

Articles

Empathy and Observed Anger and Aggression in Five-Year-Olds

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Abstract

In Roberts and Strayer (1996), we reported that emotional expressiveness and anger were important predictors of empathy for school-age children, and that empathy strongly predicted prosocial behaviors aggregated across methods and sources. In this paper, we report how empathy was associated with direct observations of anger and aggression in peer play groups. Twenty-four initially unacquainted five-year-old children (50% girls) were randomly assigned to six same-sex groups; each group met for three one-hour play sessions. Physical and verbal aggression, object struggles and anger were coded from videotapes, as were prosocial and social behaviors. As expected, empathy (aggregated across methods and sources) was negatively associated with aggression and anger, and positively associated with prosocial behaviors. Although children who were more angry were also more aggressive, anger and aggression did not covary across play sessions as a simple causal model requires. These results suggest further directions for research in emotions and aggression.

Keywords: empathy; anger; aggression

Empathy and anger are thought to have important consequences for children's prosocial behavior, aggression, and social relationships (Denham, 1998; Feshbach, 1989; Hoffman, 1977; Roberts & Strayer, 1996; Saarni, 1999; Strayer, 1987; Thompson, 1994). Although empirical support has not been consistent (Eisenberg, Fabes, Carlo, & Karbon, 1992), we found strong links between children's empathy and prosocial behavior when these constructs were assessed across methods and sources (laboratory tasks and ratings from parents, children, best friends, and teachers), then aggregated using latent variables (Roberts & Strayer, 1996). In that earlier path analysis, empathy accounted for 50% of the variance in boys' prosocial behavior. Based on these findings, we expected to see similar clear relations when prosocial and aggressive behaviors were observed under natural or semi-natural conditions. In this paper, we examine young children's peer-group behavior as an especially informative source for assessing such emotion-relevant behaviors (Denham, 1998). These observational data,

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based on a subset of the children in our earlier report, are presented here for the first time.

Although it is plausible to think that the same mechanisms that cause empathy to enhance prosocial behaviors should also cause it to inhibit aggression and the expression of anger (Feshbach, 1989), little research has directly addressed this issue, especially for young children. A number of research findings are suggestive, however. For example, physically abused toddlers and preschoolers react to others' distress in decidedly unempathic ways by threatening or attacking them (Main & George, 1985). In older children, coercive family interactions, which have been shown to result in high levels of peer aggression (e.g., Patterson, 1982; Patterson, DeBaryshe, & Ramsey, 1989), would also be expected to militate against the development of empathy. Supportive evidence was reported by Cohen and Strayer (1996) who found lower levels of empathy in a group of conduct-disordered teens than in a comparison group. In all these clinical samples, family environments are characterized emotionally by conflict and anger, and these emotional factors are thought to be involved in the generalization of conflict and aggression to peer domains (Bretherton, 1995; Davies & Cummings, 1994; Roberts, 1999; Thompson, 1994).

Although it is possible in principle to empathize with someone who is angry (one might be angry on behalf of someone, for example, who is indignant at unfair treatment), in practice such occasions are probably infrequent. More commonly, anger is experienced in direct interaction with another. In such cases, it is likely that the relations between empathy and anger are bidirectional. On the one hand, anger and personal distress, once activated, disrupt and prevent empathic responses (Eisenberg *et al.*, 1992). On the other hand, more empathic children should be less angry. For example, what we have called the cognitive-emotional processing model (Bretherton, 1995; Davies & Cummings, 1994; Roberts, 1999; Roberts & Strayer, 1987) suggests that because empathic children have fewer anger-laden memories to reactivate, they should for this reason be less likely to respond with anger when provoked or frustrated. In addition, with their better understanding of others' feelings and points of view, more empathic children should be better at social problem solving, thus reducing episodes of conflict and anger (in contrast to the social cognitive distortions and deficits seen in aggressive children, which are thought to lead to increased conflict; Coie & Dodge, 1998).

These considerations suggest two possible models for the associations between empathy, anger, and aggression. In what might be called a 'main effects' model, empathy, with its enhanced emotional and cognitive understanding of others, inhibits both aggression and anger. In contrast, in a 'mediated model', the impact of empathy is on anger, and it is lower levels of anger that result in less aggression.

Gender Differences. It is one of the most robust findings in the research literature that boys are more aggressive than girls (e.g., Block, 1983; Coie & Dodge, 1998; Maccoby & Jacklin, 1974). There are also persistent reports that boys express less empathy and more anger than girls (e.g., Strayer & Roberts, 1997; Zahn-Waxler, Cole, Welsh, & Fox, 1995). Some have proposed that school-age and adolescent girls and boys follow somewhat different developmental pathways to high levels of peer conflict and aggression and that they express anger in characteristically distinct ways (Galen & Underwood, 1997; Pepler & Craig, 1996). Others have found differential relations between empathy and prosocial behavior for girls and boys in middle childhood (e.g., Roberts & Strayer, 1996). The direct observation of empathy, anger, and aggression

in groups of boys and girls thus seems an especially apt context to examine in early childhood development.

Understanding the relations between empathy, anger, and aggression, we believe, has practical and theoretical implications for understanding aggression in children. In this paper, we report on a direct assessment of the relations between children's empathy and their observed aggression and anger with peers, for a sample of young children within the normal range for these behaviors. We placed 24 five-year-olds into six same-gender play groups of four unacquainted children each. These groups met one hour a week for three weeks in a laboratory play room, where their behavior could be videotaped. We did not examine older samples, because we expected their rates of aggression to be very low in this context. Social, prosocial, and aggressive behaviors were coded at 10-second intervals, as were displayed emotions (anger, positive affect, dysphoric affect, or neutral). Empathy was assessed by reports from parents, teachers, and by a laboratory procedure (the Empathy Continuum; Strayer, 1993). We used these data to contrast competing theoretical models.

Method

Participants

Current analyses are based on a subset of 24 initially unacquainted children from the youngest age group of a larger study focused on empathy and prosocial behavior (Roberts & Strayer, 1996; Strayer & Roberts, 1997; Strayer & Schroeder, 1989). These children (12 boys and 12 girls, mean age = 5.1 years, $SD = .3$) were randomly assigned to six play groups, each composed of four same-sex children.¹ Three boys, one in each group of boys, were from single-parent families. Mean age for mothers was 35 years ($SD = 4.6$); for fathers, 36 ($SD = 4.8$). Families came from predominantly white, middle-class backgrounds in a large metropolitan area in western Canada.

Measures and Procedures

Play Groups. After completing measures for the larger study (Roberts & Strayer, 1996; Strayer & Roberts, in press), including the Empathy Continuum procedure described below, play groups met separately in a university laboratory furnished as a play room with toys and comfortable furniture. Three play sessions, each one hour long, were conducted over three successive weeks. An adult was not present in the room, but children were told that she would be nearby and able to hear them if they called for her.

As children played together, their interactions were videotaped from ceiling-mounted cameras and later coded by observers trained in Izard's Affex coding system (Izard, Dougherty, & Hembree, 1983) and blind to the rest of the study (see Table 1 for details). Each child was coded concurrently by a different coder, randomly assigned. At the session's midpoint, coders switched to another child, randomly assigned.

Tapes were divided into 10-second blocks and coded twice, once for behaviors and once for emotions. Behaviors and emotions were coded as present if they occurred during odd-numbered blocks; even-numbered blocks were used for data recording.² More than one behavior or more than one emotion could be coded for each block. Because all children were observed for equivalent times, we report simple frequencies below, which can be regarded as lower limits for the frequencies that would have

Table 1. Coding Categories, Examples, Percent Agreement and Kappa for Observed Behaviors and Emotions

Categories	Percent agreement (κ)	Examples
<i>Behaviors</i>		
onlooking	85 (83)	gaze directed at others in proximity (<2 m.)
solitary	86 (86)	alone; may be active or inactive; if inactive, gaze not directed at others in proximity
talks	88 (87)	social speech (directed to others)
social play	86 (85)	playful interaction with others
prosocial behaviors	89 (89)	praises; helps; shares; cooperates
physical aggression	98 (98)	hit; push, shove; pinch
object-position struggles	90 (90)	takes; grabs; displaces
verbal aggression	94 (94)	taunts; yells; criticizes; makes negative comments on other child's work
<i>Emotions</i>		
anger	92 (92)	facial, gestural, or verbal expression, e.g., brows sharply down and together; eyes narrowed by lowering of brow; lips may be pressed together tightly
dysphoric affect	82 (82)	facial, gestural, or verbal expression, e.g., eyes squinted; downward mouth corners; lower lip pushed upward by chin muscle (chin puckers)
positive affect	96 (95)	facial, gestural, or verbal expression, e.g., forehead smooth; cheeks raised; corners of mouth back and up

been obtained by continuous time sampling (Altmann, 1974). Very similar patterns to those reported below emerged when we analyzed our data as proportions (i.e., as time budget data).

Reliabilities were assessed by having two coders independently code 25% of the videotapes (for a total of 4.5 hours of observation time). Percent agreements are reported in Table 1 for each category. For behaviors, mean agreement = 87%, $\kappa = .83$; for emotions, mean agreement = 93%, $\kappa = .87$.

In addition to these observational measures, children participated in a modified version of Lenrow's (1965) Puppet Play procedure, designed to assess empathic, prosocial, and aggressive responses to a puppet-dramatized story. This was given after the second play session. Children were also interviewed after each session to determine peer acceptance (sociometric status). Because they were largely unrelated to observed behaviors, we will not report on either of these measures.

Empathy. For our laboratory measure, the Empathy Continuum (Strayer, 1993), children individually viewed six emotionally evocative videotaped vignettes. The vignettes portray primarily dysphoric affect, as assessed by adult and child judges, but positive emotions occur briefly across vignettes, and are prevalent in the last vignette. Children were individually interviewed immediately after watching all vignettes. The Empathy Continuum integrates the degree of affective sharing experienced (i.e., degree of match between own and stimulus person's emotion) with the child's cognitive attribution for his or her own emotions. It contains seven different levels of cognitive mediation, derived from models of empathy development (Feshbach, 1975; Hoffman, 1975) and levels of interpersonal understanding (Hughes, Tingle, & Sawin, 1981; Shantz, 1983). Scores are generated for all principal characters in the vignettes. For the analyses presented here, each child's maximum score was used, rather than his or her mean score, because we thought that maximum scores better indicated what young children can accomplish under favorable testing circumstances, which in turn should better correspond to motivated responses to the real-life social demands faced in the play groups. Scores can range from 0 to 19. In the current sample of young children, scores ranged from 1 to 15, $M = 8.0$, $SD = 3.7$.

Empathy in more general contexts was assessed by ratings made by teachers, parents, best friends, and the children themselves. Teachers rated the empathy of participating children on two items ('Is generally sensitive and responsive to others' emotions'; 'empathic') from the Child Rating Questionnaire, a 47-item instrument which assessed prosocial behaviors, emotional expressiveness, and peer relationships as well as empathy (Buck, 1977; Weir, Stevenson, & Graham, 1980). Teachers rated each item on a 5-point scale (1 = 'not at all characteristic of the child' to 5 = 'extremely characteristic'). For the empathy scale (Cronbach $\alpha = .86$), scores ranged from 1.5 to 5.0, $M = 3.7$, $SD = .9$. Mothers also rated their children on the Child Rating Questionnaire. The parent version of the empathy scale (Cronbach $\alpha = .70$) included a third item, 'seems to be emotionally affected by others' display of emotions'.³ Parent ratings ranged from 2.0 to 4.3, $M = 3.3$, $SD = .7$.

Consistent with problems often encountered in using questionnaire items with such young children, reports from children (the Index of Empathy for Children; Bryant, 1982) and their best friends failed to correlate with the other three measures of empathy. They will not be discussed further.

The laboratory, teacher, and parent measures of empathy were aggregated using Principal Components Analysis. The resulting latent variable provides a measure of children's empathy that is relatively free from error variance and source bias because it reflects variance that is shared across sources. Scores on this factor (which accounted for 56% of the variance in the original measures) were used for all subsequent analyses. Factor loadings were .86 for parent-reported empathy, .73 for teacher-reported empathy, and .65 for children's Empathy Continuum scores.

Results

Descriptive Statistics

As shown in Table 2, children spent over two-thirds of their time in positive social interactions (social play, talking) or in solitary activities (including onlooking). Positive affect was the predominant emotion, occurring on average more than once a minute. Prosocial and aggressive behaviors occurred less frequently, approximately once every four minutes. Anger occurred on average once every 15 minutes.

Table 2. Descriptive Statistics for Observed Child Behaviors and Emotions

	Gender	Frequency	Mean	Standard Deviation
<i>Behaviors</i>				
physical aggression	girls	12	0.7	2.5
	boys	12	7.6	7.2
verbal aggression	girls	12	0.5	1.4
	boys	12	1.4	1.7
object struggles	girls	12	0.6	0.9
	boys	12	2.5	3.7
prosocial	girls	12	9.6	7.4
	boys	12	5.5	4.5
solitary	girls	12	23.2	12.9
	boys	12	13.6	10.5
onlooking	girls	12	44.3	19.9
	boys	12	51.4	16.8
talk		24	45.0	22.6
social play		24	28.8	12.6
<i>Emotions</i>				
anger	girls	12	0.7	1.7
	boys	12	3.2	3.1
positive affect		24	39.6	15.9
dysphoric affect		24	4.6	4.9

Notes: Mean values are number of 10-sec blocks in which the behavior occurred during a session. They represent the lower limit of the rate of occurrence per 30 min. See text for gender differences.

Although there were important individual differences in anger and aggression, most children displayed these behaviors at least occasionally. Anger was seen in 71% of the sample. Verbal aggression was observed in 62% of the sample, physical aggression in 75%, and object-position struggles in 92%. Only one child did not engage in aggression of any sort.

Gender Differences

Mean Gender Differences. Prosocial and aggressive behaviors showed expected gender differences in a MANOVA with repeated measures (three sessions) grouped by gender; multivariate $F(8,15) = 3.17, p < .05$. As found in other studies, girls engaged in more prosocial behavior than did boys, univariate $F(1,22) = 13.59, p < .005, \eta^2 = .38$, whereas boys engaged in more physical aggression, $F(1,22) = 13.59, p < .005, \eta^2 = .38$, more object struggles $F(1,22) = 7.61, p < .05, \eta^2 = .26$, and somewhat more verbal aggression, $F(1,22) = 3.72, p < .07, \eta^2 = .14$. (In contrast to these differences, there were, as expected, no gender differences for social play or talk, η^2 's $\leq .01$. However, girls engaged in more solitary activities than boys, univariate $F(1,22) = 6.85, p < .05, \eta^2 = .24$, although they tended to spend *less* time onlooking, univariate $F(1,22) = 3.64, p < .07, \eta^2 = .14$.)

In addition to aggression, boys also displayed more anger than did girls; multivariate $F(3,20) = 5.71, p < .01$; univariate $F(1,22) = 10.93, p < .005, \eta^2 = .33$. (In contrast, and as expected, differences for positive and dysphoric affect were small; η^2 's = .03 and .003.) Thus for both aggression and anger, gender differences were substantial, accounting on average for 29% of the variance in these measures.

As predicted, there were mean differences in empathy consistent with these differences in observed behavior and emotions. As found in other studies, girls were more empathic than boys, $t(22) = 1.99, p < .05, r_{pb} = .39$. Mean factor scores were .38 and $-.38$, respectively, both $SDs = .94$. Thus gender accounted for 16% of the variance in empathy, assessed across methods and sources.

Do Mean Gender Differences Imply Functional Differences? It is well known that correlations are affected by restricted range, and mean differences imply that restriction of range may exist for one gender or the other. In such a context, it can be difficult to decide whether gender differences in correlations, if they exist, reflect differences in underlying processes or are simply statistical artifacts.

We assessed the issue of functional differences by examining scatter plots and separate correlations for each gender. Across our five critical correlations (empathy with prosocial behavior, anger, physical aggression, verbal aggression, and object struggles), the median difference between girls and boys was only .13. For the comparison between empathy and prosocial behavior, correlations for girls and boys differed by only .01. In view of the small size of these differences and the similarities of their scatter plots, we decided that functional relations were similar for boys and girls and that it was reasonable to analyze them together.

Children's Empathy, Anger, and Aggression

The correlations shown in Table 3 indicate that more empathic children were, as expected, less angry, less physically and verbally aggressive, engaged in fewer object struggles, and tended to engage in more prosocial behaviors. On average, empathy accounted for 18% of the variance in observed anger and aggression, in contrast to 8% of the variance in observed prosocial behaviors.

Can We Adequately Assess the Null Hypothesis for These Correlations? Conventional tests of the null hypothesis assume that independent observations have been made on a random sample of individuals. In our case, values on observational variables are influenced by other members of the same group. (Of course, values are independent across groups.) Are conventional significance tests reasonably robust in this situation of partial dependence? We attempted to answer this question by applying a distribution-free test of significance, the bootstrap (Efron & Tibshirani, 1993), to the five critical correlations between empathy and aggressive behaviors, prosocial behavior, and anger. The confidence intervals resulting from these analyses were all consistent with the results of the conventional significance tests reported in Table 3. Thus it appears that conventional statistical tests of significance are robust in the current situation, providing reasonable guidance in assessing the null hypothesis.

Does Anger Cause Aggression? The strong correlations between anger and aggression suggest a direct causal role for anger, a commonsense view articulated over 60 years ago by Dollard, Doob, Miller, Mowrer, and Sears (1939). We tested this view

Table 3. Correlations Between Child Behaviors, Emotions, and Empathy, N = 24

	1	2	3	4	5	6	7	8	9	10	11	12
<i>Behaviors</i>												
1. Prosocial behaviors	1.00	—	—	—	—	—	—	—	—	—	—	—
2. Physical aggression	-.34	1.00	—	—	—	—	—	—	—	—	—	—
3. Verbal aggression	-.15	.66***	1.00	—	—	—	—	—	—	—	—	—
4. Object struggles	-.31	.90***	.56**	1.00	—	—	—	—	—	—	—	—
5. Solitary	.48*	-.61**	-.25	-.59**	1.00	—	—	—	—	—	—	—
6. Onlooking	-.51*	.10	-.27	-.08	-.26	1.00	—	—	—	—	—	—
7. Social play	.01	.52**	.37+	.59**	-.38+	-.25	1.00	—	—	—	—	—
8. Conversation	.13	.23	.17	.36+	-.48*	-.42*	.19	1.00	—	—	—	—
<i>Emotions</i>												
9. Positive affect	-.01	.51*	.20	.53**	-.57**	-.12	.61**	.60**	1.00	—	—	—
10. Dysphoric	.24	.35+	.40*	.36+	-.38+	-.29	.09	.57**	.21	1.00	—	—
11. Anger	-.37+	.92***	.72***	.85***	-.67***	.01	.47*	.36+	.39+	.46*	1.00	—
12. Empathy	.28+	-.48**	-.37*	-.43*	.15	-.03	-.30+	-.08	-.16	-.13	-.44*	1.00

Notes: + $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$. All tests are two-tailed except those between empathy and prosocial behavior and empathy and aggression. Cohen's omnibus test that all correlations are zero: $\chi^2(66) = 379.90, p < .00001$.

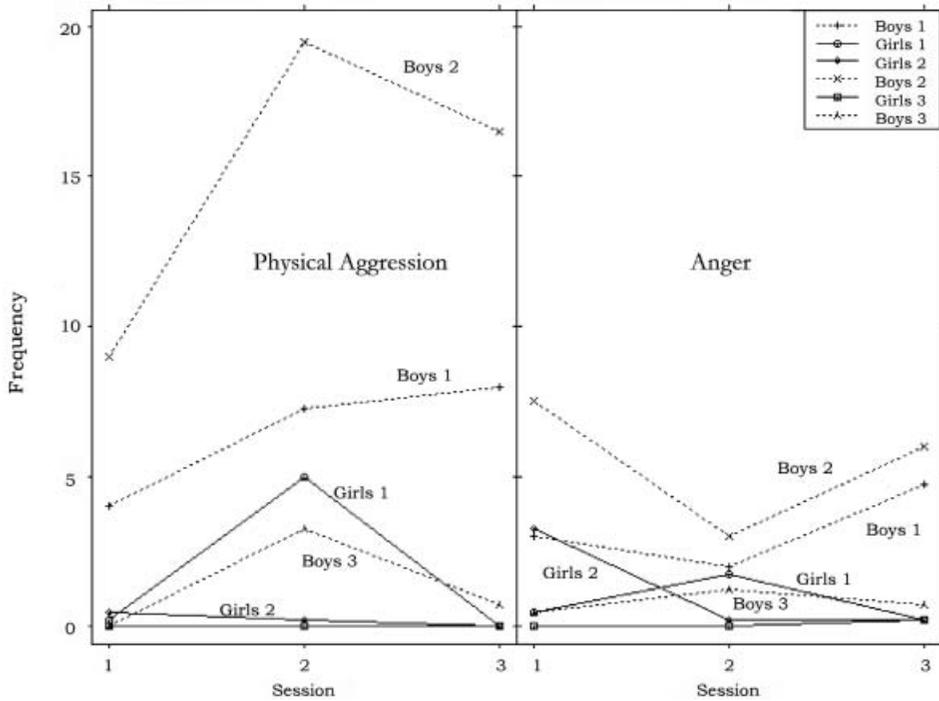


Figure 1. Observed Anger and Physical Aggression, by Group and Session.

by examining the relation between anger and aggression over sessions, as direct causal relations result in clear dose-response relations. This pattern, which should be especially apparent in groups high on aggression and anger, failed to emerge in repeated-measures (3 sessions) MANOVAs. Indeed, as Figure 1 illustrates, the opposite trend was observed. Physical aggression *increased* from session 1 to session 2 for the two most aggressive groups (Boys 1 and Boys 2), while over the same sessions anger *declined*. Although trends in the third and fourth most aggressive groups are more consistent with the anger-aggression hypothesis, the disconfirming information in the two most aggressive groups is logically more important. The pattern in these groups directly contradicts models in which anger is a strong, direct cause of aggression, including any mediated model in which empathy decreases aggression by decreasing anger.

Sequential analyses would give a clearer view of the temporal patterning of anger and aggression. Unfortunately, when these interactions were observed, we were unaware of the limited shelf life of the videotape we used. When we returned to them to carry out sequential coding, the videotapes had physically deteriorated and were unusable.

Discussion

In this sample of young, initially unacquainted children, we found, as we expected, clear negative associations for empathy with expressed anger and three measures of observed aggression. We assessed empathy across sources and methods, then aggregated these

measures on a latent variable. Using shared variance reduces error variance and biases or problems inevitably associated with single measures, and so gives us a better-than-usual measure of empathy as a characteristic 'in the child'. To our knowledge, this is the first report linking children's empathy and their observed (rather than rated or reported) anger and aggression in a semi-natural social context. Thus our findings are an important confirmation of theoretical expectations (e.g., Feshbach, 1989).

Our findings also raise further issues that merit investigation. Despite the very strong correlation between them, anger and physical aggression did not covary across sessions. In our two most aggressive and angry groups, aggression increased across sessions 1 and 2 while anger declined, a direct contradiction of any model proposing simple, direct causal relations. Differences in rates (Table 2 and Figure 1) make it likely that aggression often occurred in the absence of anger, a pattern seen in samples of school-age children, in which aggressive behaviors have been observed accompanied by neutral and even positive emotions, as well as by negative emotions such as anger (Pepler, Craig, & Roberts, 1998). Thus relations between anger and aggression appear to be complex—as relations between emotions and behaviors often are. Sequential observational data are needed to clarify the roles of anger and other emotions in aggressive behavior and to test possible causal models.

Because our data rule out direct, strong relations between observed anger and aggression, they also indicate that anger cannot play a simple mediating role in the association between empathy and aggression. Thus of the two models mentioned in the introduction, our findings are most consistent with a 'main effects' model in which empathy acts against both anger and aggression. Alternatively, empathy itself could be more likely in children who are already well self-regulated.

The very strong intercorrelations reported here for anger and aggression indicate that a single factor is present in our sample. It may be, perhaps, that anger and aggression both result from some underlying difficulty in regulating emotions and self during social interactions, as the cognitive-emotional processing model suggests (Bretherton, 1995; Davies & Cummings, 1994; Eisenberg, 2000; Eisenberg, Fabes, & Murphy, 1997; Roberts, 1999; Roberts & Strayer, 1987; Thompson, 1994). Because we are dealing with *dyadic* conflicts, there are undoubtedly additional factors (including situational factors) which modify the impact of individual dysregulation, tipping the outcome towards physical aggression in some cases and angry words or gestures in others. Thus the details of how self-regulation—and empathy—operate during episodes of conflict remain to be elucidated.

The mean gender differences that emerged in this sample were similar to those reported in other samples—girls were more empathic than boys, less angry, and less aggressive (Block, 1983; Brody & Hall, 1993; Lennon & Eisenberg, 1987). From the relative sizes of the correlations in Table 3, however, it is clear that higher levels of empathy cannot fully account for lower levels of expressed anger and aggression in girls. There are, of course, other factors operating, some of which might have been enhanced by our decision to have groups that were homogeneous with respect to gender. It may be that the goals of group play differ for boys and girls, with dominance issues (and therefore conflict) more salient for boys (Maccoby & Jacklin, 1974). Or it may be that gender-linked pathways to aggression differ for other reasons (Galen & Underwood, 1997; Pepler & Craig, 1996). Detailed behavioral observation of larger samples of girls and boys, in both same-sex and mixed-sex groups, should provide useful information about the ways in which children differing in empathy manage their emotions and social interactions.

Concerns

The very high correlations between anger and aggression reported in Table 3 suggest that we may have confounded anger and aggression in our coding. The patterns seen in Figure 1 for the most aggressive and angry groups indicate that this did not happen. As noted earlier, in these groups anger decreased while aggression increased. This is only possible if the defining behaviors are being differentiated by coders, not confounded.

We have already alluded to the problem of adequately assessing the null hypothesis because of dependence between the behaviors of members of the same group. Moore and McCabe (1999) suggest that dependence between observations is not serious if the influences producing dependence decay quickly. Our decision to sample non-adjacent 10-second blocks would contribute to such decay, and our empirical assessment (using the bootstrap) indicated that conventional significance tests were producing reasonable tests of the null hypothesis. Moreover, past research and theory make it difficult to believe that the null hypotheses might actually be true—that empathy might really be completely unrelated to prosocial behavior, anger, or aggression. But if these null hypotheses are false, as we believe, then we made the correct statistical decisions in rejecting them.

Only replication, of course, will tell us if our statistical decisions were indeed correct. We hope that the suggestive findings that we have reported here will encourage others to use larger samples and more adequate techniques to examine the relations between empathy and observed anger and aggression more thoroughly.

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Notes

1. There were 33 five-year-olds altogether, but only enough boys to form three groups of four. They were balanced by three group of girls.
2. This was done originally to increase reliability. We lacked the resources at the time to return to the tapes to code the omitted 10-second blocks, and we also felt that 90 minutes of coded behavior per child was an adequate sample of behavior in the play group.
3. When this item is included in the teacher scale, it forms a second factor and lowers α to .53. It is possible that in school contexts, this item taps personal distress rather than empathy (Eisenberg, Fabes, Schaller, & Miller, 1989). The three items in the parent and teacher scales represent the only empathy-relevant items common to the teacher and parent versions of the questionnaire.

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