

Behavioral Correlates of Prioritizing Popularity in Adolescence

Nina van den Broek¹ · Marike H. F. Deutz² · Elke A. Schoneveld¹ · William J. Burk¹ · Antonius H. N. Cillessen¹

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Abstract Little is known about individual differences in adolescents' motivation to achieve and maintain popularity. This study examined the moderating effects of prioritizing popularity on the associations between popularity and adjustment outcomes in late adolescence. Participants were 314 Dutch eleventh-grade students ($M_{\text{age}} = 16.83$ years; 52 % male) who completed measures of popularity, prioritizing popularity, and prosocial, antisocial, and risk behaviors. It was hypothesized that associations between popularity and adjustment outcomes are stronger for adolescents who prioritize popularity. The results indicate that the combination of being popular and valuing popularity was strongly related to antisocial and risk behaviors, but not to prosocial behaviors. Adolescents' social status motivations thus play an important role in the association of popularity with antisocial and risk behaviors in late adolescence.

Keywords Popularity · Social status · Peer relationships · Social development · Risk behavior

Introduction

Adolescents' popularity in the peer group is associated with various negative as well as positive behaviors, such as smoking tobacco, drinking alcohol, and being cooperative

(e.g., Mayeux et al. 2008; Prinstein et al. 2011; Prinstein et al. 2003). Popularity is typically measured using peer reports, with an individual's popularity being determined by the standardized difference between the number of "most popular" and "least popular" nominations received by members of a reference group (e.g., classmates). Even though this approach has several advantages in terms of objectivity and utilization of multiple reporters, these measures do not differentiate between adolescents who are motivated to obtain and maintain status and those who are not. Early adolescent reports of prioritizing popularity have been found to be only modestly correlated with peer-reported measures of popularity, indicating that adolescents who prioritize being popular are not necessarily popular and vice versa. In addition, prioritizing popularity has been found to moderate associations between popularity and aggression, with early adolescents who prioritize popularity and are perceived to be popular engaging in higher levels of aggression than those who do not prioritize popularity (Cillessen et al. 2014; LaFontana and Cillessen 2010). The goal of this study was to extend this line of research to late adolescence and to a wider array of behaviors. Specifically, we tested whether prioritizing popularity moderated the associations between popularity and several negative and positive adjustment outcomes in late adolescence.

Popularity and Its Behavioral Correlates

Recently, developmental scholars have distinguished two types of popularity, namely sociometric and perceived popularity (Cillessen and Rose 2005; Parkhurst and Hopmeyer 1998). Both types of popularity are usually assessed using peer reports, but describe different aspects of social status. Sociometric popularity, on the one hand, refers to

✉ Nina van den Broek
n.vandenbroek@psych.ru.nl

¹ Behavioural Science Institute, Radboud University,
Montessorilaan 3, 6525 HR Nijmegen, The Netherlands

² Department of Child and Adolescent Studies, Utrecht
University, Heidelberglaan 1, 3584 CS Utrecht,
The Netherlands

the extent to which an adolescent is liked by his or her classmates (i.e., the standardized difference between the number of “liked most” nominations and the number of “liked least” nominations). Perceived popularity, on the other hand, refers to the extent to which an adolescent is perceived by his or her classmates to stand out and to be socially dominant (i.e., the standardized difference between the number of “most popular” nominations and the number of “least popular” nominations). As proposed by Cillessen and Marks (2011), we subsequently refer to perceived popularity as popularity and sociometric popularity as likeability.

Popularity has been linked to various negative and positive behavioral characteristics, both concurrently and prospectively. Perhaps the most well-documented correlate of popularity is antisocial behavior. Several studies have reported positive associations between popularity and aggression (e.g., de Bruyn and Cillessen 2006; Lease et al. 2002; Vaillancourt and Hymel 2006; cf. Hawley et al. 2007). Especially relational (indirect) forms of aggression, predominantly among females, have been related to popularity, although physical (direct) forms of aggression are positively related to popularity as well, especially among males (Cillessen and Mayeux 2004; Rose et al. 2004).

In addition to antisocial behavior, popularity is also related to risk behaviors, such as substance use and sexual behavior. Killeya-Jones et al. (2007) examined early adolescents’ alcohol and tobacco use and found that substance users were rated by their peers as being more popular than those who do not drink or smoke. In addition, popularity is predictive of subsequent risk behaviors. For instance, Mayeux et al. (2008) found that popularity at age 15 predicted alcohol use at age 17 for both males and females. Furthermore, popularity is positively related to sexual activity (Prinstein et al. 2003); adolescents who reported engagement in oral sex and sexual intercourse were seen as more popular by their peers than adolescents who did not report any sexual activity. Moreover, it has been shown recently that alcohol use, tobacco use, marijuana use, and sexual intercourse can be explained by a single underlying factor, and that this underlying factor positively predicts popularity (Agan et al. 2014). Collectively, these studies indicate that popularity is both an antecedent and a consequence of various risk behaviors.

Popularity has been concurrently and longitudinally linked to various positive behavioral characteristics as well. Adolescents describe popular peers as attractive and athletic (Boyatzis et al. 1998; LaFontana and Cillessen 2002; Lease et al. 2002). In addition, several studies have reported positive associations between popularity and being prosocial and cooperative (Cillessen and Rose 2005; Sandstrom and Cillessen 2006), and academically competent (Gest et al. 2006). Furthermore, adolescents’

popularity is positively related to various markers of social adaptation, such as ego development, attachment security, and friendship competence (Allen et al. 2005). Popularity is also predictive of subsequent friendship quality, as well as an increased number of received friendship nominations (McElhaney et al. 2008). In conclusion, popularity is associated with both negative behavior (e.g., antisocial and risk behavior) and positive behavior (e.g., prosocial behavior).

Priority of Popularity

While associations involving popularity are well-documented, less is known about individual differences in adolescents’ motivation for becoming or staying popular. Adolescents differ in the importance they attach to popularity, with some adolescents being more concerned with achieving or maintaining status than others (Jarvinen and Nicholls 1996). Those who are motivated to become or stay popular may be more likely to engage in antisocial and risk behaviors to increase or maintain their status. This idea has been empirically supported in several recent studies. For example, female adolescents who were perceived by peers to highly value popularity exhibited more relational aggression than those who were not perceived to value popularity (Shoulberg et al. 2011). This association was moderated by peer-reported popularity; unpopular females who had a reputation for valuing popularity (so-called “wannabes”) were at highest risk for engagement in relational aggression. In this study, valuing popularity was a peer-reported measure, asking peers to nominate “three kids who think it is important to be popular” (Shoulberg et al. 2011, p. 26). This measure does not consider adolescents’ own perception of motivation of becoming or staying popular, even though adolescents’ self-perceptions might provide important insights in popularity-related associations (Mayeux and Cillessen 2008).

A self-reported measure of prioritizing popularity has been developed recently (LaFontana and Cillessen 2010). This instrument consists of ten vignettes that describe social dilemmas, and asks adolescents to rate to what extent they are likely to choose each of two possible actions of which one would maintain or increase popularity, whereas the other would benefit other social or relational domains. An example vignette is: “Imagine that you are invited to a party. Everyone who is anyone is going to be there. You ask if you can bring your best friend, but you are told that your friend is not welcome to come. You really want to go, but you know your friend wants to go too.” The accompanying actions are: (1) telling them that you can’t go because your friend can’t come (i.e., benefiting friendship) or (2) going to the party anyway (i.e., increasing or maintaining popularity). LaFontana and

Cillessen (2010) examined the degree to which children and adolescents prioritize popularity and found that prioritizing popularity over other social domains shows a curvilinear trend; prioritizing popularity peaked in grades 9–12 and was less important in later and earlier stages.

These results can be seen in light of social development. Over time, children and adolescents gain a better understanding of the social world around them and learn to understand the hierarchy of the peer group and the importance of social status. On the practice ground of the peer group, they learn that being smart and nice is not always the best strategy to increase and maintain status, and may even lead to victimization (Peterson and Ray 2006). Behaving in ways that protect and increase status, which might imply behaving in an aggressive and dominant way (Killeya-Jones et al. 2007), may be a more successful strategy to function well in the peer group and to gain and maintain a position in which the adolescent can flourish (Sutton et al. 1999).

The self-report measure of prioritizing popularity (LaFontana and Cillessen 2010) has been successfully used to examine prioritizing popularity as a moderator of links between popularity and various antisocial and prosocial behaviors in 14-year old adolescents (Cillessen et al. 2014). Specifically, popular adolescents who also prioritized popularity were perceived as being more relationally aggressive than popular adolescents who did not prioritize popularity. This result was more robust for adolescent males than females. In addition, adolescent males and females who prioritized popularity showed a strong and positive association between popularity and leadership, compared to a much weaker relationship for adolescent males who reported a low motivation to be popular. Furthermore, prioritizing popularity was negatively associated with keeping promises; adolescents who prioritized popularity were less often nominated by their peers as a person who keeps promises. To conclude, associations between popularity and various positive and negative behaviors have been found to differ as a function of female and male adolescents' prioritizing of popularity.

Study Aims and Hypotheses

The goal of the current study was to extend the study by Cillessen et al. (2014) in two ways. First, we focused on an older age group (i.e., 14-to-19 year-old adolescents). Second, the current study included a wider range of adjustment outcomes. Specifically, the associations between prioritizing popularity and antisocial behavior (i.e., bullying and gossiping), risk behavior (i.e., substance use and sexual behaviors), and prosocial behavior were investigated. To accomplish this goal, three research questions were

addressed. The first research question was: Is prioritizing popularity associated with late adolescent adjustment outcomes? It was expected that prioritizing popularity was positively associated with measures describing all three types of behaviors. The second research question was: Does prioritizing popularity moderate associations between popularity and late adolescent behavioral outcomes? We expected the associations of popularity with the three types of behavioral outcomes to be stronger for adolescents who prioritized popularity than for those who did not. Specifically, we expected a stronger association between popularity and the three types of behaviors for adolescents reporting high levels of prioritizing popularity than those with low levels of prioritizing popularity. The third and final research question was: Are associations between popularity, priority of popularity, and behavioral outcomes similar for late adolescent females and males? That is, gender was examined as a moderator of the associations between popularity, priority of popularity, and the three types of behaviors. Based on previous work (Cillessen et al. 2014), we hypothesized that for antisocial behaviors (bullies and gossips) the interaction between priority of popularity and popularity would be more robust for males than females. No specific hypotheses were formulated regarding gender moderation involving risk and prosocial behaviors.

Method

Participants

Participants were part of a larger European project on popularity and risk behavior in adolescence. For the current study, only the Dutch sample was used. The Dutch sample consisted of 314 students of 11 higher general education and pre-university classes from the 11th grade of two schools in the Southern Netherlands. Classroom size ranged from 18 to 32 students ($M = 28.55$, $SD = 3.91$). Two students did not provide active consent to participate in the study and were excluded from all analyses. The age of the participants ranged from 14 to 19 years ($M = 16.83$ years, $SD = 0.78$); 52 % of the participants was male. The sample was ethnically homogenous, with 92.9 % of the participants reporting to have a Dutch background. Of the remaining 7.1 %, 5.5 % of the participants reported a different ethnic background (e.g., Moroccan or Turkish) whereas 1.6 % participants did not indicate their ethnicity. As an indicator of socioeconomic status, participants were asked how well off they thought their family was, with response categories ranging from “not well off at all” to “very well off”. Answers ranged from “not very well off” (2.0 %) to “very well off” (28.2 %), but on average,

participants chose the second highest category “quite well off” (52.0 %).

Procedure

A passive consent procedure was used for the parents of all participants. The parents received an information letter describing the study, which could be returned if they did not want their child to participate. No parents withdrew their child from the study. An active consent procedure was used for the participants, because in the Netherlands, youth 16 years and older (almost all students in our study) can decide individually whether they want to participate in research. The participants signed a consent form, which informed them that their answers would be treated anonymously and confidentially, and that participation was voluntary. Data collection took part during one classroom hour (approximately 50 min) in the spring of the school year to ensure that participants were familiar with their classmates.

Measures

Peer Status

Peer status was assessed with peer nominations (e.g., Cillessen 2008). For each question, participants could nominate up to 10 classroom peers but not themselves. To facilitate the assessment and to ensure anonymity, a roster was created that listed the names of all students in the classroom alphabetically. The names on the roster were matched with numbers and students were instructed to only write down the numbers that corresponded with the names of the peers they wanted to nominate. Four questions were asked to assess peer status. Two questions concerned popularity (i.e., “Who in your class is most popular?” and “Who in your class is least popular?”), and two questions concerned likeability (i.e., “Who in your class do you like most?” and “Who in your class do you like least?”). Nominations were counted and standardized to *z*-scores within each classroom to account for differences in classroom size. A score for popularity was computed by subtracting the *z*-score for least popular from the *z*-score for most popular. A score for likeability was computed by subtracting the *z*-score for liked least from the *z*-score for liked most. Both new scores were again standardized within each classroom.

Outcome Behaviors

Several antisocial and prosocial behaviors were assessed with peer nominations as well. There were two items for antisocial behavior, asking adolescents who in their

classroom bully, and who gossip or spread rumors. There were three items for prosocial behavior, asking adolescents who in their classroom try to cheer others up when they are sad or upset, who say or do nice things for others, and who are helpful. For each item, nominations received was counted for each participant and standardized to *z*-scores within classrooms. A composite score for prosocial behavior was created by averaging the *z*-scores for the three prosocial items ($\alpha = .92$). The correlations between the three prosocial behaviors were strong and ranged from $r = .77$ to $r = .82$ (all $p < .001$). The standardized scores for bullies and gossips were treated as separate outcome behaviors, because they clearly reflected two different dimensions of antisocial behavior ($r = .24$, $\alpha = .38$).

Risk behaviors were assessed with a selection of multiple-choice items adapted from the 2011 Youth Risk Behavior Survey (YRBS), a widely used questionnaire to monitor risk behavior in adolescence developed by the Centers for Disease Control and Prevention (CDC) in the USA (see for a description of the YRBS, Brener et al. 2004). Four categories of risk behavior were assessed: tobacco use, alcohol use, marijuana use, and sexual behavior. Tobacco, alcohol, and marijuana use were measured with one question each, asking the participants on how many of the past 30 days they smoked cigarettes, drank at least one alcohol beverage, or used marijuana. Adolescents selected one of seven answer possibilities, ranging from “0 days” to “all 30 days”, and for marijuana use ranging from “0 times” to “40 or more times”. Answers were standardized to account for scaling differences. Afterwards, a composite score of substance use was created by averaging the scores of tobacco, alcohol, and marijuana use ($\alpha = .58$). All correlations between the substance use behaviors were significant (all $p < .001$), ranging from $r = .17$ to $r = .39$.

Sexual behavior was assessed with two dichotomous questions. The first question asked whether students ever had sexual intercourse, and the second question asked whether students ever had oral sex. A composite score of sexual behavior was calculated from these two dichotomous questions by returning the score 0 for participants who answered no to both questions, the score 1 for participants who answered no to one question and yes to the other question, and the score 2 for participants who answered yes to both questions. The correlation between the two scores was $r = .59$ ($p < .001$) and the composite score was reliable ($\alpha = .74$).

Priority of Popularity

The priority of popularity measure (LaFontana and Cillessen 2010) consisted of 20 items for 10 vignettes that presented adolescents with a dilemma and two possible

actions, each demonstrating a different priority. One of the actions was a behavior that maintained or increased popularity, while the other action benefited one of five other social or relational domains: Maintaining a same-sex friendship, pursuing a romantic relationship, conforming to norms for behavior, achieving personal athletic or academic success, or showing compassion for a rejected peer. For each of these themes, there were two vignettes, and for each vignette, there were two possible actions. For each possible action, adolescents rated the extent to which they were likely to choose each option on a 6-point scale ranging from “definitely not” to “definitely”. After appropriate reverse coding, a mean score for priority of popularity was computed, with higher scores indicating a higher degree to which the adolescent prioritized popularity in general over the other five priorities combined. The measure demonstrated sufficient reliability ($\alpha = .78$).

Analysis Strategy

To address the research questions, a series of hierarchical linear regression analyses were performed using the *lavaan* package (Rosseel 2012) in the R statistical program (R Core Team 2015). The *lavaan* package was utilized in order to account for missing values and to deal with potential issues involving the non-normal distributions of several of the behavioral measures. Specifically, full information maximum likelihood was used to estimate each regression model for the entire analytic sample and the Huber-White covariance adjustment (MLR in *lavaan*) was applied to the standard errors of each parameter estimate. Each regression analysis included one of the outcomes (bullying, gossiping, prosocial behavior, substance use, and sexual behavior) as the dependent variable. In the first step of each analysis, gender, popularity, likeability, and prioritizing popularity were included as predictors. In the second step, the 2-way interaction term between popularity and prioritizing popularity was added as a predictor. In the third step, the 3-way interaction between popularity, prioritizing popularity, and gender was included, as were the two additional 2-way interaction terms (popularity by gender and prioritizing popularity by gender) needed to test the higher-order interaction term. The popularity and likeability measures were standardized scores and gender was dummy coded, with males = 0 and females = 1. The prioritizing popularity measure was centered prior to calculation of the interaction terms. Statistically significant interactions were further examined with simple slopes analysis, plotting the slope of the behaviors regressed on popularity separately for high ($M + 1SD$) and low ($M - 1SD$) values of prioritizing popularity (Aiken and West 1991).

Results

Bivariate Associations

Bivariate correlations between all measures are presented separately for males and females in Table 1. Popularity was modestly associated with likeability ($r = .19$, $p = .002$) and prioritizing popularity ($r = .23$, $p < .001$). Popularity was also positively associated with all outcome behaviors: bullying and gossiping ($r_s = .30$ and $.46$, respectively), prosocial behavior ($r = .19$, $p = .003$), substance use ($r = .48$, $p < .001$), and sexual behavior ($r = .36$, $p < .001$).

Likeability was not significantly related to prioritizing popularity ($r = -.05$, $p = .441$), substance use ($r = -.11$, $p = .087$), and sexual behavior ($r = -.08$, $p = .231$). Likeability was negatively associated with antisocial behavior ($r_s = -.38$ and $-.16$, for bullying and gossiping, respectively), and positively related to prosocial behavior ($r = .54$, $p < .001$).

Prioritizing popularity was positively related to bullying ($r = .15$, $p = .019$) and substance use ($r = .31$, $p < .001$), and negatively associated with prosocial behaviors ($r = -.29$, $p < .001$). Prioritizing popularity was not significantly associated with gossiping ($r = .10$, $p = .127$) and sexual behavior ($r = .09$, $p = .231$).

Fisher's r -to- z correlational contrasts were performed to test whether the magnitude of the associations involving popularity, likeability, and prioritizing popularity differed for males and females. Of the 18 contrasts, 5 detected statistically significant gender differences. Specifically, the positive association between popularity and bullying was stronger for males than females ($r_s = .44$ and $.13$, $z = 3.81$, $p < .001$) and the positive association between popularity and gossiping was weaker for males than females ($r_s = .38$ and $.55$, $z = -2.44$, $p = .015$). Moreover, the associations of sexual behavior with popularity and likeability were stronger for males than females (popularity: $r_s = .44$ and $.28$, $z = 2.06$, $p = .039$; likeability: $r_s = -.22$ and $-.02$, $z = 2.27$, $p = .023$). Lastly, the association between prioritizing popularity and substance use was weaker for males than females ($r_s = .22$ and $.39$, $z = -2.10$, $p = .036$).

Prioritizing Popularity as a Moderator of the Links Between Popularity and Behaviors

A hierarchical regression analysis examined prioritizing popularity and gender as moderators of the concurrent links between popularity and each of the outcome variables bullying, gossiping, prosocial behavior, substance use, and sexual behavior. Tables 2 and 3 present the standardized

Table 1 Correlations between all study measures, differentiated for males and females

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Popularity		.13	.26**	.44**	.38**	.13	.55**	.44**
(2) Likeability	.25**		.03	−.38**	−.28**	.58**	−.12	−.22*
(3) Prioritizing	.22*	−.06		.15	.15	−.19*	.22*	.12
(4) Bullies	.13	−.36**	−.01		.43**	−.16	.40**	.20*
(5) Gossips	.55**	−.17	.23*	.25**		−.02	.44**	.21*
(6) Prosocial behavior	.24**	.54**	−.23*	−.14	.09		−.05	−.13
(7) Substance use	.42**	−.07	.39**	.25**	.37**	−.09		.41**
(8) Sexual behavior	.28**	−.02	.10	.11	.25**	.10	.36**	

N = 252. Correlations for females (*n* = 121) presented below the diagonal; correlations for males (*n* = 131) presented above the diagonal
 * *p* < .05; ** *p* < .01. Correlations in bold were significantly different by gender, *p* < .05

Table 2 Standardized regression coefficients testing prioritizing popularity and gender as moderators of the links between popularity and adjustment outcomes

	Bullies			Gossips			Prosocial behavior		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Gender	−.20**	−.20**	−.16**	.37**	.37**	.35**	.31**	.31**	.33**
Popularity	.40**	.43**	.39**	.48**	.50**	.52**	.13**	.11**	.10*
Likeability	−.46**	−.44**	−.41**	−.33**	−.32**	−.33**	.46**	.45**	.46**
Priority	−.01	.01	.01	.06	.07	.07	−.22**	−.23**	−.22**
Popular × priority		.16**	.17**		.07	.10*		−.07	−.04
Popular × gender			−.16**			.24**			.04
Priority × gender			−.08			.03			−.05
Pop × priority × gender			−.14*			.06			−.08
Δ <i>R</i> ²	.34	.02	.04	.40	.01	.05	.46	< .01	.01
<i>R</i> ² _{total}	.34	.36	.40	.40	.41	.46	.46	.46	.47

N = 314

* *p* < .05; ** *p* < .01

regression weights for all main effects and interactions in each step of the analysis for each outcome variable.

Bullying

For bullying, the total model explained 40 % of the variance. Gender was negatively related to bullying, indicating that males were named more as bullies than females. Bullying was positively associated with popularity and negatively with likeability.

The main effect of prioritizing popularity did not uniquely predict variance in the bullying measure, but the two-way interaction between popularity and prioritizing popularity was statistically significant. This interaction was further qualified by the three-way interaction with gender. Figure 1 presents a plot of bullying regressed on popularity, separately by gender and high and low values of prioritizing popularity. The positive and statistically

significant association between popularity and bullying emerged for males at high levels of prioritizing popularity (*b* = .850, *SE* = .128, *p* < .001), males at low levels of prioritizing popularity (*b* = .255, *SE* = .111, *p* = .023), and females at low levels of prioritizing popularity (*b* = .192, *SE* = .083, *p* = .021). The association between popularity and bullying was not statistically significant for females at high levels of prioritizing popularity; *b* = .241, *SE* = .155, *p* = .121.

Gossiping

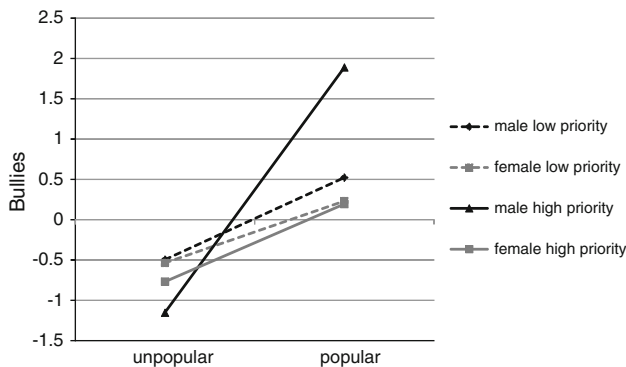
For gossiping, the total model explained 46 % of the variance. Gender was positively related to gossiping, indicating that females were named more as being a gossip than males. Gossiping was positively associated with popularity and negatively with likeability. The prioritizing popularity by popularity interaction was not statistically

Table 3 Standardized regression coefficients testing prioritizing popularity and gender as moderators of the links between popularity and adjustment outcomes

	Substance use			Sexual behavior		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Gender	-.07	-.07	-.06	.13*	.13*	.09
Popularity	.49**	.52**	.51**	.40**	.42**	.45**
Likeability	-.19**	-.17**	-.15**	-.18**	-.16*	-.18**
Priority	.17**	.19**	.18**	-.01	-.01	-.01
Popular × priority		.15**	.13*		.09	.03
Popular × gender			-.11			-.04
Priority × gender			.06			.02
Pop × priority × gender			-.04			.16**
ΔR^2	.32	.02	.01	.18	<.01	.03
R^2_{total}	.32	.34	.35	.18	.18	.21

$N = 314$

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

**Fig. 1** Simple slopes describing bullying (y-axis) predicted by the three-way interaction between popularity (x-axis), prioritizing popularity, and gender

significant in the second step of this analysis. In the final step, the prioritizing popularity by popularity and the popularity by gender interactions were statistically significant. The prioritizing popularity by popularity interaction was not plotted because it did not emerge as statistically significant when entered in the second step of the model.

Prosocial Behavior

For the composite score of prosocial behavior, all predictors explained 47 % of the variance. Gender was positively related to prosocial behavior, with females being more often nominated than males. Both likeability and popularity were positively related to prosocial behavior. Prioritizing popularity negatively predicted prosocial behavior, indicating that adolescents who value popularity highly show less prosocial behavior. No interaction terms emerged as statistically significant in the second or third steps of this analysis.

Substance Use

For substance use, the model explained 35 % of the variance. Substance use was negatively related to likeability, but positively to popularity. The main effect of prioritizing popularity was significant and positive, showing that those who highly value popularity use more substances. Moreover, the two-way interaction between popularity and prioritizing popularity was statistically significant in Step 2. Figure 2 presents a plot of substance use regressed on popularity at high and low levels of prioritizing popularity. The positive association between popularity and substance use was significant at high levels ($b = .571$, $SE = .164$, $p < .001$), but was not significant at low levels of prioritizing popularity ($b = .207$, $SE = .152$, $p = .173$).

Sexual Behavior

For the composite score of sexual behavior, the total model explained 20 % of the variance. Gender positively predicted sexual behavior, with females more likely to report sexual intercourse and oral sex than males. Popularity was positively and likeability negatively associated with sexual behavior. Prioritizing popularity was not uniquely associated with engagement in sexual behavior, but the three-way interaction between popularity by prioritizing popularity by gender was statistically significant. Figure 3 presents a plot of sexual behavior regressed on popularity, separately for male and female adolescents at high and low values of prioritizing popularity. The positive association between popularity and sexual behavior was strongest for females at high levels of prioritizing popularity ($b = .543$, $SE = .101$, $p < .001$), and for males at low levels of prioritizing popularity ($b = .547$, $SE = .091$, $p < .001$). The association between popularity and sexual behavior was also

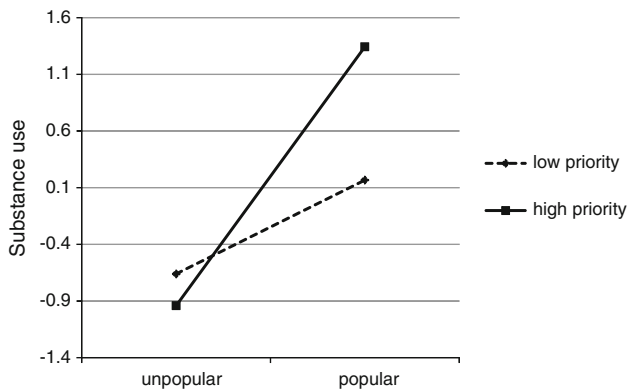


Fig. 2 Simple slopes describing substance use (y-axis) predicted by the interaction between popularity (x-axis) and prioritizing popularity

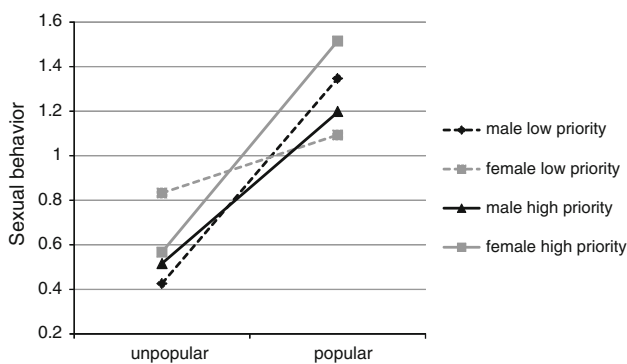


Fig. 3 Simple slopes describing sexual behavior (y-axis) predicted by the three-way interaction between popularity (x-axis), prioritizing popularity, and gender

significant for females at low levels of prioritizing popularity ($b = .197, SE = .097, p = .044$) and for males at high levels of prioritizing popularity ($b = .382, SE = .135, p = .016$).

Discussion

The goal of this study was to refine our understanding of the behavioral correlates of popularity during late adolescence by investigating the role of prioritizing popularity. We hypothesized that popularity and prioritizing popularity were positively associated with aggression, risk behavior, and prosocial behavior. This hypothesis was partly confirmed; peer evaluations of popularity were indeed positively related to all adjustment measures, but prioritizing popularity was negatively related to prosocial behavior and positively to substance use. These results indicate that, whereas popularity is positively associated with both positive and negative behavior, prioritizing popularity is positively related to negative behavior, and negatively related to positive behavior. Thus, prioritizing popularity was

linked to more antisocial and less prosocial behaviors in our sample of late adolescents.

The primary research questions examined the extent to which adolescents’ prioritizing of popularity moderated the associations of popularity with various behaviors, and whether these associations were further moderated by gender. It was expected that associations between popularity and adjustment outcomes would be more robust for adolescents who prioritized popularity than for those who did not. This expectation was partly confirmed, in that our findings provided evidence that this pattern exists mainly for physical aggression and health risk behavior, but not for prosocial behavior. For instance, adolescents who prioritized popularity showed the most robust positive association between popularity and substance use. This association was less robust for adolescents who did not prioritize popularity.

These results suggest that the combination of being popular and valuing popularity is associated with higher levels of antisocial and risk behaviors. Adolescents who attach importance to social status, particularly if they are already popular, are more likely to engage in behaviors such as physical aggression and sexual behaviors. While adolescents have been found to engage in prosocial behaviors to gain acceptance and approval of peers (Eisenberg et al. 2005), our results indicate that late adolescents who are popular and are motivated to maintain this status are not more likely to engage in prosocial behaviors. Interestingly, prosocial behaviors were more common among adolescents who did not prioritize popularity. These findings are in line with observations by Cillessen et al. (2014), who stated that prioritizing popularity plays a stronger role in the maintenance of status, rather than the acquisition of it. If adolescents would display negative behaviors to become more popular, we would expect a moderating effect of prioritizing popularity on the association between popularity and behavioral characteristics at low levels of popularity, which was not the case in this study. Thus, adolescents seem to manipulate their peers by showing physical aggression to maintain their status in the peer group. In addition, adolescents might engage in health risk behavior in order to be perceived as adult-like, positively influencing their social status (Killeya-Jones et al. 2007).

While popularity is one of the most important social goals of adolescents (Dijkstra et al. 2010; Jarvinen and Nicholls 1996), popularity is more important for some adolescents than for others. LaFontana and Cillessen (2010) demonstrated that the motivation to be popular peaks in ninth to twelfth grade. The current study supplemented this finding by showing that even though the average level of prioritizing popularity was high in late adolescence, there was meaningful variation within this age

group. Adolescents differ in the importance they attach to communal goals (e.g., making friends, being prosocial, and feeling close to others) and agentic goals (e.g., being visible, influential, and admired; Salmivalli et al. 2005; Sijtsema et al. 2009). Given that adolescents' social motives focus on gaining or maintaining status on the one hand (Pellegrini and Long 2002) and seeking closeness and intimacy with peers on the other hand (Buhrmester 1990), adolescents have to prioritize one of these goals using either coercive or prosocial strategies (Ojanen et al. 2005). For example, it seems that bullying is motivated by the bullies' pursuit of high status and a powerful, dominant position in the peer group (e.g., Salmivalli and Peets 2008). This implies that motivations to prioritize popularity can indicate the use of coercive and manipulative tactics as a means of status maintenance, either via aggressive responses to status threats, or as proactive attempts to assert social dominance in the peer group.

Profound gender differences were found in the strategies that adolescents use to maintain social status. Our findings suggest that adolescent males who are motivated to maintain their status are most likely to engage in bullying. This is in line with research showing that adolescents proactively and skillfully engage in physical aggression to achieve and maintain their social goals (Salmivalli 2010). For females, however, engaging in risky sexual behaviors might be an effective way to maintain social status. Our results show that popular females who prioritize popularity were more likely to engage in (oral) sex than popular females who did not prioritize popularity. Adolescent females might think that it is normal to have (oral) sex to maintain popularity (Prinstein et al. 2003), in contrast to engaging in for example physical aggression, which might be perceived as too risky for adolescent females. Moreover, girls in general tend to care more about dyadic peer relationships, whereas boys focus more on the larger peer group (Rose and Rudolph 2006). Given that males and females use different strategies to maintain their status, males and females are placed at risk for different negative adjustment outcomes.

In addition to differences between adolescent males and females, prioritizing popularity might also be associated with different behaviors in different age groups. For instance, Shoulberg et al. (2011) found that popular girls age 13 who valued popularity highly were at greater risk for engaging in relational aggression. However, we did not find this effect in this older adolescent sample. We therefore suggest that similar tactics and strategies to maintain status may have different effects over time. Based on the age of the adolescent, certain behaviors might be more effective than others to maintain popularity when one has the motivation to stay popular. Future research should investigate changes in the associations between priority of

popularity and positive and negative behaviors across adolescence to gain additional insight in the developmental nature of this phenomenon.

A strength of the study was the use of different types of measures and multiple informants (i.e., self- and peer-report), which avoids potential problems of common method variance (Podsakoff et al. 2003). In addition, this study examined a wide variety of positive and negative behaviors, including aggressive and prosocial behavior, substance use, and sexual activity. Despite these strengths, the study also has several caveats that should be acknowledged. First, participants could only nominate peers from their own classroom. They could not nominate friends from other classes or outside the school. It might, however, be that friends outside the classroom or school are equally or more important than classroom peers. Future research might consider the nomination of friends outside the classroom and outside the school. Second, some of the peer-nomination measures consisted of only a few items. There are only two questions on antisocial behavior, even though more ways of antisocial behavior than just bullying and gossiping exist (e.g., criminal behavior, vandalism). Moreover, other prosocial behaviors can be thought of in addition to being cheerful, helpful, and nice. Future studies should incorporate more items to be sure that the constructs of interests are fully captured by composite scores.

A third limitation is that the cross-sectional design of the current study does not allow us to determine whether the outcome behaviors precede popularity or whether popularity precedes engagement in behavior. Most studies that studied the associations between popularity and adjustment outcomes in a similar age group mainly examined how popularity predicted several outcome behaviors instead of the reverse (e.g., Prinstein et al. 2011). However, Mayeux et al. (2008) used a cross-panel design and showed that popularity predicted greater engagement in risk behavior, but also that smoking predicted increased popularity 2 years later. We can therefore expect that the association between popularity and negative behavioral outcomes is bidirectional. However, given that our correlational preliminary evidence shows that negative behavior might have to do with status maintenance, we might assume that negative behavior is likely an outcome of popularity, rather than the other way around. This assumption based on the results of our correlational study should be longitudinally tested in future studies.

In addition, future research could use additional methodologies apart from questionnaires. For example, observations can provide rich and detailed information about social interactions between peers. Students' reports of antisocial behavior could be complemented by observational data during lunch breaks or regular classroom activities. Otherwise, specific tasks designed to elicit these

behaviors might be included. They might provide insight in how status and the importance attached to it relate to students' behaviors at school or in social tasks. Furthermore, future research could investigate contextual factors that influence the association between popularity and antisocial, risk, and prosocial behavior. On the one hand, school and classroom factors may minimize the prioritizing of popularity above other social goals. For example, when the classroom norm is to be sociable and nice, it might be inappropriate to strive for status. As a result, adolescents might show more prosocial behavior to be liked, instead of risk behavior to be powerful. On the other hand, school and classroom factors may ameliorate the impact of popularity on positive and negative types of behavior. For example, when teachers approve the behavior of the popular adolescent, they might be inclined to show this behavior more often. This could provide insights in how to set up schools and classes to intervene positively in the development of adolescents.

Conclusion

This study adds to the current literature by investigating individual differences in the importance that late adolescents attach to popularity, and examine its moderating effects on the link between popularity and antisocial, risk, and prosocial behavior. The results indicated that adolescents who are motivated to be popular and are perceived by their peers as popular were more likely to engage in negative behaviors. So, above and beyond being popular, being motivated to be popular increases the likelihood of engaging in antisocial and health risk behaviors. It is thus becoming increasingly clear that adolescents' motivations for social status play an important role in behavioral decisions, particularly those that might be damaging for both themselves and their environment. A better understanding of these social motivations might provide crucial insights in the functions of adolescent behavior and the dynamics of peer relationships as a whole.

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Conflict of interest The authors report no conflicts of interest.

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Nina van den Broek is a Research Master student in the Behavioural Science Institute at Radboud University. Her research interests include the role of social status in adolescent's well-being and the mechanisms by which peers influence one another's behavior.

Marika H. F. Deutz is a PhD candidate in the Faculty of Social Sciences at Utrecht University. She studies the role of parents and peers in the development of elementary school-aged children.

Elke A. Schoneveld is a PhD candidate in the Behavioural Science Institute at Radboud University. She studies the development of internalizing and externalizing behaviors in children and clinical methods of prevention and intervention.

William J. Burk is currently an assistant professor in the Behavioural Science Institute at Radboud University. His research broadly concerns the impact of close relationships with parents and peers on psychosocial adjustment of children and adolescents.

Antonius H. N. Cillessen is professor of psychology in the Behavioral Science Institute at the Radboud University of Nijmegen. His major research interests include peer rejection and popularity, aggression, and research methods for developmental psychology. He received his PhD in developmental psychology at the Radboud University of Nijmegen.