AGGRESSIVE BEHAVIOR
Volume 38, pages 99–107 (2012)

Physical and Relational Aggression in Early Adolescence: Associations with Narcissism, Temperament, and Social Goals

Tiina Ojanen*, Danielle Findley, and Sarah Fuller

Department of Psychology, University of South Florida, Tampa, Florida

This study examined adolescent narcissism, temperament (frustration and affiliation), and social goals in association with peer-reported physical and relational aggression ($N = 384$; 12–14 years). Narcissism was positively associated with dominance goals and negatively with closeness goals for peer interaction. Moreover, narcissism was positively associated with physical aggression via dominance goals for boys, and with relational aggression via dominance goals for both genders. Temperamental frustration and affiliation were both positively associated with relational aggression, but also interacted in their associations with this variable; affiliation was positively associated with relational aggression only at high levels of frustration. Supporting and extending existing research, the present findings suggest that adolescent personality and social goals are meaningfully associated with physical and relational aggression in the peer context. Aggr. Behav. 38:99–107, 2012. © 2012 Wiley Periodicals, Inc.

Keywords: narcissism; physical aggression; relational aggression; dominance; peer relationships

INTRODUCTION

It has become apparent that childhood aggression is a multidimensional construct. For instance, physical acts of aggression are differentiated from relational aggression involving peer relationship manipulation to inflict harm on others [Crick and Grotpeter, 1995; Little et al., 2003]. These constructs also evidence divergent associations with adjustment. For instance, while physical aggression is associated with externalizing difficulties and peer rejection, relational aggression is related to a combination of internalizing and externalizing difficulties and also perceived popularity among peers [Crick and Grotpeter, 1995; Rose et al., 2004]. To advance understanding of the psychological correlates of physical and relational aggression, this study examined these behaviors from the perspective of adolescent narcissism, temperament, and goals for peer interaction.

In the general aggression model [Anderson and Bushman, 2002], trait-like individual characteristics are thought to affect social cognitive and affective processes leading to the enactment of aggression. In this view, narcissistic personality and temperament are likely to be associated with aggression via cognitive variables, such as adolescent goals for peer interaction. We examine social goals as motivational dispositions stored in the long-term memory that may be activated by contextual cues to affect social information processing and behavior [Crick and Dodge, 1994; Ojanen et al., 2005]. Narcissism and temperament are both relevant individual characteristics assumed to affect adolescent social cognition and behavior. Accelerated autonomy development in early adolescence includes increased self-reliance and independence from others [Zimmer-Gembeck and Collins, 2006] and may include narcissistic tendencies for action, recently associated with adolescent aggression [Barry et al., 2007; Golmaryami and Barry, 2010]. Temperament, in turn, elicits motivational tendencies on action via corresponding neurological processes [Derryberry and Rothbart, 1997]. In recent years, research on temperament has expanded from early childhood to adolescence [Ellis et al., 2004] and can provide additional insights on adolescent aggression.

*Correspondence to: Tiina Ojanen, Department of Psychology, University of South Florida, 4202 East Fowler Avenue, Tampa, FL 33620. E-mail: tojanen@usf.edu

Received 24 February 2011; Accepted 09 October 2011

Published online in Wiley Online Library (wileyonlinelibrary.com). DOI: 10.1002/ab21413

© 2012 Wiley Periodicals, Inc.

Previously, adolescent dominance and status goals have been related to aggression, and intimacy and relationship goals to prosocial behaviors [Kiefer and Ryan, 2008; Ojanen et al., 2005]. However, social goals have not been examined in relation to physical and relational forms of aggression. Moreover, narcissism has only recently been incorporated to the study of adolescent aggression and to the best of our knowledge, social goals and narcissism have not been examined concurrently with adolescent temperament. This study was expected to advance understanding of adolescent physical and relational aggression in the light of these psychological characteristics.

ADOLESCENT AGGRESSION: ASSOCIATIONS WITH NARCISSISM, TEMPERAMENT, AND SOCIAL GOALS

Narcissism reflects perceived grandiosity in the self and of one's status in relation to others [Campbell and Campbell, 2009] and has been associated with aggression in adults [Brown and Bosson, 2001] and recently also in adolescents [Barry et al., 2007; Barry et al., 2009]. By reflecting a tendency to seek power by dominating and exploiting others [Trapnell and Campbell, 1999], narcissism is assumed to be associated with aggression via adolescent strives for dominance over peers [Barry et al., 2007]. Indeed, social status concerns peak in early adolescence [Caldwell et al., 2004] and adolescent goals for status and dominance are positively associated with peer-reported aggression and teacher-reported externalizing difficulties [Kiefer and Ryan, 2008; Ojanen et al., 2005; Sijtsema et al., 2009].

However, narcissism is still rarely examined prior to adulthood. Recent findings associate narcissism with social influence goals in 10–11-year-olds [Thomaes et al., 2008] and aggression in 16- to18-year-olds [Barry et al., 2009; Golmaryami and Barry, 2010]. Specifically, narcissism is associated with self-reported delinquency [Barry et al., 2009] as well as self- and peer-reported relational aggression in late adolescence [Golmaryami and Barry, 2010]. These findings suggest that a positive relationship exists between narcissism and aggression already prior to adulthood and that narcissistic adolescents may display various forms of aggression, including manipulation of social relationships. However, while narcissism is thought to be related to adolescent aggression via dominance strives [Barry et al., 2007], it has not been examined with dominance goals and aggression in an integrated model. Narcissism can provide fruitful insights especially on relational aggression related to adjustment difficulties as well as perceived popularity among adolescent peers [Golmaryami and Barry, 2010; Puckett et al., 2008].

Aggression may also reflect frustration, a temperament characteristic associated with feelings of anger and externalizing difficulties [Rothbart and Bates, 1998]. Physical aggression accompanied by emotion regulation deficits [Eisenberg and Fabes, 1999] decreases with age, but anger and frustration as such do not disappear and may be expressed via relational aggression instead [Smith et al., 2010]. Unlike physical aggression, relational aggression reflects indirect manipulation of peer relationships and thus a rather sophisticated mechanism for delivering harm [Björkqvist et al., 1992]. Relational aggression also increases in early adolescence [Cairns et al., 1989], suggesting that while younger children display frustration via physical aggression, adolescents may manifest it via physical as well as more age-normative relational aggression. Girls are especially socialized to display less physical aggression than boys [Brody, 1993] and tend to manifest conduct problems via relational aggression [Crick and Zahn-Waxler, 2003]. As temperamental frustration is associated with feelings of anger [Rothbart and Bates, 1998], we believe that it may be associated with aggression via emotional arousal rather than goal-oriented cognitive processes. Thus, unlike narcissism, frustration may be associated with adolescent aggression directly, without the intervening effect of dominance goals.

Unlike physical aggression, indirect relational aggression requires the involvement of peers in its execution (e.g., rumor spreading would not work without others' assistance) and is found to be positively associated with prosocial or friendly and cooperative behaviors around others [Card et al., 2008]. Accordingly, it has been proposed that relationally aggressive youth must use prosocial skills to "garner the support and assistance of others" [Card et al., 2008, p 1207; see also Bosacki, 2003][1]. However, research on psychological variables that would provide insights on the prosocial aspect of relational aggression is scarce. A recent study reported positive associations among adolescent relational aggression, social self-efficacy, and cooperative behaviors [Puckett et al., 2008], suggesting that relational aggression may indeed be associated with sufficient skills for social interaction. To gain further insights on this aspect of relational aggression, we examine temperamental affiliation re-

[1]We use the term relational aggression [Crick and Grotpeter, 1995] rather than a related term indirect aggression [Lagerspetz et al., 1988] in this paper. However, because the present items of relational aggression measure indirect acts of aggression, research on direct and indirect aggression [e.g., Card et al., 2008] is also relevant.

flecting empathy and orientation for social closeness [e.g., Evans and Rothbart, 2007] in this study. Affiliation is positively related to agreeable personality [Evans and Rothbart, 2007] and prosocial behaviors [Shiner, 2000], and may feed social interactions that enable one to develop prosocial behaviors and skills. As indirect relational aggression may co-occur with social cognitive skills [Kaukiainen et al., 1999; Puckett et al., 2008] and with prosocial behaviors [Puckett et al., 2008], we expected that temperamental affiliation would be positively related to relational aggression. However, as direct acts of aggression are related to low levels of prosocial behaviors [Card et al., 2008], we expected affiliation to be negatively related to physical aggression.

However, relational aggression is also associated with multiple personal and social adjustment difficulties [e.g., Crick and Grotpeter, 1995], suggesting that temperamental affiliation may be positively related to relational aggression only when combined with particular adjustment difficulties, such as frustration intolerance. Therefore, we were also interested in examining whether temperamental affiliation would interact with temperamental frustration in its association with relational aggression. The controversial nature of relational aggression including prosocial behaviors as well as perceived hostility and distress in peer interaction [Crick et al., 2002] suggests that affiliation may be positively associated with relational aggression only at high levels of frustration. Specifically, adolescents with an affiliative temperament who also exhibit the tendency to get frustrated easily may occasionally display friendly and cooperative behaviors, but also relational aggression when experiencing frustration and anger. We propose that adolescent temperament can advance current understanding of the psychological nature of relational aggression.

Aggression is also meaningfully associated with adolescent goals for peer interaction. Previously, adolescent peer-reported aggression and teacher-reported externalizing difficulties have been associated with social status goals and low degrees of relationship and intimacy goals in the peer context [Kiefer and Ryan, 2008; Ojanen et al., 2005]. Existing research also indicates that dominance hierarchies in the adolescent peer group may be established via overt physical or verbal, as well as relational aggression [Cillessen and Rose, 2005; Puckett et al., 2008]. Collectively, existing findings suggest that both physical and relational forms of aggression are likely positively related to adolescent goals for dominance over peers. Moreover, while relational aggression is related to some prosocial characteristics, it is also related to perceived rejection and a tendency to attribute hostility in peer interaction [Crick and Grotpeter, 1995; Yeung and Leadbeater, 2007]. Therefore, it appears plausible that like physical aggression, relational aggression is associated with low rather than high levels of adolescent closeness goals for peer interaction.

PRESENT HYPOTHESES

In summary, our hypotheses were as follows. Narcissism was expected to be positively associated with dominance goals and with both physical and relational aggression, and dominance goals were expected to mediate the associations among narcissism and the aggression constructs. Temperamental frustration was expected to be positively associated with both physical and relational aggression, without the intervening effect of dominance goals. Temperamental affiliation was expected to be positively associated with closeness goals and relational aggression, but negatively with dominance goals and physical aggression. We also expected that temperamental frustration and affiliation would interact in their association with relational aggression, such that affiliation was expected to be positively associated with relational aggression only at high levels of frustration. Finally, dominance goals were expected to be positively, and closeness goals negatively, associated with both forms of aggression.

We also sought to evaluate gender differences in the present analyses. Physical aggression may be especially typical for boys as they strive to harm the instrumental goals of other boys, whereas girls may resort to relational aggression to obstruct relational goals of other girls [Crick, 1995]. Thus, boys may manifest adjustment difficulties especially via physical aggression, whereas girls may display higher levels of relational aggression and also manifest adjustment difficulties via this construct more so than boys. For the most detailed information on the examined associations, we examined rather than controlled for gender differences in this study.

METHOD

Participants

The data were collected in two public middle schools in Southeast Finland. The sample included 384 seventh- and eighth-grade students (12–14 years; 53% girls). The ethnic composition of the sample was 96% Finnish, 2% Russian origin, and 2% other. As typical for the Finnish school system, the students represented a wide range of socioeconomic classes. Active parental consents and participant assents were obtained prior to the data collection. Consent return

rate was 85%. Data collection took place in classrooms during school hours. The instructions were written down and also explained out loud to the participants by the research assistant supervising the data collection.

Measures

Narcissism. The 16-item version of the Narcissistic Personality Inventory, NPI [Ames et al., 2006], was used to assess narcissism ($\alpha = .84$; e.g., "I insist upon getting the respect that is due to me"; "I find it easy to manipulate people"; "I am more capable than other people") on a seven-point scale: 1 = *I disagree*; 2–3: *I somewhat disagree*; 5–6: *I somewhat agree*; 7 = *I agree*. As this measure was originally developed for adults, Confirmatory Factor Analysis, CFA, was conducted to evaluate the factor structure of the measure in the present sample [Mplus 5.2; Muthén and Muthén, 1998–2007]. Based on this analysis, five items from the original scale were removed to obtain an acceptable model fit, $\chi^2_{(35,\ N = 384)} = 98.00$, comparative fit index (CFI) = .91, root mean square error of approximation (RMSEA) = .07, standardized root mean square residual (SRMR) = .05. Thus, narcissism represented the mean of 11 items of the NPI [Ames et al., 2006] for each participant ($\alpha = .79$). All items were positively worded (i.e., higher scores reflected higher levels of narcissism).

Temperament. Frustration and affiliation were measured with the respective scales from the Early Adolescent Temperament Questionnaire-Revised [Ellis and Rothbart, 2001]. In this measure, seven items are used to measure temperamental frustration ($\alpha = .74$; e.g., "It frustrates me if people interrupt me when I'm talking"; "I get upset if I'm not able to do a task really well") and five items measure temperamental affiliation ($\alpha = .74$; e.g., "I enjoy exchanging hugs with people"; "It is important to me to have close relationships with others"). These items were measured on a seven-point scale: 1 = *I disagree*; 2–3: *I somewhat disagree*; 5–6: *I somewhat agree*; 7 = *I agree*. Both variables represented the statistical average of the respective items in each scale; all items were positively worded.

Social goals. Adolescent social goals in the peer context were assessed with the Interpersonal Goals Inventory for Children, IGI-C [Ojanen et al., 2005]. With the frame "When with my peers, it is important to me that . . . ," participants rated the subjective importance of various interpersonal outcomes on a seven-point scale: 1 = *I disagree*; 2–3: *I somewhat disagree*; 5–6: *I somewhat agree*; 7 = *I agree*. Dominance goals were measured with the Agentic and Separate goal scale ($\alpha = .73$; "The group does as I say," "I get to decide what to do," "The others agree to do what I suggest") and closeness goals were measured with the Communal goal scale ($\alpha = .73$; "I feel close to the others," "Everyone feels good," "I can put the others in a good mood," "Real friendship develops between us"). Following existing literature [e.g., Ojanen et al., 2005; Sijtsema et al., 2009], scores for each item were expressed as deviations from the participants' mean scores across all goal scales (i.e., for each participant, these scores were subtracted from the participant's mean score across all the scales to reduce subjective response bias; see Ojanen et al. [2005]). Statistical average of the scores in the two goal scales represented dominance and closeness goals in the present study.

Aggression. Participants were asked to nominate up to 10 classmates from their homeroom who fit the description of particular items assessing relational and physical aggression [Little et al., 2003], but were also told that they could nominate less, or nobody, if this was their genuine perception. While the participants had some elective classes in varying groups of students, they took all curriculum critical classes with homeroom peers and thus spent a considerable amount of time with them on a weekly basis.

Two items were available in the present project to measure physical aggression ($\alpha = .88$; "Fights with others," "Pushes, kicks, or punches others") and two items to measure relational aggression ($\alpha = .73$; "Says mean things about others," "Gossips or spreads rumors about others"). The total number of nominations for each item was calculated for each participant. To control for the variation in the number of nominators across classrooms, the scores were standardized by the number of participants present in each class and conducting the evaluation. CFA was conducted to evaluate the factor structure of the aggression measure. A model where all aggression items loaded on one factor fit the data poorly, $\chi^2_{(3,\ N = 384)} = 465.22$, CFI = .57, RMSEA = .63. However, a two-factor solution fit the data well, $\chi^2_{(2,\ N = 384)} = 2.25$, CFI = 1.00, RMSEA = .02, and significantly better than the one-factor solution, $\Delta\chi^2$ (1, $N = 384$) = 462.97, $P < .001$. Therefore, while considerably correlated, $r = .63$, physical and relational aggression represented separate dimensions of aggression in the present sample. The respective manifest variables of aggression were normalized to reduce the skewness of the distributions [Norusis, 1993].

RESULTS

Descriptive Statistics

Zero-order correlations among the study variables, along with their means and standard deviations, are

TABLE I. Zero-Order Correlations among the Study Variables and information on Means and Standard Deviations

	Narcissism	Frustration	Affiliation	Dominance goals	Closeness goals	Overt aggression	Relational aggression	M	SD
Narcissism	1							3.55	.90
Frustration	.41	1						4.51	1.11
Affiliation	.17***	.11*	1					5.16	1.15
Dominance goals	.34***	.11*	−.22***	1				−1.30	1.07
Closeness goals	−.20***	.00	.38***	−.39	1			1.16	.90
Overt aggression	.08	−.04	−.14**	.15**	−.07*	1		.08	.74
Relational aggression	.07	−.14**	.09†	.09†	.07	.46***	1	.06	.84

Note. †$P < .10$, *$P < .05$, **$P < .01$, ***$P < .001$.

presented in Table I. Mean level comparisons by gender indicated that boys ($M = .30$, SD = .85) scored higher in physical aggression than girls ($M = -.16$, SD = .49), $t(383) = -6.43$, $P < .001$, as well as in dominance goals ($M = -1.12$, SD = 1.01) than girls ($M = -1.50$, SD = 1.11), $t(383) = -3.56$, $P < .001$. Boys also scored marginally higher in narcissism ($M = 3.71$, SD = .86) than girls ($M = 3.55$, SD = .91), $t(383) = -1.98$, $P < .05$. Girls, in turn, scored higher in closeness goals ($M = 1.61$, SD = .81) than boys ($M = .75$, SD = .78), $t(383) = 1.71$, $P = .09$, and marginally higher in relational aggression ($M = .14$, SD = .92) than boys ($M = -.01$, SD = .77), $t(383) = 1.71$, $P = .09$, than boys.

Directional Relations Among the Variables

Path modeling [Mplus 5.0; Muthén and Muthén, 1998–2004] was used to examine directional associations among the variables. This enabled us to assess these regression relations in a coherent model, as well as to evaluate gender differences in these paths with multiple group comparisons [Jöreskog and Sörbom, 1993]. Moreover, we were also able to assess indirect associations among the variables with this technique [see Muthén and Muthén, 1998–2004].

A series of examinations was conducted to evaluate directional associations among the variables. A model in which the social goal variables were regressed on the other psychological variables and the aggression variables on the goal variables indicated several significant associations. Due to some observed gender differences, the final model was constructed as a multigroup model by gender where the paths that differed between the genders were allowed to vary freely across boys and girls and the paths that did not differ were constrained to be equal between them. This final multigroup model included only significant associations and fit the data well, $\chi^2_{(21,\, N = 384)} = 18.37$, CFI = 1.00, RMSEA = .00, SRMR = .04 (see Fig. 1).

As can be seen in Figure 1, narcissism was positively associated with dominance goals and negatively with closeness goals for peer interaction. Moreover, temperamental frustration and affiliation were both positively related to relational aggression. Affiliation was also positively related to closeness goals and negatively to dominance goals, and dominance goals were positively related to both physical and relational aggression. A gender difference was observed in the path between dominance goals and physical aggression, $\Delta\chi^2_{(1,\, N = 384)} = 8.19$, $P < .001$, which was significant for boys only (see Fig. 1). Gender differences were also observed in the correlations between narcissism and affiliation, $\Delta\chi^2_{(1,\, N = 384)} = 3.77$, $P < .05$, narcissism and frustration, $\Delta\chi^2_{(1,\, N = 384)} = 4.41$, $P < .001$, and between physical and relational aggression, $\Delta\chi^2_{(1,\, N = 384)} = 10.63$, $P < .001$. As reflected in Figure 1, narcissism and frustration were more strongly associated among girls than boys, whereas physical and relational aggression were more strongly associated among boys than girls.

Inspection of indirect effects indicated that narcissism was associated with physical aggression via dominance goals for boys, $\beta = .06_{(-.01|.12)}$, $P < .05$, and with relational aggression via dominance goals for both genders, $\beta = .04_{(-.01|.10)}$, $P < .05$. Moreover, a significant positive interactive effect on relational aggression was observed between temperamental affiliation and frustration, $\beta = .06$, $P < .05$. Follow-up analysis (Aiken and West, 1991) was used to examine the association between affiliation and relational aggression at three levels (−1, 0, and +1 SD) of temperamental frustration. These analyses indicated that temperamental affiliation was positively related to relational aggression at high level of frustration, $\beta = .23$, $P < .05$, but not at medium, $\beta = .14$, n.s., or low, $\beta = .06$, n.s., levels of this variable.

DISCUSSION

This study examined adolescent narcissism, temperament, and goals for peer interaction in association with peer-reported physical and relational aggression.

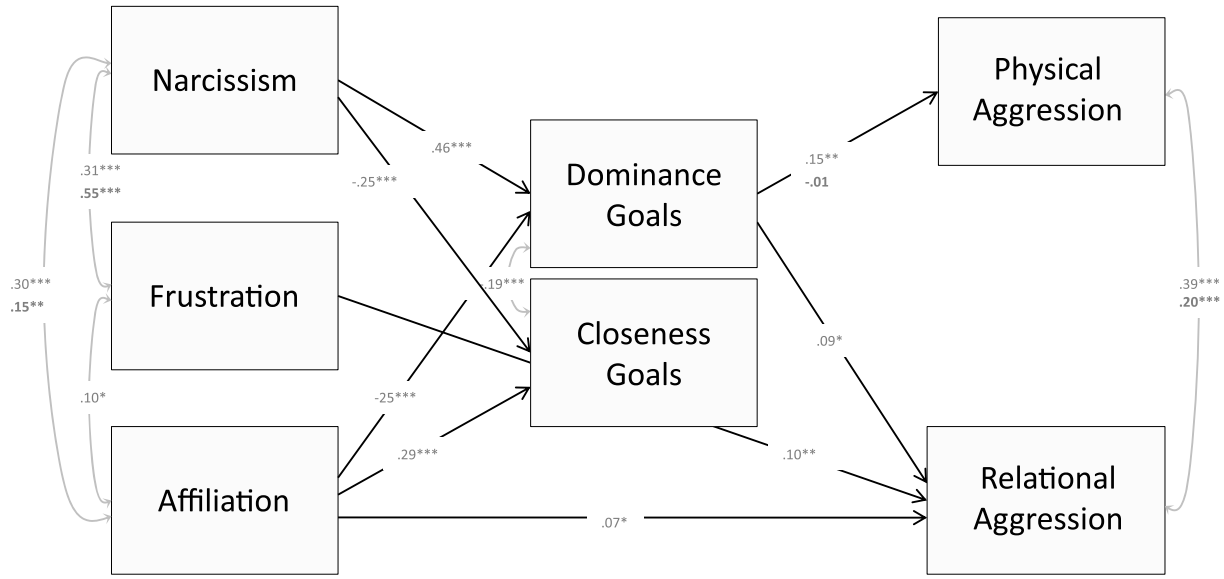


Fig. 1. A multigroup model by gender describing directional associations among the variables (in the paths that varied by gender, coefficients for girls are displayed in italics). *P <.05, **P < .01, ***P < .001.

The findings indicated meaningful direct and indirect associations among these constructs. Moreover, in line with meta-analytic findings on gender differences in peer-reported aggression [see Card et al., 2008], girls in our sample scored marginally higher in relational aggression than boys, who, in turn, scored higher in physical aggression. Also in line with existing research, physical and relational aggression were considerably correlated and this association was stronger for boys than girls [Card et al., 2008], suggesting that aggressive boys are more likely than girls to display both forms of aggression while girls are more likely to favor one form over the other.

It has been proposed that adolescent strives for dominance may mediate the association between narcissism and aggression [see Barry et al., 2007]. Although mediating effects can be thoroughly evaluated only in longitudinal data [Maxwell and Cole, 2007], presently observed indirect associations among the variables support this view. Specifically, narcissism was associated with physical aggression via dominance goals for boys and with relational aggression via dominance goals for both genders. Thus, in line with existing conceptualizations of narcissism as a tendency to seek power by dominating and exploiting others [Trapnell and Campbell, 1999], our findings suggest that narcissistic personality warrants further attention in the study of adolescent dominance strives and aggression. For instance, narcissism may also be associated with other psychological constructs related to aggression, such as coercive social resource control in the peer group [Hawley et al., 2009].

In line with the gender-normative view of aggression [Crick, 1995], our findings suggest that adolescent boys are likely to display narcissistic characteristics and dominance strives especially via direct and visible aggression, whereas girls may display such characteristics only via relational aggression. Relational aggression is considered to be more gender-normative and socially acceptable for girls [see also Brody, 1993] who may thus use it to satisfy social dominance strives in socially acceptable ways. Unexpectedly, zero-order correlations among narcissism and the aggression constructs did not reach statistical significance. Given that such associations have been reported in older adolescents [Barry et al., 2009; Golmaryami and Barry, 2010], it may be that narcissism becomes more strongly associated with aggressive behaviors with age. However, the weakness of these associations may also be related to a methodological limitation of the present study. Specifically, we measured narcissism with an instrument used in adults [Ames et al., 2006] rather than with those recently developed for children and adolescents [Barry et al., 2007; Thomaes et al., 2008], which might have affected observed associations of narcissism with other constructs in the present study. Clearly, further research is needed to evaluate potential age-related differences in narcissism-aggression associations across early and late adolescence.

Temperamental frustration was positively related to relational, but unrelated to physical aggression. This was unexpected, given that physical displays of aggression are commonly associated with self-regulation

and externalizing difficulties [see e.g., Eisenberg and Fabes, 1999]. It may be that unlike younger children, adolescents channel frustration into covert rather than overt aggression (relational aggression was measured as indirect aggression in this study). Perhaps relational aggression is developmentally and socially normative for adolescents to the extent that frustration and anger are mostly expressed via such indirect rather than direct acts of aggression [Björkqvist et al., 1992; Smith et al., 2010]. Existing research also indicates that girls may be more likely than boys to display conduct problems via relational aggression [Crick and Zahn-Waxler, 2003]. However, in the present study, frustration was positively associated with peer-reported relational aggression for adolescent boys as well as girls.

As expected, temperamental affiliation was negatively associated with dominance goals and physical aggression, but positively with closeness goals and relational aggression. It has been acknowledged that relational aggression is positively associated with prosocial behaviors as well as social skills [e.g., Card et al., 2008; Puckett et al., 2008]. However, empirical research on psychological variables providing insights on this aspect of relational aggression is scarce. Our findings suggest that temperamental affiliation, associated with agreeable personality and prosocial behaviors [see Evans and Rothbart, 2008; Shiner, 2000], may at least partially explain positive associations between relational aggression, prosocial behaviors, and social self-efficacy [see e.g., Puckett et al., 2008]. Temperamental affiliation may contribute to childhood social interactions that feed the development of social skills that may be used to enact not only prosocial behaviors, but also strategic and manipulative aggression [Sutton et al., 1999]. It may be that relational aggression reflects sufficient, or even elevated, social cognitive skills, but also potentially low levels of empathy [Björkqvist et al., 2000]. The idea that social cognitive skills and affective empathy can have inverse relationships with aggression is supported by findings associating cognitive empathy positively and affective empathy negatively with bullying aggression [Jolliffe and Farrington, 2006]. In essence, it may be that youth displaying high levels of relational aggression have social skills, but experience little affective empathy in social interaction.

Moreover, in line with existing research associating relational aggression with personal and social adjustment difficulties [e.g., Crick and Grotpeter, 1995; Yeung and Leadbeater, 2007], a more detailed examination of the data indicated that temperamental affiliation was positively associated with relational aggression only when combined with high levels of frustration. This combination of temperament characteristics is consistent with previous research associating relational aggression with both prosocial and antisocial characteristics (e.g., prosocial behaviors and perceived hostility in peer interaction; [see Card et al., 2008; Crick et al., 2002]) and suggests that affiliative adolescents who also get easily frustrated in peer interaction may display some prosocial behaviors, but also relational aggression. As physical aggression was negatively associated with affiliation and unrelated to frustration in the present study, our findings suggest that temperament can provide additional insights on the heterogeneity of adolescent aggression.

In accord with existing research associating adolescent status or popularity among peers with both physical and relational aggression [see Cillessen and Rose, 2005], both aggression constructs were positively associated with dominance goals for peer interaction. These associations are also in line with findings indicating that social dominance hierarchies may be established with aggressive means, especially during the transition to middle school [Pellegrini and Long, 2002], and thus also likely during the first two grades of middle school examined in the present study. Moreover, our findings suggest that previously established associations among adolescent status and dominance goals and peer- and teacher-reported aggression [Kiefer and Ryan, 2008; Ojanen et al., 2005] likely include both physical and relational forms of aggression. This adds to the growing body of research on adolescent social goals, previously examined only in terms of proactive and reactive aggression (Salmivalli et al., 2005].

Unexpectedly, closeness goals were unrelated rather than negatively related to the aggression constructs (although a small negative association between closeness goals and physical aggression emerged at the bivariate level). While aggression in late elementary school is negatively associated with communal or relationship goals for peer interaction [Ojanen et al., 2005], it may be that middle school aggression reflects predominantly social domination rather than low levels of closeness desires with peers. In part, this may reflect a relatively normative role of social dominance and aggression in middle school where aggression peaks and may be used to establish social status [Long and Pellegrini, 2003; Pellegrini and Long, 2002].

Collectively, the present findings indicate similarities as well as differences in the psychological correlates of adolescent peer-reported physical and relational aggression. In line with the general aggression model [Anderson and Bushman, 2002], our findings suggest that adolescent personality characteristics are

associated with aggressive behaviors partly indirectly, via adolescents' goals for peer interaction. Conceptual implications of the present study include evidence for an integrated model of adolescent narcissism, dominance goals, and aggression [Barry et al., 2007] and partial support for the mediating role of social cognition in the associations among inherent individual characteristics and aggressive behavior [Anderson and Bushman, 2002]. To the best of our knowledge, the present findings are the first to associate early adolescent narcissism, temperament, and social goals with peer-reported physical and relational aggression. As such, they extend the implications of the general aggression model to these constructs in this age cohort.

However, although indirect associations among the constructs were assessed in this cross-sectional study, statistical mediation can be thoroughly evaluated only in longitudinal data [Maxwell and Cole, 2007]. Longitudinal research is needed to evaluate whether narcissism and particular temperament characteristics increase the endorsement of particular goals for peer interaction, which, in turn, should be meaningfully associated with subsequent displays aggression. While still rarely examined in children and adolescents, narcissism can increase current understanding of dominance strives and aggression in the adolescent peer group. For instance, while relational aggression may be positively related to prosocial behaviors and social skills [see Puckett et al., 2008], it may also be driven by narcissistic personality thus far largely ignored in the study of social development.

Clearly, longitudinal research is needed to understand the development of narcissism and dominance strives in more detail. Developmental precursors of narcissism include, among others, too restricted or too intensive parental responsiveness relative to the child's developmental stage, which may impede on the development of a healthy sense of self [Cramer, 2011]. Moreover, future research on prospective associations among narcissism, dominance goals, and aggression could provide developmental insights on narcissism-aggression linkages observed in adulthood [see Brown and Bosson, 2001] and the psychosocial processes through which narcissism may develop into an increasingly dominative and exploitative orientation [Trapnell and Campbell, 1999]. Finally, more research is needed to understand the conditions in which temperamental affiliation may predict the development of aggression rather than prosocial behaviors. Factors that might moderate (or potentially mediate) the association between affiliation and relational aggression may include individual characteristics, such as temperamental frustration or low affective empathy [Björkqvist et al., 2000], as well as social contextual variables, such as rejection by peers [see e.g., Crick and Grotpeter, 1995; Crick et al., 2002] or social norms and values that allow strategic aggression to flourish [Sutton et al., 2001].

REFERENCES

Aiken LS, West SG. 1991. Multiple Regression: Testing and Interpreting Interactions. Thousand Oaks, CA : Sage Publications, Inc.

Ames DR, Rose P, Anderson CP. 2006. The NPI-16 as a short measure of narcissism. J Res Pers 40:440–450.

Anderson CA, Bushman BJ. 2002. Human aggression. Annu Rev Psychol 53:27–51.

Barry CT, Grafeman SJ, Adler KK, Pickard JD. 2007. The relations among narcissism, self-esteem, and delinquency in a sample of at-risk adolescents. J Adolesc 30:933–942.

Barry CT, Pickard JD, Ansel LL. 2009. The associations of adolescent invulnerability and narcissism with problem behaviors. Pers Individ Diff 47:577–582.

Björkqvist K, Österman K, Kaukiainen A. 1992. The development of direct and indirect aggressive strategies in males and females. In: Björkqvist K, Niemelä P (eds). Of Mice and Women: Aspects of Female Aggression. San Diego, CA: Academic Press, pp 51–64.

Björkqvist K, Österman K, Kaukiainen A. 2000. Social intelligence - empathy = aggression? Aggr Violent Behav 5:191–200.

Bosacki SL. 2003. Psychological pragmatics in preadolescents: Sociomoral understanding, self-worth, and school behavior. J Youth Adolesc 32:141–155.

Brody LR. 1993. On understanding gender differences in the expression of emotion: Gender roles, socialization, and language. In: Ablon SL, Brown D, Khantzian EJ, Mack JE (eds). Human Feelings: Explorations in Affect Development and Meaning. Hillsdale, NJ: Analytic Press, Inc., pp 87–121.

Brown RP, Bosson JK. 2001. Narcissus meets Sisyphus: Self-love, self-loathing, and the never-ending pursuit of self-worth. Psychol Inq 12:210–213.

Cairns RB, Cairns BD, Neckerman HJ, Ferguson LL, Gariépy J-L. 1989. Growth and aggression: I. Childhood to early adolescence. Dev Psychol 25:320–330.

Caldwell MS, Rudolph KD, Troop-Gordon W, Kim D-Y. 2004. Reciprocal influences among relational self-views, social disengagement, and peer stress during early adolescence. Child Dev 75:1140–1154.

Campbell WK, Campbell SM. 2009. On the self-regulatory dynamics created by the peculiar benefits and costs of narcissism: A contextual reinforcement model and examination of leadership. Self Identity 8:214–232.

Card NA, Stucky BD, Sawalani GM, Little TD. 2008. Direct and indirect aggression during childhood and adolescence: A meta-analytic review of gender differences, intercorrelations, and relations to maladjustment. Child Dev 79:1185–1229.

Cillessen AHN, Rose AJ. 2005. Understanding popularity in the peer system. Curr Dir Psychol Sci 14:102–105.

Cramer P. 2011. Young adult narcissism: A 20 year longitudinal study of the contribution of parenting styles, preschool precursors of narcissism, and denial. J Res Pers 45:19–28.

Crick NR. 1995. Relational aggression: The role of intent attributions, feelings of distress, and provocation type. Dev Psychopathol 7:313–322.

Crick NR, Dodge KA. 1994. A review and reformulation of social information-processing mechanisms in children's social adjustment. Psychol Bull 115:74–101.

Crick NR, Grotpeter JK. 1995. Relational aggression, gender, and social-psychological adjustment. Child Dev 66:710–722.

Crick NR, Grotpeter JK, Bigbee MA. 2002. Relationally and physically aggressive children's intent attributions and feelings of distress for relational and instrumental peer provocations. Child Dev 73:1134–1142.

Crick NR, Zahn-Waxler C. 2003. The development of psychopathology in females and males: Current progress and future challenges. Dev Psychopathol 15:719–742.

Derryberry D, Rothbart MK. 1997. Reactive and effortful processes in the organization of temperament. Dev Psychopathol 9:633–652.

Eisenberg N, Fabes RA. 1999. Emotion, emotion-related regulation, and quality of socioemotional functioning. In: Balter L, Tamis-LeMonda CS (eds). Child Psychology: A Handbook of Contemporary Issues. New York, NY: Psychology Press, pp 318–335.

Ellis LK, Rothbart MK. 2001, April. Revision of the Early Adolescent Temperament Questionnaire. Poster presented at the biennial meeting of the Society for Research in Child Development, Minneapolis, MN.

Ellis LK, Rothbart MK, Posner MI. 2004. Individual differences in executive attention predict self-regulation and adolescent psychosocial behaviors. In: Dahl RE, Spear LP (eds). Adolescent Brain Development: Vulnerabilities and Opportunities. New York, NY: New York Academy of Sciences, pp 337–340.

Evans DE, Rothbart MK. 2007. Developing a model for adult temperament. J Res Pers 41:868–888.

Golmaryami FN, Barry CT. 2010. The associations of self-reported and peer-reported relational aggression with narcissism and self-esteem among adolescents in a residential setting. J Clin Child Adolesc Psychol 39:128–133.

Hawley PH, Shorey HS, Alderman PM. 2009. Attachment correlates of resource-control strategies: Possible origins of social dominance and interpersonal power differentials. J Soc Pers Relat 26:1097–1118.

Jolliffe D, Farrington DP. 2006. Examining the relationship between low empathy and bullying. Aggr Behav 32:540–550.

Jöreskog KG, Sörbom D. 1993. LISREL 8: Structural Equation Modeling with the SIMPLIS Command Language. Chicago, IL and Hillsdale, NJ: Scientific Software International Lawrence Erlbaum Associates, Inc.

Kaukiainen A, Björkqvist K, Lagerspetz K, Österman K, Salmivalli C, Rothberg S, Ahlbom A. 1999. The relationships between social intelligence, empathy, and three types of aggression. Aggr Behav 25:81–89.

Kiefer SM, Ryan AM. 2008. Striving for social dominance over peers: The implications for academic adjustment during early adolescence. J Educ Psychol 100:417–428.

Lagerspetz KM, Björkqvist K, Peltonen T. 1988. Is indirect aggression typical of females? Gender differences in aggressiveness in 11- to 12-year-old children. Aggr Behav 14:403–414.

Little TD, Jones SM, Henrich CC, Hawley PH. 2003. Disentangling the 'whys' from the 'whats' of aggressive behaviour. Int J Behav Dev 27:122–133.

Long JD, Pellegrini AD. 2003. Studying Change in dominance and bullying with linear mixed models. Sch Psychol Rev 32:401–417.

Maxwell SE, Cole DA. 2007. Bias in cross-sectional analyses of longitudinal mediation. Psychol Methods 12:23–44.

Muthén LK, Muthén BO. 1998–2007. Mplus User's Guide. Fifth edition. Los Angeles, CA: Muthén & Muthén.

Norusis M. 1993. SPSS for Windows: Base Systems User's Guide, Release 6.0. Chigaco: SPSS.

Ojanen T, Grönroos M, Salmivalli C. 2005. An interpersonal circumplex model of children's social goals: Links with peer-reported behavior and sociometric status. Dev Psychol 41:699–710.

Pellegrini AD, Long JD. 2002. A longitudinal study of bullying, dominance, and victimization during the transition from primary school through secondary school. Br J Dev Psychol 20:259–280.

Puckett MB, Aikins JW, Cillessen AHN. 2008. Moderators of the association between relational aggression and perceived popularity. Aggr Behav 34:563–576.

Rose AJ, Swenson LP, Waller EM. 2004. Overt and relational aggression and perceived popularity: Developmental differences in concurrent and prospective relations. Dev Psychol 40:378–387.

Rothbart MK, Bates JE. 1998. Temperament. In: Eisenberg N, Damon W (eds). Handbook of Child Psychology, 5th ed.: Vol 3. Social, Emotional, and Personality Development. Hoboken, NJ: John Wiley & Sons Inc., pp 105–176.

Salmivalli C, Ojanen T, Haanpää J, Peets K. 2005. 'I'm OK but you're not' and other peer-relational schemas: Explaining individual differences in children's social goals. Dev Psychol 41:363–375.

Shiner RL. 2000. Linking childhood personality with adaptation: Evidence for continuity and change across time into late adolescence. J Pers Soc Psychol 78:310–325.

Sijtsema JJ, Veenstra R, Lindenberg S, Salmivalli C. 2009. Empirical test of bullies' status goals: Assessing direct goals, aggression, and prestige. Aggr Behav 35:57–67.

Smith RL, Rose AJ, Schwartz-Mette RA. 2010. Relational and overt aggression in childhood and adolescence: Clarifying mean-level gender differences and associations with peer acceptance. Soc Dev 19:243–269.

Sutton J, Smith PK, Swettenham J. 1999. Socially undesirable need not be incompetent: A response to Crick and Dodge. Soc Dev 8:132–134.

Sutton J, Smith PK, Swettenham J. 2001. 'It's easy, it works, and it makes me feel good': A response to Arsenio and Lemerise. Soc Dev 10:74–78.

Thomaes S, Stegge H, Bushman BJ, Olthof T, Denissen J. 2008. Development and validation of the Childhood Narcissism Scale. J Pers Assess 90:382–391.

Trapnell PD, Campbell JD. 1999. Private self-consciousness and the five-factor model of personality: Distinguishing rumination from reflection. J Pers Soc Psychol 76:284–304.

Yeung RS, Leadbeater BJ. 2007. Does hostile attributional bias for relational provocations mediate the short-term association between relational victimization and aggression in preadolescence? J Youth Adol 36:973–983.

Copyright of Aggressive Behavior is the property of John Wiley & Sons, Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.