International Journal of Behavioral Development
2010, 34 (1), 73–87
http://www.sagepublications.com

ijbd

DOI: 10.1177/0165025409345074

Interpersonal competence configurations and peer relations in early elementary classrooms: Perceived popular and unpopular aggressive subtypes

Dylan L. Robertson[a], Thomas W. Farmer[c], Mark W. Fraser[b], Steven H. Day[b], Tisha Duncan[d], Amity Crowther[b], and Kimberly A. Dadisman[b]

Social relations of second grade students (247 boys, 290 girls) were examined in rural elementary classrooms. Cluster analysis of teacher ratings was used to identify interpersonal competence configurations including perceived unpopular-aggressive (i.e., *Troubled*) and perceived popular-aggressive (i.e., *Tough*) subtypes for both boys and girls. Troubled children tended to have rejected status and were more likely to be either socially isolated or members of peer groups that did not contain popular classmates. Tough children were perceived by peers as being socially prominent (i.e., popular, cool, leaders) and they tended to associate with perceived popular peers. Tough boys had elevated levels of rejected or controversial sociometric status while Tough girls were distributed at expected levels across sociometric status classifications. The implications for intervention are discussed.

Keywords: aggression; peer groups; perceived popularity; social dynamics; sociometric status

In recent years, investigations in three related domains have documented the complexity of the relationship between popularity and aggression. Sociometric status research, which measures how well a child is liked by classmates in general, has shown that popularity is associated with prosocial behavior and negatively linked to aggressive behavior (Asher & Coie, 1990; Rubin, Bukowski, & Parker, 1998; Sandstrom & Cillessen, 2006). In contrast, research on perceived popularity (i.e., peer or teacher conceptions of who is popular) suggests that some children who are aggressive, socially dominant, and not particularly well liked are nonetheless popular as judged by classmates (LaFontana & Cillessen, 2002; Lease, Kennedy, & Axelrod, 2002; Vaillancourt & Hymel, 2006). Using cluster analytic techniques to identify interpersonal competence configurations with teacher ratings of perceived popularity, a third line of inquiry has shown that there are both popular and unpopular subtypes of aggressive youth (de Bruyn & Cillessen, 2006; Rodkin, Farmer, Pearl, & Van Acker, 2000).

Differences in the findings from the sociometric status, perceived popularity, and interpersonal competence configuration frameworks are likely to be due in part to both methodological and conceptual distinctions. However, rather than being contradictory, these differing perspectives may also reflect distinct aspects of the relationship between popularity and aggression and, collectively, may provide new insights into the social dynamics that contribute to the establishment and maintenance of aggression in the classroom. On this score, Farmer and Xie (2007) have suggested that the findings from the sociometric status, perceived popularity, and interpersonal competence configuration research come together to support the hypothesis that there are two distinct social worlds of aggression. According to this hypothesis, one social world involves aggressive children who are socially marginalized by peers and the other involves aggressive children who are well integrated into the classroom peer ecology and have influential social positions.

Classroom interpersonal dynamics and the two social worlds of aggression

Youniss (1980) describes two distinct social worlds through which children construct order in their lives. One world involves learning societal rules and norms from adults. In this world, children and adults are on unequal footing as the adult teaches the child expectations for social behavior and provides corrective feedback and guidance as he or she learns. The second social world of the child involves interactions with peers. Unlike interchanges with adults, children of the same age tend to come to the interaction on equal footing. Rather than adopting the rules and expectations of the other as in adult–child interactions, participants in child–child interactions are free to exert their own will. Therefore, to achieve their own needs and goals, children must interpret adult rules and mutually co-construct patterns of social behavior as they create their own peer culture (Corsaro & Eder, 1990).

Consistent with the two social worlds perspective described by Youniss (1980), social interactional theorists have suggested that children tend to synchronize their behavior patterns around others with whom they have frequent contact (Cairns, 1979; Patterson, 1982). In this way, children who often interact

[a] Chicago Public Schools, USA. [b] University of North Carolina – Chapel Hill, USA. [c] Pennsylvania State University, USA. [d] Meredith College, USA.

Correspondence should be sent to Dylan L. Robertson, Chicago Public Schools, Department of Applied Research, Office of Research, Evaluation, and Accountability, Chicago, IL, USA; e-mail: dlrobertson2@cps.k12.il.us

This research was supported by grants R305L030162 and R305A04005 from the Institute of Education Sciences. The views expressed in this article are ours and do not represent the granting agency.

together tend to shape, reinforce, and co-construct new patterns of behavior. At the dyadic level, this may appear to be a simple process. However, when children are aggregated together in social settings such as schools, they have an opportunity to establish close relationships with an array of classmates. This can be a rather daunting and complex proposition as children must negotiate relationships between multiple peers who may compete among each other both for status and for close relations with desired peers (Hawley, 1999; Strayer & Santos, 1996). To bring order to this complexity, children tend to mutually construct a social system that includes affiliation with similar peers and a social dominance hierarchy in which some children and groups have higher status and influence than others (Cairns, Xie, & Leung, 1998; Pellegrini et al., 2007; Rodkin & Hodges, 2003). As children develop friendships and peer groups, the reciprocity that stems from equal footing in social interchanges for children gives way to complementary relationships in which high status peers have high levels of social influence and are in a position in which they can lead or perhaps even bully lower status peers (Farmer, Estell, Bishop, O'Neal, & Cairns, 2003; Salmivalli, Lagerspetz, Bjorkqvist, Osterman, & Kaukiainen, 1996; Veenstra et al., 2007).

In late childhood and early adolescence, high status and socially dominant peer groups tend to be composed of classmates who are perceived by peers as being popular and include children who are involved in prestigious clubs and extracurricular activities (e.g., athletics, cheerleading, class leaders) and who have a high level of social maturity (Adler & Adler, 1996; Eder & Kinney, 1995; Farmer et al., 2003). In contrast, low status groups tend to be composed of youth who are not well connected to mainstream social activities, do not have special skills or talents, and have lower levels of academic and interpersonal competence (Farmer, Irvin, Sgammato, Dadisman, & Thompson, in press; Kinney, 1993). Yet, within groups, some children tend to have higher centrality or status than others and may not only have complementary leadership roles in their own group; they also may be leaders in the broader social network (Cairns, Perrin, & Cairns, 1985; Farmer et al., 2003; Rodkin, Farmer, Pearl, & Van Acker, 2006; Salmivalli, Huttunen, & Lagerspetz, 1997).

While peer groups and social structures can be dynamic and fluid, children naturally establish social mechanisms to promote and maintain the boundaries and status of their group, as well as their own standing within the social network (Adler, Kless, & Adler, 1992; Evans & Eder, 1993). Such strategies include overt aggression (e.g., bullying, taunting, teasing) and social aggression (i.e., gossiping, manipulating relationships, and ostracism). Although controlling the inclusion and exclusion of others within popular peer groups may bolster the social dominance of perceived popular youth, there may be a social cost (Adler & Adler, 1995; Eder, 1985). During late childhood and early adolescence, dominant leaders who engage in overt and social aggression are likely to have elevated levels of being disliked by peers even though they are perceived to be popular (Adler & Adler, 1996; Eder & Kinney, 1995; Estell, Farmer, & Cairns, 2007; Mayeux, Sandstrom, & Cillessen, 2008; Vaillancourt & Hymel, 2006).

In contrast, other aggressive youth are simultaneously disliked by peers and are marginalized within the school social structure during late childhood and early adolescence (Pellegrini, Bartini, & Brooks, 1999; Veenstra et al., 2005). Such youth not only experience high rates of peer rejection, they are also less likely to be perceived by classmates as being socially prominent (i.e., popular, cool), and are more likely to associate with peers who are also socially marginalized (Estell, Farmer, & Cairns, 2007). These youth fit Coie's (1990) conceptualization of the aggressive-rejected child who is on the periphery of the social structure and responds to the taunting of higher status peers in socially incompetent ways that help maintain her or his social difficulties.

This perspective of classroom social dynamics corresponds with Youniss's (1980) theory of the two social worlds of children. Aggressive youth who are socially marginalized appear to have difficulty regulating their behavior in ways that fit the social rules and norms that children typically learn from adults (Dishion, French, & Patterson, 1995). In contrast, aggressive youth who are socially dominant appear to have reached a social position in which they are no longer on equal footing with peers. These children help to define the norms and behaviors that are followed by others within the peer ecology and they can influence the social position of others (Adler & Adler, 1996; de Bruyn & Cillessen, 2006; Eder & Parker, 1987). However, while these two distinct subtypes are dissimilar in terms of their social prominence, patterns of affiliation, and social influence, they may share some similarities in terms of their behavioral characteristics and the degree to which they are disliked by peers. These similarities may mask the differences in the social positions of these two subtypes and further contribute to the lack of clarity in the linkages between aggression and children's social standing.

The research reviewed here centers on the social relations of aggressive youth during late childhood and early adolescence and the findings may be specific to this developmental period. On this score, Cillessen and Mayeux (2004) examined the relationship between physical and relational aggression, sociometric popularity, and perceived popularity in a cohort of children from 5th through 9th grade. Over time, relational aggression increasingly predicted high social prominence but low social preference, while physical aggression was increasingly less disliked but decreasingly predictive of social prominence. These results suggest there may be developmental trends in the relationship between types of popularity and aggression. It is possible that differences between sociometric status, perceived popularity, aggression, and children's peer group affiliations do not emerge until late childhood. However, these constructs have not been examined simultaneously with children during the early school years. Thus, there is a need to clarify whether there are distinct social worlds of aggression for children during the early elementary school years.

The current study

The goal of the current study was to examine the "two social worlds" of aggression hypothesis during early elementary school by exploring linkages between the various indices of social relations and aggression in second grade students. While it has been shown that only 50% of aggressive youth are highly disliked by peers (i.e., have rejected or controversial status) (Coie & Dodge, 1998), research on the heterogeneity of aggressive sociometric status subtypes has focused on differences between rejected aggressive and non-rejected aggressive children (e.g., Bierman, Smoot, & Aumiller, 1993; Bierman & Wargo, 1995). Yet, as suggested by research on the peer relations of aggressive youth in late childhood and early

adolescence, it appears that there may be subtypes of aggressive rejected children. Consistent with the "two social worlds" hypothesis, it is possible that perceived popular aggressive early elementary children are disliked by classmates but are highly central in their classrooms (Farmer & Hollowell, 1994). In contrast, perceived unpopular aggressive elementary children may be both disliked and relegated to the social periphery (Farmer, Rodkin, Pearl, & Van Acker, 1999). If this is the case, it would help resolve somewhat contradictory theoretical perspectives of the social development of aggression during the early school years. One viewpoint is that aggressive children have deficient social skills, are socially rejected by normative peers in early childhood, and go on to establish peer affiliations with deviant peers in middle childhood and early adolescence (Coie, 1990; Reid & Eddy, 1997). While acknowledging that some aggressive children do have social skill deficits and are socially marginalized, a second viewpoint is that some aggressive children take on prominent roles in their classroom social structure, are perceived as popular and influential by teachers and peers, and associate with popular classmates (Farmer et al., 2002; Hawley, 1999). Rather than viewing these as competing perspectives, we expect these two views represent distinct social worlds of aggression in early elementary school.

Building on the "two social worlds" of aggression hypothesis, this study was guided by five research questions. The first question focused on the identification of subtypes of aggressive children. Can popular and unpopular subtypes of aggressive children be identified in second grade? Consistent with the "two social worlds" framework, we hypothesized that children fitting both Troubled and Tough configurations would be identified in this second grade sample.

The second question examined differences in peers' conceptions of the behavioral characteristics of Tough and Troubled youth. Do peer behavioral assessments distinguish between children in Troubled and Tough configurations? Extending from the "two social worlds" framework, we expected the two configurations would not be different on peer nominations for aggression, but would differ on social prominence. We hypothesized that children in the Troubled configuration would have low social prominence, while Tough children would not differ from Model children.

The third question centered on differences in participants' peer acceptance. Do Troubled and Tough children differ in terms of sociometric status? While the social power of popular aggressive youth may make them attractive to peers (Hawley, Johnson, Mize, & McNamara, 2007), we also expect that their aggressive behavior, bullying, and dominant status may increase the likelihood that many peers dislike them (see Farmer et al., 2003; Mayeux, Sandstrom, & Cillessen, 2008; Vaillancourt & Hymel, 2006). Therefore, we expect that these children are likely to have elevated rates of liked least nominations. Therefore, we hypothesized that Tough children would be more likely to have controversial or rejected status. In contrast, we expected that because they are socially marginalized and disliked by peers, Troubled children would be unlikely to have popular and controversial status and would be more likely to be rejected.

The fourth question pertained to children's peer group membership. From the "two social worlds" of aggression hypothesis, Tough and Troubled children have distinct patterns of affiliations. We hypothesized that Troubled children would tend to be members of peer groups that were composed primarily of peers that were viewed by teachers as not being popular. In turn, we hypothesized that Tough children would be members of peer groups that were composed primarily of peers who were rated by teachers as being popular.

The fifth question focused on differences between Troubled and Tough youth in terms of teacher assessments of school adjustment. As noted above, we expect that part of the confusion surrounding the linkages between aggression and children's positions is that perceived-popular and perceived-unpopular aggressive children share some social and behavioral characteristics but differ on others. Following from the "two social worlds" hypothesis, we expected that Troubled and Tough children would be similar in terms of behavioral difficulties (e.g., attention problems, emotional regulation, bullying), but would differ in terms of social adaptation (e.g., participation in extracurricular activities, social contact). Finally, based on previous research showing that boys and girls have different patterns of configurations and peer relations, we conducted analyses separately by gender.

Method

Sample and design

As part of the national multisite Social and Character Development Program conducted by the Institute of Education Sciences, this site-specific study took place in three rural counties (locale codes 6, 7, and 8) considered in annual state reports to be among the poorest in a southern state. The sample consisted of 537 second grade students (247 boys and 290 girls) from 37 classrooms in 11 schools. The sample was 56.7% European American, 30.3% African American, 9.4% Hispanic and 3.6% other race/ethnicities. Parental consent and participant assent were obtained from 70% of the second grade students in the participating schools. Sample characteristics of children in the study largely mirrored those of the general student population of the schools where 53% of all students were eligible for subsidized meals through the National School Lunch Act. For the children in the sample, nearly 45% lived in single-parent families, and more than 30% of primary caregivers were not employed. A majority of the sample was considered economically at-risk. All data reported in this study were collected at baseline (i.e., prior to intervention implementation) and involved both intervention and control schools.

Procedures

Data were collected in the spring when students were in the second grade. Group administration procedures were used to survey participants. Students were gathered in the lunchroom and provided information about the confidentiality of their answers. They were informed that they were not required to participate and that they could withdraw from the study at any time. The instructions for completing the surveys and the individual survey items were read aloud by a trained administrator. Additional research staff provided mobile monitoring to assist students when necessary. While the students were completing the surveys, their teachers were asked to complete brief assessments of the participants. Teachers received financial compensation for their participation and the children received compensation in the form of school supply items such as pencils, pens, and calculators.

For peer nomination and social networks measures, our

inquiry focused at the classroom level. Participants were told to limit their nominations of both individuals and groups (i.e., social networks) to children in their class. This focus was chosen because children were in self-contained classrooms with relatively few interactions between classes and grades. Students were not provided with class rosters and consistent with past work on social cognitive mapping procedures, peer nominations were made from free recall.

Measures

Peer interpersonal assessments. Peer interpersonal assessments were used to examine classmates' perceptions of participants' social and behavioral characteristics. Students were asked to nominate three peers in their classroom who best fit descriptors for 17 items: cooperative, disruptive, shy, fights, seeks help, leader, athletic, gets in trouble, good student, cool, sad, starts rumors, popular, picked on, friendly, bully, and gets their way. Students were allowed to nominate themselves as well as to nominate the same person for more than one item. The total number of nominations received by participants for each peer-assessed item was divided by the total number of possible students (i.e., all students in the classroom). For ease of interpretation and comparison across measures, the resulting proportions were standardized. Among second graders, four peer-assessed factors were used as measures of participants' social adjustment: (a) aggression (disruptive, starts fights, gets in trouble, starts rumors, and bullies; Cronbach's $\alpha = .92$); (b) prosocial skills (cooperative, good student, and friendly; $\alpha = .84$); (c) social prominence (leader, athletic, cool, and popular; $\alpha = .82$); and (d) internalizing behavior (acts shy, seeks help, sad, and picked on; $\alpha = .67$). For a more detailed description of these factors, see Farmer et al. (2002, 2003).

Interpersonal Competence Scale-Teacher (ICS-T). The Interpersonal Competence Scale-Teacher (ICS-T) is an 18-item questionnaire using 7-point Likert scales that teachers completed for each participant in their class. The ICS-T yields scores on social acceptance, antisocial behavior, academic performance, and internalizing problems (Cairns, Leung, Gest, & Cairns, 1995). The six factors that were identified included: (a) aggression (gets into trouble, gets into fights, argues; Cronbach's $\alpha = .84$); (b) academic competence (good at math, good at spelling; $\alpha = .74$); (c) affiliative (smiles, friendly; $\alpha = .71$); (d) popularity (popular with boys, popular with girls, lots of friends; $\alpha = .78$); (e) Olympian (good at sports, good-looking, wins a lot; $\alpha = .68$); and (f) internalizing (sad, worries, shy; $\alpha = .57$). The ICS-T has convergent validity with direct observation, student records (i.e., grades, discipline reports), and peer-nomination measures. In addition, the ICS-T has predictive validity over an 8-year period for adult adjustment (Cairns & Cairns, 1994; Cairns, Leung, Buchanan, & Cairns, 1995; Mahoney, 2000; Leung, 1996; Rodkin et al., 2000). For additional details on the psychometric properties of the ICS-T, see Cairns, Leung, Gest, & Cairns (1995).

Behavioral configurations. Behavioral configurations were identified from teacher ratings on the six ICS-T factors (aggressive, academic, affiliative, popular, Olympian, and internalizing) using the SLEIPNER II program for pattern-oriented analysis (Bergman & El-Khouri, 1998). Following the person-oriented classification methods outlined by Bergman, Magnusson, and El-Khouri (2003), three procedures were used to develop behavioral configurations: (a) RESIDUE, a procedure that identifies cases considered extreme outliers relative to all other cases; (b) CLUSTER, a clustering procedure that identifies initial configurations based on a clustering algorithm; and (c) RELOCATE, a relocation procedure that repositions cases to alternative configurations if doing so reduces the error sums of squares of the classification. With CLUSTER, initial configurations were determined separately for boys and girls using Ward's method (1963). These configurations were based on the six ICS-T factors (standardized by gender) with the similarity between students' profiles measured by squared Euclidean distance.

Social cognitive maps (SCM). Following procedures established by Cairns and colleagues (e.g., Cairns et al., 1985), participants were asked, "Are there some kids in your classroom who hang around together a lot? Who are they?" Students were instructed to list from free recall as many groups as they could think of in their class. SCM procedures have been used extensively in school social network analysis and a variety of other investigations in the United States and other countries. Peer groups identified by the SCM have been validated by observational and survey data, and analysis of students' classroom interaction patterns (Cairns & Cairns, 1994; Cairns, Leung, Buchanan, & Cairns, 1995; Rodkin et al., 2000). Short-term test–retest reliability coefficients suggest high stability of students' peer groups, especially during the same academic year (Cairns, Leung, Gest, & Cairns, 1995).

Following procedures outlined by Cairns, Gariépy, Kindermann, and Leung (1996), we identified distinct peer groups within the school social network using the SCM 4.0 program for social network analyses (Leung, 1996). To strengthen the reliability and validity of the social network, we restricted the analysis to classrooms where participation rates exceeded 50%.

Sociometric status. Participants were asked to "Name three classmates you like most and three classmates you like least". Sociometric status was determined following the procedures suggested by Coie, Dodge, and Coppotelli (1982). A social preference score was calculated for each participant by subtracting the standardized number of nominations received for being *least liked* from the standardized number of nominations received for being *most liked*. In addition, a social impact score for each participant was obtained by adding the standardized number of *most liked* nominations to the standardized number of *least liked* nominations. Those students with a standardized social preference score greater than 1.0, a standardized most liked score greater than zero, and a standardized least liked score less than zero were classified as *sociometrically popular*. Students with a standardized social preference score less than 1.0, a standardized most liked score less than zero, and a standardized least liked score greater than zero were classified as *sociometrically rejected*. Students with a standardized social impact score less than –1.0 were classified as *sociometrically neglected*. Participants with a standardized social impact score greater than 1.0 and standardized most and least liked scores greater than zero were classified as *sociometrically controversial*. All other participants were classified as *sociometrically average*.

Peer-group types. Participants were categorized into two popularity group types according to their teacher-rated popularity. The popularity of a student was determined by the ICS-T popularity score that was standardized in two ways: (a) within gender only; and (b) within gender and classroom. A student was considered popular if their within-gender *Z* score was equal to or greater than +.50 and their within-gender and classroom *Z* score was equal to or greater than zero. This standardization scheme was shown to minimize rater bias while retaining real differences between classrooms (see Farmer et al., 2002). Peer groups identified from the SCM procedure outlined above were classified by the popularity level of the group members. The two popularity group types identified were (a) *predominately not popular*, less than 50% of group members were popular; and (b) *predominately popular*, at least 50% of group members were popular. Youth who were not identified as part of a peer group from the SCM procedure (i.e., *isolates*) were classified as *predominately not popular*.

Teachers' ratings of school adjustment. Participants' teachers identified other aspects of students' school adjustment through completion of two additional questionnaires. The Carolina Child Checklist-Teacher Form (CCC-TF) is a 50-item teacher questionnaire designed to measure risk and protective factors related to aggressive behavior in children aged 6–12 (Macgowan, Nash, & Fraser, 2002). Four subscales from the CCC-TF measured on a scale of 0 (= almost never) to 5 (= almost always) were used by averaging the items scores: (a) relational aggression (nine items; e.g., teases classmates, lies to make peers dislike a student, and says mean things about others; Cronbach's $\alpha = .90$); (b) social contact (four items; e.g., has social contact with others, initiates interactions, and plays with others; $\alpha = .88$); (c) emotional regulation (four items; e.g., thinks before acting, controls temper, and calms down when excited; $\alpha = .88$); and cognitive concentration (12 items; e.g., works well alone, stays on track, and concentrates; $\alpha = .97$). Macgowan and colleagues (2002) reported that the CCC-TF has a Cronbach's α of .95 for the entire instrument, and a test–retest correlation of .75 or higher for subscales during a three-month period.

The third questionnaire, similar to the ICS-T, used a 7-point Likert scale to measure six items: attention problems, hyperactivity, class leadership, bullied by peers, bullying of peers, and involvement in extracurricular activities. These items have been shown to have moderate to high six-month test–retest reliability coefficients (e.g., .49 to .72) (Farmer et al., 2002, 2003).

Results

Behavioral configurations

This section examined the first research hypothesis by conducting cluster analyses to generate interpersonal competence configurations separately for boys and girls. We were particularly interested in examining whether two distinct types of aggressive children would be identified: those who fit the Troubled (i.e., low popular, high aggressive) and the Tough (high popular, high aggressive) behavioral configurations.

Several criteria were used to determine the optimal number of clusters. These included patterns established in previous work, the agglomeration schedule, scree plot and dendrogram, and other statistical and practical considerations such as cell size, theoretical interpretability, and utility (Bergman et al., 2003; Farmer et al., 2002; Milligan, 1981; Milligan & Cooper, 1988). The six clusters that emerged for boys are shown in Table 1, ordered by their value on the ICS-T popularity factor. Follow-up Bonferroni corrected tests were used to examine whether the standardized ICS-T values differed significantly from average (i.e., zero). Withdrawn boys were rated above average on scores for internalizing, average on scores for aggression, and scored below average on all other ICS-T factors. Troubled boys were found above average on scores for the measure of aggression, below average on the affiliative, popularity, and Olympian measures, and average on the measures for academic competence and internalizing. Academic boys were above average on scores of the measure for academic competence, below average on the aggression measure, and average on all other ICS-T measures. Friendly boys were found above average on scores of the affiliative measures, below average on the measure for academic competence and internalizing, and average on the aggression, popularity, and Olympian measures.

Tough boys were above average on scores of the aggression, popularity, and Olympian measures, average on the academic competence and affiliative measures, and below average on internalizing. Model boys were above average on scores of the measures for academic competence, affiliative, popularity, and Olympian and below average on the aggression and internalizing measures.

Six behavioral configurations also emerged for girls: Troubled, Withdrawn, Academic, Average, Tough, and Model (see Table 2). Troubled girls were rated above average on scores of the measure for aggression, average on internalizing behavior, and below average on all other factors. Withdrawn girls were above average on scores of internalizing behavior,

Table 1
Behavioral profiles of 2nd-grade boys based on the Interpersonal Competence Scale-Teacher (ICS-T)

			ICS-T Factor					
Profile	N	*Percent*	*Aggression*	*Academic comp.*	*Affiliative*	*Popularity*	*Olympian*	*Internalizing*
Withdrawn	34	13.8	–0.19 (0.78)	–0.89 (0.93)	–1.20 (0.82)	–1.35 (0.76)	–1.27 (0.70)	1.22 (0.62)
Troubled	38	15.4	1.22 (0.59)	–0.20 (0.89)	–0.71 (0.60)	–0.81 (0.55)	–0.54 (0.74)	0.10 (0.64)
Academic	72	29.1	–0.51 (0.50)	0.59 (0.52)	0.09 (0.78)	0.11 (0.78)	0.25 (0.74)	0.31 (0.71)
Friendly	33	13.4	–0.11 (0.69)	–1.22 (0.68)	0.58 (0.55)	0.14 (0.57)	–0.29 (0.89)	–0.41 (0.73)
Tough	21	8.5	1.50 (0.51)	0.30 (0.88)	–0.03 (0.93)	0.49 (0.57)	0.97 (0.67)	–1.04 (0.64)
Model	49	19.8	–0.77 (0.43)	0.66 (0.56)	1.04 (0.40)	1.17 (0.44)	0.83 (0.70)	–0.98 (0.58)

Note. $N = 247$. Means are *z*-scores and unadjusted. Standard deviations are enclosed in parentheses.

Table 2
Behavioral profiles of 2nd-grade girls based on the Interpersonal Competence Scale-Teacher (ICS-T)

			ICS-T Factor					
Profile	N	*Percent*	*Aggression*	*Academic comp.*	*Affiliative*	*Popularity*	*Olympian*	*Internalizing*
Troubled	52	17.9	1.38 (0.87)	–0.84 (1.00)	–0.80 (0.93)	–1.01 (0.81)	–0.64 (0.74)	0.13 (0.77)
Withdrawn	33	11.4	–0.75 (0.27)	–1.10 (0.73)	0.10 (0.86)	–0.86 (0.58)	–0.92 (0.66)	0.84 (0.70)
Academic	44	15.2	–0.34 (0.57)	0.60 (0.42)	–1.00 (0.96)	–0.06 (0.75)	–0.27 (0.79)	0.95 (0.77)
Average	91	31.4	–0.45[1,3] (0.49)	0.24[2] (0.71)	0.67 (0.51)	0.36 (0.70)	–0.04[2] (0.48)	–0.36 (0.72)
Tough	30	10.3	1.11 (0.66)	0.64 (0.57)	0.15 (0.85)	0.68 (0.68)	1.14 (0.73)	–0.65 (0.64)
Model	40	13.8	–0.66 (0.36)	0.68 (0.48)	0.74 (0.48)	1.20 (0.39)	1.49 (0.48)	–0.95 (0.91)

Note. $N = 290$. Means are z-scores and unadjusted. Standard deviations are enclosed in parentheses.

average on scores of the affiliative measures, and below average on all other ICS-T measures. Academic girls were above average on scores of the academic competence and internalizing measures, below average on affiliative measures, and average on all other ICS-T measures. Average girls were above average on scores of the affiliative, below average on the measure of aggression, and average on all other ICS-T measures. Tough girls were above average on scores of the aggression, academic competence, popularity, and Olympian measures, average on scores of the affiliative measure, and below average on scores of internalizing behavior. The findings for Model girls were in many ways similar to those of Model boys. Model girls were above average on scores of the academic competence, affiliative, popularity, and Olympian measures, and below average on scores of the measures of aggression, and internalizing behavior.

It should be noted that configuration labels are heuristic and used for descriptive purposes to facilitate discussion. These configuration labels are not intended to stereotype behavioral traits, nor are they intended to imply direct parallels between boys and girls in same-labeled configurations. As noted by the means, standard deviations, and follow-up tests, there are meaningful differences among children within the same configurations as well as between boys and girls in same-labeled configurations.

Behavioral configurations and peer nomination factors

This section focuses on the second research question by examining whether Troubled and Tough children were perceived by peers as being different on key social characteristics. We hypothesized that children in these two configurations would not differ on peer nominations for aggression, but would differ on social prominence. We expected that children in the Troubled configuration would be significantly lower than Tough children and that Tough children would not differ from Model peers on social prominence.

As shown in Table 3, the boys' configurations were different from each other on peer-nominated measures of aggression, $F(5,241) = 23.31$, $p < .001$; prosocial skills, $F(5,241) = 8.67$, $p < .001$; social prominence, $F(5,241) = 6.23$, $p < .001$; and internalizing behavior, $F(5,241) = 4.47$, $p < .010$. Post hoc comparisons with Bonferroni corrections were used to examine differences between behavioral configuration subtypes. Withdrawn boys had the lowest number of nominations for prosocial skills and social prominence, although the scores did not differ significantly from the scores for either the Troubled or the Friendly boys. Troubled and Tough boys had significantly more peer nominations for aggression than Model, Academic, Friendly, and Withdrawn boys. Model boys had significantly more peer nominations for prosocial skills than any other configuration except Academic boys. Model boys had the highest peer nominations for social prominence, although the scores did not differ significantly from those of Tough, Academic, or Friendly boys. As expected, Troubled boys had significantly lower ratings of social prominence compared to Tough boys, whose ratings did not differ from the Model, Academic, or Friendly boys.

The girls' configurations differed on all peer nomination factors (see Table 4). Troubled girls were nominated as being more aggressive than all other subtypes of girls. The Model, Average, and Academic girls were nominated as higher in prosocial skills compared to the Troubled, Withdrawn, and Tough girls. Withdrawn girls were rated lower for social prominence relative to all other subtypes of girls except for those in the Troubled configuration.

Behavioral configurations and sociometric status

The aim of this section was to examine whether Troubled and Tough children differed on peer acceptance. We hypothesized that because they are both socially marginalized and disliked, Troubled children would be unlikely to have popular and controversial status and more likely to be rejected. In contrast, we hypothesized that because they are likely to be both socially attractive and disliked by peers, Tough children would be more likely to have controversial or rejected sociometric status. To further clarify differences in likability between Tough and Troubled configurations, we examined differences in the number of nominations that children received for "Liked Most" and "Liked Least".

In general, as shown in Table 5, sociometric status was related to boys' behavioral configurations [$\chi^2(20, N = 247) = 65.33$, $p < .001$]. Sociometric status categories differed from one another for boys' behavioral configuration subtypes of Troubled [$\chi^2(4, N = 247) = 20.86$, $p < .001$], Tough [$\chi^2(4, N = 247) = 13.06$, $p < .011$], and Model [$\chi^2(4, N = 247) = 24.44$, $p < .001$]. There was a marginal relationship between sociometric status and Friendly boys [$\chi^2(4, N = 247) = 9.20$, $p < .056$]. More than 39% of the Troubled boys and 33.3% of the Tough boys were rejected compared to 9.7% of the Academic boys and 6.1% of the Model boys. More than 51% of the Friendly boys and 41.2% of the Withdrawn boys were sociometrically average compared to 21.1% of the Troubled boys and 20.4% of the Model Boys. Moreover, Tough boys were over nine times more likely than Troubled boys to be classified

Table 3
Peer nomination factors by boys' behavioral configurations

	Configuration						
Peer-nomination factor	*Withdrawn*	*Troubled*	*Friendly*	*Academic*	*Tough*	*Model*	F
Aggression	-0.07^{2}	1.14^{1}	0.10^{2}	-0.30^{2}	1.06^{1}	-0.42^{2}	$F(5,241) = 23.31$, $p < .001$
Prosocial skills	-0.57^{3}	-0.49^{3}	-0.52^{3}	$0.02^{1,2}$	$-0.48^{2,3}$	0.26^{1}	$F(5,241) = 8.67$, $p < .001$
Social prominence	-0.51^{2}	-0.19^{2}	$0.11^{1,2}$	0.15^{1}	0.35^{1}	0.72^{1}	$F(5,241) = 6.23$, $p < .001$
Internalizing behavior	0.55^{1}	0.06^{1}	$-0.10^{1,2}$	-0.27^{2}	-0.05^{1}	-0.31^{2}	$F(5,241) = 4.47$, $p < .010$
Total *n* (%)	34 (13.8)	38 (15.4)	33 (13.4)	72 (29.1)	21 (8.5)	49 (19.8)	247

Note. Means are *z*-scores and unadjusted. Means in the same row that do not share superscripts differ by $p < .05$ in Bonferroni corrected post-hoc *t*-tests.

Table 4
Peer nomination factors by girls' behavioral configurations

	Configuration						
Peer-nomination factor	*Troubled*	*Withdrawn*	*Academic*	*Tough*	*Average*	*Model*	F
Aggression	0.88^{1}	-0.42^{3}	$-0.27^{2,3}$	0.27^{2}	-0.44^{3}	-0.32^{2}	$F(5,284) = 20.61$, $p < .001$
Prosocial skills	-0.52^{2}	-0.05^{2}	0.50^{1}	-0.14^{2}	$0.36^{1,2}$	0.73^{1}	$F(5,284) = 9.58$, $p < .001$
Social prominence	$-0.29^{1,2}$	-0.65^{2}	0.01^{1}	-0.10^{1}	-0.01^{1}	0.21^{1}	$F(5,284) = 4.96$, $p < .001$
Internalizing behavior	0.47^{1}	$0.35^{1,2}$	$0.10^{1,2}$	$0.20^{1,2}$	-0.21^{2}	-0.22^{2}	$F(5,284) = 4.44$, $p < .010$
Total *n* (%)	52 (17.9)	33 (11.4)	44 (15.2)	30 (10.3)	91 (31.4)	40 (13.8)	290

Note. Means are *z*-scores and unadjusted. Means in the same row that do not share superscripts differ by $p < .05$ in Bonferroni corrected post-hoc *t*-tests.

Table 5
Sociometric status by boys' behavioral configurations

	Sociometric status					
Configuration	*Popular*	*Average*	*Controversial*	*Rejected*	*Neglected*	χ^2
Withdrawn (*n* = 34)						$\chi^2(4, N = 247) = 4.80$, $p < .308$
n	3–	14	3	8	6	
%	8.8	41.2	8.8	23.5	17.6	
Troubled (*n* = 38)						$\chi^2(4, N = 247) = 20.86$, $p < .001$
n	4–	8	1	15+	10	
%	10.5	21.1	2.6	39.5	26.3	
Friendly (*n* = 33)						$\chi^2(4, N = 247) = 9.20$, $p < .056$
n	4.0	17+	5	4	3	
%	12.1	51.5	15.2	12.1	9.1	
Academic (*n* = 72)						$\chi^2(4, N = 247) = 5.68$, $p < .225$
n	20	25	6	7–	14	
%	27.8	34.7	8.3	9.7	19.4	
Tough (*n* = 21)						$\chi^2(4, N = 247) = 13.06$, $p < .011$
n	1–	7	5+	7+	1	
%	4.8	33.3	23.8	33.3	4.8	
Model (*n* = 49)						$\chi^2(4, N = 247) = 24.44$, $p < .001$
n	23+	10–	4	3–	9	
%	46.9	20.4	8.2	6.1	18.4	
Total *n* (%)	55 (22.3)	81 (32.8)	24 (9.7)	44 (17.8)	43 (17.4)	247

Note. The overall relationship between boys' behavioral configuration subtype and sociometric status was $\chi^2(20, N = 247) = 65.33$; $p < .001$. +/– indicates more/fewer than expected by chance in single-cell contingency analysis ($p < .05$).

as sociometrically controversial. The EXACON program for single-cell contingency analysis was used to assess whether cell-specific relationships differed significantly from what would be expected by chance (see Bergman & El-Khouri, 1987). This analysis showed, as compared to the numbers that would be expected to occur by chance, there were fewer boys in six categories: popular Withdrawn, popular Troubled, popular Tough, average Model, rejected Academic, and rejected Model boys ($p < .05$). In addition, the analysis showed there were five categories with greater numbers of boys than would be expected by chance: popular Model, average Friendly, controversial Tough, rejected Troubled, and rejected Tough boys.

In addition, boys' configurations differed for peer nominations of Liked Most ($F(5,240) = 5.73$, $p < .001$) and Liked Least ($F(5,240) = 7.33$, $p < .001$). Post-hoc comparisons with Bonferroni corrections were used to examine differences between subtypes. Tough ($z = -.16$) and Troubled ($z = -.49$) boys did not differ from each other or from Friendly ($z = .15$) or Withdrawn ($z = -.21$) boys in terms of the number of nominations they received for "Liked Most". Troubled boys received significantly fewer nominations than boys in the Model ($z = .55$) and Academic ($z = .29$) configurations, while boys in the Tough configuration did not differ from boys in any other configuration for "Liked Most". For "Liked Least", boys in the Tough configuration received the most nominations ($z = .62$) but did not differ from Troubled boys ($z = .46$) or from Friendly ($z = .04$) or Withdrawn ($z = .27$) boys. However, both Tough and Troubled boys received significantly more "Liked Least" nominations than boys in the Academic ($z = -.17$) and Model ($z = -.41$) configurations.

As illustrated in Table 6, sociometric status was also related to girls' behavioral configurations, $\chi^2(20, N = 290) = 88.29$, $p < .001$. Sociometric status categories differed from one another for girls' behavioral configuration subtypes of Troubled [$\chi^2(4, N = 290) = 57.10$, $p < .001$], Withdrawn [$\chi^2(4, N = 290) = 23.81$, $p < .001$], Average [$\chi^2(4, N = 290) = 11.30$, $p < .023$], and Model [$\chi^2(4, N = 290) = 10.37$, $p < .035$]. More than 40% of Troubled girls were rejected, which was four times the rate of the Tough girls: the group with the next-highest rate of sociometric rejection. Over 39% of Average and 40% of Model girls were sociometrically popular as compared to 26.7% of Tough girls, 15.2% of Withdrawn girls, and 11.5% of Troubled girls. Cell-specific analyses indicated that, as compared to what would be expected by chance, there were fewer girls in six categories: popular Troubled, popular Withdrawn, average Troubled, controversial Withdrawn, rejected Average, and rejected Model girls. In addition, there were three categories with greater numbers than would be expected by chance: popular Average, rejected Troubled, and neglected Withdrawn.

Girls' configurations also differed in terms of the number of peer nominations for "Liked Most" ($F(5,284) = 7.48$, $p < .001$) and "Liked Least" ($F(5,284) = 14.02$, $p < .001$). Tough ($z = .14$) and Troubled ($z = -.14$) girls did not differ from each other in terms of the number of nominations they received for "Liked Most". Troubled girls were significantly lower than Academic ($z = .48$), Average ($z = .44$), and Model (z = .81) girls, while Tough girls did not differ from girls in any other configurations for "Liked Most". For "Liked Least", Troubled ($z = .87$) girls were significantly higher than girls in all other configurations including Tough ($z = -.07$), Model ($z = -.16$), Academic ($z = -.24$), Withdrawn ($z = -.26$), and Average ($z = -.29$). Tough girls were not significantly different from girls in any other configuration for "Liked Least".

Table 6
Sociometric status by girls' behavioral configurations

	Sociometric status					
Configuration	*Popular*	*Average*	*Controversial*	*Rejected*	*Neglected*	χ^2
Troubled ($n = 52$)						$\chi^2(4, N = 290) = 57.10, p < .001$
n	6–	13–	6	21	6	
%	11.5	25.0	11.5	40.4	11.5	
Withdrawn ($n = 33$)						$\chi^2(4, N = 290) = 23.81, p < .001$
n	5–	12	0–	3	13+	
%	15.2	36.4	0.0	9.1	39.4	
Academic ($n = 44$)						$\chi^2(4, N = 290) = 3.15, p < .533$
n	16	17	4	2	5	
%	36.4	38.6	9.1	4.5	11.4	
Tough ($n = 30$)						$\chi^2(4, N = 290) = 1.07, p < .899$
n	8	13	3	3	3	
%	26.7	43.3	10.0	10.0	10.0	
Average ($n = 91$)						$\chi^2(4, N = 290) = 11.30, p < .023$
n	36+	35	6	4–	10	
%	39.6	38.5	6.6	4.4	11.0	
Model ($n = 40$)						$\chi^2(4, N = 290) = 10.37, p < .035$
n	16	15	6	0–	3	
%	40.0	37.5	15.0	0.0	7.5	
Total *n* (%)	87 (30.0)	105 (36.2)	25 (8.6)	33 (11.4)	40 (13.8)	290

Note. The overall relationship between girls' behavioral configuration subtype and sociometric status was $\chi^2(20, N = 290) = 88.29$; $p < .001$. +/– indicates more/fewer than expected by chance in single-cell contingency analysis ($p < .05$).

Behavioral configurations and popularity group type

The aim of this section was to examine whether Troubled and Tough children have different patterns of peer affiliations. We hypothesized that Troubled children would be in predominately not popular peer groups while Tough children would be in groups that were composed primarily of popular peers as assessed by teacher ratings of popularity.

Boys' behavioral configurations were related to the popularity classification of their peer group, $\chi^2(5, N = 210) = 52.12$, $p < .001$ (see Table 7). Popularity group type differed for boys' behavioral configurations of Withdrawn [$\chi^2(1, N = 210) = 5.37$, $p < .020$], Troubled [$\chi^2(1, N = 210) = 9.46$, $p < .001$], Academic [$\chi^2(14, N = 210) = 5.04$, $p < .025$], Tough [$\chi^2(1, N = 210) = 6.27$, $p < .012$], and Model [$\chi^2(1, N = 210) = 37.42$, $p < .001$]. Less than 18% of the Troubled boys and 20% of the Withdrawn boys affiliated predominantly with peers that were classified as popular compared to 68.4% of the Tough boys and 81.8% of the Model boys. Cell-specific analyses indicated that there were five categories with fewer boys than would be expected by chance: predominately popular Withdrawn, Troubled or Academic boys, and predominately not popular Tough or Model boys.

As illustrated in Table 8, girls' behavioral configurations were also related to the popularity classification of their peer group, $\chi^2(5, N = 246) = 50.59$, $p < .001$. Popularity group type differed for the girls' behavioral configurations of Troubled, Withdrawn, Tough, and Model. Less than 9% of the Troubled girls and 10.7% of the Withdrawn girls affiliated with peers that were classified as predominately popular compared to 59.3% of the Tough girls and 73.0% of the Model girls. Cell-specific analyses indicated that there were four categories with fewer girls than would be expected by chance: predominately popular Troubled or Withdrawn girls, and predominately not popular Tough or Model girls.

Behavioral configurations and teacher ratings of children's school adjustment

This section centered on identifying differences between Troubled and Tough youth in terms of teacher assessments of school adjustment. We hypothesized that both Troubled and Tough children would have high levels of behavioral difficulties (e.g., relational aggression, attention problems, emotional regulation, bullying), but would differ in terms of social adaptation (e.g., participation in extracurricular activities, social contact). We expected that Tough children would have higher levels of teacher-rated social contact and participation in extracurricular activities as compared to Troubled children.

As shown in Table 9, boys' configurations differed on all four subscales measured from the Carolina Child Checklist (CCC): (a) relational aggression, $F(5,239) = 48.28$, $p < .001$; (b) emotional regulation, $F(5,239) = 59.68$, $p < .001$; (c) social contact, $F(5,239) = 48.69$, $p < .001$; and cognitive concentration, $F(5,239) = 60.85$, $p < .001$. Withdrawn boys showed lower than average scores on all four of the CCC subscales. Troubled boys were rated above average on the measure of relational aggression and below average on the measures of emotional regulation, social contact, and cognitive concentration. Friendly boys were rated below average on emotional regulation and cognitive concentration, above average on hyperactivity, and average on all other measures. Academic boys showed below average scores on the measures of relational aggression, attention problems, hyperactivity, and bullying of peers and showed above average scores on the factors of emotional regulation and cognitive concentration. Tough boys were rated above average on the measures of relational aggression, social contact, attention problems, hyperactivity, and bullying of peers, and below average on the factors of emotional regulation and cognitive concentration. Model boys showed higher than average scores on the measures of

Table 7
Popularity group type by boys' behavioral configurations

	Group type		
Configuration	*Predominately not popular*	*Predominately popular*	χ^2
Withdrawn ($n = 25$)			$\chi^2(1, N = 210) = 5.37, p < .020$
n	20+	5–	
%	80.0	20.0	
Troubled ($n = 34$)			$\chi^2(1, N = 210) = 9.46, p < .001$
n	28+	6–	
%	82.4	17.6	
Friendly ($n = 27$)			$\chi^2(1, N = 210) = 0.87, p < .360$
n	18	9	
%	66.7	33.3	
Academic ($n = 61$)			$\chi^2(1, N = 210) = 5.04, p < .025$
n	43+	18–	
%	70.5	70.5	
Tough ($n = 19$)			$\chi^2(1, N = 210) = 6.27, p < .012$
n	6–	13+	
%	31.6	68.4	
Model ($n = 44$)			$\chi^2(1, N = 210) = 37.42, p < .001$
n	8–	36+	
%	18.2	81.8	
Total *n* (%)	123 (58.6)	87 (41.4)	210

Note. The overall relationship between boys' behavioral configuration subtype and popularity group type was $\chi^2(5, N = 210) = 52.12$, $p < .001$. +/– indicates more/fewer than expected by chance in single cell contingency analysis ($p < .05$).

Table 8
Popularity group type by girls' behavioral configurations

	Group type		
Configuration	*Predominately not popular*	*Predominately popular*	χ^2
Troubled (n = 46)			$\chi^2(1, N = 246) = 19.91, p < .001$
n	42+	4–	
%	91.3	91.3	
Withdrawn (n = 28)			$\chi^2(1, N = 246) = 9.61, p < .002$
n	25+	3–	
%	89.3	10.7	
Academic (n = 34)			$\chi^2(1, N = 246) = 0.08, p < .785$
n	22	12	
%	64.7	35.3	
Average (n = 74)			$\chi^2(1, N = 246) = 0.45, p < .504$
n	44	30	
%	59.5	40.5	
Tough (n = 27)			$\chi^2(1, N = 246) = 6.19, p < .013$
n	11–	16+	
%	40.7	59.3	
Model (n = 37)			$\chi^2(1, N = 246) = 23.54, p < .001$
n	10–	27+	
%	27.0	73.0	
Total *n* (%)	154 (62.6)	92 (37.4)	246

Note. The overall relationship between girls' behavioral configuration subtype and popularity group type and was $\chi^2(5, N = 246) = 50.59; p < .001$. +/– indicates more/fewer than expected by chance in single cell contingency analysis ($p < .05$).

emotional regulation, social contact, cognitive concentration, and extracurricular activities and showed lower than average scores on the measures of relational aggression, hyperactivity, and bullying of peers.

The boys' configuration also differed on five items used to measure key aspects of school adjustment: (a) attention problems, $F(5,239) = 5.04$, $p < .001$; (b) hyperactivity, $F(5,239) = 19.89$, $p < .001$; (c) class leadership, $F(5,239) = 3.24$, $p < .008$; (d) bullying of peers, $F(5,239) = 5.04$, $p < .001$; and (e) involvement in extracurricular activities, $F(5,239) = 3.11$, $p < .01$ (see Table 9). Troubled and Tough boys had high scores on the measures of attention problems, hyperactivity, and bullying of peers, and low scores on the factors of emotional regulation and cognitive concentration. As expected, we found differences between Troubled and Tough boys on teacher-rated indicators of school adjustment. Post hoc tests with Bonferonni corrections indicated that Tough boys were rated as having higher levels of social contact and relational aggression compared to Troubled boys.

As shown in Table 10, girls' configurations differed on all teacher ratings of school adjustment except involvement in extracurricular activities, $F(5,283) = 1.80$, $p < .114$. The Troubled girls showed higher than average scores on the measures of relational aggression, hyperactivity, and bullying of peers, and lower than average on the ratings for emotional regulation and social contact. Withdrawn girls were rated higher than average on the measure of emotional regulation and lower than average on all other measures except for cognitive concentration. Academic girls were rated above average on the measures of emotional regulation and cognitive concentration and below average on the measures of attention problems, hyperactivity, and bullying of peers. Tough girls showed higher than average scores on the measures of relational aggression, social contact, cognitive concentration, bullied by peers, bullying of peers, and extracurricular activities and exhibited a lower than average rating on the factor of emotional regulation. Average girls were rated above average on the measures of emotional regulation, social contact, and class leadership and were rated below average on the measures of relational aggression, attention problems, hyperactivity, bullied by peers, and bullying of peers. Model girls showed higher than average scores on the measures of emotional regulation, social contact, cognitive concentration, and lower than average on the measures of relational aggression, hyperactivity, and bullying of peers. Compared to boys, we found considerably more differences between Troubled and Tough girls on teacher-rated indicators of school adjustment. As shown in Table 10, Tough girls differed from Troubled girls on many of the teacher-rated measures of school adjustment. As compared to Troubled girls, Tough girls had relatively lower ratings for relational aggression, emotional regulation problems, and cognitive concentration difficulties, and higher ratings for social contact.

Discussion

The results of this study support the "two social worlds" of aggression hypothesis and provide new insights into the social relations of aggressive early elementary school children. Although it has been acknowledged that only 50% of aggressive children are rejected by peers (Coie & Dodge, 1998) and that there are both aggressive and nonaggressive rejected sociometric status subtypes (Bierman et al., 1993; Cillessen, van IJzendoorn, van Lieshout, & Hartup, 1992), aggressive children with rejected status have been viewed as a homogeneous group. The current findings bring this viewpoint into question for boys, but not for girls, by demonstrating that there

Table 9
Teacher ratings of boys' school adjustment by behavioral configurations

	Configuration						
Peer-nomination factor	*Withdrawn*	*Troubled*	*Friendly*	*Academic*	*Tough*	*Model*	F
Relational aggression	-0.47^{3}	0.87^{2}	-0.21^{3}	$-0.43^{3,4}$	1.38^{1}	-0.68^{4}	$F(5,239) = 48.28$, $p < .001$
Emotional regulation	-0.48^{3}	-1.19^{4}	-0.42^{3}	0.30^{2}	-1.31^{4}	0.76^{1}	$F(5,239) = 59.68$, $p < .001$
Social contact	-1.38^{4}	-0.74^{3}	-0.06^{2}	0.17^{2}	0.47^{1}	0.84^{1}	$F(5,239) = 48.69$, $p < .001$
Cognitive concentration	-0.94^{3}	-1.03^{3}	-0.95^{3}	0.34^{2}	-0.76^{3}	0.73^{1}	$F(5,239) = 60.85$, $p < .001$
Attention problems	$0.21^{1,2,3}$	0.47^{1}	0.34^{1}	-0.23^{3}	0.51^{1}	$-0.11^{2,3}$	$F(5,239) = 5.04$, $p < .001$
Hyperactivity	0.14^{3}	$0.99^{1,2}$	0.51	-0.22^{3}	1.56^{1}	-0.24^{3}	$F(5,239) = 19.89$, $p < .001$
Class leadership	-0.44^{2}	-0.41^{2}	−0.10	0.13^{1}	$-0.20^{1,2}$	$0.16^{1,2}$	$F(5,239) = 3.24$, $p < .008$
Bullied by peers	0.16	0.17	−0.10	−0.10	0.13	0.10	$F(5,239) = 0.69$, $p < .629$
Bullying of peers	-0.11^{2}	1.10^{1}	-0.11^{2}	-0.26^{2}	1.58^{1}	-0.55^{2}	$F(5,239) = 37.29$, $p < .001$
Extracurricular activities	-0.30^{2}	-0.12^{2}	$-0.07^{1,2}$	$0.02^{1,2}$	$0.07^{1,2}$	0.46^{1}	$F(5,239) = 3.11$, $p < .010$
Total *n* (%)	32 (13.1)	38 (15.5)	33 (13.5)	72 (29.4)	21 (8.5)	49 (20.0)	245

Note. Means are *z*-scores and unadjusted. Means in the same row that do not share superscripts differ by $p < .05$ in Bonferroni corrected post-hoc *t*-tests.

Table 10
Teacher ratings of girls' school adjustment by behavioral configurations

	Configuration						
Factor/item	*Troubled*	*Withdrawn*	*Academic*	*Tough*	*Average*	*Model*	F
Relational aggression	1.06^{1}	-0.66^{4}	-0.20^{3}	0.67^{2}	$-0.49^{3,4}$	-0.76^{4}	$F(5,284) = 55.43$, $p < .001$
Emotional regulation	-0.93^{4}	0.42^{2}	0.44^{2}	-0.29^{3}	0.59^{2}	0.96^{1}	$F(5,284) = 55.12$, $p < .001$
Social contact	-0.68^{4}	$-0.37^{3,4}$	-0.09^{3}	$0.81^{1,2}$	0.44^{2}	0.95^{1}	$F(5,284) = 31.08$ $p < .001$
Cognitive concentration	-0.87^{4}	-0.06^{3}	$0.76^{1,2}$	0.49^{2}	0.53^{2}	1.00^{1}	$F(5,284) = 50.76$, $p < .001$
Attention problems	0.42^{1}	$-0.20^{1,2}$	-0.23^{2}	$0.04^{1,2}$	-0.32^{2}	$-0.01^{1,2}$	$F(5,283) = 3.88$, $p < .002$
Hyperactivity	0.61^{1}	-0.58^{2}	-0.63^{2}	0.36^{1}	-0.54^{2}	-0.26^{2}	$F(5,282) = 26.69$, $p < .001$
Class leadership	$-0.14^{1,2}$	-0.31^{2}	$0.04^{1,2}$	$0.16^{1,2}$	0.28^{1}	$0.14^{1,2}$	$F(5,282) = 2.24$, $p < .050$
Bullied by peers	$0.07^{1,2}$	$-0.29^{1,2}$	$0.07^{1,2}$	0.33^{1}	-0.26^{2}	$0.17^{1,2}$	$F(5,282) = 2.62$, $p < .024$
Bullying of peers	1.10^{1}	-0.54^{2}	-0.35^{2}	0.69^{1}	-0.45^{2}	-0.59^{2}	$F(5,283) = 46.79$, $p < .001$
Extracurricular activities	−0.13	−0.41	−0.04	0.31	0.06	−0.07	$F(5,283) = 1.80$, $p < .114$
Total n (%)	52 (17.9)	33 (11.4)	44 (15.2)	30 (10.3)	91 (31.4)	40 (13.8)	290

Note. Means are *z*-scores and unadjusted. Means in the same row that do not share superscripts differ by $p < .05$ in Bonferroni corrected post-hoc *t*-tests.

are both perceived popular and perceived unpopular boys who are highly disliked (i.e., rejected or controversial sociometric status). Further, the findings indicate that there are perceived popular aggressive girls who are not rejected and that there are also aggressive rejected status girls who are perceived as being unpopular.

In many respects, perceived popular (Tough) and unpopular aggressive (Troubled) boys were highly similar to each other. They did not differ in terms of peer behavioral assessments for aggression, prosocial skills, or internalizing behavior. Likewise, teachers rated both subtypes as high on aggression, bullying, emotional regulation problems, hyperactivity, and attention problems, and low on cognitive concentration. However, these subtypes differed in important ways on key interpersonal competencies and social characteristics. As compared to Troubled boys, Tough boys had higher levels of teacher-rated Olympian characteristics (i.e., good at sports, good-looking, wins a lot), social contact, and relational aggression. Further Tough boys had higher levels of peer-assessed social prominence (leader, athletic, cool, and popular), and were more likely to be members of peer groups that were composed of peers who were perceived by teachers as being popular.

These findings are consistent with studies that distinguish between subtypes of popularity and aggression in late childhood and early adolescence. For example, several studies have found that perceived popular aggressive and non-aggressive boys are each likely to be viewed by peers or teachers as having interpersonal characteristics that are highly valued by peers such as athletic ability, leadership, and physical attractiveness (de Bruyn & Cillessen, 2006; Farmer et al., 2003; Rodkin et al., 2000; Vaillancourt & Hymel, 2006). However, aggressive perceived popular boys are also viewed as being relationally aggressive bullies who are socially influential and arrogant leaders (de Bruyn & Cillessen, 2006; Vaillancourt & Hymel, 2006). In contrast, aggressive boys who are perceived to be unpopular in late childhood and early adolescence tend to be socially marginalized youth who have low levels of peer-valued characteristics and associate with other unpopular peers (Farmer et al., 2002, 2003; Rodkin et al., 2000). Interestingly, early adolescent perceived popular boys who are physically aggressive have been found to have lower levels of being

disliked by peers if they also have high levels of peer-valued characteristics and do not have high levels of relational aggression (Vaillancourt & Hymel, 2006). It appears that relational aggression increases the likelihood that perceived popular boys will be disliked by peers. In the current study, Tough boys in second grade were significantly higher than all other subtypes of boys on relational aggression. This may help to explain why they were disliked even though they were perceived as being popular.

The results for the girls were somewhat distinct from those of the boys and they reflected gender differences in peer relations that are evident in late childhood and early adolescence (e.g., Cillessen & Mayeux, 2004; Farmer et al., in press; Vaillancourt & Hymel, 2006). Peers viewed Troubled girls as being more aggressive than all other girls. They were also more likely to be rejected by peers and to affiliate with unpopular peers. In contrast, while Tough girls also had elevated levels of peer-assessed aggression, they were not disliked by peers, they were more likely to associate with popular peers, and they were viewed by teachers as having more social contacts. Unlike Tough boys, Tough girls did not have high levels of teacher-rated school adjustment problems while Troubled girls did.

Tough girls in second grade had only moderately high levels of relational aggression, which were significantly lower than the ratings for Troubled girls but higher than the ratings for all other girls. In late childhood and early adolescence, relational aggression has been found to be decreasingly related to sociometric popularity and increasingly associated with perceived popularity (Cillessen & Mayeux, 2004). Further, some forms of relational aggression (i.e., indirect, covert social aggression that involves using the social community as a form of attack) are associated with high levels of social network centrality and peer influence (Vaillancourt & Hymel, 2006; Xie, Farmer, & Cairns, 2003). However, very high levels of more direct forms of relational aggresssion (i.e., teasing, name calling) paired with gender non-normative expressions (i.e., physical aggression) are linked to social skill deficits and peer rejection (Crick, 1997). It seems that the differences between Tough and Troubled girls may be reflecting the competent vesus incompetent use of relational aggression as a means to influence peers.

Consistent with studies of social networks in middle childhood and early adolescence (Farmer et al., 2002, 2003), social prominence (i.e. perceived popularity) appears to be important in the formation of peer groups in early elementary classrooms. Children who are well liked (i.e., sociometrically popular) have many favorable characteristics and few negative ones, and affiliate with peers who are socially prominent. Yet such children are not the only prominent individuals in the classroom social structure. Aggressive children who are perceived to be popular by teachers are also socially prominent in the eyes of their peers even though they may not be well liked. Furthermore, these aggressive children tend to associate with other socially prominent peers. Therefore, although aggressive children (particularly boys) are at increased risk for rejected sociometric status in early elementary classrooms, only some are actually socially isolated or relegated to affiliations with peers who are not popular. In contrast with the view that aggressive behavior is more likely to be supported by peers as children transition to adolescence (e.g., Cillessen & Mayeux, 2004), the current findings suggest that in the early elementary school years there is a complex relationship between peer acceptance, social prominence, peer group membership, and aggression.

The present findings come together to shed light on the complexity of the relationship between aggression and children's social positions, and supports the hypothesis that there are two distinct social worlds of aggression in the early elementary school years. Consistent with the peer rejection/deviant peer group perspective, children in Troubled configurations had few socially valued characteristics, were socially marginalized, and did not associate with peers who were perceived as being popular. In contrast, consistent with a social dominance-prominence perspective, Tough children were viewed as popular leaders who had highly valued social characteristics and affiliated with other perceived popular peers.

The "two social worlds" of aggression hypothesis and the findings of the present study bring into question the view that being socially attractive and being disliked are incompatible social characteristics. While it follows that children who are socially marginalized are both socially unattractive and disliked, it also seems reasonable to expect that children who are leaders in popular groups use their influence to exclude other children or to limit their standing within the social structure (see Adler & Adler, 1995, 1996; Evans & Eder, 1993). The Tough boys in the current study appear to be similar to "populistic" popular early adolescents described by de Bruyn and Cillessen (2006, p. 620): populistic youth were "judged to ostracize peers, bully and threaten classmates, be insolent, and gossip. Also, populistic students were deemed to have more power and leadership than prosocial-popular students."

The current research did not examine the construct of resource control. However, the present results are generally consistent with investigations on resource control and children's peer relations. Research on resource control focuses on children's strategies to successfully access preferred resources (material, social) in the social group and involves identifying subtypes of youth according to the strategies (prosocial, coercive) they use to control resources (Hawley, 1999). *Prosocial* controllers use primarily prosocial strategies to gain resources, *Coercive* controllers use primarily coercive strategies, *Bistrategic* controllers use both prosocial and coercive strategies. In research with both preschoolers (Hawley, 2003) and early adolescents (Hawley, Little, & Card, 2007), coercive controllers tend to have low levels of social competence and are not well integrated into the social context, while prosocial controllers are socially dominant and socially skilled youth who are central in the social structure. However, unlike the present results and the findings of other studies (e.g., Cillessen & Mayeux, 2004; Farmer et al., 2003; Vaillancourt & Hymel, 2006), Hawley and colleagues (Hawley, Johnson, Mize, & McNamara, 2007; Hawley, Little, & Card, 2007) have found that bistrategic controllers are not particularly disliked and are held in high regard by peers. These views are not necessarily contradictory. It is possible that bistrategic controllers are attractive in terms of their ability to enhance resources for themselves and their associates, and yet are disliked to the degree that they deflect resources away from others in the social system. Or it is possible that Tough boys in the early elementary school grades are coercive controllers while Tough girls during this same period are bistrategic controllers. This is an area of inquiry that requires further examination.

Implications for intervention

Teacher-assessed popular aggressive (i.e., Tough) and unpopular-aggressive (i.e., Troubled) children seem to share

significant risk factors for later disorder. Similar to findings on the social relations of elementary students with emotional and behavioral disorders (i.e., Farmer & Hollowell, 1994), boys in the Tough and the Troubled configurations had high teacher ratings for physical and relational aggression, attention problems, hyperactivity, and bullying of peers. In addition, both Tough and Troubled boys were more likely to have rejected status or to be viewed unfavorably by some peers. Among girls, both Tough and Troubled configurations were rated by teachers as high on measures of relational aggression, hyperactivity, and bullying of peers. Collectively, these characteristics suggest that both Tough and Troubled early elementary children (particularly boys) may be at risk for future conduct problems that have been linked to poor outcomes in adolescence and early adulthood. While it is known that unpopular aggressive youth are at risk for mental health difficulties and involvement in violence (Coie & Dodge, 1998; Lipsey & Derzon, 1998), recent studies indicate that perceived popular aggressive youth are at-risk for academic adjustment difficulties, delinquency, and substance use problems (Allen, Porter, McFarland, Marsh, & McElhaney, 2005; de Bruyn & Cillessen, 2006; Estell, Farmer, Irvin, Thompson, Hutchins, & McDonough, 2007; Farmer et al., 2008; Schwartz, Gorman, Nakamoto, & McKay, 2006).

The current findings have important implications for understanding linkages between risk for later disorder and early elementary children's social relations. Classroom social dynamics may differentially support the problem behavior of Troubled and Tough children. Troubled children appear not only to be disliked but are also more likely to be isolated or relegated to less popular and non-prominent groups in the social structure. In turn, they may be more likely to associate with peers who share some type of social or academic difficulty. This is consistent with research on the social networks of rejected youth in middle childhood (Bagwell, Coie, Terry, & Lochman, 2000; Ladd, 1983). Thus, as suggested by the peer rejection/social skill deficit perspective, Troubled children may be socially rejected by conventional peers and may not be exposed to social interactions with classmates who model and reinforce prosocial skills and behaviors (Coie, 1990; Farmer et al., 1999).

In contrast, although Tough children may not be well liked, they are socially prominent and tend to associate with peers who are viewed by teachers and classmates as being popular. As with older children and early adolescents, Tough children in early elementary grades may be dominant leaders or bullies and may use their aggression in ways that promote their prominence as well as to promote the prominence of others in their peer group (see Adler et al., 1992; Farmer et al., 2003). Consistent with work on resource control (Hawley, 2003) and social and physical aggression (Pellegrini et al., 2007; Xie et al., 2003), prominence in the social structure may both promote and be promoted by the effective use of aggressive strategies. Thus, the aggression of Tough children may be reinforced by the social influence and prominence that such behavior affords them. In fact, other studies have shown that Tough boys are highly aware of their elevated levels of aggression, socially valued characteristics, and perceived popularity (Farmer et al., 1999, 2008).

These findings yield two important implications for prevention and intervention programs. First, it appears that interventions that address aggressive behavior may need to be differentially focused for Tough and Troubled children. Although Troubled children are likely to require interventions that are consistent with a traditional social skills framework focusing on social competence (e.g., regulating emotions, encoding social cues, interpreting behavior in various social contexts), Tough boys and girls may need interventions that limit the degree to which aggressive behavior is socially reinforced by peers, teachers, and other adults. A social skills intervention for Tough children might focus on beliefs about the utility of aggression, the selection of prosocial goals, and the social consequences of using aggression (e.g., being less liked by peers). Second, there is a need to pair interventions that address the individual skills of aggressive youth with interventions that focus on the peer ecology and social dynamics of the classroom (see Farmer, 2000; Rodkin & Hodges, 2003; Smith, Pepler, & Rigby, 2004). Such work should not only focus on the social roles and peer affiliations of aggressive youth, but also on how the social roles of other children in the peer ecology contribute to interactional patterns that help to sustain aggressive and problematic behavior.

Limitations

Although this study provides new perspectives on the peer relationships of aggressive subtypes in early elementary school, four limitations must be considered. First, this investigation focused only on 2nd-grade students. A broader sample that includes kindergarten and 1st-grade students would yield helpful comparisons to further clarify classroom social dynamics and aggression in the early elementary school years. Second, this study examined a single time point. Longitudinal work is needed to investigate patterns of popularity, social prominence, and group membership in relation to subtypes of youth. Such work would clarify not only how the various peer relation constructs are related to each other, but also their relation to behavior development. Third, this research was conducted with a rural, predominantly low-income sample. It is possible that the social dynamics in this setting are not generalizable to metropolitan, urban, and more affluent populations. Fourth, the surveys in this study were group-administered with second graders during the Spring of the school year. It is possible that this format was difficult for these students. However, this did not appear to be the case. Mobile monitoring was provided and students who were identified by teachers as likely to have reading, writing, or spelling difficulties were assessed in small group settings (1–4 students) with individualized support to help them complete the surveys. Overall, the behavior and responses of the 2nd-graders did not appear to differ from that of 3rd-grade participants in similar studies (e.g., Farmer & Rodkin, 1996; Rodkin et al., 2000). Likewise, others have successfully used similar group administration procedures with 2nd-graders (e.g., Gest, Graham-Bermann, & Hartup, 2001).

In conclusion, the current study demonstrates that, as early as 2nd-grade, it is possible to identify subtypes of aggressive children based on different patterns of social relations. For both boys and girls, teacher ratings revealed popular-aggressive and unpopular-aggressive subtypes. Although neither type of aggressive youth were well liked by peers (particularly for boys), the popular-aggressive (i.e., Tough) children were socially prominent and affiliated with peers who were viewed as popular. In contrast, unpopular-aggressive (i.e., Troubled) children were neither socially prominent nor affiliated with popular peers. Although both types of aggressive children had risk factors associated with later disorder, the findings imply

that Troubled and Tough children are involved in quite different risk processes, which may warrant the refinement of interventions focused on aggressive behavior in childhood. The implications of this work need to be examined further in experimental intervention studies that focus on both the broad social dynamics of the classroom and the distinct peer relations that contribute to the adjustment of each of these behavioral configurations.

References

Adler, P.A., & Adler, P. (1995). Dynamics of inclusion and exclusion in preadolescent cliques. *Social Psychology Quarterly*, *58*, 145–162.

Adler, P.A., & Adler, P. (1996). Preadolescent clique stratification and the hierarchy of identity. *Sociological Inquiry*, *66*, 111–142.

Adler, P.A., Kless, S., & Adler, P. (1992). Socialization to gender roles: Popularity among elementary school boys and girls. *Sociology of Education*, *65*, 169–187.

Allen, J.P., Porter, M.R., McFarland, F.C., Marsh, P., & McElhaney, K.B. (2005). The two faces of adolescents' success with peers: Adolescent popularity, social adaptation, and deviant behavior. *Child Development*, *76*, 747–760.

Asher, S.R., & Coie, J. (1990). *Peer rejection in childhood*. New York: Cambridge University Press.

Bagwell, C.L., Coie, J.D., Terry, R.A., & Lochman, J.E. (2000). Peer clique participation and social status in preadolescence. *Merrill-Palmer Quarterly*, *46*, 280–305.

Bergman, L.R., & El-Khouri, B. (1987). EXACON: A Fortran 77 program for the exact analysis of single cells in a contingency table. *Educational and Psychological Measurement*, *47*, 155–161.

Bergman, L.R., & El-Khouri, B.M. (1998). Sleipner: A statistical package for pattern-oriented analyses (Version 2.0) [Computer software]. Department of Psychology, Stockholm University.

Bergman, L.R., Magnusson, D., & El-Khouri, B.M. (2003). *Paths through life*. Vol. 4. *Studying individual development in an interindividual context: A person-oriented approach*. Mahwah, NJ: Erlbaum.

Bierman, K.L., Smoot, D.L., & Aumiller, K. (1993). Characteristics of aggressive-rejected, aggressive (non-rejected), and rejected (non-aggressive) boys. *Child Development*, *64*, 139–151.

Bierman, K.L., & Wargo, J.B. (1995). Predicting the longitudinal course associated with aggressive-rejected, aggressive (non-rejected), and rejected (non-aggressive) status. *Development and Psychopathology*, *7*, 669–682.

Cairns, R.B. (1979). *Social development: The origins and plasticity of interchanges*. San Francisco: W.H. Freeman.

Cairns, R.B., & Cairns, B.D. (1994). *Lifelines and risks: Pathways of youth in our time*. New York: Harvester Wheatsheaf.

Cairns, R.B., Gariépy, J-L., Kindermann, T., & Leung, M-C. (1996). Identifying social clusters in natural settings. Unpublished manuscript, University of North Carolina at Chapel Hill.

Cairns, R.B., Leung, M.C., Buchanan, L., & Cairns, B.D. (1995). Friendships and social networks in childhood and adolescence: Fluidity, reliability, and interrelations. *Child Development*, *66*, 1330–1345.

Cairns, R.B., Leung, M.-C., Gest, S.D., & Cairns, B.D. (1995). A brief method for assessing social development: Structure, reliability, stability, and developmental validity of the Interpersonal Competence Scale. *Behaviour Research and Therapy*, *33*, 725–736.

Cairns, R.B., Perrin, J.E., & Cairns, B.D. (1985). Social structure and social cognition in early adolescence: Affiliative patterns. *Journal of Early Adolescence*, *5*, 339–355.

Cairns, R.B., Xie, H.L., & Leung, M.-C. (1998). The popularity of friendship and the neglect of social networks: Toward a new balance. In W.M. Bukowski & A.H.N. Cillessen (Eds.), *Sociometry then and now: Building on six decades of measuring children's experiences with the peer group. New directions for child development* (Vol. 80, pp. 25–53). San Francisco, CA: Jossey-Bass.

Cillessen, A.H.N., & Mayeux, L. (2004). From censure to reinforcement: Developmental changes in the association between aggression and social status. *Child Development*, *75*, 147–163.

Cillessen, A.H.N., van IJzendoorn, H.W., van Lieshout, C.F.M., & Hartup, W. (1992). Heterogeneity among peer-rejected boys: Subtypes and stabilities. *Child Development*, *63*, 893–905.

Coie, J.D. (1990). Toward a theory of peer rejection. In S.R. Asher & J.D. Coie (Eds.), *Peer rejection in childhood* (pp. 365–402). New York: Cambridge University Press.

Coie, J.D., & Dodge, K.A. (1998). The development of aggression and antisocial behavior. In W.V. Damon (Series Ed.) and N. Eisenberg (Vol. Ed.), *Handbook of child psychology*: Vol. 3. *Social, emotional, and personality development* (5th ed., pp. 779–861). New York: Wiley.

Coie, J.D., Dodge, K.A., & Coppotelli, H. (1982). Dimensions and types of social status: A cross-age perspective. *Developmental Psychology*, *18*, 557–570.

Corsaro, W.A., & Eder, D. (1990). Children's peer cultures. *Annual Review of Sociology*, *16*, 197–220.

Crick, N.R. (1997). Engagement in gender normative versus nonnormative forms of aggression: Links to social-psychological adjustment. *Developmental Psychology*, *33*, 610–617.

de Bruyn, E.H., & Cillessen, A.H.N. (2006). Popularity in early adolescence: Prosocial and antisocial types. *Journal of Adolescent Research*, *21*, 607–627.

Dishion, T.J., French, D.C., & Patterson, G.R. (1995). The development and ecology of antisocial behavior. In D. Cicchetti & D.J. Cohen (Eds.), *Developmental psychopathology*, Vol. 2: *Risk, disorder, and adaptation*. Chichester: John Wiley & Sons.

Eder, D. (1985). The cycle of popularity: Interpersonal relations among female adolescents. *Sociology of Education*, *58*, 154–165.

Eder, D., & Kinney, D.A. (1995). The effect of middle school extracurricular activities on adolescents' popularity and peer status. *Youth & Society*, *26*, 298–324.

Eder, D., & Parker, S. (1987). The cultural production and reproduction of gender: The effect of extracurricular activities on peer-group culture. *Sociology of Education*, *60*, 200–213.

Estell, D.B., Farmer, T.W., & Cairns, B.D. (2007). Bullies and victims in rural African American youth: Individual characteristics and social network placement. *Aggressive Behavior*, *33*, 145–159.

Estell, D.B., Farmer, T.W., Irvin, M.J., Thompson, J.H., Hutchins, B.C., & McDonough, E.M. (2007). Patterns of middle school adjustment and ninth grade adaptation of rural African American youth: Grades and substance use. *Journal of Youth and Adolescence*, *36*, 477–487.

Evans, C., & Eder, D. (1993). "No exit": Processes of social isolation in the middle school. *Journal of Contemporary Ethnography*, *22*, 139–170.

Farmer, T. (2000). The social dynamics of aggressive and disruptive behavior in school: Implications for behavior consultation. *Journal of Educational and Psychological Consultation*, *11*, 299–321.

Farmer, T.W., Estell, D.B., Bishop, J.L., O'Neal, K.K., & Cairns, B.D. (2003). Rejected bullies or popular leaders? The social relations of aggressive subtypes of rural African-American early adolescents. *Developmental Psychology*, *39*, 992–1004.

Farmer, T.W., Estell, D.B., Hall, C.M., Pearl, R., Van Acker, R., & Rodkin, P.C. (2008). Interpersonal competence configurations, behavior problems, and social adjustment in preadolescence. *Journal of Emotional and Behavioral Disorders*, *16*, 195–212.

Farmer, T.W., & Hollowell, J.L. (1994). Social networks in mainstream classrooms: Social affiliations and behavioral characteristics of students with EBD. *Journal of Emotional and Behavioral Disorders*, *2*, 143–155, 163.

Farmer, T.W., Irvin, M.J., Sgammato, A., Dadisman, K., & Thompson, J.H. (in press). Interpersonal competence configurations in rural Appalachian fifth graders: Academic achievement and associated adjustment factors. *Elementary School Journal*.

Farmer, T.W., Leung, M.C., Pearl, R., Rodkin, P.C., Cadwallader, T.W., & Van Acker, R. (2002). Deviant or diverse peer groups? The peer affiliations of aggressive elementary students. *Journal of Educational Psychology*, *94*, 611–620.

Farmer, T.W., & Rodkin, P.C. (1996). Antisocial and prosocial correlates of classroom social positions: The social network centrality perspective. *Social Development*, *5*, 174–188.

Farmer, T.W., Rodkin, P.C., Pearl, R., & Van Acker, R. (1999). Teacher-assessed behavioral configurations, peer-assessments, and self-concepts of elementary students with mild disabilities. *Journal of Special Education*, *33*, 66–80.

Farmer, T.W., & Xie, H.L. (2007). Aggression and school social dynamics: The good, the bad, and the ordinary. *Journal of School Psychology*, *45*, 461–478.

Gest, S.D., Graham-Bermann, S.A., & Hartup, W.W. (2001). Peer experience: Common and unique features of number of friendships, social network centrality, and sociometric status. *Review of Social Development*, *10*, 23–40.

Hawley, P.H. (1999). The ontogenesis of social dominance: A strategy-based evolutionary perspective. *Developmental Review*, *19*, 97–132.

Hawley, P.H. (2003). Strategies of control, aggression, and morality in preschoolers: An evolutionary perspective. *Journal of Experimental Child Psychology*, *85*, 213–235.

Hawley, P.H., Johnson, S.E., Mize, J.A., & McNamara, K.A. (2007). Physical attractiveness in preschoolers: Relationships with power, status, aggression and social skills. *Journal of School Psychology*, *45*, 499–521.

Hawley, P.H., Little, T.D., & Card, N.A. (2007). The allure of a mean friend:

Relationship quality and processes of aggressive adolescents with prosocial skills. *International Journal of Behavioral Development*, *31*, 170–180.

Kinney, D.A. (1993). From nerds to normals: The recovery of identity among adolescents from middle school to high school. *Sociology of Education*, *66*, 21–40.

Ladd, G.W. (1983). Social networks of popular, average, and rejected children in school settings. *Merrill-Palmer Quarterly*, *29*, 283–307.

LaFontana, K.A., & Cillessen, A.H.N. (2002). Children's perceptions of popular and unpopular peers: A multimethod assessment. *Developmental Psychology*, *38*, 635–647.

Lease, A.M., Kennedy, C.A., & Axelrod, J.L. (2002). Children's social construction of popularity. *Social Development*, *11*, 87–109.

Leung, M.C. (1996). Social networks and self-enhancement in Chinese children: A comparison of self-reports and peer reports of group membership. *Social Development*, *6*, 146–157.

Lipsey, M.W., & Derzon, J.H. (1998). Predictors of violent or serious delinquency in adolescence and early adulthood: A synthesis of longitudinal research. In R. Loeber & D.P. Farrington (Eds.), *Serious and violent juvenile offenders: Risk factors and successful interventions* (pp. 86–105). Thousand Oaks, CA: Sage.

Macgowan, M.J., Nash, J.K., & Fraser, M.W. (2002). The Carolina child checklist of risk and protective factors for aggression. *Research on Social Work Practice*, *12*, 253–276.

Mahoney, J.L. (2000). School extracurricular activity participation as a moderator in the development of antisocial patterns. *Child Development*, *71*, 502–516.

Mayeux, L., Sandstrom, M.J., & Cillessen, A.H.N. (2008). Is being popular risky business? *Journal of Research on Adolescence*, *18*, 49–74.

Milligan, G.W. (1981). A Monte Carlo study of thirty internal criterion measures for cluster analysis. *Psychometrika*, *46*, 187–199.

Milligan, G.W., & Cooper, M.C. (1988). A study of standardization of variables in cluster analysis. *Journal of Classification*, *5*, 181–204.

Patterson, G.R. (1982). *Coercive family process*. Eugene, OR: Castalia.

Pellegrini, A.D., Bartini, M., & Brooks, F. (1999). School bullies, victims, and aggressive victims: Factors relating to group affiliation and victimization in early adolescence. *Journal of Educational Psychology*, *91*, 216–224.

Pellegrini, A.D., Roseth, C.J., Milner, S., Bohn, C.M., Van Ryzin, M., Vance, N., Cheatham, C.L., & Tarullo, A. (2007). Social dominance in preschool classrooms. *Journal of Comparative Psychology*, *121*, 54–64.

Reid, J.B., & Eddy, J.M. (1997). The prevention of antisocial behavior: Some considerations in the search for effective interventions. In D.M. Stoff, J. Breiling, & J.D. Maser (Eds.), *The handbook of antisocial behavior* (pp. 343–356). New York: Wiley.

Rodkin, P.C., Farmer, T.W., Pearl, R., & Van Acker, R. (2000). Heterogeneity of popular boys: Antisocial and prosocial configurations. *Developmental Psychology*, *36*, 14–24.

Rodkin, P.C., Farmer, T.W., Pearl, R., & Van Acker, R. (2006). They're cool: Social status and group support for aggressive boys and girls. *Social Development*, *15*, 175–204.

Rodkin, P.C., & Hodges, E.V.E. (2003). Bullies and victims in the peer ecology: Four questions for psychologists and school professionals. *School Psychology Review*, *32*, 384–400.

Rubin, K.H., Bukowski, W.J., & Parker, J.G. (1998). Peer interactions, relationships, and groups. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology* (5th ed., Vol. 3, pp. 619–700). New York: Wiley.

Salmivalli, C., Huttunen, A., & Lagerspetz, K.M.J. (1997). Peer networks and bullying in schools. *Scandinavian Journal of Psychology*, *38*, 305–312.

Salmivalli, C., Lagerspetz, K., Bjorkqvist, K., Osterman, K., & Kaukiainen, A. (1996). Bullying as a group process: Participant roles and their relations to social status within the group. *Aggressive Behavior*, *22*, 1–15.

Sandstrom, M.J., & Cillessen, A.H.N (2006). Likeable versus popular: Distinct implications for adolescent adjustment. *International Journal of Behavioral Development*, *30*, 305–314.

Schwartz, D., Gorman, A.H., Nakamoto, J., & McKay, T. (2006). Popularity, social acceptance, and aggression in adolescent peer groups: Links with academic performance and school attendance, *Developmental Psychology*, *42*, 1116–1127.

Smith, P.K., Pepler, D., & Rigby, K. (Eds.). (2004). *Bullying in schools: How successful can interventions be?* Cambridge: Cambridge University Press.

Strayer, F., & Santos, A.J. (1996). Affiliative structures in preschool peer groups. *Social Development*, *5*, 117–130.

Vaillancourt, T., & Hymel, S. (2006). Aggression and social status: The moderating roles of sex and peer-valued characteristics. *Aggressive Behaviors*, *32*, 396–408.

Veenstra, R., Lindenburg, S., Oldenhinkel, A.J., De Winter, A.F., Verhulst, F.C., & Ormel, J. (2005). Bullying and victimization in elementary schools: A comparison of bullies, victims, and bully/victims, and uninvolved preadolescents. *Developmental Psychology*, *41*, 672–682.

Veenstra, R., Lindenberg, S., Ziilstra, B.J.H., De Winter, A.F., Verhulst, F.C., & Ormel, J. (2007). The dyadic nature of bullying and victimization: Testing a dual-perspective theory. *Child Development*, *78*, 1843–1854.

Ward, J. (1963). Hierarchical grouping to optimize an objective function. *Journal of the American Statistical Association*, *58*, 236–244.

Xie, H., Farmer, T.W., & Cairns, B.D. (2003). Different forms of aggression among inner-city African-American children: Gender, configurations, and school social networks. *Journal of School Psychology*, *41*, 355–375.

Youniss, J. (1980). *Parents and peers in social development: A Sullivan–Piaget perspective*. Chicago: University of Chicago Press.