

**Keeping friends in mind:
Development of friendship concepts in early childhood**

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Abstract

Friendship is a fundamental part of being human. Understanding which cues indicate friendship and what friendship entails is critical for navigating the social world. We survey research on three- to six-year-old children's friendship concepts, discussing both classic work from the 1970s and 1980s using interview methods, as well as current work using simpler experimental tasks. We focus on three core features of young children's friendship concepts: 1) proximity, 2) prosocial interactions, and 3) similarity. For each, we discuss how recent findings extend and expand classic foundations. Importantly, we highlight that children's knowledge develops earlier and is deeper than initially hypothesized, and how children's abilities are supported by early social inferences in infancy. We examine the implications of young children's friendship concepts and note exciting new avenues for future research.

Keywords: friendship; social cognition; conceptual development; affiliation

Keeping friends in mind: Development of friendship concepts in early childhood

As early as childhood, friendship is important: Friendship positively influences children's social and emotional well-being and their academic achievement (e.g. Erdley & Day, 2017; Hartup, Laursen, Stewart, & Eastenson, 1988; Newcomb & Bagwell, 1995; Wentzel, Jablansky, & Scalise, 2018). Despite the plethora of research on friendship and its benefits, substantially less work focuses on how children conceptualize it. That is: what does a concept of friendship look like in early childhood? Specifically, what do preschool-aged children (3- to 6-year-olds) understand about friendship? This is an important question: because children exercise only limited agency and choice over their socialization circles, young children's conception of friendship could, in theory, be very different from adults. Further, children's knowledge of friendship has functional benefits; the ability to identify friendships likely underlies numerous social judgments that children make in their interactions with peers. Decisions of whom to trust, whom to avoid, whom to partner with, whom to support, and many more, rely on understanding the patterns of affiliation or dislike that exist between individuals. For instance, a child can infer which people are potentially good cooperative partners (e.g. friends of friends), and which should be avoided (e.g. enemies of friends).

In this paper, we integrate and review research on children's early understanding of friendship, which we define as dyadic non-kin peer affiliative relationships. Over the years, close relationships researchers have noted the importance of friendship and have studied a multitude of factors that adults consider relevant to friendship (e.g. La Gaipa, 1977; 1987; Argyle & Henderson, 1984). A recent study by Hall (2012) pooled findings from much of this work and asked adults to rate the importance of more than 130 items from 24 subscales of friendship expectations. Hall's findings revealed six core factors that adults say are valued in friendship:

enjoyment of time spent together, symmetrical reciprocity (understanding and emotional support), instrumental aid (helping voluntarily), similarity (in attitude, disposition, and activity), communion (self-disclosure), and agency (wealth, attractiveness, etc.). Indeed, classic pioneering research from the 1970s and 1980s, reviewed below, highlights similar factors as important earlier in development, around middle childhood and early adolescence. Here, we probe evidence suggesting that even preschool-aged children (3- to 6-year-olds) see similar factors as relevant to friendship. Specifically, using the adult and childhood literature as a guide, we group the factors as follows: proximity (spending time together and playing), prosocial interactions (helping, sharing, and intimate self-disclosure), and similarity. New research provides evidence that preschoolers see these three features as relevant for inferring third-party friendship, highlighting a greater depth to young children's understanding of friendship than previously expected.

Two approaches

Before discussing findings about preschoolers' conception of friendship, some historical context regarding the general topic is warranted. The 1970s and 1980s saw a surge of interest in children's understanding of friendship. A host of now classic studies used interview methods to ask children what it meant for two people to be friends (e.g. Bigelow & LaGaipa, 1975; Bigelow, 1977; Youniss & Volpe, 1978; Damon, 1979; Selman, 1981; Berndt, 1981; Furman & Bierman, 1983). Perhaps not surprising given Piaget's influence on cognitive development at the time, these efforts led to a number of stage theories. For instance, Selman (1981), who offered one of the best-known theories, suggested that children initially viewed "friends" simply as people who play together temporarily (Stage 0, ages 3-7), which he termed "momentary physicalistic playments". From there, children started to focus on shared preferences and cooperation (Stages

1-2; ages 4-12). But, it was not until early adolescence that children saw friendships as mutually supportive and intimate (Stage 3, 9-15 years). In the final stage, children reconciled independence and interdependence (Stage 4, ages 12+). Expansive theories such as this comprehensively charted friendship understanding across age. However, they did so by relying on methods that were designed with school-aged children in mind: children answered the researcher's questions by producing verbal descriptions, leading researchers to report preschoolers' concepts as either shallow or non-existent.

New experimental methods in developmental psychology, which view the articulation of a concept as only one of several types of evidence for its existence, reveal that children have a multifaceted concept of friendship quite early in development. In these methods, researchers ask children simpler forced-choice, yes-or-no, or short scale (e.g. 3- or 5-point Likert scales) questions to gauge understanding. Specifically, recent work has begun to directly explore children's concept of friendship by asking them to infer who is friends with whom. Children are typically presented with three individuals: a main character and two possible targets. After receiving information that connects the main character to each of the targets, children make judgments about which two characters are friends. These methods allow researchers to ask which cues indicate friendship to children, and how children rank the importance of the different cues. This methodological shift has brought about a substantial number of recent findings that expand our knowledge of friendship concepts in early childhood. We next discuss three main features. See Table 1 for a summary of discussed findings.

Proximity

Spending time in close physical range to another individual is highly important for friendship: college students assigned to be roommates are more likely to become friends

compared to hall-mates or to students living in other buildings (e.g. Newcomb, 1961), and time spent together is correlated with relationship strength even in non-human primates (e.g. Massen, Sterck, & de Vos, 2010). Observational studies show that children who are friends spend more time with each other than non-friends (Newcomb & Bagwell, 1995), and the behavior most commonly engaged in when in proximity is play, which is itself at the heart of early friendships (e.g. Howes, 2009). Researchers and teachers effectively identify which children are friends by attending to proximate play (Howes, 1988; 2009; also see Hartup, 1996). Indeed, one of the earliest cues that children note when asked to describe friendship is proximity. For instance, Furman and Bierman (1983) found almost universal mention of common activities at ages 4 and 5, coupled with half the sample talking specifically about proximity. Bigelow and LaGaipa (1975) also reported talk of common activities at 7 and of proximity at 8 years. Thus, classic work identified proximity as a building block of children's friendship concepts.

However, these studies did not view children's understanding of proximity as particularly impressive. Instead, reliance on proximity has generally been grounds to suggest that children's understanding of friendship is shallow and tied to specific episodes of proximate play (e.g. Selman, 1981). In particular, researchers suggested that children were attending to surface features and reporting what typical interactions look like without understanding *why* proximity was important and without distinguishing between different *types* of proximity (e.g. proximity based on choice vs. happenstance). But, recent experimental work employing simpler forced-choice methods suggests that children's understanding of proximity emerges earlier than initially hypothesized and is in fact nuanced. For example, three- to five-year-olds expected time spent together (proximity) to indicate friendship (Liberman & Shaw, 2019). Despite recognizing the salience of time spent together, young children can disregard it when it is coincidental. As an

example, Afshordi (2019) found that four-year-olds did not think that people who happened to be near one another (e.g. one person walking past a shop the other person was in) were likely to be friends. Slightly later in development, starting around age 6, children differentiate between choosing to play with someone and being assigned to sit next to someone, and expect the former to be more relevant to friendship (Lieberman & Shaw, 2019). In short, mere proximity is not enough to merit friendship, even in young children's eyes.

Given the strong link between play and proximity, it is important to also revisit children's understanding of the role of play in their concepts of friendship. Ethnographic work has shown that children often use friendship as a pretext to gain access to play episodes or bar others from joining (e.g. Ahn, 2011), reinforcing the idea that children may see friendship as a series of transient play episodes. In a similar vein, Selman (1981) described early friendship conceptions as really those of 'playmateship'. But the fact that play is central to friendship does not necessarily mean that children view it simply. Decades ago, Gottman (1983) collected and meticulously analyzed conversations of dyadic partners aged 3-9 years with the goal of documenting the process by which children become friends. Children who became friends engaged in clear and connected communication and managed conflict during play. This means that playing together is precisely the context in which conflict happens, and social skills such as coordination and responsiveness are called for to enable successful play (also see Dunn, 1993 for a similar view). Consequently, while early accounts (e.g. Selman, 1981) may see children's talk of play as superficial (e.g., "this is the person I happen to be playing with"), mentioning these interactions could signal an understanding that play is a particularly high-risk high-reward activity when it comes to making and keeping friends (e.g., "this is the person I choose to communicate and play with").

Prosocial interactions

Another key feature of friendship is that it is prosocial and supportive: children who are friends share resources with, help, support, and comfort each other (Newcomb & Bagwell, 1995). Classic studies on friendship concepts indicate that children recognize and mention the importance of support when characterizing friendship. For instance, over half of Furman and Bierman's (1983) 4-5 year-olds and two thirds of 6-7 year-olds talked about support as important for friendship. However, classic theories suggested that children focused on prosocial support because they wanted to be friends with people who would help them. For example, Selman suggested that Stage 1 of friendship concepts (4-9 years) was that of "one-way assistance" whereby friends are valued because they provide the child with something they want. Similarly, Corsaro's (1981) ethnographic work suggested that preschoolers shared toys and play resources when they labeled themselves as friends. Indeed, Bigelow and LaGaipa (1975) separated children's mention of helping by its directionality and found that children were more likely to talk about receiving help from a friend earlier in development (at age 7), and only later mentioned offering help to a friend (at age 11). Thus, in effect, classic theories of friendship concepts proposed that young children's understanding of the importance of support in friendships was surface-level and self-serving. In other words, the view was that young children expect their friends to help them, without necessarily feeling obligated to help their friends.

In contrast, recent evidence suggests children may understand the role of prosocial support in friendship earlier and more deeply than previously thought. By the preschool years, children use helping and sharing as cues to friendship: Four-year-olds inferred friendship between two characters if one helped the other complete a task (e.g. making a card, finding a pet; Afshordi, 2019), and three- to six-year-olds inferred friendship when someone gave a resource,

or gave someone more resources than they gave to another person (Lieberman & Shaw, 2017, 2019). Therefore, children as young as three years of age infer friendship on the basis of helping and sharing, even when the prosocial acts are third-party and therefore have nothing to do with them personally. One interpretation of this pattern is that preschoolers' concept of support in friendship is non-directional, and hence abstract rather than egocentric (e.g., "friends help each other."). But, because these simplified third-party studies are meant to not rely on intricate verbal expressions, researchers conducting them have not asked children *why* they responded in the way they did, or to discuss where they see themselves (if at all) in the story. Therefore, it is possible that children expect some directionality of helping, and report that A is friends with B because B helped A (inferring that the helpee likes the helper, but not necessarily vice versa). However, because there is no concrete evidence that children are putting themselves particularly in the helpee's shoes, it is reasonable to assume that children see friends as more than people who help 'me', while still expecting other people to be friends with those people who help them.

Evidence investigating infants' and young children's helping behavior also suggests that early helping is not always one-sided. That is, in addition to wanting to *be helped*, children want to help others, at least in some situations. In particular, although young children are not always willing to help (e.g. see Cortes Barragan & Dweck, 2015), researchers have found that as early as 14-months, infants are willing to help an experimenter when they can clearly understand the person's intention and need, even if they have to incur a small cost (Warneken, Hare, Melis, Hanus, & Tomasello, 2007; see Martin & Olson, 2015 for a discussion of children's prosocial motivations). Further, recent studies suggest that even infants may see helping as relevant for affiliation: one-year-olds' expect characters to interact with those who have helped them (Kuhlmeier, Wynn, & Bloom, 2003), and 6-month-olds prefer characters who helped third-

parties (e.g. Hamlin, Wynn, & Bloom, 2007). Thus, the roots of inferring that helping is key to liking (an important component of friendship) appear to be present quite early in life.

Physical helping and aid are not the only form of support that children offer one another in the context of friendship. Friendship is rooted in affection (Dunn, 1993), so friends help each other because they care about one another. Thus, it is also important to consider the development of intimacy—affection, social closeness and information sharing. In the preschool years, children demonstrate a burgeoning understanding of intimacy. This is hinted at by early work (e.g. Gottman, 1983). In fact, when talking about features of friendship, two-thirds of four- and five-year-olds mentioned loving and caring about each other (Furman & Bierman, 1983). However, classic research using interview methods suggested that it was not until adolescence that intimacy and loyalty were commonly discussed features of friendship (Selman, 1981). Again, newer simplified studies investigating third-party friendship expectations reveal an earlier understanding. By age 3, children expect people to selectively share their secrets (but not other information) with friends (Anagnostaki et al., 2013; Liberman & Shaw, 2018). And, by age 6, children use patterns of secret sharing to determine which people are likely to be friends (Liberman & Shaw, 2018): they expect secret sharing to be a better indicator of friendship than other types of sharing, including sharing a cookie. Indeed, 6-year-olds understand that intimate secrets are a particularly relevant type of social information: their inferences about friendship change based on how personal secrets are kept and shared, but not based on how facts or surprises are shared (Liberman & Shaw, 2018; Liberman 2020).

Similarity

The final aspect we consider is that of similarity between friends. Although the link between similarity and affiliation has a long history in psychology (e.g. Byrne & Griffitt, 1966),

and the idea that “birds of a feather flock together” was old even when discussed by Plato (ca. 370 BCE/1952), similarity surprisingly does not feature prominently in classic stage theories of friendship. In fact, whereas children’s friends tend to be similar in terms of demographics, activities, and interests (e.g. Rubin, Bukowski, & Parker, 1998; Hartup, 1996; Newcomb & Bagwell, 1995), children do not report that similarity is an important feature of friendship until ages 8-12 (Bigelow & LaGaipa, 1975; Youniss & Volpe, 1978).

However, using similarity to choose social partners begins quite early in development: one-year-olds preferred puppets that shared their food preference (Mahajan & Wynn, 2012), and three-year-olds preferred others that had similar preferences or appearance to them (i.e. hair color, Fawcett & Markson, 2010). Interestingly, in both of these cases, young children were not attending to surface-level similarity: in control conditions, neither one- nor three-year-olds preferred characters that were assigned to wear the same-colored clothing as them. In addition to choosing to play with similar others, recent investigations have shown that even preschoolers rely heavily on similarity to identify patterns of third-party friendship. For example, by age three or four, children infer that two children of the same gender or race are more likely to be friends than two who are of different genders or races (Lieberman & Shaw, 2019; Shutts, Roben, & Spelke, 2013; Roberts, Williams, & Gelman, 2017), and by age four, children infer friendship from similarity in skill (e.g. being good at singing) or experiences (e.g. having visited an aquarium), both of which hint at underlying shared interests and activities (Afshordi, 2019). This is not surprising when one considers the links between similarity and affiliation in infancy: in the first year of life, infants expect affiliation between characters who act alike (Powell & Spelke, 2013) and those who share food preferences (Lieberman, Kinzler, & Woodward, 2014). While early preferences for similar others, and early inferences about similarity-based affiliation may

not reflect abstract expectations about enduring friendship (or friendship concepts), affiliation and liking likely serve as precursors and components of inferring friendship. In other words, although people may not be friends with everyone they like or interact with, liking and positive interactions might be necessary components for friendship development and enduring friendships.

Importantly, as with the previously discussed friendship cues, children's understanding of the importance of similarity is not surface level: four-year-old children know that arbitrary similarities (e.g. having birthdays in the same month) are meaningless for inferring friendship (Afshordi, 2019). And, although young children expect important similarities to indicate friendship, they also understand that behavioral interactions are more important: by five years of age, children think prosocial support and spending time together (Afshordi, 2019; Liberman & Shaw, 2019) are better signals of friendship than similarity. To recap, understanding the importance of similarity as a central feature of friendship emerges earlier and is more nuanced than previously shown in classic work.

Future directions

We have reviewed evidence showing that as early as the preschool years, young children recognize that proximity, prosocial interactions, and similarity are important features of friendship. Thus, children's conceptual understanding of friendship emerges earlier, and is deeper, than initially hypothesized by classic theories. This opens many exciting questions about humans' initial conceptualization of friendship and its development. Next, we highlight four particularly interesting avenues.

First, researchers should investigate the connection between the developing friendship concept and children's social behaviors in their own relationships. Indeed, although the simple

forced-choice measures allow illumination of the earliest friendship concepts, children's understanding of a topic is not always in line with their actual behavior (e.g., see Blake, McAuliffe, & Warneken, 2014 for an example on fairness), suggesting future work should better integrate third-party methods with children's behaviors in their own social relationships. For instance, simple third-party studies show that by age 3, children not only form expectations about which people are friends, but they also expect people who are friends to be biased in each other's favor (Lieberman & Shaw, 2020). Further, by ages 6-8, children are skeptical of individuals' self-bias when boasting about themselves (Heyman, Fu, & Lee, 2007), and are wary of people whose judgments align with their biases (e.g. declaring a friend the winner) (Mills & Grant, 2009). In fact, starting at around four years, children take peer relationships, particularly friendship, into account when making third-party moral judgments about harm (e.g. Smetana & Ball, 2018), and 4- to 6-year-olds judge partiality towards friends positively when equal distribution is not an option (Paulus, Christner, & Wörle, 2020). Do such attitudes translate to behavior? For instance, do children avoid becoming friends with people who boast about themselves or befriend those who share more with their friends? As of yet, we do not know the answers to these types of questions. However, there is some preliminary evidence to suggest that children's behaviors with regards to friends may align with their friendship concepts. For instance, preschoolers act partially and prosocially towards friends over non-friends: three-year-olds choose to help friends more than non-friends (Englemann, Haux, & Herrmann, 2019), and 4- to 6-year-olds share more with friends (Moore, 2009), and trust their friends to keep promises and not spill secrets (Chin, 2014; Liberman 2020). More directly, Paulus and Moore (2014) found correspondence between 5-year-olds' individual sharing expectations and their sharing behavior. Still, a full account of

the mechanisms at play and the interplay between concepts and behavior remains to be discovered.

Second, a critical question is the role of cultural context in the development of friendship understanding. Although friendships or friendship-like relationships exist in almost all, if not all, human cultures (Hruschka, 2010), general cultural characteristics or specific cultural histories and conditions can lead to differences in patterns of friendship across communities (Chen, French, & Schneider, 2006). However, developmental psychology, much like the field at large, falls short on sample diversity. Accordingly, there has been almost no cross-cultural research on the topic of friendship concepts. In one groundbreaking study, Gummerum and Keller (2008) used clinical interview methods to study friendship reasoning across four cultural contexts. Cross-cultural research integrating interviews with newer methods from social cognitive development can examine how children's conceptions of friendship vary, and whether the variation can be systematically tied to features of their particular cultural environments. Specifically, the variability of social networks across cultures means that diverse data is needed to determine when and how children distinguish concepts of different peer relationships, particularly friendship, group membership, and kinship. For instance, friendship and kinship concepts may be more intertwined in cultures with stronger kinship networks where more time is spent with kin.

Third, researchers should consider individual differences in friendship understanding along a number of dimensions. Although there are many interesting differences, we suggest starting by focusing on gender, attachment style, sociometric status, and atypical development. Gender is a key organizing dimension of childhood friendships (e.g. Maccoby, 1990): as early as age 3, children have more same-sex friends (Feiring & Lewis, 1991). Although children expect

gender similarity to indicate friendship (e.g., Shutts et al., 2013), most studied reviewed find no gender differences in preschoolers' tendency to use different cues as indicating friendship (e.g., Afshordi, 2019; Liberman & Shaw 2017; 2018; 2019): both boys and girls view proximity, prosociality, and similarity as relevant to friendship. But, later in development there are clear differences in boys' and girls' friendships. In adolescence, for example, girls report and expect more intimacy and self-disclosure than boys (Buhrmester & Furman, 1987; Clark & Ayers, 1993; see Hall, 2011 for findings from adults). Thus, future research should investigate when these gender differences arise, and which types of socialization are responsible. In terms of attachment style, an infant's own attachment may cultivate an 'internal working model' (Bowlby, 1969/1982) which biases expectations about future relationships, including friendship. Indeed, children's attachment to their mother can impact their friendship quality in middle childhood (Kerns, 1996). Interestingly, one-year-olds' attachment style shapes their third-party expectations of caregiver responsiveness (Johnson, Dweck, & Chen, 2007; Johnson et al., 2010), suggesting the potential for attachment style to impact inferences about which behaviors and cues indicate friendship. For example, children with insecure attachments may be less likely to expect help from friends and therefore less likely to view it as important. Next, researchers should consider children of different sociometric statuses (i.e., the relative status of a child based on how liked or disliked they are rated by peers; see Parker & Asher, 1993). Although sociometric status varies across children (Asher & Dodge, 1986), it is relatively stable within an individual between early to middle childhood (Howes, 1990). Generally, 'popular' children—those liked by most—have more friends than average, while 'rejected' children—those disliked by most—have fewer friends (Howes, 1988). Do popular and rejected children have different conceptions of friendship? Such a comparison could provide evidence of why some children are

more successful at making and keeping friends (e.g., perhaps popular children have a more advanced understanding of friendship, helping them grow their own social network). Finally, what about atypically developing children? What do friendship concepts of children with Autism Spectrum Disorder (ASD), Down's syndrome, William's syndrome, physical disabilities, and/or other developmental conditions look like? A small number of investigations have begun to examine friendship understanding in special populations, albeit later in childhood (e.g. Potter, 2014). For instance, one study found that 9- to 10-year-olds with ASD had friendship concepts based more on companionship and less on intimacy relative to age-matched peers (Calder, Hill, & Pellicano, 2012). Studies targeting younger age ranges and employing current experimental methods could provide more traction in depicting friendship understanding in different special populations. Ultimately, individual difference studies like those suggested here could lead to interventions to help children who struggle in their friendships.

Fourth, researchers should investigate children's recognition of the dark side of friendship. Despite the fact that friendship brings many benefits, friendships are not all rosy and sometimes our friends get angrier at us than strangers (Hartup, 2006; Sebanc, 2003). As attested by the work of psychologists, child sociologists, and cultural anthropologists, young children often verbally abuse the term 'friend' to advance self-interested rather than shared goals, for instance in order to join play episodes, bar others from joining, and get access to toys (e.g. Ahn, 2011; Corsaro, 1981). Further, friendship can be a breeding ground for feelings of jealousy (Parker, Kruse, & Aikins, 2010), and trust can be broken, leading to feelings of betrayal. Indeed, adults respond negatively when their friends are prosocial and generous to others, because it can seem threatening to the friendship (Barakzai & Shaw, 2018). When do children recognize that friendship can be fraught, and how deep does this knowledge run? Recent research indicates that

despite the early understanding of the importance of proximity, prosociality, and similarity, friendship concepts undergo considerable developmental changes in terms of incorporating loyalty and side taking (Lieberman & Shaw, 2017; 2018; 2019). In fact, understanding that friends are likely to take one another's side in arguments is not robust until early adolescence (Lieberman & Shaw, 2019). Thus, it may be at these ages that children start to understand the darker sides of friendship. More studies are needed to answer such questions in order to provide insight into children's related notions of how friendships endure through turmoil or how friendships end.

Systematically investigating children's knowledge and inferences about friendship should be of interest to researchers across many fields of study. Understanding how children think about friendship will provide a foundation for developmental psychologists to determine how relationships more generally are represented in children's minds, and how cognitive models of relationships impact children's own interactions with their social partners. Beyond developmental researchers, social psychologists who study close relationships would also benefit from understanding the developmental trajectory of children's thinking about friendship, and the ways in which their understanding is similar to and different from adults' friendship concepts. Further, by characterizing healthy, normative friendship concepts in childhood, this work could sow the seeds of identifying non-normative concepts and their potential clinical outcomes. Beyond psychology, investigating children's thinking about friendship holds promise for cultural anthropologists interested in studying children's peer interactions, for sociologists interested in how friendships fit into children's social networks, for evolutionary human biologists studying the origins of affiliative relationships, and for philosophers interested in the conceptual foundations of social knowledge. Studying the development of children's understanding of

friendship is a rich topic that will benefit different disciplines across the social sciences in their efforts to explain human social thought and behavior.

References

- Afshordi, N. (2019). Children's Inferences About Friendship and Shared Preferences Based on Reported Information. *Child Development, 90*(3), 719-727.
<https://doi.org/10.1111/cdev.13237>
- Ahn, J. (2011). "You're my friend today, but not tomorrow": Learning to be friends among young US middle-class children. *American Ethnologist, 38*(2), 294-306.
<https://doi.org/10.1111/j.1548-1425.2011.01307.x>
- Anagnostaki, L., Wright, M. J., & Papathanasiou, A. (2013). Secrets and disclosures: How young children handle secrets. *The Journal of Genetic Psychology, 174*(3), 316-334.
<https://doi.org/10.1080/00221325.2012.672350>
- Argyle, M., & Henderson, M. (1984). The rules of friendship. *Journal of Social and Personal Relationships, 1*, 211-237. <https://doi.org/10.1177/0265407584012005>
- Asher, S. R., & Dodge, K. A. (1986). Identifying children who are rejected by their peers. *Developmental Psychology, 22*(4), 444. <https://doi.org/10.1037/0012-1649.22.4.444>
- Barakzai, A., & Shaw, A. (2018). Friends without benefits: When we react negatively to helpful and generous friends. *Evolution and Human Behavior, 39*(5), 529-537.
<https://doi.org/10.1016/j.evolhumbehav.2018.05.004>
- Barragan, R. C., & Dweck, C. S. (2014). Rethinking natural altruism: Simple reciprocal interactions trigger children's benevolence. *Proceedings of the National Academy of Sciences, 111*(48), 17071-17074. <https://doi.org/10.1073/pnas.1419408111>

- Berndt, T. J. (1981). Relations between social cognition, nonsocial cognition, and social behavior: The case of friendship. In J.H. Flavell & L. Ross (Eds.), *Social cognitive development: Frontiers and possible futures* (pp. 176-199). Cambridge University Press.
- Bigelow, B. J. (1977). Children's friendship expectations: A cognitive-developmental study. *Child Development*, 246-253. <https://doi.org/10.2307/1128905>
- Bigelow, B. J., & La Gaipa, J. J. (1975). Children's written descriptions of friendship: A multidimensional analysis. *Developmental Psychology*, 11, 857. <https://doi.org/10.1037/0012-1649.11.6.857>
- Blake, P. R., McAuliffe, K., & Warneken, F. (2014). The developmental origins of fairness: The knowledge-behavior gap. *Trends in Cognitive Sciences*, 18(11), 559-561. <https://doi.org/10.1016/j.tics.2014.08.003>
- Bowlby, J. (1982). Attachment and loss: Vol. 1. *Attachment*. Basic Books. (Original work published 1969).
- Buhrmester, D., & Furman, W. (1987). The Development of Companionship and Intimacy. *Child Development*, 58(4), 1101-1113. <https://doi.org/10.2307/1130550>
- Byrne, D., & Griffitt, W. (1966). A developmental investigation of the law of attraction. *Journal of Personality and Social Psychology*, 4(6), 699. <https://doi.org/10.1037/h0023993>
- Calder L, Hill V, Pellicano E. (2013). 'Sometimes I want to play by myself': Understanding what friendship means to children with autism in mainstream primary schools. *Autism*, 17(3), 296-316. <https://doi.org/10.1177/1362361312467866>
- Chen, X., French, D. C., & Schneider, B. H. (Eds.). (2006). *Peer relationships in cultural context*. Cambridge University Press.

- Chin, J. C. (2014). Young children's trust beliefs in peers: Relations to social competence and interactive behaviors in a peer group. *Early Education and Development*, 25, 601-618. <https://doi.org/10.1080/10409289.2013.836698>
- Clark, M. L., & Ayers, M. (1993). Friendship expectations and friendship evaluations: Reciprocity and gender effects. *Youth & Society*, 24(3), 299-313. <https://doi.org/10.1177/0044118X93024003003>
- Corsaro, W. A. (1981). Friendship in the nursery school: Social organization in a peer environment. In S. R. Asher & J. M. Gottman (Eds.), *The development of children's friendships* (pp. 207-241). Cambridge, UK: Cambridge University Press.
- Damon, W. (1979). *The social world of the child*. Jossey-Bass.
- Dunn, J. (1993). *Young children's close relationships: Beyond attachment*. Sage.
- Engelmann, J. M., Haux, L. M., & Herrmann, E. (2019). Helping in young children and chimpanzees shows partiality towards friends. *Evolution and Human Behavior*, 40(3), 292-300. <https://doi.org/10.1016/j.evolhumbehav.2019.01.003>
- Erdley, C. A., & Day, H. J. (2017). Friendship in childhood and adolescence. In M. Hojjat, & A. Moyer (Eds.) *The Psychology of Friendship* (pp. 3-19). Oxford, UK: Oxford University Press.
- Fawcett, C. A., & Markson, L. (2010). Similarity predicts liking in 3-year-old children. *Journal of Experimental Child Psychology*, 105, 345-358. <https://doi.org/10.1016/j.jecp.2009.12.002>
- Feiring, C., Lewis, M. (1991). The development of social networks from early to middle childhood: Gender differences and the relation to school competence. *Sex Roles* 25, 237-253. <https://doi.org/10.1007/BF00289857>

- Furman, W., & Bierman, K. L. (1983). Developmental changes in young children's conceptions of friendship. *Child Development, 54*, 549–556. <https://doi.org/10.2307/1130041>
- Gottman, J. M. (1983). How children become friends. *Monographs of the Society for Research in Child Development, 48*(3), 1-86. <https://doi.org/10.2307/1165860>
- Gummerum, M., & Keller, M. (2008). Affection, virtue, pleasure, and profit: Developing an understanding of friendship closeness and intimacy in western and Asian societies. *International Journal of Behavioral Development, 32*(3), 218-231. <https://doi.org/10.1016/j.ecresq.2018.12.012>
- Hall, J. A. (2011). Sex differences in friendship expectations: A meta-analysis. *Journal of Social and Personal Relationships, 28*(6), 723-747. <https://doi.org/10.1177/0265407510386192>
- Hall, J. A. (2012). Friendship standards: The dimensions of ideal expectations. *Journal of Social and Personal Relationships, 29*(7), 884-907. <https://doi.org/10.1177/0265407512448274>
- Hamlin, J. K., Wynn, K., & Bloom, P. (2007). Social evaluation by preverbal infants. *Nature, 450*(7169), 557-559. <https://doi.org/10.1038/nature06288>
- Hartup, W. W. (1996). The company they keep: Friendships and their developmental significance. *Child Development, 67*(1), 1-13. <https://doi.org/10.1111/j.1467-8624.1996.tb01714.x>
- Hartup, W. W. (2006). Relationships in early and middle childhood. In A. L. Vangelisti, & D. Perlman (Eds.), *The Cambridge Handbook of Personal Relationships*, (pp. 177-190). Cambridge University Press.
- Hartup, W. W., Laursen, B., Stewart, M. I., & Eastenson, A. (1988). Conflict and the friendship relations of young children. *Child Development, 59*(6), 1590-1600. <https://doi.org/10.2307/1130673>

- Heyman, G. D., Fu, G., & Lee, K. (2007). Evaluating claims people make about themselves: The development of skepticism. *Child Development*, 78(2), 367-375.
<https://doi.org/10.1111/j.1467-8624.2007.01003.x>
- Howes, C. (1988). Peer interaction of young children. *Monographs of the Society for Research in Child Development*, 53 (1, Serial No. 217). <https://doi.org/10.2307/1166062>
- Howes, C. (1990). Social status and friendship from kindergarten to third grade. *Journal of Applied Developmental Psychology*, 11(3), 321-330. [https://doi.org/10.1016/0193-3973\(90\)90013-A](https://doi.org/10.1016/0193-3973(90)90013-A)
- Howes, C. (2009). Friendship in early childhood. In K.H. Rubin, W.M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 180-194). Guilford Press.
- Hruschka, D.J. (2010). *Friendship: Development, Ecology, and Evolution of a Relationship*. University of California Press.
- Heyman, G. D., Fu, G., & Lee, K. (2007). Evaluating claims people make about themselves: The development of skepticism. *Child Development*, 78(2), 367-375.
<https://doi.org/10.1111/j.1467-8624.2007.01003.x>
- Johnson, S. C., Dweck, C. S., & Chen, F. S. (2007). Evidence for infants' internal working models of attachment. *Psychological Science*, 18(6), 501. <https://doi.org/10.1111/j.1467-9280.2007.01929.x>
- Johnson, S. C., Dweck, C. S., Chen, F. S., Stern, H. L., Ok, S. J., & Barth, M. (2010). At the intersection of social and cognitive development: Internal working models of attachment in infancy. *Cognitive Science*, 34(5), 807-825. <https://doi.org/10.1111/j.1551-6709.2010.01112.x>

Kerns, K. (1996). Individual differences in friendship quality: Links to child-mother attachment.

In Bukowski, W. M., Newcomb, A. F., & Hartup, W. W. (Eds.). *The company they keep: Friendships in childhood and adolescence*. Cambridge University Press.

Kuhlmeier, V., Wynn, K., & Bloom, P. (2003). Attribution of dispositional states by 12-month-olds. *Psychological Science*, 14(5), 402-408. <https://doi.org/10.1111/1467-9280.01454>

La Gaipa, J. J. (1977). Testing a multidimensional approach to friendship. In S. W. Duck (Ed.), *Theory and practice in interpersonal attraction* (pp. 249-270). Academic Press.

La Gaipa, J. J. (1987). Friendship expectations. In R. Burnett, P. McGhee, & D. Clarke (Eds.), *Accounting for relationships: Explanation, representation and knowledge* (pp. 134-157). Methuen.

Liberman, Z. (2020). Keep the cat in the bag: Children understand that telling a friend's secret can harm the friendship. *Developmental Psychology*, 56(7), 1290–1304. <https://doi.org/10.1037/dev0000960>

Liberman, Z., & Shaw, A. (2017). Children use partial sharing as a cue to friendship. *Journal of Experimental Child Psychology*, 159, 97-109. <https://doi.org/10.1016/j.jecp.2017.02.002>

Liberman, Z., & Shaw, A. (2018). Secret to friendship: Children make inferences about friendship based on secret sharing. *Developmental Psychology*, 54, 2139-2151. <https://doi.org/10.1037/dev0000603>

Liberman, Z., & Shaw, A. (2019). Children use similarity, propinquity, and loyalty to predict which people are friends. *Journal of Experimental Child Psychology*, 184, 1-17. <https://doi.org/10.1016/j.jecp.2019.03.002>

- Liberman, Z., & Shaw, A. (2020). Even his friend said he's bad: Children think personal alliances bias gossip. *Cognition*, 204, 104376.
<https://doi.org/10.1016/j.cognition.2020.104376>
- Liberman, Z., Kinzler, K. D., & Woodward, A. L. (2014). Friends or foes: Infants use shared evaluations to infer others' social relationships. *Journal of Experimental Psychology: General*, 143(3), 966. <https://doi.org/10.1037/a0034481>
- Maccoby, E. E. (1990). Gender and relationships: A developmental account. *American Psychologist*, 45, 513. <https://doi.org/10.1037/0003-066X.45.4.513>
- Mahajan, N., & Wynn, K. (2012). Origins of “us” versus “them”: Prelinguistic infants prefer similar others. *Cognition*, 124(2), 227-233.
<https://doi.org/10.1016/j.cognition.2012.05.003>
- Martin, A., & Olson, K. R. (2015). Beyond good and evil: What motivations underlie children's prosocial behavior? *Perspectives on Psychological Science*, 10(2), 159-175.
<https://doi.org/10.1177/1745691615568998>
- Massen, J., Sterck, E., & de Vos, H. (2010). Close social associations in animals and humans: functions and mechanisms of friendship. *Behaviour*, 147(11), 1379-1412.
<https://doi.org/10.1163/000579510X528224>
- Mills, C. M., & Grant, M. G. (2009). Biased decision-making: Developing an understanding of how positive and negative relationships may skew judgments. *Developmental Science*, 12(5), 784-797. <https://doi.org/10.1111/j.1467-7687.2009.00836.x>
- Moore, C. (2009). Fairness in children's resource allocation depends on the recipient. *Psychological Science*, 20, 944–948. <http://dx.doi.org/10.1111/j.1467-9280.2009.02378.x>

- Newcomb, T. M. (1961). *The acquaintance process*. Holt, Rinehart & Winston.
- Newcomb, A. F., & Bagwell, C. L. (1995). Children's friendship relations: A meta-analytic review. *Psychological Bulletin*, 117(2), 306. <https://doi.org/10.1037/0033-2909.117.2.306>
- Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology*, 29(4), 611-621. <https://doi.org/10.1037/0012-1649.29.4.611>
- Parker, J. G., Kruse, S. A., & Aikins, J. W. (2010). When friends have other friends: Friendship jealousy in childhood and early adolescence. In S.L. Hart & M. Legerstee (Eds.) *Handbook of Jealousy: Theory, Research, and Multidisciplinary Approaches* (pp. 516-546). Wiley-Blackwell.
- Paulus, M., Christner, N., & Wörle, M. (2020). The normative status of friendship: Do young children enforce sharing with friends and appreciate reasonable partiality? *Journal of Experimental Child Psychology*, 194, 104826. <https://doi.org/10.1016/j.jecp.2020.104826>
- Paulus, M., & Moore, C. (2014). The development of recipient-dependent sharing behavior and sharing expectations in preschool children. *Developmental Psychology*, 50(3), 914. <https://doi.org/10.1037/a0034169>
- Plato (1952) *Phaedrus*, P. (R. Hackforth, Trans.). Cambridge University Press. (Original work published ca. 370 B.C.E).
- Potter, C. (2015). 'I didn't used to have much friends': exploring the friendship concepts and capabilities of a boy with autism and severe learning disabilities. *British Journal of Learning Disabilities*, 43(3), 208-218. <https://doi.org/10.1111/bld.12098>

- Powell, L. J., & Spelke, E. S. (2013). Preverbal infants expect members of social groups to act alike. *Proceedings of the National Academy of Sciences*, 110(41), E3965-E3972.
<https://doi.org/10.1073/pnas.1304326110>
- Roberts, S. O., Williams, A. D., & Gelman, S. A. (2017). Children's and adults' predictions of black, white, and multiracial friendship patterns. *Journal of Cognition and Development*, 18(2), 189-208. <https://doi.org/10.1080/15248372.2016.1262374>
- Rubin K., Bukowski W., & Parker J.G. (1998). Peer interactions, relationships, and groups. In W. Damon, N. Eisenberg (Eds.), *Handbook of Child Psychology, Volume 3* (pp. 619–700). Wiley.
- Seban, A. M. (2003). The friendship features of preschool children: Links with prosocial behavior and aggression. *Social Development*, 12(2), 249-268.
<https://doi.org/10.1111/1467-9507.00232>
- Selman, R. L. (1981). The child as a friendship philosopher. In S. R. Asher, & J. M. Gottman, (Eds.), *The development of children's friendships* (pp. 242-272). Cambridge University Press.
- Shutts, K., Roben, C. K. P., & Spelke, E. S. (2013). Children's use of social categories in thinking about people and social relationships. *Journal of Cognition and Development*, 14(1), 35-62. <https://doi.org/10.1080/15248372.2011.638686>
- Smetana, J. G., & Ball, C. L. (2018). Young children's moral judgments, justifications, and emotion attributions in peer relationship contexts. *Child Development*, 89(6), 2245-2263.
<https://doi.org/10.1111/cdev.12846>

- Warneken, F., Hare, B., Melis, A. P., Hanus, D., & Tomasello, M. (2007). Spontaneous altruism by chimpanzees and young children. *PLoS Biology*, 5(7), e184.
<https://doi.org/10.1371/journal.pbio.0050184>
- Wentzel, K.R., Jablansky, S. & Scalise, N.R. (2018). Do Friendships Afford Academic Benefits? A Meta-analytic Study. *Educational Psychology Review*, 30, 1241–1267.
<https://doi.org/10.1007/s10648-018-9447-5>
- Youniss, J., & Volpe, J. (1978). A relational analysis of children's friendship. *New Directions for Child and Adolescent Development*, 1978, pp. 1-22.
<https://doi.org/10.1002/cd.23219780103>

Table 1 *Age of emergence for the three features in young children's friendship concepts—proximity and play, prosocial interactions, and similarity—according to classic and current studies*

<i>Friendship feature</i>	<i>Classic Studies Definitions + Ages</i>	<i>Current Studies Definitions + Ages</i>
Proximity	“Physicalistic playments”: ages 3-7 (Selman, 1981)	Spending time together: age 3+ (Lieberman & Shaw, 2019)
	Sitting near one another: ages 4-5 (Furman & Bierman, 1983)	Being physically together by choice or design, rather than arbitrarily: age 4 (Afshordi, 2019)
	Playing together & common activities: ages 4-7 (Bigelow & LaGaipa, 1975; Furman & Bierman, 1983)	Playing together & socializing: ages 3-5 (Afshordi 2019; Liberman & Shaw, 2019)
Prosocial interactions	Sharing resources: ages 4+ (Bigelow & LaGaipa, 1975; Furman & Bierman, 1983; Selman, 1981)	Sharing resources: age 3+ (Lieberman & Shaw, 2017; 2019)
	More advanced sharing (share with those in need): 9-10 years (Youniss & Volpe, 1978)	More advanced sharing (only partial sharing indicates friendship): age 7+ (Lieberman & Shaw, 2017)
	One-way assistance (friends help me): age 4+ (Selman, 1981)	Third-party helping (friends help one another): age 4 (Afshordi, 2019)
	Two-way helping: age 9+ (Youniss & Volpe, 1978; Selman, 1981; Bigelow & LaGaipa, 1975)	
	Friends love and care for each other: age 3+ (Furman & Bierman, 1984; Gottman, 1983)	Sharing secrets selectively with friends: age 3+ (Anagnostaki, Wright, & Papathanasiou, 2013; Liberman & Shaw, 2018)
	Loyalty and intimacy: age 9+ (Bigelow & LaGaipa, 1975, Selman, 1981)	Expecting secret sharing and keeping to have consequences for third-party friendships: age 6+ (Lieberman & Shaw, 2018; Liberman, 2020)
Similarity	Demographic similarity: age 8+ (Bigelow & LaGaipa, 1975)	Demographic similarity: age 3+ (Lieberman & Shaw, 2019; Roberts, Williams, & Gelman, 2017; Shutts, Roben & Spelke, 2013)
	Individual level similarity: (attitudes, values, and experiences): ages 9+ (Youniss & Volpe, 1978; Bigelow & LaGaipa, 1975)	Individual level similarity (skills & experiences): age 4 (Afshordi, 2019)