

Preschoolers' Anticipation of Sadness for Excluded Peers, Sympathy, and Prosocial  
Behavior

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### Abstract

We investigated the relations between anticipation of sadness for excluded peers, sympathy, and prosocial behavior in a sample of 127 Italian preschoolers ( $M_{age} = 4.84$  years,  $SD = 0.85$ ). Children attributed emotions to hypothetical excluded peers who exhibited withdrawn versus aggressive behavior, and these attributions were coded for the presence and intensity of sadness. Teachers rated children's sympathy and prosocial behavior via questionnaire. In general, children attributed more sadness to the withdrawn excluded peer than the aggressive excluded peer. A path analysis revealed that those who anticipated higher levels of sadness for the withdrawn excluded peer were rated higher in sympathy and, in turn, higher in prosocial behavior. Attributing high levels of sadness to withdrawn excluded peers—who portray relatively heightened need—may be an early social-emotional characteristic of children who are more sympathetic and more likely to channel other-oriented concerns into prosocial actions.

*Keywords:* sadness, sympathy, social withdrawal, prosocial behavior, preschoolers

### Preschoolers' Anticipation of Sadness for Excluded Peers, Sympathy, and Prosocial Behavior

Prosocial behaviors—defined as voluntary and intentional actions that aim to benefit others—have been linked to positive social adjustment and mental health outcomes in children, both concurrently and over time (Eisenberg, Spinrad, & Knafo, 2015). Developmental research has focused on the affective antecedents of such actions (Malti et al., 2016; Strand, Barbosa-Leiker, Arellano Piedra, & Downs, 2015), suggesting that children with overarching tendencies to understand others' emotions and feel concern for them also tend to exhibit more prosocial behavior. However, less is known about the situational nuances of such social-emotional skills and how early they emerge. Do preschoolers understand the emotional states of peers in need differently based on the behavioral characteristics of such peers? And does this differential emotional understanding play a role in their dispositional sympathy and prosocial behavior? In this study, we addressed these questions by investigating 3- to 6-year-olds' attributions of sadness to withdrawn versus aggressive excluded peers in relation to their dispositional sympathy and prosocial behavior.

#### **Anticipation of Sadness To Peers in The Early Years**

Children's ability to anticipate others' emotions is important for establishing positive relationships with peers (Trentacosta & Fine, 2010). Around the age of 3, children are able to reliably anticipate positive and negative emotions for others based on situational circumstances (Fine, Izard, & Trentacosta, 2006). This ability (around this age) has been related to higher teacher reports of cooperative behavior (Denham, Basset, Brown, Way, & Steed, 2015) and higher maternal ratings of prosocial behavior (Ensor, Spencer, & Hughes, 2011). Denham and Couchoud (1990) found that 2- to 4 year-olds were better at discerning situations associated with sadness in relation to those associated with other negative emotions (e.g., fear), perhaps because

negative situations eliciting sadness in others occur more frequently on a daily basis than situations eliciting other negative emotions. Similarly, Camras and Allison (1985) found that children from preschool to second grade identified sadness more easily than other basic emotions (with the exception of happiness). Thus, more frequent exposure to sadness in everyday social contexts may enhance children's recognition of its facial morphology and function (Calvo, Gutierrez-Garcia, Fernández-Martín, & Nummenmaa, 2014; Somerville & Whalen, 2006). We thus focused on children's capacity to anticipate sadness for excluded peers.

Peer exclusion is a relatively common phenomenon experienced by children with an onset that typically corresponds with schooling, as their social networks expand significantly at this time (Fanger, Frankel, & Hazen, 2012; Killen & Malti, 2015). Developmental researchers have investigated the emotions children anticipate for excluded peers based on a range of factors, such as the nationality, gender, or personality of the excluded target (Malti, Killen, & Gasser, 2012). Younger children appear to be particularly sensitive to salient individual factors, such as behavioral characteristics, as opposed to other characteristics that are less immediately apparent or more complicated to discern (e.g., personality, socio-political preferences; for a similar argument, see Killen & Rutland, 2011). Peplak, Song, Colasante, and Malti (2017) found that 4- and 8-year-olds were less likely to include a hypothetical peer with aggressive versus hyperactive behavioral problems, despite attributing sadness to them and further understanding that the aggressive excluded peer was more likely to feel angry than the hyperactive excluded peer.

Less is known about children's anticipated emotions for withdrawn peers who, much like aggressive peers, are relatively high-frequency targets of social exclusion, probably resulting from their decision to remove themselves from peer groups for varying motivations (Coplan,

Ooi, Rose-Krasnor, & Nocita, 2014). Also similar to their aggressive counterparts, withdrawn peers are at risk for later problem behaviors (Graham & Hoehn, 1995). Both social withdrawal and aggression are common during the preschool years and children are able to differentiate between these behavioral characteristics at this age (Goossens, Bokhorst, Bruinsma, & van Boxtel, 2002). A sample of kindergarten and grade one children responded more negatively towards aggressive hypothetical peers compared to ones who were withdrawn (i.e., showed less sympathy and preference for them; Coplan, Girardi, Finlay, & Frohlich, 2007). Given the shared occurrence and risks of aggression and withdrawal in early childhood, and limited evidence for children's differential preferences of such behaviors, we focused on children's anticipation of sadness for excluded peers with aggressive versus withdrawn behavioral characteristics.

### **Anticipation of Sadness and Sympathy**

Sympathy—an other-oriented process characterized by the apprehension of and sorrow for another's negative emotional state—requires the anticipation of others' emotions (Eisenberg, 2000). According to Hoffman (2000), children's sympathy increases alongside their social-cognitive development. Specifically, children's ability to distinguish their own emotional states from the states of others may help them understand other's needs (e.g., the child may feel sad for a peer whose toy was destroyed by another peer) independent from their own needs (e.g., in the same moment, the child may feel happy for playing with his/her preferred toy). When children are able to distinguish between self and other, and experience sympathy true to this distinction, they may be more likely to recognize others in need and behave prosocially towards them. Indeed, a predisposition to understand sadness as a signal of neediness may promote feelings of sorrow for others and related prosociality.

To the best of our knowledge, the association between the ability to anticipate feelings of sadness for excluded peers and sympathy has not been investigated in preschoolers (for findings with adolescents, see Malti, Ongley, Dys, & Colasante, 2012). Similarly, the extent to which sympathetic preschoolers concentrate their efforts on excluded peers with the highest level of need remains unclear. Although they did not focus on the context of social exclusion, Graham and Hoehn (1995) found that 5- to 6-year-olds judged aggressive children as more responsible for their behaviors, and deserving of more anger and less sympathy than withdrawn children (for similar results with first- and second-grade children, see Goossens et al., 2002). This relative lack of sympathy for aggressive excluded peers suggests that preschoolers' ability to recognize sadness in withdrawn excluded peers may be more strongly linked to their sympathetic and prosocial tendencies.

### **Sympathy and Prosocial Behavior**

Several studies suggest that sympathy and prosocial behavior are closely related across development (Edwards et al., 2015; Malti, Gummerum, Keller, & Buchmann, 2009; Williams, O'Driscoll, & Moore, 2014). A meta-analysis spanning child and adult samples supported the positive relation between these constructs (Miller, Kozu, & Davis, 2001). Although few if any studies focused on social exclusion in early childhood, the link between preschool children's ability to anticipate others' emotions and prosocial behavior is well established (Parker, Mathis, & Kupersmidt, 2013). However, it is possible that intermediary processes explain this association. Children who are able to recognize others' emotions and differentiate them from their own may also be more likely to express sympathy for others in need (given that the former is considered a prerequisite for sympathetic concern; Hoffman, 2000). In turn, the other-oriented aspects of sympathy may explain links with prosocial behavior.

### **The Present Study**

We tested a model in which preschoolers' anticipation of sadness for excluded peers was associated with their dispositional prosocial behavior through their sympathetic tendencies. First, we analyzed the associations between anticipations of sadness for withdrawn and aggressive excluded peers and sympathy. We expected children who anticipated more intense sadness for excluded peers to be rated higher in sympathy. However, we remained open to the possibility that situational anticipation of sadness for a withdrawn excluded peer would be more strongly associated with sympathy than sadness for an aggressive excluded peer because of the relative neediness of withdrawn children (Rubin, Coplan, & Bowker, 2009) and the relative perception of aggressive children as more deserving of the consequences of their behaviors (Goossens et al., 2002).

Second, we assessed the association between children's sympathy and prosocial behavior. Given the wealth of empirical studies documenting a positive relation between sympathy and prosociality (Williams et al., 2014), we expected to confirm this association.

Third, we investigated the role of sympathy in the relation between the anticipation of sadness and prosocial behavior. Although no previous studies have focused on this indirect link to our knowledge, we based our expectations on independent theorizing and findings linking the anticipation of sadness to sympathy (Hoffman, 2000) and sympathy to prosocial behavior (Malti et al., 2016). Bearing in mind our correlational design, we hypothesized that children who anticipated higher levels of sadness for excluded peers would be rated higher in sympathy and, in turn, higher in prosocial behavior.

Albeit not our primary focus, we investigated age (3- to 4- versus 5- to 6-year-olds) and gender differences in our hypothesized associations to remain consistent with previous studies

reporting more sympathy and prosocial behaviors in older children and girls (Eisenberg et al., 2015). We chose a sample of 3- to 6-year-olds because this developmental period is characterized by improvements in the abilities to recognize others' emotions (Fine et al., 2006), sympathize with others (Hoffman, 2000), and behave prosocially (Malti et al., 2016).

## Method

### Participants

Participants were 127 children (60 boys; 81.1% born in Italy). They participated out of three preschools/kindergartens and ranged from 3.04 to 6.20 years ( $M_{age} = 4.84$ ,  $SD = 0.85$ ). Lead female teachers also participated. In terms of highest level of education, 39.4% of mothers and 37.8% of fathers completed high school, 37% of mothers and 35.4% of fathers had a university degree or beyond, 11.8% of mothers and 14.2% of fathers finished middle school, and 0.8% of mothers and 2.4% of fathers achieved an elementary school education (11% of mothers and 10.2% of fathers did not complete the form on parental education).

### Procedure

The study was part of a project investigating children's social-emotional adjustment (citation withheld for peer review). Parents provided written informed consent for their children's participation. The principals of each preschool/kindergarten also provided their written informed consent. The project was approved by (withheld for peer review). Data collection started in spring (rather than fall), giving teachers ample time to develop relationships and become familiar with the children in their respective classrooms.

### Measures

**Prosocial behavior.** Teachers completed the Social Competence and Behavior Evaluation Scale (LaFreniere & Dumas, 1996). Five items on a 6-point scale ranging from 1



(*never*) to 6 (*always*) were selected to create a measure of prosocial behavior in terms of helping, cooperating, and comforting ( $\alpha = .90$ ).

**Sympathy.** Teachers completed a well-validated sympathy scale adapted from Eisenberg and colleagues (1996; Zhou, Valiente, & Eisenberg, 2003) including five items (e.g., feeling sorry for children who are sad) on a 5-point scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*;  $\alpha = .95$ ).

**Anticipation of sadness for excluded peers.** We used an adapted version of the Social-Emotional Responding Task (citation withheld for peer review). Two randomized and gender-matched vignettes were presented to children depicting the exclusion of a withdrawn and an aggressive peer, respectively. The withdrawn peer was described as a girl/boy who spends time alone and does not play with other children (Ding et al., 2015), whereas the aggressive peer was described as a girl/boy who fights with other children, breaks their possessions, and pushes them (citation withheld for peer review). The vignettes described a new classmate during snack time at school (one time the new classmate was a withdrawn peer, the other an aggressive peer) that would like to sit with another child and his or her friends, but is excluded instead.

After being read each story, children were asked the following questions: “How do you think she/he [i.e., the excluded target] would feel?” and “How strongly would she/he feel [attributed emotion]?” For the latter question, children answered by pointing to a visual 3-point scale depicting squares of increasing dimensions ranging from 1 (*not strong*) to 3 (*very strong*).

**Coding.** Responses were coded for the anticipation of sadness based on a well-validated scheme (citation withheld for peer review). For the first question probing emotion attributions, responses were coded as one of the following: 1 (*happy*), 2 (*neutral*), 3 (*angry*), 4 (*scared*), 5 (*anxious*), 6 (*sad*), 7 (*sorry*), 8 (*guilty*), 9 (*embarrassed*), 10 (*disgusted*), or 11

(*other/undifferentiated*). Two independent raters coded emotion attributions for all children. Cohen's  $k$  was 1.00 for the withdrawn excluded peer and .97 for the aggressive excluded peer. Because of our interest in the anticipation of sadness and the relatively low percentage of children who attributed other negative emotions, sad and sorry emotions were coded as 1 (*sadness*), whereas all other emotions were coded as 0 (*not sadness*).

For the second question regarding emotion intensity, emotions coded as 1 (*sadness*) were assigned a score of 1 (*not strong sadness*), 2 (*somewhat strong sadness*), or 3 (*very strong sadness*) corresponding to the intensity indicated by the child (emotions coded as 0 [not sadness] retained a score of 0). We used resulting continuous scores of anticipated sadness for the withdrawn and aggressive excluded peers in analyses.

### **Analytic Approach**

To explore age and gender differences, we conducted an ANOVA with age and gender as between-subjects factors and anticipation of sadness (withdrawn versus aggressive excluded peer) as a within-subjects factor. We also tested age and gender differences in sympathy and prosocial behavior with separate 2 (age) x 2 (gender) between-subjects ANOVAs. Then, we ran zero-order correlations. Next, to test our research questions regarding direct and indirect relations between the anticipation of sadness, sympathy, and prosocial behavior, we conducted a path analysis controlling for children's age and gender using Mplus 5.1 (Muthén & Muthén, 2007). To test the indirect effect of the anticipation of sadness to prosocial behavior through sympathy, we considered the asymmetric confidence limits for the distribution of the product (see MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Specifically, we analyzed the upper and lower values for the 95% confidence interval (CI) of the indirect effect with the Rmediation package (Tofighi & MacKinnon, 2011).

## Results

### Descriptive Statistics

In terms of raw frequencies of sadness (i.e., sad/sorry emotions) versus not sadness (i.e., other emotions), 77% of children attributed sadness for the withdrawn excluded peer versus 23% of children who attributed not sadness. For the aggressive excluded peer, 68% of children attributed sadness versus 32% of children who attributed not sadness. Results also revealed that the intensity of children's anticipations of sadness for peers varied based on the behavioral characteristics of such peers,  $F(1,111) = 3.80, p = .05, \eta^2 = .03$ . Children anticipated more intense sadness for the withdrawn versus aggressive excluded peer (Table 1).

By age group, 60% of younger children and 88% of older children attributed sadness to the withdrawn excluded peer, whereas 47% of younger children and 82% of older children attributed sadness to the aggressive excluded peer. There was also a main effect of age for sadness intensity scores,  $F(1,111) = 27.14, p = .001, \eta^2 = .20$ , such that older children anticipated more intense sadness on behalf of the excluded targets than younger children did (Table 1).

By gender, 66% of boys and 70% of girls attributed sadness to the withdrawn excluded peer, whereas 81% of boys and 73% of girls attributed sadness to the aggressive excluded peer. For intensity scores, we found a significant two-way interaction of Anticipation of Sadness x Gender,  $F(1, 111) = 4.61, p = .03, \eta^2 = .04$ . A test of simple effects revealed that boys reported significantly more intense sadness for the withdrawn versus aggressive excluded peer (Table 1).

For children's sympathy, results revealed an effect of age,  $F(1,123) = 15.02, p = .001, \eta^2 = .11$ , such that teachers rated older children as more sympathetic than younger children. For prosocial behavior, there were main effects of gender,  $F(1,123) = 12.92, p = .001, \eta^2 = .10$ , and

age,  $F(1,123) = 14.85, p = .001, \eta^2 = .11$ , as teachers rated girls and older children as more prosocial than boys and younger children, respectively.

Children rated higher in prosocial behavior tended to be rated higher in sympathy and anticipated more sadness for the withdrawn excluded peer (the latter association was marginally significant; Table 2). Children rated higher in sympathy anticipated more sadness for withdrawn and aggressive excluded peers (the latter association was marginally significant). Finally, children who anticipated more sadness for the withdrawn excluded peer tended to do the same for the aggressive excluded peer.

### **Predicting Prosocial Behavior from Anticipation of Sadness Through Sympathy**

Since we had a just-identified path model (with 0 degrees of freedom) that did not permit the analysis of model fit, we trimmed the nonsignificant path from the anticipation of sadness for the aggressive excluded peer to prosocial behavior (Kline, 2010). The resulting model fit the data well,  $\chi^2(1) = 0.001, p = .97, CFI = 1.00, RMSEA = .001$  (90% CI [.001, .001]),  $p = .98, SRMR = .001$ . We found positive direct paths from children's anticipation of sadness for a withdrawn excluded peer to sympathy and from sympathy to prosocial behavior (Figure 1).

Regarding the indirect path from children's anticipation of sadness for a withdrawn excluded peer to prosocial behavior through sympathy, the unstandardized indirect effect (95% CI [.04, .21]) was statistically significant (i.e., the 95% asymmetric lower and upper CI limits did not include zero), highlighting the potential translational role of sympathy in the link from anticipation of sadness for a withdrawn excluded peer to prosocial behavior.

### **Discussion**

We examined the extent to which preschoolers' anticipation of sadness for excluded peers was sensitive to the behavioral characteristics of such peers. We also investigated if their

dispositional sympathetic concern played a mediating role between their differential anticipations of sadness and dispositional prosocial behavior. Children with higher levels of sadness for a withdrawn excluded peer tended to be rated higher in sympathy, and, in turn, higher in prosocial behavior. In addition, children anticipated more sadness for a withdrawn excluded peer compared to an aggressive excluded peer. Anticipation of sadness for an aggressive excluded peer was not significantly associated with other-oriented tendencies. Overall, these results suggest that children's understanding of emotions in others is sensitive to the behavioral characteristics of such others from a young age. In particular, an emotional understanding that is sensitive to the relative needs and deservingness of others may be reflective of children with higher levels of sympathy, and, in turn, a higher likelihood of engaging in prosocial behavior.

#### **Anticipation of Sadness and Sympathy**

Results revealed a positive link between the anticipation of sadness for an excluded peer and sympathy, suggesting that preschoolers' awareness of and sensitivity for excluded peers' feelings are prerequisites for feeling sorrow for others in distress (Hoffman, 2000). How children understand and navigate peer exclusion situations may therefore represent an important component of their social-emotional development from the moment they are immersed in the school context. This represents a novel contribution given that the majority of literature on peer exclusion is concentrated on mid- to late-childhood and adolescence (Killen & Malti, 2015).

In addition, regardless of gender and age, children were able to tailor their emotional anticipations to different targets of peer exclusion, as they anticipated more sadness for a withdrawn versus an aggressive excluded peer. Related research has shown that children evaluate aggressive peers more negatively and feel less sympathy for them compared to peers who display withdrawn behaviors (Coplan et al., 2007; Goossens et al., 2002). Aggressive

children may be perceived as more responsible for their actions, thus justifying their exclusion (Weiner, 1993, 1995). In contrast, withdrawn children, depending on the subtype of social withdrawal they tend to exhibit, are prone to social anxiety over factors outside of their control. This may result in others perceiving them as less responsible for their withdrawn behaviors and emotionality, and feeling more sympathy and less anger towards them, especially because their behaviors do not directly harm others (Goossens et al., 2002). Even preschool children may understand that social exclusion is particularly impactful for withdrawn peers (Coplan et al., 2014; Rubin et al., 2009).

Although the overall sample attributed more intense sadness to the withdrawn excluded peer compared to the aggressive excluded peer, our results revealed age and gender differences. Older children anticipated more sadness for excluded peers than younger children did. Relative to younger children, older children may appreciate the negative impacts of exclusion more because of their greater experience with schooling and expanded social networks (Killen & Malti, 2015). It is also important to note that boys anticipated a significantly higher level of sadness for the withdrawn versus aggressive peer. This pattern of responding is supported by previous studies indicating that social withdrawal carries greater costs for boys (Western cultures consider social withdrawal as more acceptable for girls than boys; Coplan, Prakash, O'Neil, & Armer, 2004; Rubin et al., 2009). Social withdrawal is less socially acceptable for boys because it violates gender norms about male social assertion and dominance (Doey, Coplan, & Kingsbury, 2014). In support of this idea, social withdrawal (especially shyness) was found to be more strongly related to peer exclusion and rejection among boys (Coplan et al. 2004). Results from the present study suggest that boys attributed more sadness to withdrawn excluded peers because they understand that withdrawn social behaviors have particularly negative

consequences for boys' social relationships. However, it is also possible that boys attributed less sadness to the aggressive peer because aggression is more prevalent in boys and is more often tied to feelings of anger in early childhood.

### **Sympathy and Prosocial Behavior**

In line with related studies (Eisenberg et al., 2015), our findings indicated a strong relation between sympathy and prosocial behavior, thus supporting the hypothesis that the caring component of sympathy plays a pivotal role in motivating prosocial behavior from a young age (and across cultures, as the current study was the first of its kind with young Italian children). Previous research focusing specifically on the early years has confirmed this link as well. Williams et al. (2014) found that sympathy for a sad peer was linked to heightened prosocial behavior, especially sharing, in a sample of 5- and 6-year-olds. Taken together, these findings suggest that children's apprehension of and sorrow for another's negative emotional state represent important affective antecedents of prosocial behavior.

### **The Role of Sympathy in the Relation between Anticipation of Sadness and Prosocial Behavior**

Dispositional sympathy played an important role in the relation between anticipation of sadness for a withdrawn excluded peer and prosociality. From such a young age, children who anticipate that a withdrawn excluded peer would feel sad after being excluded may be more prone to feel sympathy. This disposition to feel other-oriented concern and sorrow, in turn, may promote prosocial behavior towards peers. Thus, the ability to recognize others' sad feelings in specific contexts and the more general ability to care appear to be distinct, yet related, correlates of prosocial actions (Paulus, 2014). Children with a nuanced sensitivity to the behavioral characteristics of needy peers may possess relatively heightened social-cognitive skills, such as

theory of mind (Imuta, Henry, Slaughter, Selcuk, & Ruffman, 2017), which, in turn, may help them gain a deeper understanding of others' perspectives. Although important for prosocial behavior, this higher degree of emotional understanding may not provide a sufficient basis for prosocial behavior in and of itself. As our indirect effect suggests, the other-oriented caring characteristics of sympathy may be necessary to translate such skills into prosocial outcomes that benefit others.

Children also anticipated sadness for the aggressive excluded peer, but this anticipation was not significantly related to other-oriented tendencies of sympathy and prosocial behavior. Thus, even if children tend to attribute sadness to aggressive excluded others, this recognition may not activate other-oriented kindness. Individual differences in picking up on the sadness of those more deserving—or in greater need—of help appear to be more important in this regard.

### **Caveats and Future Directions**

The present study was the first to assess emotion attributions to excluded peers with aggressive and withdrawn behavioral characteristics, and their links with sympathy and prosocial behavior in the early years (rather than mid- to late-childhood and adolescence). It also employed a multi-informant, multi-method approach (i.e., child and teacher reports in response to vignettes and questionnaire items, respectively). Nonetheless, several limitations should be noted. We only used teachers' reports of children's sympathy and prosocial behavior, and future studies would thus benefit from the inclusion of self- or peer-report measures. Second, our study's correlational design did not allow for causal inferences to be made. As an alternative to our proposed direction of effects, prosocial children may tend to interact more with peers, which, in turn, fosters the development of emotional skills that make them more sensitive to excluded peers with



withdrawn behavioral characteristics. Future research should examine the bidirectional associations of anticipation of sadness for peers, sympathy, and prosocial behavior over time. In addition, some researchers focus on different subtypes of social withdrawal, including children who spend time alone because they are socially anxious (i.e., shy children) and those who simply like playing alone (i.e., unsociable children). The sensitivity of children's emotional understanding to varying subtypes of withdrawn peers should be investigated. Also, future studies of this kind should consider a third group of friendly, prosocial children, who tend to be more liked by peers (Coplan et al., 2007). Finally, for the anticipation of sadness measure, we only used vignettes gender-matched to the respondent. It would be interesting to investigate boys' and girls' attributions towards excluded peers of varying genders.

In sum, our study offered new insights into the early antecedents of prosocial behavior and its findings may inform the design of educational practices that aim to promote preschoolers' prosocial behavior. Enhancing children's comprehension of others' feelings—especially of those in need—may increase their likelihood of acting prosocially if they possess the other-oriented sympathetic concern to translate such emotional skills into the behavioral realm.

## References

- Calvo, M. G., Gutierrez-Garcia, A., Fernández-Martín, A., & Nummenmaa, L. (2014). Recognition of facial expressions of emotion is related to their frequency in everyday life. *Journal of Nonverbal Behavior, 38*, 549–567. doi:10.1007/s10919-014-0191-3
- Camras, L. A., & Allison, K. (1985). Children's understanding of emotional facial expressions and verbal labels. *Journal of Nonverbal Behavior, 9*, 89–94. doi:10.1007/BF00987140
- Coplan, R. J., Girardi, A., Findlay, L. C., & Frohlick, S. L. (2007). Understanding solitude: Young children's attitudes and responses toward hypothetical socially withdrawn peers. *Social Development, 16*, 390-409. doi:10.1111/j.1467-9507.2007.00390.x
- Coplan, R. J., Ooi, L. L., Rose-Krasnor, L., & Nocita, G. (2014). 'I Want to play alone': Assessment and correlates of self-reported preference for solitary play in young children. *Infant and Child Development, 23*, 229-238. doi:10.1002/icd.1854
- Coplan, R. J., Prakash, K., O'neil, K., & Armer, M. (2004). Do you" want" to play? Distinguishing between conflicted shyness and social disinterest in early childhood. *Developmental psychology, 40*, 244-258. doi:10.1037/0012-1649.40.2.244
- Denham, S. A., Bassett, H. H., Brown, C., Way, E., & Steed, J. (2015). "I Know How You Feel": Preschoolers' emotion knowledge contributes to early school success. *Journal of Early Childhood Research, 13*, 252-262. doi:10.1177/1476718X13497354
- Denham, S. A., & Couchoud, E. A. (1990). Young preschoolers' understanding of emotions. *Child Study Journal, 20*, 171-192.
- Doey, L., Coplan, R. J., & Kingsbury, M. (2014). Bashful boys and coy girls: A review of gender differences in childhood shyness. *Sex Roles, 70*, 255–266. doi:10.1007/s11199-013-0317-9.

- Ding, X., Coplan, R. J., Sang, B., Liu, J., Pan, T., & Cheng, C. (2015). Young Chinese children's beliefs about the implications of subtypes of social withdrawal: A first look at social avoidance. *British Journal of Developmental Psychology, 33*, 159-173.  
doi:10.1111/bjdp.12081
- Edwards, A., Eisenberg, N., Spinrad, T. L., Reiser, M., Eggum-Wilkens, N. D., & Liew, J. (2015). Predicting sympathy and prosocial behavior from young children's dispositional sadness. *Social Development, 24*, 76-94. doi:10.1111/sode.12084
- Eisenberg, N. (2000). Emotion, regulation, and moral development. *Annual review of psychology, 51*, 665-697. doi:10.1146/annurev.psych.51.1.665
- Eisenberg, N., Fabes, R. A., Murphy, B., Karbon, M., Smith, M., & Maszk, P. (1996). The relations of children's dispositional empathy-related responding to their emotionality, regulation, and social functioning. *Developmental Psychology, 32*(2), 195–209.  
doi:10.1037/0012-1649.32.2.195
- Eisenberg, N., Spinrad, T. L., & Knafo, A. (2015). Prosocial development. In M. Lamb, C. Garcia-Coll (Eds), & R. M. Lerner (Vol. Ed.), *Handbook of child psychology* (7th ed.). New York, NY: Wiley.
- Ensor, R., Spencer, D., & Hughes, C. (2011). 'You Feel Sad?' Emotion understanding mediates effects of verbal ability and mother–child mutuality on prosocial behaviors: findings from 2 years to 4 years. *Social Development, 20*, 93-110. doi:10.1111/j.1467-9507.2009.00572.x
- Fanger, S. M., Frankel, L. A., & Hazen, N. (2012). Peer exclusion in preschool children's play: Naturalistic observations in a playground setting. *Merrill-Palmer Quarterly, 58*, 224-254.  
doi:10.2307/23098463

- Fine, S. E., Izard, C. E., & Trentacosta, C. J. (2006). Emotion situation knowledge in elementary school: Models of longitudinal growth and preschool correlates. *Social Development, 15*, 730-751. doi:10.1111/j.1467-9507.2006.00367.x
- Goossens, F. A., Bokhorst, K., Bruinsma, C., & van Boxtel, H. W. (2002). Judgments of aggressive, withdrawn and prosocial behavior: Perceived control, anger, pity and sympathy in young Dutch children. *Journal of School Psychology, 40*, 309-327. doi:10.1016/S0022-4405(02)00103-6
- Graham, S., & Hoehn, S. (1995). Children's understanding of aggression and withdrawal as social stigmas: an attributional analysis. *Child Development, 66*, 1143– 1161.
- Hoffman, M. L. (2000). *Empathy and moral development*. New York: Cambridge University Press
- Imuta, K., Henry, J. D., Slaughter, V., Selcuk, B., & Ruffman, T. (2017). Theory of mind and prosocial behavior in childhood: A meta-analytic review. *Developmental psychology, 52*, 1192-1205. doi:10.1037/dev0000140
- Killen, M., & Malti, T. (2015). Moral judgments and emotions in contexts of peer exclusion and victimization. *Advances in Child Development and Behavior, 48*, 249-276. doi:10.1016/bs.acdb.2014.11.007
- Killen, M., & Rutland, A. (2011). *Children and social exclusion: Morality, prejudice, and group identity*. New York, NY: Wiley/Blackwell Publishers
- Kline, R. B. (2010). *Principles and practice of structural equation modeling* (3rd edition). New York: Guilford.

- LaFreniere, P. J., & Dumas, J. E. (1996). Social Competence and Behavior Evaluation in children ages 3 to 6 years: The Short Form (SCBE-30). *Psychological Assessment, 8*, 369-377. doi:10.1037/1040-3590.8.4.369
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods, 7*, 83–104. doi:10.1037//1082-989X.7.1.83
- Malti, T., Gummerum, M., Keller, M., & Buchmann, M. (2009). Children's moral motivation, sympathy, and prosocial behavior. *Child Development, 80*, 442-460. doi:10.1111/j.1467-8624.2009.01271.x
- Malti, T., Killen, M., & Gasser, L. (2012). Social judgments and emotion attributions about exclusion in Switzerland. *Child Development, 83*, 697-711. doi:10.1111/j.1467-8624.2011.01705.x
- Malti, T., Ongley, S. F., Dys, S. P., & Colasante, T. (2012). Adolescents' emotions and reasoning in contexts of moral conflict and social exclusion. *New Directions for Student Leadership, 2012*, 27-40. doi:10.1002/yd.20036
- Malti, T., Ongley, S. F., Peplak, J., Chaparro, M. P., Buchmann, M., Zuffianò, A., & Cui, L. (2016). Children's sympathy, guilt, and moral reasoning in helping, cooperation, and sharing: A 6-year longitudinal study. *Child Development, 87*, 1783-1795. doi:10.1111/cdev.12632
- Miller, P.A., Kozu, J., & Davis, A.C. (2001). Social influence, empathy, and prosocial behavior in cross-cultural perspective. In W.Wosinska, R.B. Cialdini, D.W. Barrett, & J. Reykowski (Eds.), *The practice of social influence in multiple cultures. Applied social research series* (pp. 63–77). Mahwah, NJ: Erlbaum.

Muthén, L. K., & Muthén, B. O. (2007). *Mplus user's guide* (5th ed.). Los Angeles: Muthén & Muthén.

Parker, A. E., Mathis, E. T., & Kupersmidt, J. B. (2013). How is this child feeling? Preschool-aged children's ability to recognize emotion in faces and body poses. *Early Education & Development, 24*, 188-211. doi:10.1080/10409289.2012.657536

Paulus, M. (2014). The emergence of prosocial behavior: why do infants and toddlers help, comfort, and share?. *Child Development Perspectives, 8*, 77-81. doi:10.1111/cdep.12066

Peplak, J., Song, J. H., Colasante, T., & Malti, T. (2017). Only you can play with me!" Children's inclusive decision making, reasoning, and emotions based on peers' gender. *Journal of Experimental Child Psychology, 162*, 134-148. doi:10.1016/j.jecp.2017.04.019

Rubin, K. H., Coplan, R. J., & Bowker, J. C. (2009). Social withdrawal in childhood. *Annual review of psychology, 60*, 141-171. doi:10.1146/annurev.psych.60.110707.163642

Somerville, L.H., & Whalen, P.J. (2006). Prior experience as a stimulus category confound: an example using facial expressions of emotion. *Social Cognitive and Affective Neuroscience, 1*, 271-274. doi:10.1093/scan/nsl040

Strand, P. S., Barbosa-Leiker, C., Arellano Piedra, M., & Downs, A. (2015). Exploring the bidirectionality of emotion understanding and classroom behavior with Spanish- and English- speaking preschoolers attending head start. *Social Development, 24*, 579-600. doi:10.1111/sode.12111

Tofighi, D., & MacKinnon, D. P. (2011). RMediation: an R package for mediation analysis confidence intervals. *Behavior Research Methods, 43*, 692-700. doi:10.3758/s13428-011-0076-x

- Trentacosta, C. J., & Fine, S. E. (2010). Emotion knowledge, social competence, and behavior problems in childhood and adolescence: a meta-analytic review. *Social Development, 19*, 2–29.
- Weiner, B. (1993). On sin versus sickness. A theory of perceived responsibility and social motivation. *American Psychologist, 48*, 957–965.
- Weiner, B. (1995). *Judgments of responsibility. A foundation for a theory of social conduct*. New York, NY: The Guilford Press.
- Williams, A., O'Driscoll, K., & Moore, C. (2014). The influence of empathic concern on prosocial behavior in children. *Frontiers in psychology, 5*, 425-425.  
doi:10.3389/fpsyg.2014.00425
- Zhou, Q., Valiente, C., & Eisenberg, N. (2003). Empathy and its measurement. In S. J. Lopez & C. R. Snyder (Eds.), *Positive psychological assessment: A handbook of models and measures* (pp. 269–284). Washington, DC: American Psychological Association.  
doi:10.1037/10612-01

Table 1

*Means and Standard Deviations of Study Variables by Age and Gender (N = 127)*

Variables	Younger (n = 49)		Older (n = 78)		Boys (n = 60)		Girls (n = 67)		Total (N = 127)	
	<i>M(SD)</i>	95% CI	<i>M(SD)</i>	95% CI	<i>M(SD)</i>	95% CI	<i>M(SD)</i>	95% CI	<i>M(SD)</i>	95% CI
Prosocial behavior	3.58(0.79)	[3.36,3.81]	4.13(0.98)	[3.91,4.35]	3.65(0.86)	[3.43,3.88]	4.16(0.97)	[3.91,4.39]	3.92(0.95)	[3.75,4.08]
Sympathy	3.40(0.85)	[3.15,3.64]	3.89(0.66)	[3.74,4.04]	3.63(0.70)	[3.45,3.81]	3.76(0.83)	[3.56,3.96]	3.70(0.77)	[3.56,3.83]
Anticipation of sadness for withdrawn excluded peer	1.53(1.42)	[1.11,1.96]	2.50(1.04)	[2.26,2.74]	2.30(1.21)	[1.98,2.63]	1.97(1.34)	[1.62,2.31]	2.13(1.28)	[1.89,2.36]
Anticipation of sadness for aggressive excluded peer	1.27(1.47)	[0.83,1.71]	2.28(1.18)	[2.01,2.55]	1.81(1.42)	[1.43,2.18]	1.98(1.35)	[1.64,2.32]	1.90(1.38)	[1.65,2.15]

*Note.* Younger (3- to 4-year-olds). Older (5- to 6-year-olds). CI = confidence interval. Prosocial behavior ranged from 1 to 6, sympathy ranged from 1 to 5, and anticipation of sadness ranged from 0 to 3. For all variables, higher scores indicate more of that quality.



Table 2

*Correlations Among Study Variables (N = 127)*

Variable	1	2	3	4	5	6
1. Prosocial behavior	-					
2. Sympathy	.60 <sup>***</sup>	-				
3. Anticipation of sadness for withdrawn excluded peer	.16 <sup>†</sup>	.33 <sup>***</sup>	-			
4. Anticipation of sadness for aggressive excluded peer	.13	.16 <sup>†</sup>	.57 <sup>***</sup>	-		
5. Age	.35 <sup>***</sup>	.37 <sup>***</sup>	.43 <sup>***</sup>	.35 <sup>***</sup>	-	
6. Gender	.27 <sup>**</sup>	.08	-.13	.06	-.11	-

*Note.* Gender (0 = boys, 1 = girls). <sup>†</sup> $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

*Figure 1.* Associations between anticipation of sadness, sympathy, and prosocial behavior ( $N = 127$ ).

*Note.* Gender (0 = boys, 1 = girls). Standardized coefficients reported. Confidence intervals (95%) for standardized parameters reported in parentheses. Dotted lines are nonsignificant paths. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .