theory of mind and children's social lives. In particular, enhanced theory of mind in preschool buffers children from friendlessness in the transition to school. Going further, I suggest needed steps for the field to experimentally demonstrate causal links between children's theory of mind and their social actions and interactions.

Hughes and Cutting (1999) stated decades ago that 'children's social lives are dramatically transformed when they can understand that human actions are governed by mental states such as beliefs, desires and intentions' (p. 429). This echoed the presumption, present from the first research on theory of mind (ToM), that children's social cognition deeply influences their social actions and interactions. In those early days, however, evidence for the real-life influence of ToM was surprisingly unavailable. Now, on the basis of sometimes strong and sometimes sketchy data, we know (with varying degrees of certainty) that ToM is linked to children's conversations, pretence, peer acceptance, attempts to lie and persuade others, and more.

The place where data are especially comprehensive concerns the relation of ToM to peer acceptance and popularity. Such studies typically focus on the preschool years where dramatic ToM 'action' takes place, and typically focus on children's emerging understanding of false beliefs. Preschool children with enhanced false belief understanding are more popular and accepted in Israel, Australia, the United Kingdom, the United States, Canada, and other locales. This is true when peer acceptance is measured via teacher ratings or via peer sociometric ratings and nomination of 'children I like to play with'. The links are concurrent and longitudinal and typically persist when covariates such as the child's age or language competence are partialled out.

The wisdom of the present study by Fink, Begeer, Peterson, Slaughter, and deRosnay (2015) is to dig still deeper into this general finding. They do so, first, by looking at a particularly striking, and as it turns out, important aspect of peer acceptance and interaction: friendlessness or, in reverse, possession of at least one close mutual friend. Intriguingly, peer rejection and peer friendlessness are not the same: 'Many children who are disliked or ignored by the group in general have at least one best friend and are satisfied by this friendship situation. Conversely, some children who are group "popularity stars" have no mutual friends at all and feel lonely

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and dissatisfied' (p. 2). Moreover, the authors dig deeper by moving beyond preschool to examine entry to school, a crucial transition in the child's social life and peer relations.

Fink *et al.* find that children with enhanced ToM in preschool are buffered from friendlessness in the transition to school. To my mind, their research provides us particularly strong findings linking ToM and social life: establishing a well-controlled, prospective, longitudinal link that spans from preschool to school entry. Moreover, as the authors argue, child friendships and in particular friendlessness matters. 'Being friendless has numerous negative consequences, impacting psychological wellbeing during childhood and into adolescence. . . including low self worth, social anxiety, depression, loneliness and suicidal. . . ideation' (p. 1).

One can always find limits and gaps in any study, but I take the present findings as solid and important. Yet, I also want to suggest that the field in general now needs to go further. Correlational data, even well-controlled prospective, longitudinal findings such as we see here, can only take us so far in answering the question of whether ToM plays a direct and important role in engendering children's social actions and thereby influencing their social lives. Experimental research is needed; and needed not only because of its possible practical applications (e.g., diminishing child friendlessness), but also to theoretically pin down the developmental mechanisms at play.

To illustrate, let me shift gears to research on children's lying. Studies with Western and non-Western children consistently reveal that children's theory-of-mind understanding significantly correlates with their verbal deception (Lee, 2013). But does ToM play a direct and important role in engendering verbal deception in children? No direct experimental evidence exists to confirm this speculation derived from correlational findings. So, my collaborators and I (Fu, Ding, Wang, Wellman, & Lee, 2014) aimed to provide the needed data by examining the effect of theory-of-mind training on children's deceptive behaviour.

The focal task was a hidden-object temptation task where children are told not to peek at a hidden toy when an adult leaves the room. Many children peek and further when asked whether they peeked, they deny their transgression. They lie. Very young children, however, do not lie; they straightforwardly admit that they peeked.

In our research, 3-year-olds first completed a set of pre-tests, focally the no-peeking task and some ToM tasks (as well as an IQ test and an executive functioning task). We chose children who could not lie at all in the peeking task, and then they completed training sessions followed by post-tests. In training, the *experimental* children solved a series of false belief tasks, with feedback, daily for 6 days. The *control* children solved Piagetian conservation tasks daily for 6 days. On the seventh day and 1 month later, children again completed the ToM and lying tasks just as in pre-test. Through learning how to solve the false belief tasks for 1 week, the experimental children's ToM scores improved significantly more than the control children. Moreover, focally, the experimental group also became significantly more likely to lie about their peeking in the no-peeking task, and this training effect remained 1 month later.

Other research shows that we can successfully enhance the theory-of-mind understandings of preschool children via multiple microgenetic sessions (as used in this lying research). Through such methods, children can achieve new social cognitive insights that generalize and are retained months later; this can be done not just with typically developing children but also those who normatively experience extended

ToM delays (e.g., deaf children of hearing parents; Wellman & Peterson, 2013). It is time to see whether such theory-of-mind changes directly impact children's social actions, not just for example in temptation laboratory tasks, but in more real-life situations and interactions – potentially even children's friendship interactions and outcomes.

References

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