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Pathways to Self-Esteem in Late Adolescence: The Role of Parent and Peer Attachment, Empathy, and Social Behaviors

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Abstract

The goal of this study was to examine both the direct and indirect relations of parent and peer attachment with self-esteem and to examine the potential mediating roles of empathy and social behavior. 246 college students (*M*age = 18.6 years, *s.d.* = 1.61) completed self-report measures of parent and peer attachment, empathy, social behavior, and self-esteem. Structural equation modelling revealed that parental attachment had mostly direct effects on self-esteem. Among females, the links between peer attachment and self-esteem, however, were entirely mediated by empathy and prosocial behavior. The findings from this study suggest that although close supportive relationships with parents and peers are related to adolescent self-esteem, these links are complex.

Introduction

Throughout adolescence, children decreasingly rely on parents as attachment figures and increasingly turn to peers and romantic partners for attachment related functions, such as seeking comfort in times of stress (Allen & Land, 1999; Carlo, Fabes, Laible, & Kupanoff, 1999; Fraley & Davis, 1997). It is important to realize, however, that decreased dependence on parents does not mean that attachment relationships with parents are any less important or any less predictive of adolescent outcomes. In fact, attachment security with parents continues to predict aspects of

psychosocial well-being even into young adulthood (Fraley & Davis, 1997; Larson, Richards, Moneta, Holmbeck & Duckett, 1996).

Indeed, secure attachments with parents in adolescence may be especially important for fostering identity and self-development during adolescence (Allen & Land, 1999). Although adolescence is a time of increasing autonomy from parents, researchers now believe that this autonomy is most readily established not at the expense of strong relationships with parents, but in the context of secure relationships with parents (Allen, Hauser, Bell, & O'Connor, 1994). Thus, researchers have argued that secure attachments provide adolescents with a "secure base" from which to explore identity issues and promote aspects of self-development, especially self-esteem (see e.g., Allen & Land, 1999).

According to attachment theory, children begin to construct rudimentary models of the self (and others) in response to the availability and sensitivity of caregivers in toddlerhood and these representations are reworked across the lifespan (Bowlby, 1982; Bretherton, 1991). Thus, if caregivers have been sensitive and available to the child, a child constructs a model of the self as worthy and deserving of love. In contrast, if parents have failed to be sensitive and accessible, a child constructs models of the self as unworthy and undeserving of love. Fering and Taska (1996) have argued that warm and positive interactions between attachment figures and children foster positive representations of the self not just within the family context, but in more global self-evaluation contexts as well. Research generally supports the view that secure attachments with parents in infancy, childhood, and adolescence are linked with positive representations of the self, including high levels of self-esteem and self-efficacy (Arbona & Power, 2003; Thompson, 1999, for review). Similarly, research outside the field of attachment typically finds strong links between warm and supportive parenting practices and high levels of self-esteem in adolescence and young adulthood (Harter, 1990; Lamborn, Mounts, Steinberg, & Dornbusch, 1991).

In addition to parents, peers also serve as important and influential attachment figures for adolescents (Burhmester, 1992, Carlo et al., 1999). Although controversy exists on whether peers can in fact be considered attachment figures (see e.g., Ainsworth, 1991), peers begin to serve many of the same attachment needs as parents by middle to late adolescence (Burhmester, 1992). For example, peers become sources of emotional support and comfort, serve as safe havens and secure bases, and even become sources of separation distress (Hazan & Zeifman, 1999). Furthermore, by middle adolescence peers may allow for adolescents' attachment needs to be met at a time when they are struggling to establish some autonomy from parents. As a result, many researchers do in fact consider that peers, and ultimately romantic partners, can become attachment figures in adolescence (see e.g., Allen & Land, 1999; Furman, Simon, Shaffer, & Bouchev, 2002; Hazan & Zeifman, 1999).

Just as with parents, secure attachments with peers are likely important for an adolescent's self development and for shaping an adolescent's global self-esteem (Black & McCartney, 1997; Fass & Tubman, 2002; Hoffman, Levy-Shiff, & Ushpiz, 1993). It is not clear, however, how both peer and parent attachment relationships become integrated into an adolescent's internal working model of the self, especially when experiences with parents and peers are highly divergent. Although researchers find moderate to strong correlations between parent and peer attachment (see e.g., Laible, Carlo, & Raffaelli, 2000), for a moderate percentage of adolescents, these experiences may be divergent (see e.g., Furman et al., 2002).

Some theorists (e.g., Bretherton, 1985) have argued for a hierarchical organization of internal working models in which the child's representation of the most salient attachment figure is the most influential and therefore the most predictive of developmental outcomes. This issue might be complicated by the fact that the most influential attachment figure in an adolescent's model of self might change across development, as peers or romantic partners become important as attachment figures (Laible et al., 2000). However, this point remains empirically unexamined. Other scholars, however, have argued that multiple attachment relationships are not integrated, but instead form multiple independent internal working models that are influential in different developmental domains (e.g., Suess, Grossman, & Sroufe, 1992). Research examining this issue is mixed (see Howes, 1999) and therefore it is not clear how multiple relationships are represented by an adolescent in his/her working models of the self.

The present study

Regardless, as previously discussed, both peer and parent attachment security should be related to an adolescent's feelings of self-worth and research supports this idea (Armsden & Greenberg, 1987; Hoffman et al, 1993). What is not necessarily clear is whether parent and peer attachment exert solely direct effects on self-esteem or whether these effects are mediated through the adolescent's social behaviors, such as aggression and prosocial behavior (Carlo, Raffaelli, Laible, & Meyer, 1999). In fact, the model that we propose in Figure 1 posits both direct and indirect influences of peer and parent attachment on adolescent self-esteem. The direct paths suggest that secure attachment relationships with parents and peers promote feelings of self-worth. However, we also propose that parent and peer attachment have indirect influences on self-esteem through empathy and social behaviors (see Figure 1). Secure attachments with parents and peers likely foster high levels of empathy and appropriate social behaviors, which in turn have been linked with high levels of self-esteem.

The indirect paths: empathy and social behaviors

Researchers have speculated and found empirical support for the idea that warm, nurturing relationships with parents in adolescence promotes prosocial behavior and decreases aggressive

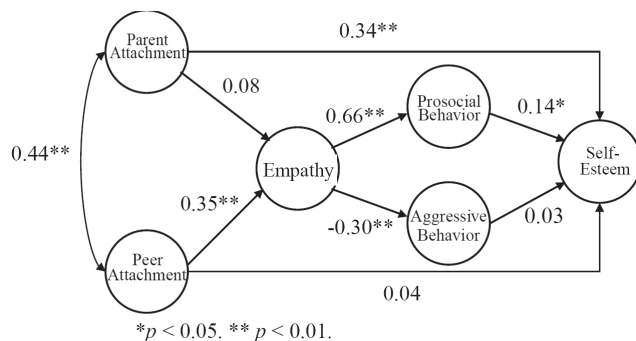


Figure 1. Hypothetical relations among the variables. Actual relations among the variables with the full sample ($N = 246$). Please note that the measurement model is omitted for clarity.

behavior (see Coie & Dodge, 1998, Eisenberg & Fabes, 1998, for reviews). The relations between parent-child attachment and positive and negative social behaviors are likely mediated by the development of empathy (Eisenberg & Fabes, 1998; Eisenberg & McNally, 1993; Hawkins & Lishner, 1987). Empathy is an other-oriented vicariously induced emotion that is presumed to foster positive social behaviors and inhibit aggressive behaviors, because those who experience this emotion are motivated to reduce the distress of others (Batson, 1991; Eisenberg & Fabes, 1998; Murphy, Shepard, Eisenberg, Fabes, & Guthrie, 1999). Researchers have argued that warm, supportive parenting inherent in secure parent-adolescent relationships creates an affective climate in the home that fosters the development of empathy and reciprocity (Garber, Robinson, & Valentiner, 1997; Zahn-Waxler & Radke-Yarrow, 1990).

Researchers have also argued that peer relationships might provide a unique opportunity in which to develop empathy, and thus enhance the development of prosocial behavior and limit the development of aggressive behavior (Eisenberg & Fabes, 1998). These theorists argue that peer relationships, unlike parent-child relationships, provide unique equality, mutuality, and reciprocity (Youniss, 1985) and that these qualities provide rich opportunities for the development of perspective taking and empathy. Despite this, however, researchers have not generally examined how the quality or security of adolescent peer relationships is related to an adolescent's level of empathy. The limited research that is available, however, suggests that the security of attachment of adolescents to their peers may be more predictive of adolescents' reports of empathy than is security of attachment to parents (Laible et al., 2000).

Social behaviors such as aggression and prosocial behavior have been theoretically and empirically linked with self-esteem in childhood and adolescence. With respect to prosocial behavior, researchers have speculated that the relationship between self-esteem and prosocial behavior is likely bi-directional. Adolescents with high levels of self-esteem feel more competent to assist others in need and are also more able to do so than adolescents who are low in self-esteem, because their own needs are being met (Eisenberg & Fabes, 1998). However, it also seems likely that an adolescent's engagement in prosocial and positive social activities increases their self-esteem (Yates & Youniss, 1996). Researchers have found a moderate relation between self-esteem and prosocial behavior in elementary school children (Larrieu & Mussen, 1986), but research with adolescents is lacking (see Eisenberg & Fabes, 1998).

Similarly, researchers have found links between aggression and self-esteem in adolescents and adults, although these links have not always been consistent (Baumeister, Bushman, & Campbell, 2000). Although aggression tends to have many causes, individuals with low self-esteem seem to be at risk for engaging in aggressive and antisocial behavior (see e.g., Lochman & Lampron, 1986; Lowenstein, 1989; Paulson, Coombs, & Landsverk, 1990; Russell & Hudson, 1992). The question remains, however, whether low self-esteem causes aggressive behavior or whether the opposite is true, i.e., aggressive behavior leads to feelings of inadequacy and low self-esteem, particularly as a result of peer rejection (Lcary, Schreindorfer, & Haupt, 1995).

Hypotheses

The goal of this study was to examine the direct and indirect effects of parent and peer attachment on self-esteem in late adolescence, taking into account the possible mediating roles of empathy, aggression, and prosocial behavior (see Figure 1). Overall, research suggests that parent

attachment is more strongly related to high levels of self-esteem among adolescents than is peer attachment (see e.g., Paterson, Pryor, & Field, 1995). However, part of the reason for this difference may be that peer attachment has more indirect effects on adolescent self-esteem through its unique influence on the development of empathy and social behaviors. Therefore, it was expected that secure attachments to parents would have relatively direct influences on self-esteem, although this did not preclude the possibility that parent attachment might also have some indirect effects through its relations with empathy and social behaviors. In contrast, it was expected that peer attachment would have mostly indirect effects on self-esteem through empathy and social behaviors (although we certainly did not rule out the possibility that peer attachment would also have direct effects on self-esteem).

Method

Participants and procedures

Participants in the study were 246 college students (M age = 18.6 years, $s.d.$ = 1.61) who were enrolled in undergraduate psychology courses in a large state university in the South. The sample was ethnically diverse (15% Caucasian, 13% African-American, 59% Latino) and predominantly female (70%). Participants received extra credit for their participation in the study and questionnaires were administered to small groups of adolescents.

Measures

The surveys consisted of a number of demographic items and a battery of self-report scales. All of the scales in this study had been previously used and validated with older adolescents. The survey included the following scales (in addition to a number of demographic items):

Parent and Peer Attachment. Students completed a shortened version of the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987). The original scale was developed and tested with adolescents and was designed to assess both the affective and cognitive dimensions of *current* attachment security and trust in the accessibility and responsiveness of attachment figures. Both the shortened parent and peer scales consisted of 12 items, four from each of the three original subscales, i.e., trust, communication, and alienation. Parallel peer and parent items were chosen (sample item, "My parent respects my feelings", "my friends respect my feelings"). Both scales were rated on a 5-point scale from "never" to "always". Previous research has documented the predictive validity of the shortened measure (see e.g., Laible et al., 2000). For the parent scale, participants were instructed that if they had a different relationship with their mother and father, they should respond to the items for the parent who most influenced them. For peers, adolescents were instructed to respond to the items for the group of friends who they felt most influenced them. Internal consistency on the scales was adequate ($\alpha_{\text{parent}} = 0.89$, $\alpha_{\text{peer}} = 0.78$).

Empathy. Students completed the empathic concern and perspective taking subscales from the Interpersonal Reactivity Questionnaire (Davis, 1983). Both the empathic concern scale ($\alpha = 0.61$ in the present study) (sample item, "I often have tender, concerned feelings for people less fortunate than me") and the perspective taking scale ($\alpha = 0.63$ in the present study) (sample item, "I some-

times find it difficult to see things from the 'other person's point of view', reverse coded) consisted of seven items. Both scales were rated on a 5-point scale ranging from "does not describe me" to "describes me very well."

Because perspective taking and empathic concern are theoretically and empirically related (Davis, 1983), an empathy scale was formed by combining the two scales. Preliminary correlational analysis indicated that the empathic concern and perspective taking scales were significantly interrelated [$r(245) = 0.35, p < 0.001$]. Following previous researchers (e.g., Laible et al., 2000; Carlo, Roesch, & Melby, 1998) the two scales were averaged to form the empathy scale ($\alpha = 0.78$ in the present study).

Aggression. Aggression was measured using the Suppression of Aggression subscale from the Weinberger Adjustment Inventory (Weinberger, 1991). The Suppression of Aggression scale was rated on a 5-point scale that ranged from 1 (does not describe me) to 5 (describes me very well) and consisted of five items (sample item, "I lose my temper and 'let people have it' when I'm angry"). Internal consistency of the scale was adequate ($\alpha = 0.78$) and higher scores indicated more aggression.

Prosocial behavior. Participants also completed a 20-item measure designed to provide a global index of prosocial responding (Rushton, Chrisjohn, & Fekken, 1981). Students were asked to rate the frequency of various behaviors on a 5-point scale ranging from 1 (never) to 5 (very often). Internal consistency of the measure was adequate ($\alpha = 0.73$; sample item, "I have comforted someone who was very upset").

Self-esteem. The Rosenberg self-esteem scale (Rosenberg, 1965) was used as a measure of adolescent self-esteem. The scale contains 10 items that were rated on a 5-point scale from "strongly disagree" to "strongly agree". Reliability was adequate ($\alpha = 0.73$; sample item, "On the whole, I am satisfied with myself").

Results

Descriptive and bivariate data

Descriptive data on all of the variables and the bivariate relations among the variables appear in Table 1. Bivariate relations revealed a significant correlation between parent and peer attach-

Table 1. Descriptive statistics and bivariate relations among the attachment, empathy, and social behaviors

	1	2	3	4	5	6	Mean	Standard deviation
1. Parent attachment	—	0.40**	0.21**	0.21**	-0.07	0.33**	3.63	0.72
2. Peer attachment		—	0.28**	0.23**	-0.08	0.20**	3.91	0.48
3. Empathy			—	0.46**	-0.32**	0.11	3.75	0.53
4. Prosocial behavior				—	-0.21**	0.20**	2.40	0.80
5. Aggression					—	-0.01	3.38	0.56
6. Self-esteem						—	3.68	0.40

* $p < 0.05$, ** $p < 0.01$.

ment. Adolescents who reported a secure attachment with parents also reported a secure attachment with peers. Attachment security with both parents and peers was similarly related to adolescent reports of empathy, prosocial behavior, and self-esteem. Adolescents who reported secure attachments to parents and/or peers reported high levels of empathy, prosocial behavior, and self-esteem. Furthermore, adolescent reports of empathy were also significantly correlated with their reports of aggression and prosocial behavior. Adolescents who reported high levels of empathy also reported engaging in high levels of prosocial behavior and low levels of aggressive behavior. Finally, prosocial behavior was significantly correlated with aggressive behavior and self-esteem. Adolescents with high levels of prosocial behavior reported having high levels of self-esteem and low levels of aggressive behavior.

Gender differences

To examine gender differences, a series of independent *t*-tests was conducted. Although males and females did not differ with regards to parent attachment, they did differ on peer attachment with females reporting higher levels of peer attachment ($M_{females} = 3.96$, $s.d. = 0.48$; $M_{males} = 3.79$; $s.d. = 0.48$; $t(2\ 4\ 5) = -2.50$, $p < 0.05$). In addition, females reported higher levels of empathy ($M_{females} = 3.84$, $s.d. = 0.51$; $M_{males} = 3.51$; $s.d. = 0.52$; $t(2\ 4\ 5) = -4.61$, $p < 0.01$) and prosocial behavior ($M_{females} = 3.44$, $s.d. = 0.54$; $M_{males} = 3.24$; $s.d. = 0.58$; $t(2\ 4\ 5) = -2.54$, $p < 0.05$), and lower levels of aggressive behavior ($M_{females} = 2.31$, $s.d. = 0.81$; $M_{males} = 2.62$; $s.d. = 0.76$; $t(2\ 4\ 5) = 2.87$, $p < 0.01$). There was no gender difference in self-esteem.

Testing the model: structural equation model procedures

To test the model presented in Figure 1, structural equation modeling (SEM) was employed. Because of the large number of observed variables indicating the 6 latent variables in the model, item parcels were created to reduce the sample size to number of parameters estimated ratio. In addition, creating these item parcels both normalized the distribution of these observed variables univariately and multivariately and increased the reliability of these indicators relative to the individual items.¹ Item parcels were created by randomly assigning each item for a latent variable to a target item parcel. For example, 4 item parcels were created and served as observed variables for the Parent Attachment latent variable. Each of the 4 item parcels was comprised of 3 randomly selected *items* from the Parent Attachment scale. These randomly selected items were subsequently aggregated to create the new observed variable (i.e., item parcel). Similar procedures were followed to create item parcels for the remaining latent variables.² Using these constructed item parcels as indicators of the six latent variables, the structural model shown in Figure 1 was tested. Subsequent multigroup analyses were then conducted to determine the invariance of the structural paths of this model across gender.

¹ The unidimensionality of each latent variable as indicated by the item parcels was established using confirmatory factor analysis.

² We did not create item parcels for the aggressive behaviors latent variable because this variable was indicated with only five items.

Determination of model fit

Use of the χ^2 likelihood ratio test as a test statistic to assess model fit has been deemed unsatisfactory for numerous reasons (see Tanaka, 1993). Because of these limitations, many researchers (e.g., Hoyle, 2000; Tanaka, 1993) have suggested using multiple measures of model fit. In the current study the following measures were employed: (a) the Satorra–Bentler Scaled χ^2 (S-B χ^2 ; Satorra & Bentler, 1988), a statistical test of model fit when data are multivariately non-normal; (b) the Comparative Fit Index (CFI; Bentler, 1990), with values greater than 0.90 indicating reasonable model fit; (c) and the Root Mean Square Error of Approximation (RMSEA; Steiger, 1990), with values less than 0.08 indicating reasonable model fit. The S-B χ^2 was used because slightly non-normal data was expected.³ A model was determined to fit well if both criteria (b) and (c) were met.⁴ In evaluating the statistical significance of individual model parameters (i.e., factor loadings, inter-factor correlations, structural paths), a statistical significance level of 0.05 was employed.

Results of the Model

For the measurement model, all factor loadings were large and statistically significant (standardized values ranged from 0.48 to 0.85, $p < 0.05$). The overall model fit reasonably well according to the descriptive fit indices, S-B χ^2 (221, $N = 263$) = 424.84, $p < 0.05$, CFI = 0.90, RMSEA = 0.06. As shown in the structural portion of the model (see Figure 1), several significant relations were evident. Parent attachment and prosocial behavior were significantly and positively related to self-esteem, suggesting that participants who reported higher parent attachment and prosocial behavior also reported higher self-esteem. Peer attachment and aggressive behavior were not related to self-esteem. Empathy was significantly and positively related to prosocial behavior but significantly and negatively related to aggressive behavior, suggesting that participants who reported higher empathy also reported higher prosocial behavior and lower aggressive behavior. In predicting empathy, only peer attachment (and not parent attachment) was a significant and positive predictor. Participants who reported that they were high in peer attachment also report that they were high in empathy. Finally, the interfactor correlation between parent attachment and peer attachment was significant and positive.

Gender differences in the model

In order to test the invariance of the structural coefficients a multigroup analysis was performed. This model also fit reasonably well according to the RMSEA, S-B χ^2 (450, $N = 263$) = 655.92, $p < 0.05$, CFI = 0.89, RMSEA = 0.06. However, 3 structural coefficients differed between the gender groups (see Figure 2 and Figure 3), with males having a stronger parent attachment-

³ The item parcels did reduce the amount of non-normality in our data by a factor of 3. However, the standardized Mardia's coefficients were still larger than we would like (i.e., they were > 10). Therefore, we used S-B χ^2 as a correction factor for the minor non-normality problem that we had.

⁴ S-B χ^2 is also influenced by sample size, so this value will almost always indicate that a model does not fit significantly well (i.e., $p < 0.05$). For this reason, we rely primarily on the two descriptive fit indices that follow to determine overall model fit.

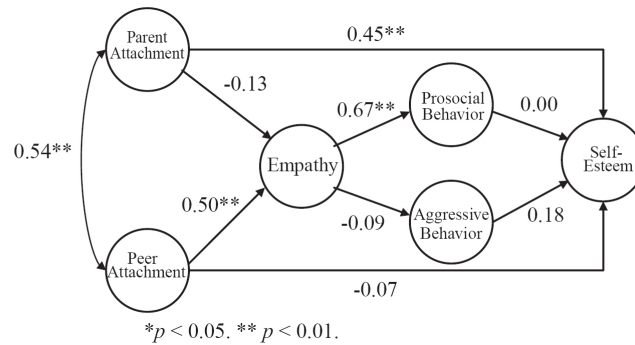


Figure 2. Actual relations among the variables for males (N = 74).

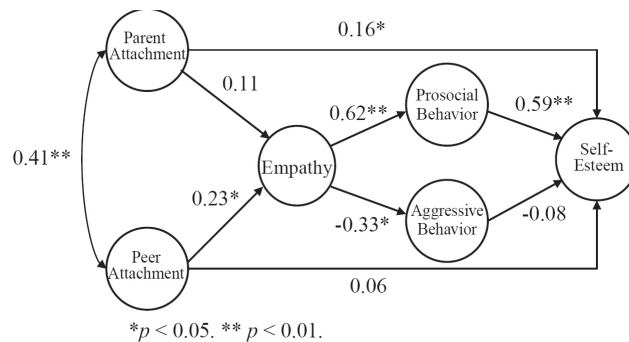


Figure 3. Actual relations among the variables for females (N = 172).

self esteem relation than females (β 's = 0.45 vs. 0.16, $p < 0.05$); females having a stronger prosocial-self esteem relation than males (β 's = 0.59 vs. 0.00, $p < 0.05$); and a statistical difference in the parent attachment-empathy relation between males ($\beta = -0.13$) and females ($\beta = 0.11$), although neither individual structural coefficient was statistically significant. Because these structural coefficients were not invariant across gender groups, equality constraints for these paths were removed and the model was re-estimated. This model also fit reasonably well, $S-B\chi^2(447, N = 263) = 642.32$, $p < 0.05$, CFI = 0.90, RMSEA = 0.05, and no further differences were found between the gender groups.

Discussion

The goal of this study was to examine both the direct and indirect relations of parent and peer attachment with self-esteem and to examine the potential mediating roles of empathy and social behavior. Results indicated that both parent and peer attachment were related to adolescent self-esteem, although the nature of the relation was different for each variable. Structural equation modeling suggested that parental attachment was, for the most part, directly related to self-esteem. Adolescents with secure attachments to parents reported higher levels of self-esteem than those reporting insecure attachments. Overall, the finding that parent attachment was directly related to self-esteem in late adolescence is consistent with attachment theory. Attachment theorists

have argued that secure attachments with parents are important for the construction of healthy models of the self (Allen & Land, 1999; Harter, 1990).

Interestingly, the relation between parent attachment and self-esteem was significantly stronger for males than for females. The reason for this finding is unclear. Nevertheless, this finding does suggest that the influences on self-esteem in late adolescence might be different for males and females. For females, self-esteem may be more strongly predicted by indirect influences, such as social behaviors. For males, self-esteem may be more directly related to parental attachment. Clearly, more research is needed to understand this gender difference.

Attachment relationships with peers were also significantly related to adolescents' reports of self-esteem. The findings, however, suggested that (at least in late adolescence) this relation was totally mediated by empathy and prosocial behavior. Thus, attachment security with peers was associated with high levels of empathy. This latter finding was consistent with the notion that close, supportive relationships with peers likely provide adolescents with unique opportunities to develop perspective taking and empathy. As others have argued, peer relationships are distinctive in terms of the level of equality and reciprocity, which provide the optimal context for the acquisition of behaviors reflecting concern for others and kindness (Youniss, 1985). Developmental theorists have long argued that peer relationships are foundational for the acquisition of morality related processes (Piaget, 1935/1965; Sullivan, 1953) and the present findings support this idea. However, it is important to realize that although peer attachment was positively related to reports of prosocial behavior, this relation was completely mediated by empathy. Thus, it appears that peer relationships might exert their influence on self-esteem through the development of moral emotions such as empathy.

Consistent with other research, empathy in this study was related to adolescent self-reports of social behaviors. Adolescents who reported high levels of empathy also reported that they engaged in more prosocial behavior and less aggressive behavior. These findings are also consistent with previous research and theory that suggests that empathy should be linked to the quality of social functioning (Eisenberg & Mussen, 1985; Murphy et al., 1999; Saarni, 1990). Individuals who experience high levels of empathy and related processes, such as perspective taking, are presumed to feel some responsibility towards others and as a result are motivated to reduce their distress (Eisenberg & Fabes, 1998). Similarly, aggression has typically been linked to deficiencies in the cognitive components of empathy, particularly deficits in the cognitive processing of social situations (Crick & Dodge, 1994) and perspective taking (Eisenberg, 1986).

As predicted, prosocial behavior was a significant predictor of self-esteem, particularly in females. Females who reported high levels of prosocial behavior also reported high levels of self-esteem. Adolescents who engage in high levels of prosocial behavior are likely to reap the benefits of feeling good about their involvement in such positive activities (Yates & Youniss, 1996). For females, who are socialized towards an orientation emphasizing relationships and reciprocity (Zahn-Waxler, Cole, & Barrett, 1991), engaging in prosocial behavior may be especially important in fostering feelings of self-worth.

Interestingly, for this sample, aggression was not a significant predictor of self-esteem. Although some researchers have speculated that aggressive behavior is linked with low levels of self-esteem, findings linking aggression with self-esteem have not always been consistent (East & Rock, 1992; Lochman & Dodge, 1994). In fact, some researchers (e.g., Baumeister et al., 2000) have argued that inflated self-esteem and narcissism might lead to aggression. It seems likely that the

pattern of relations between self-esteem and aggression is complicated and may vary depending on the type and severity of the aggression. Of course, part of the reason that this study did not find a relation between self-esteem and aggression may be that the levels of aggression in this sample were relatively low. Clearly, more research is needed on this question, especially research that examines the links between self-esteem and different types of aggressive behavior.

As with any study, there are a number of shortcomings that limit the interpretability of the present findings. First, the study relied only on self-report data from adolescents. Other methods of research are needed to confirm the pattern of relations (especially longitudinal designs and observational research). In addition, given the correlational nature of the study, it is impossible to determine the direction of the observed effects in this study. Although theoretically it is plausible that that parent and peer attachment foster empathy and self-esteem, an equally plausible argument is that the direction of the effects is reversed (i.e., well-adjusted adolescents more easily develop secure attachments with parents and peers). As others have argued, however (e.g., Bell, 1968; Maccoby & Martin, 1983), the direction of the effects is likely bidirectional, with secure attachment relationships with peers and parents fostering adolescent and adult adjustment, and this in turn fostering the preservation and subsequent formation of secure relationships.

Despite these limitations, this research has important implications for future research and program development. First, the findings from this study suggest that although close supportive relationships with parents and peers are linked to adolescent self-esteem, these links are complex. Thus, future researchers need to examine the potential mediating factors that might account for some of the associations between attachment relationships and self-esteem. Second, this study adds to the sparse literature examining the relations between prosocial behavior and self-esteem in adolescence. These findings are consistent with theory that prosocial behavior is linked with adolescent well-being in adolescence (Fabes, Carlo, Kupanoff, & Laible, 1999). Finally, these findings suggest that programs designed to foster self-esteem in adolescence need to consider fostering empathy and prosocial behaviors in addition to promoting positive relationships with peers and parents.

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