

The Two Faces of Adolescents' Success With Peers: Adolescent Popularity, Social Adaptation, and Deviant Behavior

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This study assessed the hypothesis that popularity in adolescence takes on a twofold role, marking high levels of concurrent adaptation but predicting increases over time in both positive and negative behaviors sanctioned by peer norms. Multimethod, longitudinal data, on a diverse community sample of 185 adolescents (13 to 14 years), addressed these hypotheses. As hypothesized, popular adolescents displayed higher concurrent levels of ego development, secure attachment, and more adaptive interactions with mothers and best friends. Longitudinal analyses supported a popularity-socialization hypothesis, however, in which popular adolescents were more likely to increase behaviors that receive approval in the peer group (e.g., minor levels of drug use and delinquency) and decrease behaviors unlikely to be well received by peers (e.g., hostile behavior with peers).

At no other stage of the lifespan is peer socialization as fraught with tension, ambiguity, and strain as during adolescence. Extrapolations from childhood research suggest that popularity in adolescence should be a positive marker of adaptation to be encouraged and promoted (Parker & Asher, 1987; Rubin, Bukowski, & Parker, 1998). Yet, adolescents who are popular, and hence well socialized into their peer groups, also appear vulnerable to being socialized into the increasing levels of delinquent and drug-using behavior that become normative in peer groups during this period. The potential dual role of popularity in adolescence—as both a marker of adaptation and as a risk factor for increases in deviant behavior—has never been examined.

Unfortunately, studies that employ actual peer sociometric ratings of popularity—the gold standard of social acceptance measures in childhood research—are scarce in adolescence. In considering the potential dual role of direct assessments of popularity (in which peers name teens with whom they would actually like to spend time), it is important to distinguish these assessments from sociometric status ratings in which peers name teens whom they

perceive to have high status (i.e., to be dominant) within the peer group. Although status ratings obviously tap a related construct, high-status peers, possessing both prosocial and antisocial traits, are not even necessarily well liked by most other peers (Gest, Graham-Bermann, & Hartup, 2001; LaFontana & Cillessen, 2002; Parkhurst & Hopmeyer, 1998; Prinstein, in press; Rodkin, Farmer, Pearl, & Van Acker, 2000).

In contrast to the dominance processes associated with social status measures, direct markers of popularity have been seen as tapping a far more benign process (actually being liked by one's peers) and have been uniformly associated with prosocial characteristics in limited research in adolescence. This study examined the proposition that this seemingly far more benign phenomenon of sociometric popularity—simply being liked by many of one's peers—takes on a more complex role in early adolescence. Although popularity is expected to be concurrently associated with prosocial characteristics in early adolescence, popular adolescents are also expected to be heavily exposed to socializing influences of their peers, including socialization toward increasing levels of some forms of deviant behavior over time.

Thus far, popularity has been cross-sectionally linked to markers of current functioning, such as greater social skills and lower levels of depression

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(Henrich, Blatt, Kuperminc, Zohar, & Leadbeater, 2001; Pakaslahti, Karjalainen, & Keltikangas-Jaervinen, 2002; Parkhurst & Hopmeyer, 1998). These initial findings suggest a positive role for adolescent popularity but provide a strikingly thin methodological and conceptual base on which to build theories about the ways in which popularity dovetails with or diverges from broader indexes of adolescent social development.

If popularity is a fundamental marker of adaptive social development in adolescence, it should also be associated with success in a range of other spheres of social development. Attachment theory and research on popularity in childhood suggest that the positive and open stance toward social relationships that is likely to lead to popularity with peers tends not to arise *de novo*, but rather to derive from and be closely associated with positive interactions within the family (Allen & Land, 1999; Austin & Lindauer, 1990; Henggeler, Edwards, Cohen, & Summerville, 1991; Lieberman, Doyle, & Markiewicz, 1999). Similarly, attachment security and higher levels of ego development embody an ability to consider autonomously the needs of self and others, and to manage complex emotional reactions while strongly valuing relationships. These capacities appear fundamental to establishing positive adolescent relationships within a broad peer group but have never been assessed in this regard.

If the positive concurrent correlates of adolescent popularity have been only minimally examined, the developmental sequelae of popularity in adolescence have received virtually no attention in longitudinal research. As anxiously as popularity is sought by many adolescents, we know virtually nothing about what happens to those adolescents who actually attain it. This study examined a popularity-socialization hypothesis that suggests that higher levels of adolescent popularity will be associated with being more strongly socialized by the peer group, in both positive and negative ways relative to the norms of the larger society.

As peer groups evolve from childhood into adolescence, they are likely to become an increasingly powerful socializing influence. Almost by definition, the most socially accepted (i.e., popular) individuals at any phase of development are likely to be those who are most attuned to and skillful at meeting the spoken and unspoken norms within their peer groups. Although popularity may be a marker of concurrent levels of adaptation in adolescence, it also appears likely to expose adolescents to the socializing influences of their peers over time. In adolescence, peer socializing influences may be particularly strong,

but unlike in childhood and adulthood, the norms of peers in adolescence may not be entirely positive relative to those of the larger society.

That peer socializing influences can be negative at times is well known, but research on such influences has focused almost entirely on smaller groups of deviant peers that entrain one another into deviant behavior (Dishion, Poulin, & Burraston, 2001; Dishion, Spracklen, Andrews, & Patterson, 1996). Yet, population rates of deviant behavior increase dramatically, indeed almost normatively, from early to middle adolescence, in part as a likely by-product of growing adolescent strivings for autonomy (Allen, Weissberg, & Hawkins, 1989; Moffitt, 1993). Given these increases, some adult norms for teens are likely to be broadly challenged within the peer group (Allen et al., 1989). This suggests the obvious, if disconcerting, hypothesis that the most popular, and hence "best" socialized, individuals in early adolescence may also be at heightened risk of being socialized to engage in increasing levels of the minor, deviant behaviors that are valued by and becoming increasingly prevalent within their peer groups. Some cross-sectional evidence of this process can be found with respect to smoking behavior (Alexander, Piazza, Mekos, & Valente, 2001), but the issue has never been addressed with longitudinal data.

Peer socializing influences in adolescence can also be positive. For example, past evidence suggests that although early adolescent norms may support challenging adult rules and norms, these norms also support behaviors that maintain positive relationships with peers (Allen et al., 1989). Behaviors such as hostile aggression toward peers, which meet with broad disapproval within adolescent peer groups and which decrease in frequency over time in adolescence (Bierman, Smoot, & Aumiller, 1993; Coie, Dodge, & Kupersmidt, 1990), might be expected to be socialized out of popular adolescents' behavioral repertoires. Neither the positive nor the negative sequelae of adolescent popularity have been examined empirically.

This study sought to place our understanding of adolescent popularity within a broader developmental framework that assigns it a multifaceted role both as an unambiguous concurrent marker of social adaptation and as a vehicle that leaves adolescents highly exposed to both positive and negative socializing influences of peer norms over time.

First, we hypothesized that adolescent popularity would be concurrently associated with a broad array of primary markers of general social adaptation. Second, we hypothesized that popular adolescents would be in a position to have their behavior so-

cialized more strongly by the broader peer culture in ways consistent with prevailing peer norms. And although there is a strong bias in psychological research to predict that "all good things go together," this study examined the prediction from the popularity-socialization hypothesis that high levels of popularity in early adolescence would be associated with relative increases in levels of mild to moderate deviance over the following year. In contrast, popularity was not expected to predict increases in behaviors that are less normative and less accepted within broad peer groups, and popular adolescents were expected to show relative decreases in hostile behaviors that threaten relationships with peers and that would be likely to be desocialized by the broader peer group.

Finally, to the extent that popularity with peers predicts increasing levels of low-grade deviance in adolescence, this study tested the complementary hypothesis that specific peer group values toward deviant behavior would moderate these predictions, such that popularity with peers would be most likely to predict increases in deviant behavior among adolescents when they viewed their peers as holding more deviant values.

Method

Participants

This report is drawn from a larger longitudinal investigation of adolescent social development in familial and peer contexts. Participants included 185 seventh and eighth graders (M age = 13.36, $SD = 0.66$; 116 seventh graders and 69 eighth graders; 87 males and 98 females) and their mothers and close friends. The sample was racially/ethnically and socioeconomically diverse: Of the participants, 107 identified themselves as Caucasian (58%), 54 as African American (29%), and 24 as being from other or mixed ethnic groups (13%). Adolescents' parents reported a median family income in the \$40,000 to \$59,999 range (18% of the sample reported annual family income less than \$20,000, and 33% reported annual family income greater than \$60,000). At the second wave of data collection, approximately 1 year after the first, data were obtained for 179 (97%) of the original 185 adolescents. At each wave, adolescents also nominated their closest same-gender friend to be included in the study as well as an additional two peers from within their extended circle of friends and acquaintances. Close friends reported that they had known the adolescents for an average of 5.33 years ($SD = 2.98$) at Wave 1 and an average of

4.35 years ($SD = 3.24$) at Wave 2. Data from close peers were available for subsets of the total sample (182 of 185 teens at Wave 1, and 161 of 179 teens at Wave 2).

Formal attrition analyses revealed no differences between adolescents who did versus did not return for Wave 2 on any of the demographic or primary outcome measures in this study, with the exception of adolescents' ego development (the 3% of adolescents who did not return for Wave 2 had lower levels of ego development than did the remainder of the sample at Wave 1.) Analyses also revealed no differences between adolescents who did versus did not have data available from a close friend at either wave.

Adolescents were recruited from the seventh and eighth grades at a single public middle school drawing from suburban and urban populations in the Southeastern United States. One cohort of eighth graders was included, and two different cohorts of seventh graders were included in successive years. The school was part of a system in which students had been together as an intact group since fifth grade. Students were recruited through an initial mailing to all parents of students in the school along with follow-up contact efforts at school lunches. Families of adolescents who indicated they were interested in the study were contacted by telephone. Of all students eligible for participation, 63% agreed to participate either as either target participants or as peers providing collateral information. All participants provided informed assent before each interview session, and parents provided informed consent. Interviews took place in private offices within a university academic building. Parents, adolescents, and peers were all paid for their participation.

Procedure

In the initial introduction and throughout both sessions, confidentiality was assured to all participants, and adolescents were told that their parents would not be informed of any of the answers they provided. Participants' data were protected by a Confidentiality Certificate issued by the U.S. Department of Health and Human Services, which protected information from subpoena by federal, state, and local courts. Transportation and child care were provided if necessary.

Measures

Popularity. Adolescent popularity was assessed using a limited nomination sociometric procedure.

Each adolescent, their closest friend, and two other target peers named by the adolescent were asked to nominate up to 10 peers in their grade with whom they would "most like to spend time on a Saturday night" and an additional 10 peers in their grade with whom they would "least like to spend time on a Saturday night." The assessment of popularity by asking youth to name peers with whom they would actually like to spend time has been validated with both children and adolescents (Bukowski, Gauze, Hoza, & Newcomb, 1993; Prinstein, in press). This study used grade-based nominations (e.g., students could nominate anyone in their grade at school) rather than classroom-based nominations because of the age and classroom structure of the school that all participants attended. As a result, instead of friendship nominations being done by 15 to 30 children in a given classroom, each teen's nominations were culled from among 72 to 146 teens (depending on the teen's grade level). All participating students in a given grade were thus potential nominators of all other students in that grade, and an open nomination procedure was used (i.e., students were not presented with a roster of other students in their school but wrote in names of liked and disliked students). Students used this procedure easily, producing an average of 9.25 like nominations (out of 10) and 8.33 dislike nominations each. The large number of raters for each teen (in essence, each teen received a yes–no nomination from each nominator in his or her grade) makes this large subsample of nominators likely to yield fairly reliable estimates of popularity for each teen (Prinstein, in press). Preliminary analyses of the 1-year test–retest stability of popularity ratings over time indicating a 1-year stability coefficient of $r = .77$, $p < .0001$ further suggest that this procedure was indeed reliably capturing the popularity of the teens in our study. The raw number of like nominations each teen received was standardized within grade level before being added to the main data set as the primary measure of popularity following the procedure described in Coie, Dodge, and Coppotelli (1982). The number of dislike ratings for each teen was collected and calculated in similar fashion.

Ego development. The assessment of ego development, constructed by Loevinger and associates (Loevinger & Wessler, 1970; Loevinger et al., 1970), used an 11-item short form of the full 36-item sentence completion test and theoretically derived scoring system. For this study, item-sum scores were obtained by summing each participant's 11 item scores to approximate adolescents' typical level of ego development. There is much evidence for the

reliability and validity of this assessment approach (Hauser, 1976, 1984; Loevinger, 1979, 1985). Interrater reliabilities within this data set (using intraclass correlations) were high ($r = .93$) and all coders were blind to other data in the study for transcripts they coded.

Attachment security. The Adult Attachment Interview (AAI) and Q-set (George, Kaplan, & Main, 1996; Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993), a structured interview and parallel coding system, were used to probe individuals' descriptions of their childhood relationships with parents in both abstract terms and with specific supporting memories. For example, participants were asked to list five words describing their early childhood relationships with each parent and then to describe specific episodes that reflected those words. Other questions focused on specific instances of upset, separation, loss, trauma, and rejection. Finally, participants were asked to provide more integrative descriptions of changes in relationships with parents and the current state of those relationships. The interview consisted of 18 questions and lasted 1 hr on average. Slight adaptations to the adult version were made to make the questions more natural and easily understood for an adolescent population (Ward & Carlson, 1995). Interviews were audiotaped and transcribed for coding.

The AAI Q-set (Kobak et al., 1993) was designed to parallel the AAI classification system (Main & Goldwyn, 1998) but to yield continuous measures of qualities of attachment organization. Each rater read a transcript and provided a Q-sort description by assigning 100 items into nine categories ranging from most to least characteristic of the interview, using a forced distribution. All interviews were blindly rated by at least two raters with extensive training in both the Q-sort and the AAI classification system.

These Q-sorts were then compared with a dimensional prototype sort for secure versus anxious interview strategies, with security reflecting the overall degree of coherence of discourse, the integration of episodic and semantic attachment memories, and a clear objective valuing of attachment. The individual correlation of the 100 items of an individual's Q-sort with a prototype sort for a maximally secure transcript was then used as that participant's security score (ranging from –1.00 to 1.00). The Spearman–Brown interrater reliability based on the intraclass correlation coefficient was .82, which is in the excellent range for this coefficient (Cicchetti & Sparrow, 1981). Although this system was designed to yield continuous measures of

qualities of attachment organization, rather than to replicate classifications from the Main and Goldwyn (1998) system, we have previously compared scores of a series of interviews coded by this lab with classifications obtained from an independent coder with well-established reliability in classifying AAIs (U. Wartner). We did this by converting the Q-sort scales described earlier into classifications using an algorithm described by Kobak et al. (1993). Using this approach, we obtained an 84% match for security versus insecurity between the Q-sort method and the classification method ($\kappa = .68$). To maximize the validity of the AAI with this population, it was performed only after participants reached age 14.

Close friendship competence. The adolescent's closest friend completed a modified version of the Adolescent Self-Perception Profile (Harter, 1988) to assess the target teen's overall competence in forming and maintaining close friendships. The measure was modified so that peers completed four items that they thought best described the target teen's behavior as a close friend. Internal consistency for this four-item measure was adequate (Cronbach's $\alpha = .67$). This approach has been found to yield valid assessments of target teens' social competence in other studies relating such competence to outcomes such as adolescent attachment security (Allen, Moore, Kuperminc, & Bell, 1998).

Observed positivity in mother-adolescent interactions. Adolescents and their mothers participated in a supportive behavior task in which adolescents were asked to discuss a problem they were having about which they wanted to get some help. Mothers were told to respond naturally to the adolescent. The task was videotaped and lasted 8 min. The videotapes and transcripts were then coded for the degree of positivity expressed by the adolescent in the task, operationalized in terms of the degree of positive affect and engagement expressed by both parties, the mother's success in understanding the adolescent's problem, and the adolescent's satisfaction with the interaction. Two trained coders coded each interaction and their codes were then summed and averaged. Interrater reliability was calculated using intraclass correlation coefficients and was in what is considered the excellent range ($r = .83$) for this coefficient (Cicchetti & Sparrow, 1981).

Adolescent alcohol and substance use involvement. This measure reflects a standardized composite of the adolescents' level of use, and problems resulting from use, of alcohol and marijuana. Levels of substance use were assessed over the prior 30 days on a 5-point scale for each substance ranging from 0 (*never*) to 4 (*10 or more times*). Problems resulting

from alcohol use were assessed using a 4-point scale, modeled after the Self-Perception Profile for Adolescents (Harter, 1988) to reduce response bias, to rate how much the adolescents' drinking and substance use caused problems for them. For example, "Some teens often get out of control drinking alcohol." These two indexes were converted to standard scores and then summed to produce an index of adolescents' degree of alcohol and substance use involvement.

Minor deviant behavior and serious criminal behavior. Minor deviant behavior was assessed with an instrument initially validated and normed in a longitudinal study of a national probability sample of adolescents (Elliott, Huizinga, & Menard, 1989). Minor deviant behavior was measured as the total number of times in the prior 6 months that youth reported engaging in each of 8 nonoverlapping classes of behavior that are considered minor offenses, or status offenses, for youth (i.e., they warrant attention from the criminal justice system as delinquent acts, though they would not necessarily be considered as significant criminal behavior in adults). For example, these behaviors include making a physical threat to one's parents, sneaking into a movie without paying, and theft of items worth less than \$5. Serious criminal behavior was assessed using 16 nonoverlapping items from the same instrument. These items collectively identify nonoverlapping items that would be considered significant criminal behavior at any age, with items ranging from modest in seriousness (e.g., stealing items worth between \$5 and \$50) to serious (e.g., felonious assault). When obtained by sensitive interviewers who have first established rapport with interviewees, self-reports of delinquent behaviors have long been found (a) to correlate significantly with reports obtained from independent observers and official records, (b) to be adequately reliable, and (c) to eliminate systemic biases present in official records of deviant behavior (Elliott et al., 1989; Huizinga & Elliott, 1986).

Hostility. Peer-reported hostility of target teens was obtained using the hostility scale from the short-form of the Child Behavior Checklist (Achenbach, 1991; Achenbach & Edelbrock, 1981). The short form version of the hostility subscale has been validated using a large sample of delinquent youth where the shortened scales were shown to predict reliably delinquency similarly to the full scales (Lizotte, Chard-Wierschem, Loeber, & Stern, 1992). Youth self-reports of hostility were also obtained with the Youth Self-Report (Achenbach, 1991), which sums eight items reflecting youth's difficulty socializing appropriately

with peers, tendency to get into fights, and so forth. Cronbach's alphas (internal consistency) were .60 for the peer measure and .67 for the self-report measure.

Perceived peer valuing of behavioral misconduct. This eight-item self-report scale was developed for this study to assess target adolescents' perceptions of their peers' values toward the types of behavioral misconduct around which peer pressure frequently occurs. Item selection was based on the item content of Clasen and Brown's Peer Pressure Inventory (Clasen & Brown, 1985). The measure asked target adolescents to what extent they saw their friends as valuing items such as "having a reputation as someone who is tough," "staying out of trouble" (reverse scored), "following rules at school" (reverse scored), or "drinking alcohol at parties." Internal consistency for the measure was good (Cronbach's $\alpha = .75$).

Results

Preliminary Analyses

Means and standard deviations for all variables examined in this study are presented in Table 1. Initial analyses examined the role of gender and racial/ethnic minority status on the primary measures. Several variables of substantive interest had slight correlations with these demographic factors; hence, these factors are considered as covariates in the following analyses. We also examined possible moderating effects of these demographic factors on each of the relationships described in the following primary analyses. All moderation effects were obtained by creating interaction terms based on the product of the centered main effects variables. No such moderating effects were found beyond what would be expected by chance. Examination of changes over time in variables that were repeated at each wave of the study indicates that perceived peer values supportive of behavioral misconduct increased markedly, $t(160) = 2.69$ $p = .008$; youth's reports of their own hostile behavior decreased markedly, $t(174) = -5.12$ $p < .0001$; and other markers of problematic behavior did not change significantly over this period.

For descriptive purposes, Table 2 presents simple correlations among all primary constructs. These analyses indicate numerous simple correlations between popularity and indexes of youth functioning, which are explored further later. These analyses also indicate that the indexes of youth functioning considered here are for the most part relatively independent of one another and thus provide relatively independent assessments of links between popularity and youth functioning.

Table 1
Means and Standard Deviations of Primary Measures and Demographic Variables

	M	SD
Popularity (soc, 13)	0.95	1.35
Ego development (t, 13)	4.20	0.42
Attachment security (t, 14)	0.26	0.42
Close friendship competence (pr, 13)	13.30	2.56
Positivity with mother (ob, 13)	2.36	0.75
Alcohol & substance use (sr, 13)	0.00	1.62
Alcohol & substance use (sr, 14)	0.00	1.72
Minor delinquency (sr, 13)	9.09	2.26
Minor delinquency (sr, 14)	9.09	1.95
Hostility (sr, 13)	1.80	2.08
Hostility (sr, 14)	1.05	1.47
Hostility (pr, 13)	1.22	1.51
Hostility (pr, 14)	1.08	1.49
Perceived peer misconduct values (sr, 13)	11.93	3.04
Dislike nominations (pr, 13)	0.56	1.38
Family income (m)	\$45,400	\$24,400
	N/%	N/%
Adolescent gender	Males: 87/47.0%	Females: 98/53.0%
Adolescent racial/ ethnic minority status	Minority: 72/38.9%	Nonminority: 113/61.1%

Note. Age of assessment is in parentheses: soc = sociometric assessment; pr = peer-reported; t = test; ob = observed; m = maternal report. Popularity mean reflects scores that were standardized within grade level before being combined across the sample. Alcohol and substance use means are 0 because these measures were composited from standardized scale scores.

Primary Analyses

Hypothesis 1: Popularity will be concurrently related to broader markers of psychosocial adaptation.

To address this hypothesis, a series of hierarchical regression analyses were performed. In each analysis, one marker of adaptation was regressed onto adolescent popularity, after first accounting for the effects of adolescent gender and ethnicity. These results are summarized in Table 3, with each set of three columns presenting the β , R^2 , and ΔR^2 from one such regression equation. These results indicate that popularity was related to higher levels of adolescent ego development (assessed using a test measure), adolescent attachment security (coded from interviews), close friendship competence (as rated by the adolescent's best friend), and positivity in interactions with mothers (coded from observed behavioral interactions). Given that these adaptation markers are only moderately intercorrelated, as indicated in

Table 2
Correlations Among Primary Constructs

	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Popularity (13)	.29***	.31***	.17*	.27***	.05	.22**	.03	.25**	-.18*	-.24**	-.29***	-.21**	.02	.13
2. Ego development (13)	-	.45	.15*	.28***	-.13	.00	-.01	.09	-.22**	-.09	-.12	-.02	-.14	.10
3. Attachment security (14)		-	-.08	.30***	-.05	.04	.02	.11	-.18	-.15	-.10	-.17*	-.06	-.15
4. Close friendship competence (13)			-	.05	.06	.09	.01	.09	.03	.11	-.19	.09	-.11	-.09
5. Positivity with mother (13)				-	-.08	-.03	-.09	.09	-.23**	-.14	-.16*	-.21*	-.07	.10
6. Alcohol & subst. use (13)					-	.49***	.53***	.24**	.21**	-.01	-.01	-.10	.49***	-.05
7. Alcohol & subst. use (14)						-	.46***	.42***	.02	-.01	-.08	-.03	.42***	.13
8. Minor delinquency (13)							-	.38***	.25***	.03	-.06	-.11	.42***	.07
9. Minor delinquency (14)								-	.05	.13	-.12	-.05	.32***	.20*
10. Hostility (sr, 13)									-	.48***	.12	.19*	.19*	.02
11. Hostility (sr, 14)										-	.16	.37***	.03	-.01
12. Hostility (pr, 13)											-	.26**	.13	.05
13. Hostility (pr,14)												-	-.08	.21**
14. Peer misconduct values (13)													-	.04
15. Dislike nominations (13)														-

Note. Assessment age is in parentheses: sr = self-reported; pr = peer reported.

* $p \leq .05$. ** $p < .01$. *** $p < .001$.

Table 3
Regressions of Markers of Functioning on Popularity After Accounting for Demographic Effects

	Ego development			Attachment security			Close friendship competence			Observed Positivity with Mother		
	β	ΔR^2	R^2	β	ΔR^2	R^2	β	ΔR^2	R^2	β	ΔR^2	R^2
Step 1												
Gender (1 = M; 2 = F)	.08			.14			.08			.07		
Minority group membership (0 = no; 1 = yes)	-.34***			-.33***			-.05			-.28***		
Summary Statistics		.117***	.117***		.114***	.114***		.008	.008		.079**	.079**
Step 2												
Popularity	.21**	.042**	.159***	.23**	.050**	.164***	.17*	.025*	.033*	.22**	.045**	.124***

* $p \leq .05$. ** $p < .01$. *** $p < .001$.

Table 2, these results indicate that popularity was related to a wide array of markers of social adaptation in adolescence.

Hypothesis 2: Popularity will predict adolescents becoming socialized into increasing levels of alcohol and substance abuse involvement and minor delinquent behavior over the following year.

Whereas the first hypothesis examined concurrent markers of adaptation expected to be linked to popularity, analyses for this and the following hypothesis examined the extent to which popularity would predict changes in levels of specific social behaviors expected to be socialized into or out of a popular adolescent's behavioral repertoire over time. This was done using a hierarchical regression, in which levels of problematic behavior at Time 1 were entered first,

followed by demographic covariates, followed by popularity. This approach of predicting the future level of a variable while accounting for predictions from initial levels (e.g., stability) yields one marker of change in that variable: increases or decreases in its final state relative to predictions based upon initial levels (Cohen & Cohen, 1983). Results are presented in Table 4, with results for alcohol and substance use presented in the four columns on the left and results for minor delinquent behavior presented in the four columns on the right. For both levels of alcohol and substance use and levels of minor deviant behavior, even after accounting for baseline levels of the behavior, target adolescents' popularity at age 13 predicted higher levels of the problematic behavior by age 14. Thus, levels of alcohol and substance use and levels of minor deviant behavior showed greater relative increases over the following year among adolescents who were more popular at age 13.

Table 4
Prediction of Problematic Behavior at Age 14 Covarying Levels of Problematic Behavior at Age 13

	Alcohol and substance use				Minor delinquent behaviour			
	β entry	β final	ΔR^2	Total R^2	β entry	β final	ΔR^2	Total R^2
Step 1								
Behavior at Time 1 (age 13)	.50***	.33***	.245***	.245***	.47**	.32***	.217***	.217***
Step 2								
Gender (1 = M; 2 = F)	-.02	.00			.01	-.00		
Minority group membership (0 = no; 1 = yes)	-.16*	-.10			-.11	-.04		
Summary statistics			.026	.271***			.011	.228***
Step 3								
Popularity (age 13)	.16*	.12	.023*	.294***	.28***	.23**	.068***	.296***
Step 4								
Peer valuing of misconduct (age 13)	.24**	.24**	.040**	.334***	.18*	.18*	.027*	.323***
Step 5								
Popularity \times Peer Valuing Misconduct	.19**	.19**	.031**	.365***	.19**	.19**	.032**	.355***

* $p \leq .05$. ** $p < .01$. *** $p < .001$.

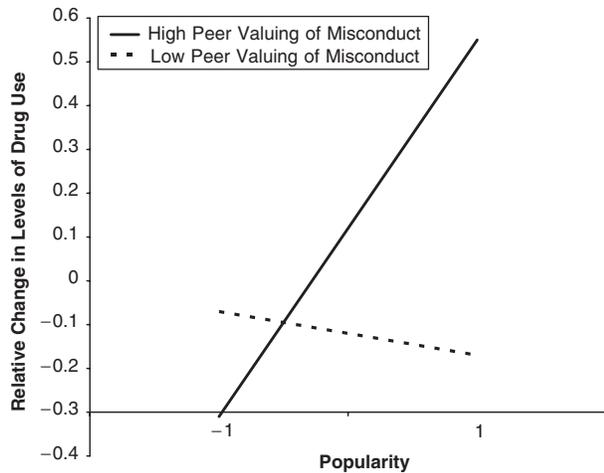


Figure 1. Interaction of popularity and peer valuing of misconduct in predicting relative changes in drug use from ages 13 to 14 (all scores are standardized).

Analyses further considered the effects of peer values supportive of behavioral misconduct in subsequent steps in the same regression equations. These results indicated that peer values supportive of later misconduct were also predictive of relatively higher levels of subsequent alcohol and substance abuse, and of relatively higher subsequent levels of minor delinquent behavior, and that these values interacted with popularity in this prediction. Post hoc tests of these interactions, depicted in Figures 1 and 2, following techniques prescribed by Aiken and West (1991), indicated that as hypothesized, popularity was most likely to be predictive of increases in problematic behavior for adolescents when they perceived that their peers held more positive values toward behavioral misconduct.

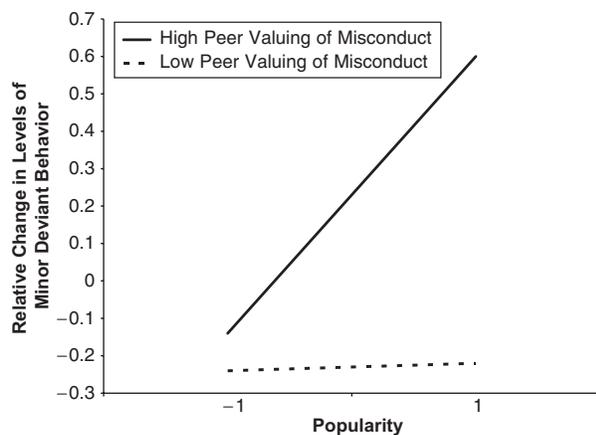


Figure 2. Interaction of popularity and peer valuing of misconduct in predicting relative changes in minor deviant behavior from ages 13 to 14 (all scores are standardized).

Hypothesis 3: Popularity will predict adolescents decreasing levels of hostile behaviors over the following year.

Analyses next considered popularity as a predictor of adolescents' changing levels of hostility toward peers over the following year (whether rated by the adolescent or by the adolescent's best friend) using the same strategy outlined earlier. Results, presented in Table 5, indicate that as hypothesized, popularity predicted relative decreases in future levels of hostility after accounting for baseline levels.

Post Hoc Analyses

Possible role of being disliked. Given evidence in the child sociometric literature that some youth might be both highly popular and often nominated as disliked (e.g., they have a controversial status), analyses next examined whether the results might be accounted for by the number of dislike nominations received by an adolescent. The number of dislike nominations for adolescents were entered into each of the equations above before the popularity scores. The number of dislike nominations was never found to predict significantly any of the outcomes examined, nor did it substantially alter any of the effects of popularity reported earlier. These analyses suggest that the effects cannot be attributed to an individual's overall controversial status or impact within the peer group but rather are specific to that individual's level of simple popularity.

Popularity and serious criminal behavior. Analyses were next conducted to assess whether the links between popularity and minor delinquency reported earlier would be specific to minor delinquency, as hypothesized, or would generalize to more serious forms of delinquent behavior, which are less typically sanctioned within adolescent peer groups. In these analyses, levels of serious criminal behavior at age 14 were predicted from popularity after first accounting for age 13 criminality and demographic effects. No predictions from popularity were obtained, indicating that the effect of popularity in predicting increasing levels of minor delinquency was specific to minor forms of delinquency and did not generalize to more serious forms of criminal behavior.

Prediction of change in markers of social adaptation. Finally, although no effects were hypothesized, analyses examined whether popularity was predictive of relative changes over time in adolescents' ego development or close friendship competence (the two positive markers for which longitudinal data were available). No such relationships were observed.

Table 5
Prediction of Hostility at Age 14 Covarying Levels of Hostility at Age 13

	Hostility(self-report)				Hostility (best-friend report)			
	β entry	β final	ΔR^2	Total R^2	β entry	β final	ΔR^2	Total R^2
Step1								
Behaviour at Time 1 (age 13)	.48***	.45***	.230***	.230***	.26***	.21*	.066**	.066***
Step 2								
Gender (1 = M; 2 = F)	.01	.03			.00	.01		
Minority group membership (0 = no; 1 = yes)	.05	.00			.01	-.04		
			.003	.233***			.000	.066**
Step 3								
Popularity (age 13)	-.17**	-.17**	.027**	.260***	-.16*	-.16*	.023*	.089**

* $p \leq .05$. ** $p < .01$. *** $p < .001$.

Discussion

As hypothesized, popularity with peers was found to play a multifaceted role in early adolescence. Popularity was concurrently associated with positive markers of overall social development and with functioning in two major current relationships, assessed using a combination of self-report, peer report, observation, and test data. This strongly positive concurrent picture was qualified, however, by findings that the sequelae of popularity in early adolescence were more complex in nature, consistent with the popularity-socialization hypothesis presented in this study. In prospective analyses, popularity predicted relative behavioral changes in ways that appeared consistent with larger peer group behavioral norms but that were not always consistent with the norms of adult society. Together, these findings suggest a view of popularity in adolescence as reflecting positive psychosocial adaptation but also as exposing popular adolescents to the complex socializing influences of peers. These findings are each considered in detail, followed by a discussion of their limitations.

Although prior research has linked adolescent popularity to lower levels of depression (Henrich et al., 2001), links to well-established markers of social adaptation assessed using other than self-reports, such as ego development and attachment security, have never been assessed. The relation of popularity to higher levels of ego development indicates that popular adolescents tend to be better able than their less popular peers to integrate and balance needs of self and others, to control their impulses, and to see multiple perspectives within conflictual situations (Hauser, 1976). These skills might be precisely the kinds of skills needed to succeed with peers. Similarly, the association between popularity and ado-

lescent attachment security indicates that popular adolescents are characterized by a degree of openness to strong emotional experience, coherence in recalling and recounting past attachment experiences, and a degree of implicit optimism about future attachment relationships (Hesse, 1999). High levels of ego development and attachment security, both of which are relatively stable across adolescence (Ammaniti, van IJzendoorn, Speranza, & Tambelli, 2000; Hauser, Borman, Powers, Jacobson, & Noam, 1990), seem to position an adolescent to address and manage the emotional vicissitudes of a variety of relationships with peers (Cooper, Shaver, & Collins, 1998).

Popularity was also linked to positive current relationship qualities as assessed through observations of mother-adolescent interactions. Observed positivity in interactions where adolescents were trying to elicit parental guidance and support was associated with an adolescent being widely liked by his or her peers. Although some have argued that peer relationships largely usurp influence from parental relationships by adolescence (Harris, 1998), the data from this study suggest an alternative perspective in which qualities of parent and peer relationships can be viewed as closely linked. To our knowledge, this is the first observational evidence that popularity in adolescence is linked to what occurs within primary family relationships.

Similarly, adolescents who were popular within their wider peer group were also rated as more competent within their closest friendship. Prior research has suggested that popular adolescents were more likely to be rated as socially skilled by their broader peer group (Frentz, Gresham, & Elliott, 1991; Pakaslahti et al., 2002; Parkhurst & Hopmeyer, 1998); the current study extended these findings by showing that such skills exist not only within the broader

peer group but also in current behavior within a best friendship. Taken together, findings about both the intrapsychic and behavioral correlates of popularity depict it as firmly embedded within a matrix of markers of positive social development in early adolescence.

The strong and consistent findings regarding the positive concurrent correlates of popularity in early adolescence set the stage for understanding the finding that future outcomes for popular adolescents are more mixed. For although popular early adolescents have numerous positive characteristics, over time these popular adolescents also display relative increases in levels of minor deviant behavior and alcohol and substance abuse, although they also demonstrate relative decreases in levels of hostility.

The future behavioral changes of popular adolescents appear best understood as being consistent with the socialization pressures likely to be extant within their peer groups. Unlike in childhood, where children's values and norms are largely consistent with those of their parents, in adolescence both value surveys and behavioral assessments suggest a broad change in which adolescents become far more likely to tolerate and even endorse at least minor levels of behavior that are considered deviant by adults (Allen et al., 1989; Moffitt, 1993; Roeser, Eccles, & Freedman-Doan, 1999). Data from this study are consistent with the hypothesis that popular and well-adjusted adolescents would be particularly likely to be socialized into these broadly accepted peer norms in early adolescence.

In the one domain where specific peer values data were available (i.e., values toward deviant behavior), this study found further evidence supporting the popularity-socialization hypothesis. Popularity was found to interact with perceived peer values, such that popularity was more strongly associated with increases both in alcohol and marijuana use and in minor delinquent acts when adolescents perceived that peer values more strongly supported these kinds of behavior. This finding suggests that popular adolescents were indeed more likely than less popular adolescents to move in the direction of perceived peer norms over time.

Not all peer norms in adolescence support deviant behaviors, however. Both norms and actual levels of outwardly hostile behaviors toward peers (e.g., overt aggression) tend to decrease during early adolescence (Bierman et al., 1993; Coie et al., 1990; in contrast to relationally aggressive behaviors, which were not assessed but which may be more prominent during this period; Rose, Swenson, Waller, & Rose, 2004). Correspondingly, popularity in this study was

predictive of relative decreases over time in levels of overtly hostile behavior as rated by both adolescents and their closest friend. These findings thus provide further support for the idea that popular adolescents are well socialized over time to peer norms, including both norms that are positive and norms that are negative from the vantage point of adult society. Over time, popular adolescents become somewhat more deviant and more willing to experiment with substance use but also more likely to interact with peers without resorting to overtly hostile behaviors. This suggests that although popularity may be a risk factor for some forms of deviant behavior that are relatively normative in early adolescence, it may also be a protective factor with respect to serious problem behavior that is not normative within broader samples of adolescents.

The finding that some increase in deviance is normative even (indeed, especially) for otherwise popular and successful adolescents suggests the value of autonomy-based theories that recognize that some adolescent deviance may be a by-product of otherwise positive developmental forces (Moffitt, 1993). Although such theories should not be taken as an endorsement of such behaviors (even "minor" delinquency and substance use create tremendous social costs and substantial risks to the adolescent), it may be that popular adolescents who engage in minor delinquent behaviors are demonstrating to their peers that they are able to establish their autonomy vis-à-vis parental norms.

This view suggests one explanation for the dramatically higher rates of deviance that occur even among well-adjusted teens during adolescence and for the occasional, intriguing findings that adolescents experimenting with substance use are in some ways better adjusted than complete abstainers (e.g., Cooper et al., 1998; Shedler & Block, 1990). It should be noted, of course, that as with the Cooper et al. (1998) and Shedler and Block (1990), the deviant behavior that increased among popular adolescents in this study was of the relatively mild variety, with more severe forms (i.e., serious delinquency or overt aggression) either left unchanged or even decreasing for popular adolescents. The findings of this study nevertheless raise the possibility that increasing levels of mild deviant behaviors in adolescence may in part result from larger normative socialization processes that include otherwise well-adjusted adolescents. Further understanding the meaning and function of these processes now seems critical to identifying ways to allow socialization to proceed without the negative consequences of adolescent deviant behavior.

Several limitations to these data bear mention. First, although longitudinal change studies help eliminate some causal hypothesis (e.g., that the longitudinal relation between popularity and deviance is simply the result of a concurrent third variable driving both variables at baseline (Cohen & Cohen, 1983)), even longitudinal data are not logically sufficient to establish causal relationships. Second, popularity is only one marker of social adaptation in adolescence, and future research on other aspects of peer group relationships, such as status-based (as opposed to liking-based) measures may shed further light on the phenomena described in this study. Also, this study used overall popularity rather than categorizations of young people into popular, neglected, controversial, and rejected groups as studies with younger children have sometimes done. Although this made sense given the sample size involved, the changed nature of the rating groups (an entire grade of students vs. a single classroom), and the conceptual focus of the study on popularity, this approach does not allow direct comparison of these findings with prior research using categorical groupings of young people. Analyses did, however, establish that consideration of dislike ratings together with like ratings (i.e., markers of controversial status) did not alter findings of the study, thus suggesting that findings are likely to hold not only for purely popular individuals but also for individuals who received substantial numbers of both like and dislike nominations.

Third, the effect sizes observed in this study were modest in nature. Although this befits the phenomena being studied—given the multiple precursors of deviant and substance using behavior, it would be unreasonable to expect popularity to be more than a modest incremental source of variance in these behaviors—the point is nevertheless worth reiterating that this study was not intended to proffer popularity as a primary explanation for deviant behavior in adolescence. Rather, this study was intended to illustrate a potentially important developmental process: that popularity, which appears as such a clear marker of positive adaptation, could nevertheless reliably account for some variance in the rapid increase in problematic behavior that occurs during adolescence.

On a related note, it is of course likely that some of the most disturbed adolescents did not increase as highly in levels of deviant behavior over time because they began the study at high levels of this behavior, and this normative study does not purport to explain the development of these more extreme, high-level delinquent offenders. Similarly, these re-

sults do not negate Patterson's theory (Patterson, DeBaryshe, & Ramsey, 1989) that rejection by peers leads to higher levels of deviance, as this theory was primarily designed to apply to a disturbed subsample of adolescents and to serious deviant behavior. In contrast this study addressed more minor levels of deviance (that nonetheless have significant social impact) among a broad, normative population.

In addition, although this study focused on a community sample of adolescents, it raises the possibility that youth who are popular within more narrow and deviant subgroups might also be particularly susceptible to socializing influences by these more deviant peers. Further research might assess the extent to which the popularity-socialization hypothesis proposed in this study generalizes to more deviant groups of adolescents and seek to understand the extent to which this hypothesis might help account for peer influences within such groups.

Finally, although these data are longitudinal and multimethod, the period examined is relatively brief. These findings do not imply that popular adolescents are likely to engage in serious levels of deviant behavior or even to maintain minor levels of deviance over long periods. Ultimately, we might hope that a popularity-socialization process might lead to positive outcomes for popular youth, as prevailing norms within peer groups become increasingly prosocial over time. Alternatively, however, it may be that more autonomous popular older adolescents are less easily socialized by their peers and that the popularity-socialization process fades over time. Whether, and how, the popularity-socialization hypothesis might generalize to older groups of adolescents is thus not readily predictable from these findings but is clearly a topic warranting further research.

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