PROJECT MUSE®

Life After High School: Adjustment of Popular Teens in Emerging Adulthood

Marlene J. Sandstrom
Antonius H. N. Cillessen

Merrill-Palmer Quarterly, Volume 56, Number 4, October 2010, pp.
474-499 (Article)

Published by Wayne State University Press
DOI: 10.1353/mpq.2010.0000

➔ For additional information about this article

<http://muse.jhu.edu/journals/mpq/summary/v056/56.4.sandstrom.html>

Life After High School

Adjustment of Popular Teens in Emerging Adulthood

Marlene J. Sandstrom *Williams College*

Antonius H. N. Cillessen *Radboud University–Nijmegen and
University of Connecticut*

This project examines the adjustment sequelae of perceived popularity beyond high school, and the moderating role of relational aggression (RA) in this process. Yearly sociometric measures of popularity and RA were gathered across grades 9–12 for a sample of 264 adolescents in a lower-middle-class high school. In addition, data on post-high school adjustment were collected from three yearly self-report assessments of depression, psychopathology, workplace victimization, and risk behavior. Results revealed a positive association between popularity in high school and risk behaviors in emerging adulthood, after controlling for prior levels of risk behaviors. In addition, the combination of low popularity and high RA was associated with higher levels of adjustment problems for boys across all adjustment measures, after controlling for prior levels of adjustment. Finally, RA in high school emerged as double-edged sword for girls. For girls, high levels of RA in high school were associated with lower levels of depressive symptoms, but higher levels of workplace victimization in emerging adulthood. Implications and directions for future research are discussed.

Brenda and Eddie were the popular steadies
And the King and the Queen of the prom
Riding around with the car top down and the radio on
....

Marlene J. Sandstrom, Department of Psychology, Williams College; Antonius H. N. Cillessen, Behavioral Science Institute, Radboud University–Nijmegen, and Department of Psychology, University of Connecticut.

This research was supported by a grant from the University of Connecticut Research Foundation to Antonius H. N. Cillessen. The authors are grateful to the children, teachers, and school administrators who participated in this study.

Address correspondence to Marlene J. Sandstrom, Department of Psychology, Williams College, Bronfman Science Center, Williamstown, MA 01267. Phone: (413) 597-3659. E-mail: Marlene.Sandstrom@williams.edu.

Merrill-Palmer Quarterly, October 2010, Vol. 56, No. 4, pp. 474–499. Copyright © 2010 by Wayne State University Press, Detroit, MI 48201.

Brenda and Eddie had had it already by the summer of '75
From the high to the low to the end of the show
For the rest of their lives
Billy Joel, *Scenes From an Italian Restaurant* (1977)

Public opinion is mixed on the question "What happens to the popular crowd after high school?" Many argue for the stability of popularity, claiming that the same set of characteristics that foster and maintain high status in childhood and adolescence (e.g., social skills, charisma, physical attractiveness, and leadership ability) remain central to success in adult life (e.g., see Adler & Adler, 2001; Gest, Sesma, Masten, & Tellegen, 2006). From this vantage point, popular teens are expected to become well-adjusted members of their professions and communities over time. Popular opinion, in contrast, often offers a more pessimistic perspective on the trajectory of popular youth over time. As echoed in the foregoing lyrics, proponents of this view argue that popular teens experience the height of their achievement in adolescence and then quickly sink into obscurity (or worse) as they transition from high school into the "real world." Which portrayal is more accurate? To answer this question, the current article examines the extent to which high school popularity predicts adaptive functioning in emerging adulthood.

In the current study, we extend the existing literature on peer relations and psychosocial adjustment in three important ways. First, we highlight the *popularity* side of the peer acceptance spectrum rather than focusing on peer rejection. A large body of literature documents that children who experience chronic difficulties getting along with classmates during early and middle childhood experience higher levels of maladjustment later in life, including increased risk for conduct problems, delinquency, mental health problems, substance abuse, and poor academic achievement (for extensive reviews, see Parker & Asher, 1987; Parker, Rubin, Price, & DeRosier, 1995). Less is known, however, about the long-term correlates of *positive* peer experiences.

Second, this study emphasizes the consequences of *perceived popularity*, which involves being viewed as socially central, visible, and influential by peers rather than *sociometric popularity*, which involves being seen as likable or friendly by the group (see Parkhurst & Hopmeyer, 1998; Sandstrom & Cillessen, 2006). The social and emotional consequences of likability have been examined extensively and are well documented in literatures on both rejection and social competence. It is clear from both sources that children's ability to relate well to others is associated with psychological and social benefits over time. Far more speculative, however, are the potential payoffs associated with *perceived* popularity. Does a

reputation for popularity, per se, afford unique benefits? Stark differences in the behavioral correlates of sociometric and perceived popularity raise the possibility that these two forms of social adaptation follow distinct adjustment trajectories (Cillessen & Rose, 2005; Parkhurst & Hopmeyer, 1998; Sandstrom & Cillessen, 2006).

Finally, the current study examines the role of relational aggression (RA) as a potential moderator of the popularity-adjustment link. Although perceived popular teens engage in significantly higher levels of RA than their sociometrically popular counterparts (e.g., Sandstrom & Cillessen, 2006), not all perceived popular teens resort to these tactics. In the current study, we hypothesize that the adaptational trajectories of popular teens may be shaped by the extent to which they rely on RA strategies to achieve their social goals.

We were particularly interested in the moderating role of *relational* (as opposed to physical) aggression for two reasons. First, prior research has demonstrated that RA and perceived popularity are intertwined across development, and that they become increasingly associated with each other during the high school years (e.g., Cillessen & Mayeux, 2004). Second, there is considerable evidence to suggest that aggression tends to become more subtle, covert, and subterranean over the course of development: Children tend to show a proportional decrease in physical relative to RA as they transition into middle childhood and early adolescence (Underwood, Galen, & Paquette, 2001). Therefore, we believed that RA would be a particularly potent moderator of popularity during the high school years.

Likability as a Well-Established Predictor

The first evidence that children's likability had far-reaching effects on adjustment emerged early in the history of peer relations research (e.g., Cowen, Pederson, Babigian, Izzo, & Trost, 1973; Roff, Sells, & Golden, 1972). These landmark studies laid the groundwork for a number of carefully designed longitudinal studies, typically tracking children from early childhood until middle childhood or early adolescence. An accumulation of two decades worth of longitudinal data consistently supported the link between peer rejection and adjustment problems across multiple domains of functioning, including academic achievement, criminality, and mental health (for reviews, see Kupersmidt, Coie, & Dodge, 1990; Parker & Asher, 1987; Parker et al., 1995). Although the extent to which peer rejection *caused* subsequent adjustment problems was not entirely clear (the strength of causal evidence varied across individual studies), its role as a reliable marker for poor outcome was unambiguous.

It is only more recently, however, that researchers have begun to assess various aspects of adjustment beyond middle childhood, with an eye toward exploring the long-term impact of peer rejection in late adolescence and emerging adulthood. In the last decade, the extension of follow-forward designs into high school classrooms and beyond has established links between earlier peer rejection and poor academic functioning (Bagwell, Newcomb, & Bukowski, 1998; Woodward & Fergusson, 2000), substance use (Dubow, Boxer, & Huesmann, 2008; Reinherz, Giaconia, Hauf, Wasserman, & Paradis, 2000; Woodward & Fergusson, 1999; Zettergren, Bergman, & Wangby, 2006), and broad indices of psychological distress (Bagwell et al., 1998; Woodward & Fergusson, 1999).

The bulk of these studies conceptualize peer sentiment as a single dimension (i.e., social preference) such that higher scores indicate more likability while lower scores indicate less. As a result, it is not possible to determine whether the association between likability and later adjustment is driven entirely by the negative effects of peer *rejection*, or whether a reputation for being *liked* or *admired* by peers might exert a beneficial effect of its own. In a rare exception to this problem, Zettergren et al. (2006) identified categorical “clusters” of highly liked versus highly disliked girls in middle school and found that girls who were characterized as highly likable achieved a higher career level in adulthood than did their less-well-liked counterparts. However, this higher level of achievement was not accompanied by higher ratings of subjective well-being or job satisfaction (Zettergren et al., 2006).

Moving From Likability to Social Competence

While many researchers have focused on likability as the primary metric of children’s success with peers, others have chosen to conceptualize social competence more globally. By employing broader indicators of “getting along” with peers, these studies address whether the display of prosocial characteristics (as opposed to *being liked* per se) is associated with long-term adjustment. For example, Burt, Obradovic, Long, and Masten (2008) found a significant negative association between social competence in emerging adulthood (as assessed from a composite of self-, peer, parent, and interviewer reports) and internalizing problems 10 years later.

Others have attempted to reconfigure global indices of social competence into more refined subscales in an attempt to tease apart the predictive power of children’s *sociability* (i.e., interest in seeking interpersonal connections) from their display of *prosocial skills* (i.e., the tendency to consider the interests of their social partners). Results of such studies have demonstrated

the unique predictive power of each construct for distinct domains of functioning. For example, high levels of sociability/leadership skills in childhood were associated with greater success in social and romantic domains in late adolescence (Gest et al., 2006), as well as lower levels of internalizing and externalizing problems in late adolescence and adulthood (e.g., Chen et al., 2002; Morison & Masten, 1991). In contrast, children with a high prosocial orientation demonstrated higher educational achievement and job success in adulthood (Chen et al., 2002; Gest et al., 2006).

What About Perceived Popularity?

Taken together, the literature suggests that both likability and sociability in childhood are important bellwethers of future adaptation. However, we know relatively little about the prognostic importance of *perceived popularity* (the reputation for being central, influential, and “cool”) for long-term adjustment. Perceived popularity is a particularly interesting construct to consider as a predictor of later adjustment since both cross-sectional and short-term longitudinal studies demonstrate its association with a mixed constellation of positive and negative traits. For instance, perceived popular teens tend to score highly on measures of friendship and leadership, and low on measures of victimization and internalizing symptoms (Sandstrom & Cillessen, 2006), while also scoring highly on measures of overt and RA, alcohol use, sexual behavior, and externalizing problems (Mayeux, Sandstrom, & Cillessen, 2008). To date, little is known about the relative strengths and liabilities that popular teens carry with them beyond the high school years and as they enter into adulthood.

Indeed, there are strong theoretical reasons to speculate that perceived popularity may predict important outcomes in emerging adulthood. Gest et al. (2006) lay out three compelling arguments. First, it is likely that at least some of the individual difference variables that lead adolescents to achieve high status during the high school years remain stable over time and continue to be viewed positively in adult contexts. Second, adolescents who enjoy a positive peer reputation may use that feedback to shape and strengthen their internal sense of competence, efficacy, and worth, leading them to set ambitious goals and behave in adaptive ways over time. Finally, peer reputations may be associated with differential peer treatment. That is, teens who are admired or viewed as “cool” by their classmates may be afforded certain perks (e.g., invitations to important events, introductions to “connected” people, job offers) or exposed to certain risks (e.g., precocious access to alcohol or sexual activity) that influence their adult lives in powerful ways (Gest et al., 2006).

Hypotheses

In the current study, we collected sociometric measures of perceived popularity and RA from a sample of high school students. Post-high school adjustment was gathered from three yearly self-report assessments in the domains of depression, psychopathology, workplace victimization, and risk behavior. We then examined the impact of high school popularity and RA on subsequent adjustment. Because we were interested in examining the unique effect of *perceived* popularity and RA on subsequent adjustment, we included *sociometric* popularity (or likability) as a covariate in all analyses. Further, we wanted to examine the extent to which popularity and RA in high school were associated with *changes* in adjustment over time. Therefore, we also included earlier measures of adjustment as covariates in all analyses.

Consistent with Gest et al. (2006), we expected significant positive associations between high school popularity and adjustment in emerging adulthood, such that highly popular teens would show lower levels of subsequent depression, psychopathology, and victimization in the workplace. We predicted one important exception to this general pattern: Prior research has demonstrated that popular adolescents are more likely to experiment with substance use and sexual activity during their high school years (Mayeux et al., 2008). Therefore, we expected popularity to be positively associated with engagement in risk behaviors in the 3 years following graduation.

In addition to these global predictions, it is important to consider the behavioral heterogeneity among highly popular teens. Past studies have shown that while some popular adolescents engage in high levels of RA, others do not (e.g., Rose, Swenson, & Waller, 2004; Sandstrom & Cillessen, 2006). Studies that define popularity in a monolithic manner may unintentionally obscure important differences between aggressive and non-aggressive subtypes. In the current study, we speculated that RA may moderate the association between early popularity and later adjustment in two important ways.

First, there is some evidence to suggest that RA may be adaptive in the context of high social status. For example, researchers have identified groups of children, alternatively described as “Machiavellian” (Hawley, 2003) “tough” (Rodkin, Farmer, Pearl, & Van Acker, 2000), or “implicitly powerful” (Vaillancourt & Hymel, 2006), who effectively use a combination of popularity and coercive interpersonal strategies in ways that maximize their resource control and enhance their standing in the group. In a similar vein, prospective studies indicate that higher levels of RA can lead to *increases* in popularity over time, suggesting that certain types of

manipulative or exclusionary social practices may actually pave the way toward attaining and protecting high status during the high school years (Cillessen & Mayeux, 2004; Rose et al., 2004).

These findings suggest that a strategic and controlled use of RA may enable some high status teens to protect their "territory," enhance their reputation, boost their influence, or inflate their self-view in ways that promote their own interests. Indeed, a growing literature on the association between aggression and self-concept suggests that children who engage in coercive behaviors often exaggerate their interpersonal strengths while underestimating their deficits (e.g., David & Kistner, 2000; Edens, Cavell, & Hughes, 1999; Sandstrom & Herlan, 2007; Zakriski & Coie, 1996). Given this pattern of results, we predicted that RA would *augment* the protective impact of popularity on subsequent adjustment, such that teens who exhibited a combination of popularity *and* RA in high school would show the lowest levels of depression, psychopathology, and workplace victimization in emerging adulthood.

At the same time that RA might promote an idealized view of self among popular teens (leading to decreased internalizing problems), there is reason to suspect that it could *increase* the likelihood that popular teens will engage in risk behaviors (such as substance use and promiscuous sexual behavior). This prediction is based on prior research demonstrating that RA behavior has been associated with increases in other forms of externalizing problems, such as delinquency (e.g., Crick, Ostrov, & Werner, 2006). Therefore, we expected RA to intensify the positive association between popularity and risk behaviors (with highly aggressive-popular teens showing the highest levels of these behaviors in emerging adulthood).

We also recognized the possibility that the moderating effect of RA on subsequent adjustment might differ for boys and girls. Therefore, gender and all possible gender interactions were included in the analyses.

Method

Participants and Procedure

Participants were 264 adolescents in a lower-middle-class high school in urban New England (55% girls; 67% White, 14% African American, 17% Latino American). Measures of perceived popularity, RA, and four domains of adjustment (depression, psychopathology, victimization, and risk behavior) were gathered in high school in grades 9–12. Post-high school adjustment in the same four domains was assessed from yearly self-reports after graduation. Participants were part of a larger longitudinal study on the

social and academic development of children and youth. The current study focused on data collected across the four high school years from Grade 9 to Grade 12 and during 3 years after high school.

High School Sociometric Measures

Grade sizes were 586 students in Grade 9 (52% girls), 551 in Grade 10 (52% girls), 524 in Grade 11 (52% girls), and 480 in Grade 12 (54% girls). These were the students for whom sociometric data were collected in each grade (i.e., *votees*). A core group of 358 students were consistent *votees* across all 4 years. The number of students who participated as *voters* in the sociometric assessment was 443 in Grade 9 (76%), 405 in Grade 10 (74%), 371 in Grade 11 (71%), and 312 in Grade 12 (65%). Parental consent was obtained for all participants prior to testing; verbal assent was also obtained from the participants themselves. The ethnic composition of the combined sample across the 4 years was 61.67% White, 21.38% African American, 13.14% Latino American, 3.69% Asian American, and .12% of other ethnic origin. The school district in which the data were collected serves primarily lower-class and lower-middle-class families. Sociometric testing was conducted in the spring of each school year. Students were tested in their English classrooms in 90-minute testing sessions.

Before testing began in each classroom, confidentiality procedures were explained to the participants. To facilitate the sociometric assessment, a roster was created of all students in the grade. To make the rosters easy to use, students were alphabetized by first name preceded by a unique code number. Participants were provided with a booklet in which to record their nominations. Each page of the booklet contained one behavioral question, followed by enough space for up to 10 nominations. Participants were asked to read each question, think about the members of their grade who best fit that description, find the names of those students on the roster, and record the appropriate code numbers in the booklet. Participants were instructed that they could provide unlimited same-sex or cross-sex nominations for each question, but that they should not nominate themselves.

In each year, the sociometric instrument included five items measuring perceived popularity, sociometric popularity, and RA. Perceived popularity was measured by peer nominations for “most popular” and “least popular,” sociometric popularity by nominations for “liked most” and “liked least,” and RA by peer nominations for “ignores others when mad at them.” For each of these five questions, nominations received were counted and standardized to *z*-scores within the grade of each year. A final score for *perceived popularity* was computed by taking

the difference between the standardized numbers of “most popular” and “least popular” nominations received, and standardizing the resulting difference score within grade. A final score for *sociometric popularity* was computed by taking the difference between the standardized numbers of “liked most” and “liked least” nominations received, and again standardizing the resulting difference score within grade. The final score for RA was the number of nominations received for this item, standardized within grade. These measures have been successfully used in previous studies (e.g., Cillessen & Mayeux, 2004; Mayeux & Cillessen, 2008; Sandstrom & Cillessen, 2006).

The correlations among the four yearly scores ranged from .71 to .91 ($\alpha = .95$) for perceived popularity, from .44 to .70 ($\alpha = .85$) for sociometric popularity, and from .52 to .72 ($\alpha = .88$) for RA. High school composite scores for sociometric and perceived popularity and RA were computed as the average of the four yearly scores for each construct. This was justified by the high stability correlations across the 4 high school years and the high internal consistency reliability coefficients for each set of four scores. The correlations between the high school composites were .27 between sociometric popularity and perceived popularity, $-.40$ between sociometric popularity and RA, and .34 between perceived popularity and RA (all $ps < .01$).

High School Adjustment Measures

Depression. In each of the high school grades 9–12, adolescents completed a 12-item¹ short version (or short form) of the Beck Depression Inventory (BDI-SF; Beck & Beck, 1972) designed to measure symptoms and attitudes associated with depression. Correlations between the BDI and BDI-SF have ranged from .89 to .97, indicating that the short form is an acceptable substitute (Beck, Rial, & Rickels, 1974). The four yearly scores were averaged to one high school depression composite. The correlations among the four yearly scores ranged from .34 to .52. Cronbach's α across the four yearly scores was .74.

Psychopathology. In each high school grade, internalizing and externalizing behavior problems were measured with 84 items from the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983). The scores on these items were averaged to create a general psychopathology score for each grade. The four yearly psychopathology scores were then averaged to one overall high school psychopathology score. The correlations among

¹ We omitted 1 item (related to suicidal ideation) from the original 13-item measure.

the four yearly scores ranged from .47 to .61. Cronbach's α across the four scores was .82.

Victimization. In each year, the sociometric instrument also included an item measuring peer victimization ("who gets picked on by others"). As was the case for the other sociometric items, nominations received were counted and standardized within each grade. The four yearly scores were averaged to one high school victimization composite. The correlations among the four yearly scores ranged from .79 to .96. Cronbach's α across the four yearly scores was .96.

Risk behavior. Participants completed the Youth Risk Behavior Survey (YRBS; Centers for Disease Control and Prevention, 2000) in grades 10–12. The YRBS is a 23-item questionnaire designed to assess adolescent and young adult behaviors that affect health. Participants indicate the frequency and/or intensity of their engagement in 23 risk behaviors regarding alcohol (4 items), drugs (10 items), tobacco (4 items), sexual behavior (3 items), and weapons (2 items). A total risk score was computed for each grade by summing the 23 risk items. A high school risk composite was computed as the average of the three yearly risk totals. The correlations among the yearly scores ranged from .54 to .84. Cronbach's α across the three scores was .87.

Post-High School Adjustment Measures

Participants were contacted again in the early spring of each year after graduation from high school for 3 years (when they were 19, 20, and 21 years old, respectively) with the request to complete a follow-up survey via the mail. The number of students who had been participants in high school that completed the post-high school measures were 217 in Follow-up Year 1 (age 19), 172 in Follow-up Year 2 (age 20), and 127 in Follow-up Year 3 (age 21). The survey addressed a wide variety of constructs regarding participants' social, work, and school lives after high school. Embedded in the larger survey were measures of depression, psychopathology, victimization, and risk behaviors.

Depression. To assess symptoms of depression, the same short version of the Beck Depression Inventory was used as in high school. The three yearly scores were averaged to create one post-high school depression composite. The correlations among the three yearly scores ranged from .61 to .65. Cronbach's α across the three scores was .83.

General psychopathology. To assess general psychopathology in emerging adulthood, we used the Global Severity Index of the Brief Symptom Inventory (BSI; Derogatis, 1975). The BSI is designed to identify

self-reported clinically relevant psychological symptoms in adolescents and adults. The Global Severity Index summarizes nine broad symptom dimensions: somatization, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The BSI has strong psychometric qualities and is widely used to assess global symptoms of psychopathology (e.g., Derogatis, 1993). The three yearly BSI scores were averaged to one post-high school psychopathology composite. The correlations among the three yearly scores ranged from .62 to .70. Cronbach's α across the three scores was .85.

Workplace victimization. Workplace victimization was assessed with the General Workplace Incivility Scale (Cortina, Magley, Hunter Williams, & Langhout, 2001). This scale includes 12 items that ask participants to indicate how often over the past year (0 = never, 4 = many times) they were in a situation in which they were treated by supervisors or coworkers in any of the following ways: doubted, made fun of, interrupted, overruled, insulted, treated disrespectfully, accused of incompetence, treated with hostility or anger, addressed unprofessionally, or rated lower than deserved. The three yearly workplace victimization scores were averaged to one post-high school victimization composite. The correlations among the three yearly scores ranged from .40 to .61. Cronbach's α across the three scores was .74.

Risk behaviors. Engagement in risk behaviors was assessed with the same YRBS used in high school. A total risk score was again determined for each year. A post-high school composite was computed as the average of the three yearly totals. The correlations among the yearly scores ranged from .86 to .91. Cronbach's α was .96.

Results

Attrition Analyses

First, analyses of variance (ANOVAs) were run comparing the high school composite scores of adolescents who continued in the longitudinal study after high school (*post* participants) versus adolescents who did not participate in the post-high school assessments (*nonpost* participants). There were no significant differences between those two groups in terms of the high school composites for preference, popularity, RA, victimization, depression, internalizing, general psychopathology, or risk behaviors. Thus, participants in the post assessments were mostly representative of the larger high school student body because they did not differ from nonpost participants on any of these variables. On only two variables, post and nonpost

Table 1. Correlations Among High School Predictors and Post-High School Adjustment by Gender

	1	2	3	4	5	6
1. Perceived popularity		.14	-.20	-.27**	.14	-.20*
2. Relational aggression	.50**		.00	-.04	.28**	-.02
3. Victimization	-.06	.16*		.40**	.21*	.56**
4. Depression	-.09	-.08	.45**		.10	.80**
5. Risk behavior	.26**	.24**	.08	.09		.23*
6. General psychopathology	-.09	-.05	.49**	.87**	.13	

Note. Girls below the diagonal, boys above the diagonal.

* $p < .05$. ** $p < .01$.

participants did differ from one another: gender and externalizing. Girls were more likely to continue in the study after high school than boys: The proportion of girls was 65% for post participants and 42% for nonpost participants. In addition, post participants scored lower ($M = 12.22$, $SD = 6.76$) on externalizing than did nonpost participants ($M = 13.71$, $SD = 7.08$), $F(1, 429) = 4.84$, $p < .028$. The size of this effect was small (Cohen's $d = .22$). Moreover, the difference in externalizing between post and nonpost participants disappeared when gender was controlled.

Preliminary Analyses

Next, correlations among all study variables were computed. These are shown in Table 1. Because we were interested in gender differences, they were examined for boys and girls separately. As can be seen, popularity was positively associated with RA for girls but not for boys. While popularity was negatively associated with symptoms of depression and general psychopathology for boys, these associations were not significant for girls. RA was positively associated with risk behavior for both genders, whereas popularity was positively associated with risk behavior for girls only. Victimization at work was positively associated with depression and general psychopathology for both genders.

Regression Analyses

To examine the associations between popularity and RA in high school and post-high school adjustment, and the moderating role of gender in these associations, a hierarchical regression analysis was run for each of the four

outcome measures: depressive symptoms, psychopathology symptoms, workplace victimization, and risk behaviors. Both sociometric popularity and prior level adjustment were entered as covariates (in Steps 1 and 2, respectively). Perceived popularity, RA, and gender were entered in Step 3, all two-way interactions between these three predictors in Step 4, and the three-way interaction in Step 5. The results of these regressions are listed in Table 2. Post hoc probing of significant interactions followed the procedures described by Aiken and West (1991) by plotting the associations between popularity and adjustment at high ($M + 1 SD$), medium (M), and low ($M - 1 SD$) levels of RA (see Figures 1–4).

Depression. There was no significant effect at Step 1, $F(1, 249) = .98$, *ns*. There was a significant effect at Step 2, $F_{\text{change}}(1, 248) = 78.11$, $p < .001$, $\Delta R^2 = .24$, due to a strong positive association between depression in high school and depression in emerging adulthood, $\beta = .49$, $t = 8.84$, $p < .001$. There was no significant effect at Step 3, $F_{\text{change}}(3, 245) = 1.84$, *ns*, or at Step 4, $F_{\text{change}}(3, 242) = 1.28$, *ns*. There was, however, a marginally significant effect at Step 5, $F_{\text{change}}(1, 241) = 2.94$, $p = .088$, $\Delta R^2 = .01$, $f^2 = .03$.² As shown in Figure 1, there was a significant negative association between high school popularity and later depression (after controlling for prior levels of depression) for boys who were high in RA, $\beta = -.31$, $t = -2.64$, $p < .01$. There was no significant association between high school popularity and depression for boys low in RA, $\beta = .007$, $t = .07$, *ns*, girls low in RA, $\beta = -.003$, $t = -.02$, *ns*, or girls high in RA, $\beta = .05$, $t = .40$, *ns*.

Psychopathology. There was no significant effect at Step 1, $F(1, 249) = 1.90$, *ns*. There was a significant effect at Step 2, $F_{\text{change}}(1, 248) = 62.68$, $p < .001$, $\Delta R^2 = .20$, due to a strong positive association between symptoms of psychopathology in high school and emerging adulthood, $\beta = .46$, $t = 7.92$, $p < .001$. There was no significant effect at Step 3, $F_{\text{change}}(3, 245) = .66$, *ns*, or at Step 4, $F_{\text{change}}(3, 242) = .46$, *ns*. Step 5, however, was significant, $F_{\text{change}}(1, 241) = 5.03$, $p < .05$, $\Delta R^2 = .02$, $f^2 = .02$ (see Figure 2). Again, there was a significant negative association between high school popularity and later psychopathology (after controlling for prior levels of psychopathology) for boys who were high in RA, $\beta = -.32$, $t = -2.64$, $p < .01$. Conversely, there was no significant association between popularity and later psychopathology for boys who were low in RA, $\beta = .10$, $t = .82$,

² According to Cohen (1988), the effect of additional variables, after controlling for others, is best determined by computing the incremental proportion of variance explained by the additional variables relative to the remaining variance. Cohen argued that the resulting statistic (f^2) represents the effect size and should be considered small at .02, moderate at .15, and large at .35.

Table 2. Regression Results Predicting Post-High School Adjustment From High School Popularity and Relational Aggression (RA)

	Victimization		Depression		Psychopathology		Risk behavior	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.04		.004		.008		.014	
Sociometric pop.		-.19**		-.06		-.09		-.12
Step 2	.01		.24		.20		.42	
Prior adjustment		.09		.49**		.46**		.65**
Step 3	.01		.017		.006		.02	
Popularity		-.15		-.11		-.08		.10
RA		-.07		-.03		-.01		.02
Gender		.12		.06		.01		-.10*
Step 4	.02		.012		.004		.03	
Pop. x RA		-.17*		-.04		-.034		-.19**
RA x Gender		.11		-.08		-.03		-.05
Pop. x Gender		.02		.13		.09		.19**
Step 5	.03		.01		.016		.01	
Pop. x RA x Gender		.35**		.18†		.25*		.19*
Total	.11		.28		.23		.49	

Note. Gender dummy coded (girls = 1; boys = 0). Pop. = population.

* $p < .05$. ** $p < .01$. † $p < .09$.

Figure 1. Relational aggression (RA) moderates the association between high school popularity and later symptoms of depression.

ns, girls who were low in RA, $\beta = -.07$, $t = -.37$, *ns*, or girls who were high in RA, $\beta = .02$, $t = .16$, *ns*.

Workplace victimization. There was a significant effect at Step 1, $F(1, 254) = 9.24$, $p < .01$, $\Delta R^2 = .04$, because of a negative association between sociometric popularity in high school and workplace victimization in emerging adulthood, $\beta = -.19$, $t = -3.04$, $p < .01$. There were no significant effects at Step 2, $F_{\text{change}}(1, 253) = 1.76$, *ns*, at Step 3, $F_{\text{change}}(3, 250) = 1.01$,

Figure 2. Relational aggression (RA) moderates the association between high school popularity and later symptoms of psychopathology.

Figure 3. Relational aggression (RA) moderates the association between high school popularity and later victimization in the workplace.

ns, or at Step 4, $F_{\text{change}}(3, 247) = 1.93, ns$. Step 5, however, was significant, $F_{\text{change}}(1, 246) = 9.01, p < .01, \Delta R^2 = .03, f^2 = .04$. As shown in Figure 3, there was a significant negative association between high school popularity and later workplace victimization (after controlling for prior levels of victimization) for boys who were high in RA, $\beta = -.40, t = -2.56, p < .05$, and a trend toward a positive association for boys who were low in RA, $\beta = .29, t = 1.71, p = .089$. There was no significant association between high

Figure 4. Relational aggression (RA) moderates the association between high school popularity and later risk behavior.

school popularity and later workplace victimization for girls, either high in RA, $\beta = -.13$, $t = -.89$, *ns*, or low in RA, $\beta = -.15$, $t = -.79$, *ns*.

Risk behavior. There was no significant effect at Step 1, $F(1, 240) = 3.42$, *ns*. There was a significant effect at Step 2, $F_{\text{change}}(1, 239) = 175.89$, $p < .001$, $\Delta R^2 = .42$, because of a strong positive association between risk behavior in high school and risk behavior in emerging adulthood, $\beta = .65$, $t = 13.26$, $p < .001$. There was a significant effect at Step 3, $F_{\text{change}}(3, 236) = 2.72$, $p < .05$, $\Delta R^2 = .02$. This was driven by the fact that boys engaged in more risk behavior than were girls, $\beta = -.10$, $t = -2.11$, $p < .05$. There was also a significant effect at Step 4, $F_{\text{change}}(3, 233) = 3.77$, $p < .05$, $\Delta R^2 = .03$, caused by significant two-way interactions of popularity with gender and RA. These were further qualified by the significant three-way interaction at Step 5, $F_{\text{change}}(1, 232) = 4.66$, $p < .05$, $\Delta R^2 = .01$, $f^2 = .02$. As shown in Figure 4, the association between high school popularity and later risk behavior was not significant for boys who were high in RA (after controlling for prior levels of risk behavior), $\beta = -.13$, $t = -1.32$, *ns*. However, there were positive associations between popularity and later risk for boys low in RA, $\beta = .33$, $t = 3.347$, $p < .01$, girls high in RA, $\beta = .34$, $t = 3.07$, $p < .01$, and girls low in RA, $\beta = .40$, $t = 2.64$, $p < .01$.

Discussion

Perceived popularity has received heightened attention over the past decade as researchers have begun to identify correlates and short-term consequences that set it apart from sociometric popularity, or *likability* (Mayeux et al., 2008; Parkhurst & Hopmeyer, 1998; Sandstrom & Cillessen, 2006). Because perceived popularity was not routinely included in sociometric batteries until the late 1990s, the bulk of longitudinal studies tracking the predictive power of peer relations prior to that time focused almost exclusively on likability. It is only now that second-generation studies including perceived popularity as a primary predictor of subsequent adjustment have begun to bear long-awaited fruit. Many of the child participants from these studies are currently adults, which enables us to track the extent to which perceived popularity in high school predicts adjustment in the years following graduation. This is one such study.

We were particularly interested in examining the unique and joint roles of perceived popularity and RA in predicting adjustment in the 3 years following graduation from high school. We predicted that perceived popularity would be associated with lower levels of depression, psychopathology, and workplace victimization, and with higher levels of risk behaviors in emerging adulthood. We also predicted that the popularity-adjustment link

would be moderated by RA, with stronger associations for those popular adolescents who exhibited high levels of RA throughout high school. We pitted these predictions against a rigorous test; both sociometric popularity and prior levels of adjustment in high school were treated as covariates so that we could explore the relatively “pure” effects of perceived popularity on *changes* in adjustment over time.

Our results can be distilled into three broad take-home messages. First, perceived popularity in high school was associated with higher levels of risk behaviors in emerging adulthood for all adolescents (except highly RA boys, who appeared to engage in relatively high levels of risk behavior regardless of their level of popularity). This finding extends previous research demonstrating that perceived popularity in the sophomore year of high school predicted increased alcohol use and sexual activity by senior year for both boys and girls (Mayeux et al., 2008). Our current data suggest that popular teens’ tendency toward engaging in at-risk behavior continues for several years *after* graduation. Of course, the specific role that popularity plays in the unfolding of risk behaviors remains speculative. From a causal perspective, popularity might afford particular teens with the connections and venues that engender risky behavior. Alternatively, popularity may be a marker for other variables, such as affluence and permissive parenting, which pose a direct risk (Eder, 1985; Luthar, 2003). In any case, the prospective association demonstrated here suggests that the risk behaviors of popular teens are not restricted to an experimental phase in high school.

Moffitt’s (1993) theory on the development of antisocial behavior suggests that many normally developing teens engage in antisocial behavior during adolescence as a means of achieving a sense of agency in settings over which they exert little control. As they enter adulthood and gain access to more grown-up roles (e.g., employment, independent living), however, antisocial behaviors lose their meaning as markers of autonomy and are dropped from their behavioral repertoires. Our data suggest that antisocial behaviors may not be so readily stripped from the repertoires of highly popular teens. Over a 3-year period after graduation from high school, their antisocial behavior remained elevated. Demographic data indicate that, in the first year after high school, approximately one third of the participants were full-time college students. The cloistered and protected nature of college life might have allowed the popular teens to continue to rely on antisocial behavior as a marker for autonomy. The bulk of our participants, however, were not full-time students at follow-up. We speculate that the popular teens among them may have found that early experimentation with antisocial behavior led to “snares” (e.g., addiction, association with deviant peers) that became increasingly difficult to escape. Thus, even after

the need for a marker of autonomy had passed, such individuals may have found themselves unable to shed their antisocial behaviors (e.g., Odgers et al., 2008; Roisman, Aguilar, & Egeland, 2004). An extension of the current study, in which the teens' lives are followed for 10 or 20 years after high school, could further clarify these potential explanations.

A second broad message to be gleaned from the current study is that the combined impact of perceived popularity and RA in high school appears to be adaptive across multiple domains of functioning in emerging adulthood but only for adolescent males. Popular and RA boys exhibited markedly few symptoms of depression and psychopathology in the 3 years following graduation from high school. Further, popularity was negatively associated with the subsequent experience of workplace victimization among RA boys. Interestingly, these protective effects did not emerge among girls, or among boys who exhibited low levels of RA.

We speculate that popular and RA boys represent the "alpha" members of the group, which allows them to reap several benefits that may come along with being highly visible, respected, and perhaps even feared by their peers. First, these teens may incorporate the admiration offered by their peers into their own developing self-views (e.g., Cooley, 1902), leading to greater confidence, self-efficacy, and agentic behavior over time. These strengths, in turn, may manifest themselves in lower rates of victimization and psychological problems. In this manner, popularity may play a *causal* role in the emergence of positive outcome among RA boys.

At the same time, certain intrapersonal characteristics that contribute to these teens' initial popularity with peers (e.g., high levels of affability, cheerfulness, assertiveness, dominance, and/or low levels of rumination, neuroticism, anxiety) may provide a natural buffer against victimization and internalizing problems over time (Adler & Adler, 2001; Gest et al., 2006). In this scenario, popularity may act as a *marker*, rather than a cause, of later adjustment. It is also possible that the low levels of adjustment difficulties experienced by popular and RA boys are partially explained by other constructs, such as temperament, parenting strategies, or emotion processing capabilities. Future research will be required to tease apart these competing explanations.

It is important to consider why the adaptive impact of popularity and RA appears limited to adolescent males. Why does popularity fail to afford girls with similar levels of protection from subsequent adjustment problems? One explanation may have to do with important gender-based differences in motivational strivings and cultural expectations during this developmental period. Boys tend to interact in structured activities and in larger groups, and to emphasize the importance of autonomy and power in

their interpersonal strategies, whereas girls typically relate to one another in smaller groups, and to place a larger premium on their ability to create communion and intimacy (Maccoby, 1990). This key difference in interpersonal goals between boys and girls may have important implications for *how* status affects subsequent adjustment. Perceived popularity may be a particularly powerful predictor of positive adjustment for boys (because it feeds into a fundamental need for power, prestige, and visibility), while sociometric popularity may be a more salient predictor for girls (because it feeds into a need for intimacy, connection, and a sense of belonging).

Another explanation for the differentially protective effect of popularity on subsequent adjustment among RA boys may have something to do with gender differences in the form and function of RA during late adolescence. In keeping with the large size of their social groups, boys may employ RA primarily in the form of public jokes and put-downs. This *overt* form of RA may tend to be more proactive than reactive, and more controlled than dysregulated. As a result, it may elicit respect and admiration rather than outrage, hurt, or disgust. Girls' use of RA during this developmental period, in contrast, might look quite different. Consistent with their tendency to interact in smaller groups and with greater intimacy (Maccoby, 1990), girls may enact RA in more covert and reactive forms, such as sharing secrets without permission, gossiping, or excluding a partner. Such behaviors, which violate basic assumptions of trust and loyalty, are likely to be viewed negatively by other girls. Indeed, girls may be more likely than boys to use RA in the context of close friendships (Crick & Nelson, 2002), thus jeopardizing the likelihood that their friendships will endure to provide support during times of stress.

Further, popular girls may be particularly likely to use RA as a strategy for maintaining their status. Popularity, by definition, is a limited commodity; its distinctiveness rests on the assumption that it can be acquired only by an elite group. Popular girls may rely on gossip, exclusion, or other forms of relational warfare to defend their popular status against other girls who seek to usurp their position in the dominance hierarchy. Indeed, there is longitudinal evidence in support of the argument that the use of RA *enables* popularity for girls, but not boys, during the high school years (Cillessen & Mayeux, 2004; Rose et al., 2004). Thus, high levels of RA among popular girls might indicate perceived threat to their social standing or a heightened experience of interpersonal stress.

Such differences could help to explain why the manifestation of popularity in the context of RA is adaptive for teenage boys (predicting less victimization and mental health problems over time) but problematic for teenage girls (predicting more victimization and mental health symptoms).

If, on the one hand, the use of RA expresses a talent for clever repartee or a desire for attention among popular boys, it is likely to be associated with positive outcomes over time. If, on the other hand, it represents deeply felt anger or insecurity among popular girls, then the risk for subsequent adjustment problems is more likely. Further research on potential gender differences in the forms and functions of RA in late adolescence, particularly among popular teens, will be necessary to test the viability of this premise.

The third broad take-home message from the current study has to do with the double-edged impact of RA on subsequent adjustment for adolescent females. Our results suggest that high levels of RA in high school are associated with *lower* levels of depressive symptoms but *higher* levels of workplace victimization over time, particularly for girls who are low in perceived popularity. The fact that RA girls may experience few depressive symptoms over time is consistent with a large body of literature documenting a tendency for aggressive individuals to overestimate their competencies, skills, and interpersonal effectiveness, while underestimating their deficits and interpersonal flaws (e.g., Edens et al., 1999; Zakriski & Coie, 1996). This bias, in which negative feedback is either ignored, deflected, or distorted, is likely to provide protection from internalizing problems. At the same time, however, minimization of subjective distress may come at a cost: Failure to pick up on cues of peer disapproval may simultaneously put teens at risk for later victimization in the workplace if they continue to behave in ways that anger and provoke their peers. Because this interpretation of the data is based on nonsignificant findings, further research will be necessary to confirm a dual impact of RA on subsequent adjustment among girls.

Limitations

The current study offers many assets, including the inclusion of peer nomination data, the extension of data collection beyond the high school years, use of an ethnically diverse sample, and the inclusion of prior levels of adjustment problems as covariates in all analyses. In sum, it extends our existing knowledge base on the consequences of adolescent popularity in important ways. These strengths notwithstanding, several limitations should be acknowledged.

Although our data are longitudinal and control for prior levels of adjustment, causal interpretations of the relation between early popularity and later adjustment remain speculative. For example, factors that were not addressed in the current study (e.g., temperament or quality of parenting) might be more parsimonious predictors of the outcomes we describe.

Future studies will need to include a broader array of potential predictors in order to tease out the most important casual mechanisms underlying the popularity-adjustment link.

One variable that might be particularly important to examine in conjunction with perceived popularity is friendship. Prior research has demonstrated that teens' ability to develop and maintain dyadic friendships predicts certain aspects of adult adjustment, uniquely from the effects of general peer acceptance (Bagwell et al., 1998). To date, however, no research has examined the overlap between perceived popularity and friendship, or the extent to which each factor uniquely predicts adjustment in emerging adulthood.

It is important to note that our measure of RA in high school was based on a single peer nomination item (because of time constraints placed upon us by the participating school district) and did not include several important facets of the construct, such as a tendency to gossip or to manipulate one peer's relationship with others. Therefore, it will be important to replicate and extend the current findings by using a broader measure of RA. In addition, it should be noted that the effect sizes for the associations we describe among popularity, RA, and adjustment were modest in magnitude. We believe that these effects are important, nonetheless, given that they remain significant after controlling for sociometric popularity and for the stability of adjustment itself. Even so, further confidence in the relationships described here will have to await future replications.

It is also important to note that there was some selective attrition in this study, as is the case in any longitudinal study on social development. Despite the loss of participants over the 7 years of data collection, however, the attrition analyses indicated that the participants in the post assessments were largely representative of the larger high school student body. The primary difference between those who remained in the sample and those who dropped out was gender, as women were more likely to remain involved in the study than men.

Finally, it is important to acknowledge that our adjustment measures were limited in scope. Although depression, psychopathology, workplace victimization, and risk behavior represent four important domains of functioning in emerging adulthood, other important domains come to mind. For instance, popularity in high school might be associated with young people's ability to foster and maintain satisfying relationships (both romantic and platonic) in adulthood or with the parenting strategies they choose to employ with their own children. Future research should examine a broader array of adjustment variables in order to create a more comprehensive picture of the long-term consequences of popularity in high school.

Given all of these untapped issues, we hope that researchers who are interested in popularity will continue to track their longitudinal cohorts across development, so that we can learn more about the long-term impact of high status over time. At the cusp of adulthood, popular teens appear to bring a combination of strengths and liabilities with them. The extent to which popularity shapes their ability to make meaningful contributions to their marriages, occupations, and communities in the long term, however, remains to be seen. Research that clarifies and extends the developmental trajectory of popularity is needed, not only to strengthen our theoretical models of popularity but also to guide our efforts to provide all children with the experiences and skills they need to become productive and well-adjusted adults.

References

- Achenbach, T. M., & Edelbrock, C. (1983). The classification of child psychopathology: A review and analysis of empirical efforts. *Psychological Bulletin*, 58, 1275–1301.
- Adler, P. A., & Adler P. (2001). *Peer power: Preadolescent culture and identity*. New Brunswick, NJ: Rutgers University Press.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Bagwell, C. L., Newcomb, A. F., & Bukowski, W. M. (1998). Preadolescent friendship and peer rejection as predictors of adult adjustment. *Child Development*, 69, 140–153.
- Beck, A. T., & Beck, R. W. (1972). Screening depressed patients in family practice: A rapid technology. *Postgraduate Medicine*, 6, 81–85.
- Beck, A., Rial, W., & Rickels, K. (1974). Short form of Depression Inventory: Cross-validation. *Psychological Reports*, 34, 1184–1186.
- Burt, K. B., Obradovic, J., Long, J. D., & Masten, A. S. (2008). The interplay of social competence and psychopathology over 20 years: Testing transactional and cascade models. *Child Development*, 79, 359–374.
- Centers for Disease Control and Prevention (2000). Youth Risk Behavior Surveillance—United States, 1999. In: *CDC Surveillance Summaries*, June 9, 2000. *MMWR* 49 (No. SS-5).
- Chen, X., Liu, M., Rubin, K. H., Chen, G., Gao, X., & Li, D. (2002). Sociability and prosocial orientation as predictors of youth adjustment: A seven-year longitudinal study in a Chinese sample. *International Journal of Behavioral Development*, 26, 128–136.
- 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., & Rose, A. J. (2005). Understanding popularity in the peer system. *Current Directions in Psychological Science*, 14, 102–105.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.
- Cooley, C. H. (1902). *Human nature and the social order*. New York: Scribner.
- Cortina, L. M., Magley, V. J., Hunter Williams, J., & Langhout, R. D. (2001). Incivility in the workplace: Incidence and impact. *Journal of Occupational Health Psychology*, 6, 64–80.
- Cowen, E. L., Pederson, A., Babigian, H., Izzo, L. D., & Trost, M. A. (1973). Long-term follow-up of early detected vulnerable children. *Journal of Consulting and Clinical Psychology*, 41, 438–446.
- Crick, N. R., & Nelson, D. A. (2002). Relational and physical victimization within friendships: Nobody told me there'd be friends like these. *Journal of Abnormal Child Psychology*, 30, 599–607.
- Crick, N. R., Ostrov, J. M., & Werner, N. E. (2006). A longitudinal study of relational aggression, physical aggression, and children's social-psychological adjustment. *Journal of Abnormal Child Psychology*, 34, 131–142.
- David, C. F., & Kistner, J. A. (2000). Do positive self-perceptions have a "dark side"? Examination of the link between perceptual bias and aggression. *Journal of Abnormal Child Psychology*, 28, 327–337.
- Derogatis, L. R. (1975). *Brief Symptom Inventory*. Baltimore, MD: Clinical Psychometric Research.
- Derogatis, L. R. (1993). *Brief Symptom Inventory. Administration, scoring, and procedures manual* (4th ed.). Minneapolis, MN: National Computer Systems.
- Dubow, E. F., Boxer, P., & Huesmann, L. R. (2008). Childhood and adolescent predictors of early and middle adulthood alcohol use and problem drinking: The Columbia County Longitudinal Study. *Addiction*, 103, 36–47.
- Edens, J. F., Cavell, T. A., & Hughes, J. N. (1999). The self-systems of aggressive children: A cluster-analytic investigation. *Journal of Child Psychology and Psychiatry*, 40, 441–453.
- Eder, D. (1985). The cycle of popularity: Interpersonal relations among female adolescents. *Sociology of Education*, 58, 154–165.
- Gest, S. D., Sesma, A., Masten, A. S., & Tellegen, A. (2006). Childhood peer reputation as a predictor of competence and symptoms 10 years later. *Journal of Abnormal Child Psychology*, 34, 509–526.
- Hawley, P. (2003). Prosocial and coercive configurations of resource control in early adolescence: A case for the well-adapted Machiavellian. *Merrill-Palmer Quarterly*, 49, 279–309.
- Kupersmidt, J. B., Coie, J. D., & Dodge, K. A. (1990). The role of poor peer relationships in the development of disorder. In S. R. Asher & J. D. Coie (Eds.).

- Peer rejection in childhood* (pp. 274–305). New York: Cambridge University Press.
- Luthar, S. S. (2003). The culture of affluence: Psychological costs of material wealth. *Child Development*, 74, 1581–1593.
- Maccoby, E. E. (1990). Gender and relationships: A developmental account. *American Psychologist*, 45, 513–52.
- Mayeux, L., & Cillessen, A. H. N. (2008). It's not just being popular, it's knowing it, too: The role of self-perceptions of status in the associations between peer status and aggression. *Social Development*, 17, 871–888.
- Mayeux, L., Sandstrom, M. J., & Cillessen, A. H. N. (2008). Is being popular a risky proposition? *Journal of Research on Adolescence*, 18, 49–74.
- Moffitt, T. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100, 674–701.
- Morison, P., & Masten, A. S. (1991). Peer reputation in middle childhood as a predictor of adaptation in adolescence: A seven-year follow-up. *Child Development*, 62, 991–1007.
- Odgers, C., Caspi, A., Nagin, D., Slutske, W., Dickson, N., Moffitt, T., et al. (2008). Is it important to prevent early exposure to drugs and alcohol among adolescents? *Psychological Science*, 19, 1037–1044.
- Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children “at risk”? *Psychological Bulletin*, 102, 357–389.
- Parker, J. G., Rubin, K. H., Price, J., & DeRosier, M. (1995). Peer relationships, child development, and adjustment: A developmental psychopathology perspective. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology: Vol. 2. Risk, disorder, and adaptation* (pp. 96–161). Oxford: Wiley.
- Parkhurst, J. T., & Hopmeyer, A. (1998). Sociometric popularity and peer-perceived popularity: Two distinct dimensions of peer status. *Journal of Early Adolescence*, 18, 125–144.
- Reinherz, H., Giaconia, R., Hauf, A., Wasserman, M., & Paradis, A. (2000). General and specific childhood risk factors for depression and drug disorders by early adulthood. *Journal of the American Academy of Child & Adolescent Psychiatry*, 39, 223–231.
- 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.
- Roff, M., Sells, S. B., & Golden, M. M. (1972). *Social adjustment and personality development in children*. Minneapolis: University of Minnesota Press.
- Roisman, G., Aguilar, B., & Egeland, B. (2004). Antisocial behavior in the transition to adulthood: The independent and interactive roles of developmental history and emerging developmental tasks. *Development and Psychopathology*, 16, 857–871.

- Rose, A. J., Swenson, L. P., & Waller, E. M. (2004). Overt and relational aggression and perceived popularity: Developmental differences in concurrent and prospective relations. *Developmental Psychology, 40*, 378–387.
- Sandstrom, M. J., & Cillessen, A. H. N. (2006). Likeable versus popular: Distinct implications for adolescent adjustment. *International Journal of Behavioral Development, 30*, 305–314.
- Sandstrom, M. J., & Herlan, R. (2007). Threatened egotism or confirmed inadequacy? How children's perceptions of social status influence aggressive behavior toward peers. *Journal of Social & Clinical Psychology, 26*, 240–267.
- Underwood, M. K., Galen, B. R., & Paquette, J. A. (2001). Top ten challenges for understanding gender and aggression in children: Why can't we all just get along? *Social Development, 10*, 248–266.
- Vaillancourt, T., & Hymel, S. (2006). Aggression and social status: The moderating roles of sex and peer-valued characteristics. *Aggressive Behavior, 32*, 396–408.
- Woodward, L. J., & Fergusson, D. M. (1999). Childhood peer relationship problems and psychosocial adjustment in late adolescence. *Journal of Abnormal Child Psychology, 27*, 87–104.
- Woodward, L. J., & Fergusson, D. M. (2000). Childhood peer relationship problems and later risks of educational under-achievement and unemployment. *Journal of Child Psychology and Psychiatry, 41*, 191–201.
- Zakriski, A. L., & Coie, J. D. (1996). A comparison of aggressive-rejected and nonaggressive-rejected children's interpretations of self-directed and other-directed rejection. *Child Development, 67*, 1048–1070.
- Zettergren, P., Bergman, L. R., & Wangby, M. (2006). Girls' stable peer status and their adulthood adjustment: A longitudinal study from age 10 to age 43. *International Journal of Behavioral Development, 30*, 315–325.