

## The Adolescent Relational Dialectic and the Peer Roots of Adult Social Functioning

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The long-term import of a fundamental challenge of adolescent social development—establishing oneself as a desirable peer companion while avoiding problematic behaviors often supported within peer groups—was examined in a community sample of 184 adolescents, followed from ages 13 to 23, along with parents, peers, and romantic partners. The dialectical nature of this challenge appeared in findings that autonomy vis-à-vis peer influences predicted both long-term success avoiding problematic behavior but also more difficulty establishing strong adult friendships. Conversely, being a desirable peer companion in adolescence predicted more positive adult relationships but also greater alcohol use. Adolescents who established themselves as both desirable companions and as autonomous vis-à-vis peers were rated as most successful by their parents at age 23.

This study examined the long-term implications of a fundamental developmental challenge of the adolescent to adult transition: how to establish oneself as a desirable peer companion while also establishing a degree of autonomy with respect to peer influences, including influences toward behaviors that are societally proscribed (e.g., alcohol abuse), but often valued within adolescent peer groups. Within adolescence, this ability has been concurrently linked to fewer mental health problems, better relationships with parents, and an increased likelihood of having a secure state of mind regarding attachment (Allen, Porter, McFarland, Marsh, & McElhaney, 2005; Henrich, Blatt, Kuperminc, Zohar, & Leadbeater, 2001; Parkhurst & Hopmeyer, 1998; Prinstein, Boergers, Spirito, Little, & Grapentine, 2000). Establishing oneself as a positive and desirable peer companion reflects a range of skills—from perspective taking and sense of humor to impulse control and empathy—that are likely to be of crucial importance beyond adolescence as well, when establishing and maintaining close friendships and healthy romantic relationships become primary tasks (Collins, van Dulmen, Arnett, & Tanner, 2006).

Failure to establish positive social relationships in adulthood has been linked to an array of func-

tional difficulties, up to and including a risk for early mortality comparable in magnitude to the risks created by obesity and cigarette smoking (House, Landis, & Umberson, 1988). Several long-term studies have linked the presence of friendships and social support in adolescence to adult social functioning with family and friends (Bagwell, Schmidt, Newcomb, & Bukowski, 2001; Newcomb & Bentler, 1988; Stein & Newcomb, 1999). With the exception of one study (Bagwell et al., 2001), however, this research has relied almost exclusively upon self-report assessments at both eras, thus introducing significant methods confounds that obscure the true magnitude of the long-term import of early adolescent peer experiences. Similarly, research has begun to identify links between same-gender peer experiences in adolescence and qualities of concurrent romantic relationships (Furman, 1999; Furman, Simon, Shaffer, & Bouchee, 2002; Scharf & Maysel, 2001), but whether and how these links extend beyond adolescence has not yet been well explored.

Even in the short term, however, adolescents' positive experiences with peers can have a significant potential downside: Well-regarded adolescents tend to engage in higher levels of alcohol and substance use, and minor delinquent activities (Allen et al., 2005; Becker & Luthar, 2007). This phenomenon has been observed with respect to both sociometric measures of social status (e.g., asking

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adolescents which of their classmates are perceived to be popular) and measures of social preference and acceptance (e.g., asking who adolescents actually consider friends or prefer as social companions; Mayeux, Sandstrom, & Cillessen, 2008; Prinstein & Cillessen, 2003).

This phenomenon has been explained via a popularity–socialization hypothesis, which posits that well-regarded teens are liked in part because they are well attuned to the social norms of their peers, including norms that do not always match those of the larger adult society (Allen et al., 2005). Although the problematic behaviors often supported in adolescent peer groups do not necessarily reflect serious pathology, they nevertheless create large societal costs, leading, for example, to more than 5,000 deaths annually among adolescents in the United States from alcohol and substance use alone (Blanco et al., 2008; U.S. Department of Health and Human Services, 2007). Some evidence even suggests that the link between positive adolescent social relationships and risky and deviant behavior may extend into adulthood (Bagwell et al., 2001; Sandstrom & Cillessen, 2010). Clearly, what leads to social success as a teen, by itself, is not necessarily the same as what will lead to success in the adult world.

An important buffer against criminal behavior and problems associated with alcohol and substance use in adolescence may be found in the capacity to autonomously resist peer influences (Allen, Porter, & McFarland, 2006). Extrapolating from findings within adolescence, this capacity to resist negative peer influences could be expected to predict avoidance of such maladaptive behaviors in adulthood as well. However, although autonomy vis-à-vis peer influences may lead to avoidance of problematic behaviors, not following peer norms also has the potential to inherently create tension in peer relationships.

Together, these findings raise the disturbing possibility that there may be no straightforward path from the social developmental challenges of adolescence to a connected, well-adapted adulthood. Establishing oneself as a desirable peer companion seems likely to be a key precursor to successful adult social functioning, yet is also linked to risks for alcohol and substance use and deviant behaviors. Establishing autonomy with respect to peer influences may buffer against these risks, but may also create a degree of distance from peers. This tension between autonomy and connection processes has long been recognized as comprising a challenging dialectic across the life span—in which

the benefits of close social relationships run up against the potential drawbacks of autonomy-limiting social norms that may not be in the individuals' interests (Baxter & Duck, 1988; Baxter & Montgomery, 1996; Montgomery & Baxter, 1998). Indeed, the struggle to establish autonomy while maintaining positive relationships has been identified as a key challenge: from toddler struggles for autonomy (Colson & Dworkin, 1997), to parent–adolescent negotiations around disagreements (Allen, Hauser, Bell, & O'Connor, 1994; Hill & Holmbeck, 1986), to self-determination challenges in adulthood (Deci & Ryan, 2004; Ryan & Deci, 2000).

The central premise of this study is that learning to manage connection and autonomy challenges in peer relationships in adolescence—to be able to “go one's own way” where necessary, yet still remain a desirable companion to peers—will be a key precursor to a range of indices of successful adult social functioning. As depicted in Figure 1 and described above, each of these adolescent tasks was hypothesized to predict discrete, yet sometimes contradictory, aspects of adult functioning. Overall, levels of global adaptation were hypothesized to be best predicted by the combination of adolescent acceptance by peers and autonomy with respect to peer influences.

The most stringent and conservative test of any putative developmental challenge is not simply whether it predicts future outcomes, but whether it can provide predictive utility above and beyond predictions from other current markers of functioning in adolescence (Bell, 1986; Sroufe, 2005). Thus, predictions from adolescent autonomy with respect to peer influences and acceptance by the peer group were examined after accounting for related baseline measures of adolescent functioning. These predictions were all assessed in a multimethod, multiobserver longitudinal study that assessed a diverse community sample of early adolescents repeatedly over an 11-year period extending from early adolescence into early adulthood.

## Method

### *Participants*

This report is drawn from a larger longitudinal investigation of adolescent social development in familial and peer contexts. Participants included 184 seventh and eighth graders (86 male and 98 female) followed over an 11-year period from ages 13–23.

Adolescents were initially recruited from the seventh and eighth grades of a public middle school drawing from suburban and urban populations in

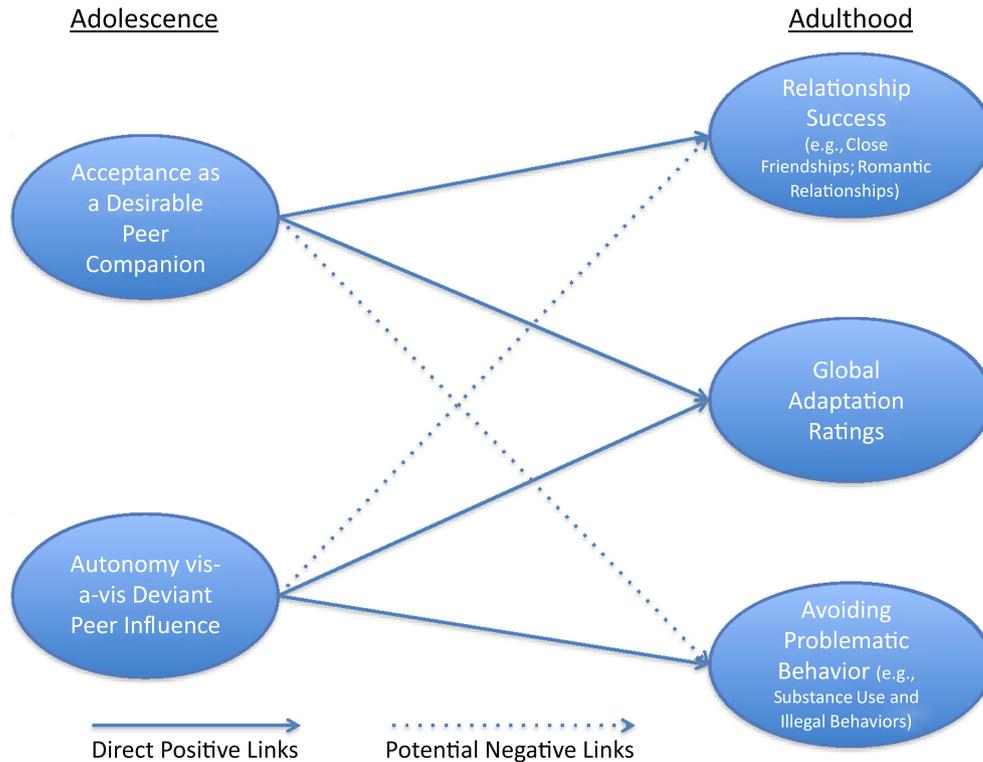


Figure 1. The adolescent relational dialectic and hypothesized adult outcomes.

the Southeastern United States. Students were recruited via 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 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.

Adolescents were first assessed annually over a 3-year period in early adolescence (at ages 13.35 [ $SD = 0.62$ ] at Wave 1, 14.29 [ $SD = 0.75$ ] at Wave 2, and 15.22 [ $SD = 0.80$ ] at Wave 3). At each age, adolescents nominated their closest, same-gendered 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 4.15 years ( $SD = 3.20$ ) at the first wave of data collection, 4.39 years ( $SD = 3.24$ ) at the second wave of data collection, and an average of 5.26 years ( $SD = 3.45$ ) at the third wave. The sample was racially/ethnically and socioeconomically diverse: 107 adolescents (58%) identified themselves as

Caucasian, 53 (29%) as African American, 15 (8%) as of mixed race/ethnicity, and 9 (5%) as being from other minority groups. Adolescents' parents reported a median family income in the \$40,000–\$59,999 range.

Follow-up data were obtained for 179 (97.3%) of the original 184 participants at ages 20–23 in early adulthood. At follow-up, 29% of participants were still in school, 76% were currently employed full- or part-time, and 36% were living with their parents. In addition to participant-provided data, close friends provided data at follow-up for 165 participants. One or both parents provided data for 147 participants (136 mothers provided ratings, 53 fathers, and in 42 families, both parents provided ratings). Finally, for participants who were in a romantic relationship lasting 3 months or longer between ages 20 and 22, 70 romantic partners also participated with our target participants in an observational discussion task.

#### Attrition Analyses

Attrition analyses examined missing data for each type of data obtained in the follow-up. Comparisons of baseline data for participants with and without close friend reports at follow-up indicated

that those without close friend reports differed from those with close friend follow-up data only in having lower close friendship competence scores at baseline. Comparisons of baseline data for participants with and without parent reports at follow-up indicated that those without parent reports had lower close friendship competence scores and lower grade point averages at baseline. Comparisons of baseline data for participants with and without observational data from romantic partners at follow-up indicated that those without observational data from romantic partners differed from those with observational data from romantic partners follow-up data only in having lower grade point averages at baseline.

To best address any potential biases due to attrition in longitudinal analyses, full imputation maximum likelihood (FIML) methods were used with analyses including all variables that were linked to future missing data (i.e., where data were not missing completely at random). Because these procedures have been found to yield the least biased estimates when all available data are used for longitudinal analyses (vs. listwise deletion of missing data; Arbuckle, 1996), the entire original sample of 184 was utilized for these analyses. This full sample thus provides the best possible estimates of variances and covariances in measures of interest and was least likely to be biased by missing data. Alternative longitudinal analyses using just those participants without missing data (i.e., listwise deletion) yielded results that were substantially identical to those reported below. In sum, analyses suggest that with the exception of romantic partner data, where attrition would be expected yet was only related to one baseline measure, attrition was modest overall and not likely to have distorted any of the findings reported.

### Procedure

In the initial introduction and throughout all sessions, confidentiality was assured to all study participants and adolescents were told that their parents, friends, and romantic partners 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. Adolescent and adult participants, their parents, their peers, and their romantic partners were all paid for participation.

### Measures

*Desirability as a social companion (ages 13–15).* Adolescents' capacity to establish themselves as desirable social companions with a range of their peers was assessed using a combination of a limited nomination peer assessment procedure and a close friend's report. Each adolescent, their closest friend, and two other target peers were asked to nominate up to 10 peers in their grade with whom they would "most like to spend time on a Saturday night." The raw number of "like" nominations each teen received was standardized within grade level as a measure of desirability as a social companion in the broader peer group following the procedure described in Coie, Dodge, and Coppotelli (1982). Ratings were highly correlated across years (mean  $r = .65$ ). These ratings were then summed and averaged across the first 3 years of the study to yield a mean score reflecting desirability as a companion within the broader peer group across ages 13–15 (Cronbach's  $\alpha = .84$ ). This approach to assessing social acceptance has been previously found to be related to adolescent attachment security, qualities of positive parental and peer interactions, and short-term changes in levels of deviant behavior (Allen et al., 2005; Allen, Porter, McFarland, McElhaney, & Marsh, 2007; McElhaney, Antonishak, & Allen, 2008).

The participant's closest friend completed a modified version of the Self-Perception Profile for Adolescents (Harter, 1988) at each of ages 13 through 15 to assess the target teen's overall competence in close friendships. The measure was modified so that peers completed four items that they thought best described the target teen's status as a close friend (e.g., "Some teens have a really close friend to share things with"). Internal consistency for this four-item measure was adequate (Cronbach's  $\alpha = .67$ ), and this measure has been found to yield valid assessments of target teens' close friendship competence in other studies relating competence to predictors such as adolescent attachment security (Allen, Moore, Kuperminc, & Bell, 1998). Scores for ages 13–15 were averaged to yield a measure of close friendship competence in early adolescence; scores for ages 21–22 were averaged to yield a measure of close friendship competence in early adulthood. The limited nomination and close friend measures were then standardized and summed together to yield a measure of the adolescent's *desirability as a social companion* at ages 13–15.

*Autonomy vis-à-vis peer influence (ages 13–15).* This construct was assessed as a combination of assess-

ments of observed adolescent susceptibility to peer influence in discussing a disagreement with a close friend (reverse-scored), adolescent value placed on autonomy, and external ratings of teen autonomy with respect to deviant peer influences in an analogue social problem-solving measure.

Susceptibility to peer influence was measured at age 13 by presenting adolescents and their close friends separately with a hypothetical dilemma in which they were asked to decide which 7 of a possible 12 fictional characters stranded on another planet should be selected for an emergency trip back to earth (Allen et al., 2006). After making their decisions separately, adolescents and their close friends were then brought together and told of their differences and asked to try to come up with a consensus answer. Susceptibility to peer influence was assessed as the percentage of disagreements in which the target adolescent changed his or her initial answer to match that of his or her peer so as to arrive at a consensus answer (ranging from 0% to 100% changed answers), a measure that has previously been found to predict increasing levels of negative peer influence over time (Allen et al., 2006). The mean number of disagreements for a dyad was 4.62, with only five dyads having fewer than two disagreements (these dyads were excluded from analyses).

*Teen valuing of autonomy* was assessed at both ages 14 and 15 by asking participants to respond to six items on a 3-point Likert scale asking the extent to which they valued items reflecting capacity for self-direction (e.g., "How important is it for a teen to think for him/herself?"). Items were summed into a scale for teen valuing of autonomy and combined across assessment periods (Cronbach's  $\alpha = .78$ ).

A modified version of the Adolescent Problem Inventory (API; Freedman, Rosenthal, Donahoe, Schlundt, & McFall, 1978; Gaffney & McFall, 1981) was used to assess adolescents' autonomy vis-à-vis deviant peer behavior at each of ages 13, 14, and 15. Adolescents self-reported their most likely responses to a series of problematic hypothetical situations, which were then rated by coders unfamiliar with other data from the study, using a 0–10 scale, for their competence not only in resolving the situation at hand but also in making future problematic situations less likely. At each age, assessments were obtained regarding both situations involving peer temptations to engage in deviant behavior and more general socially challenging situations (e.g., involving parents, teachers, etc.). So as to isolate effects of susceptibility to negative peer influences, the sum score for skill in handling more general situations was regressed out of the score for

handling negative peer influences. This measure was obtained repeatedly at each of the first three waves of data collection (ages 13, 14, and 15) using different items at each wave (eight items at ages 13 and 14, and six items at age 15), and the mean of scores across three waves was used in analyses. Interrater reliability for this final measure, calculated using the intraclass correlation coefficient, was  $r = .87$ , which is considered in the "excellent" range for this statistic (Cicchetti & Sparrow, 1981).

The measures of susceptibility to peer influence (reverse-scored), values placed upon autonomy, and autonomy vis-à-vis deviant peer behavior were standardized and summed to yield the measure of *adolescent autonomy vis-à-vis peer influences. Observed relatedness during disagreements with romantic partner* (ages 20–22). Participants and their romantic partners of at least 3 months duration participated in a revealed differences task in which they discussed a relationship issue that they had separately identified as an area of disagreement. Participants and their romantic partners were then brought together, and the discussion began with the participant playing an audiotape that he or she had previously recorded with an interviewer in which he or she stated the problem, his or her perspective on it, and what the participant thought his or her romantic partner's perspective was. These interactions lasted 8 min and were videotaped and then transcribed.

The coding system employed yields ratings for the participant's overall behavior toward their romantic partners in the interaction (Allen et al., 1994; Allen et al., 2000). Ratings are molar in nature, yielding overall scores for participants' behaviors across the entire interaction; however, these molar scores are derived from an anchored coding system that considers both the frequency and intensity of each speech relevant to that behavior during the interaction in assigning the overall molar score. Specific interactive behaviors were coded and then summed together on a priori grounds into a primary scale for the extent to which participants promoted relatedness with their partners, a scale which captures validating statements and displays of engagement and empathy with the other party and their statements. Each interaction was reliably coded as the average of scores obtained by two trained raters blind to other data from the study. Interrater reliability was calculated using intraclass correlation coefficients and was in what is considered "excellent" range for this statistic (intraclass  $r = .77$ ; Cicchetti & Sparrow, 1981).

*Self-perceived peer relationship quality (ages 13–15)*. The Inventory of Parent and Peer Attachment

(Armsden & Greenberg, 1987) was used to assess adolescents' perceptions of the overall quality of their relationship with their peers in terms of the degree of trust, communication, and alienation in peer relationships taken as a whole. A composite score of the adolescent's perceptions of the overall quality of these relationships is obtained from twenty-five 5-point Likert scale items. Cronbach's  $\alpha$  in this sample was .95 for the composite score.

*Alcohol use (ages 13–15; ages 21–23).* Participant alcohol use was assessed with the Alcohol and Drug Use Questionnaire (Johnston, O'Malley, & Bachman, 1987), a self-report measure that includes items assessing the frequency of participant use of alcohol, marijuana, or both in the past 30 days. This measure is based on the Monitoring the Future surveys (Johnston et al., 1987). Johnston et al. (1987) found high reliability from year to year and consistency between related measures within the same questionnaire administration. Construct validity in their research was demonstrated as self-reported substance use was related to attitudes, beliefs, and related behaviors and underreporting appeared to be minimal. Scores for each year from ages 13 to 15 and from ages 21 to 23 were summed and averaged to produce alcohol use scores for early adolescence and early adulthood, respectively. Close peer alcohol use for ages 13–15 was assessed via close peer report about their own use on this same measure.

*Problems due to alcohol and substance use (ages 21–23).* These problems were assessed with the Core Alcohol and Drug Survey (Presley, Meilman, & Lyerla, 1994). This survey asks respondents to note whether they have experienced any of 20 different problems due to drinking or drug use during the past year, ranging from having a hangover to being hurt or injured, to being arrested for driving under the influence. A total problems score is created as the sum of responses to these 20 dichotomous items. It has previously been administered nationally to more than 50,000 college-age students each year (Presley et al., 1994). The number of problems reported in each year from age 21 to 23 was summed and averaged to produce a total problems score.

*Externalizing behavior (age 13).* Target adolescents' mothers reported on adolescents' externalizing behaviors using the short form of the externalizing scales from the Child Behavior Checklist (Achenbach, 1991; Achenbach & Edelbrock, 1981). The short form versions of the aggression, delinquency, and hyperactivity externalizing subscales (total 21 items) were validated using a large sample of delinquent youth where these subscales reliably predicted delinquency similar to the full

scales (Lizotte, Chard-Wierschem, Loeber, & Stern, 1992). Cronbach's  $\alpha$  for the scale of all externalizing items was .89.

*Criminal behavior.* This behavior was measured with an instrument initially validated and normed in a longitudinal study of a national probability sample of adolescents (Elliott, Huizinga, & Menard, 1989).

*Participant criminal behavior (ages 21–23).* This behavior was measured as the total number of times youths reported engaging in each of 37 nonoverlapping classes of illegal behavior (designed to assess all significant youth criminal behavior, except for drug use) during the previous 6 months. When obtained by sensitive interviewers who have first established rapport with interviewees, self-reports of problem 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).

*Close peer criminal behavior (ages 13–15).* This behavior was assessed via the closest named peer's report of their own criminal behavior using the same measure.

*Close friendship competence (ages 21–22).* Close friendship competence was assessed at each of ages 21 and 22 using the same measure and procedure described under "Desirability as a Social Companion" above.

*Parent-rated global adjustment (age 23).* This was assessed via the Young Adult Adjustment Scale (Capaldi, King, & Wilson, 1992) in which parents rate their young adult offspring using 37 items answered on a 1 (*not true*) to 5 (*very true*) scale across six different areas of functioning tapping young adult positive peer relations, career ambitions, functional independence, lack of antisocial behavior, and overall success and apparent happiness. Cronbach's  $\alpha$  for the combination of these six scales was high ( $\alpha = .87$ ) and mothers' and fathers' ratings were combined (with one or the other used if both were not available) to yield an overall measure of youth's global adjustment as rated by parents.

## Results

### *Preliminary Analyses*

Means and standard deviations for all substantive variables examined in the study are presented in Table 1. Initial analyses examined the role of gender and family income in early adolescence on

Table 1  
Means, Standard Deviations, and Intercorrelations of Primary Variables

	M	SD	2	3	4	5	6	7	8	9	10	11	12	13
1. Peer report of acceptance (13-15)	0	1.0	-01	16*	29***	41***	16*	32***	21**	-27***	-12	33***	11	-18*
2. Autonomy vis-à-vis peer influence (13-15)	0	1.0	—	15*	-08	11	-40***	-33***	-40***	-07	-28***	21**	-19**	-13
3. Self-perceived peer relationship quality (13-15)	102.4	11.7			18*	10	04	-08	-04	-14	12	22**	-16*	-15*
4. Close friendship competence (21-22)	16.9	2.60			—	03	08	20*	14	-06	-00	11	-10	-08
5. Positive romantic relatedness (21)	2.17	.66				—	10	11	-01	-03	-28*	23	-11	-13
6. Alcohol use (13-15)	.22	.43					—	20**	29***	05	20*	-09	21**	13
7. Alcohol use (21-23)	1.65	.92						—	69***	-16*	23**	03	18*	04
8. Alcohol and substance problems (21-23)	2.92	2.87							—	-10	28***	-14	10	06
9. Participant externalizing behavior (13)	5.89	5.18									07	-28***	8	03
10. Criminal behavior (21-23)	23.6	3.74										-19*	13	11
11. Parent rated global adjustment (22)	12.34	2.26											-17	-41***
12. Peer alcohol use (13-15)	.22	.44												25***
13. Peer criminal behavior (13-15)	19.3	4.63												—

Note. Correlations are multiplied by 100. Participant age at time of assessment is in parentheses.  
\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

the primary measures examined in the study. Several variables of substantive interest in the study were related to both adolescent gender and income in the adolescent's family of origin; hence, these factors were considered as covariates in analyses below. Distributional properties of variables were also examined and two outcome variables that had excessive skewness or kurtosis (problems due to alcohol or substance use and adult criminal behavior) were transformed via inverse transformations, which reduced skewness and kurtosis to acceptable levels (skewness < 2 and kurtosis < 3). Means and standard deviations for the untransformed variables are presented in tables to allow interpretation relative to original scale properties. We also examined possible moderating effects of gender and family income on each of the relationships described in Primary Analyses below. All moderation effects analyzed were obtained by creating interaction terms based on the product of the centered main effect variables. No moderating effects were found beyond what would be expected by chance.

*Correlational analyses.* For descriptive purposes, Table 1 also presents simple correlations among all primary constructs examined in the study. These analyses indicate numerous simple correlations between early adolescent acceptance as a social companion by peers and autonomy with respect to peer influences and markers of functioning in early adulthood. These analyses also indicate that with the exception of associations between alcohol use and problems related to use, the remaining indices of early adult functioning were for the most part either not significantly correlated (for 14 pairs of correlations), or only very modestly correlated with one another (six pairs of correlations), and thus provide relatively independent assessments of links between the markers of early adolescent social competence examined and a range of domains of early adult functioning.

#### *Primary Analyses*

A three-step hierarchical approach, using Mplus (version 6.12) and FIML handling of missing data, was employed for assessment of each outcome variable. In the first step, adolescent gender and family income were entered as predictors. The next step included baseline measures most similar to the outcomes being predicted. In the third and final step, the two primary predictors from the study, acceptance as a social companion in the broader peer group and autonomy with respect to peer influence, were entered.

Hypothesis 1: Adult competence in close relationships will be best predicted by early adolescent peer acceptance.

Analyses first examined the extent to which close relationship competence in adulthood would be specifically predicted by early adolescent acceptance as a desirable social companion by peers. The measure of self-perceived social acceptance was included as a covariate in analyses. Analyses first examined predictions to close friendship competence, as rated by an adult close friend, and then to observed demonstrations of relatedness in romantic relationships in a laboratory paradigm.

*Adult close friendship competence.* Analyses presented in Table 2 indicate that, as hypothesized, early adolescents' acceptance as a desirable social companion by peers was a strong predictor of peer reports of participants' close friendship competence in adulthood ( $\beta = .34, p < .001$ ). This relation was found even after accounting for self-perceived social acceptance in early adolescence, which was a significant predictor in simple correlations and when first entered into regression models, but not in the final model. Notably, however, autonomy with respect to peer influence was predictive of lower levels of close friendship competence in young adulthood ( $\beta = -.16, p < .05$ ).

*Observed positive relatedness in a romantic relationship.* Analyses, also presented in Table 2, indicate that, as hypothesized, early adolescent acceptance as a desirable social companion was a strong predictor of adult ability to maintain a degree of connection and relatedness while discussing a disagreement with a romantic partner, as observed in a laboratory interaction with a romantic partner of at least 3 months duration ( $\beta = .26, p < .01$ ). This relation was also found even after accounting for perceived social acceptance in adolescence, although perceived acceptance was not predictive of future relatedness in romantic relationships. No predictions from autonomy with respect to peer influences were observed.

Hypothesis 2: Adult competence in avoiding socially problematic behavior will be best predicted by early adolescent autonomy vis-à-vis peer influence.

Analyses next examined the extent to which avoidance of potentially problematic behaviors would be specifically predicted by early adolescent autonomy with respect to peer deviance. Behaviors related to alcohol use and problems associated with

Table 2  
*Predicting Young Adult Interpersonal Functioning*

	Close friendship competence (ages 21–22)			Positive relatedness in romantic relationship (age 21)		
	$\beta$	$\Delta R^2$	Total $R^2$	$\beta$	$\Delta R^2$	Total $R^2$
Step I						
Gender (1 = male, 2 = female)	.00			-.06		
Total family income (13)	-.09			.27**		
Statistics for step		.00	.00		.111	.111
Step II						
Self-perceived peer relationship quality (ages 13–15)	.19*	.036*	.036	.14	.035	.146*
Step III						
Peer reports of acceptance	.34***			.26**		
Autonomy vis-à-vis peer influence	-.16*			.08		
Statistics for step		.116***	.152**		.083*	.229**

Note.  $\beta$ s are from final model.  
 \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

alcohol and drug use, as well as to criminal behavior were assessed.

*Alcohol use and problems related to substance use.* Analyses presented in Table 3 indicate that, as hypothesized, early adolescent autonomy vis-à-vis peer influence was a strong predictor of lower levels of alcohol use and fewer problems with alcohol and substance use in early adulthood. These predictions were obtained even after accounting for prior levels of alcohol use, level of alcohol use of a close peer, and maternal ratings of externalizing behavior in early adolescence. Prior levels of use and externalizing

behavior were a significant predictor of current use and problems associated with use in simple correlations and when first entered into regression models as a block, but not in the final models.

Notably, acceptance as a desirable social companion within the early adolescent peer group was strongly positively related to the amount of alcohol use in early adulthood ( $\beta = .29$ ,  $p < .001$ ), although not to reported problematic outcomes related to this use. This relation was found even after accounting for participant and peer alcohol use and participant externalizing behavior in early adolescence.

Table 3  
*Predicting Alcohol Use and Problems With Alcohol and Substance Use (Ages 21–23)*

	Frequency of alcohol use (ages 21–23)			Problems with alcohol and substance use (ages 21–23)		
	$\beta$	$\Delta R^2$	Total $R^2$	$\beta$	$\Delta R^2$	Total $R^2$
Step I						
Gender (1 = male, 2 = female)	-.19**			-.06		
Total family income (13)	.18*			.15		
Statistics for step		.167**	.167**		.075	.075
Step II						
Participant alcohol use (age 13–15)	.04			.14		
Close peer alcohol use (age 13–15)	.10			-.00		
Participant externalizing behavior (maternal report)	-.10			-.10		
Statistics for step		.027*	.194***		.050*	.122**
Step III						
Peer report of acceptance	.29***			.14		
Autonomy vis-à-vis peer influence	-.17*			-.26***		
Statistics for step		.079***	.273***		.057**	.179***

Note.  $\beta$ s are from final model.  
 \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

*Criminal behavior.* Analyses presented in Table 4 indicate that, as hypothesized, early adolescent autonomy with peers also predicted lower levels of adult criminal behavior, even after accounting for adolescent levels of externalizing behavior and close peer criminal behavior from ages 13 to 15.

Hypothesis 3: Global adaptation in early adulthood will be predicted by a combination of early adolescent peer connection and autonomy.

Analyses, presented in Table 5, indicate that both peer acceptance and autonomy in early adolescence independently contributed to parental ratings of participants' overall successful adaptation at age 23, accounting for 11.8% of the variance in this measure (multiple  $R = .34$ ). Adolescents who were viewed as desirable as social companions by their peers and who also were more able to autonomously resist peer influences at ages 13–15 were most likely to be viewed as successful by their parents 8–10 years later.

### Discussion

Establishing oneself as a desirable peer companion in adolescence and displaying the capacity to autonomously resist peer influences predicted a diverse array of social functioning outcomes across a span of nearly a decade, often over and above predictions from baseline measures of functioning. As hypothe-

Table 4  
Predicting Criminal Behavior (Ages 21–23)

	Criminal behavior (age 21–23)		
	$\beta$	$\Delta R^2$	Total $R^2$
Step I			
Gender (1 = male, 2 = female)	-.07		
Total family income (13)	.02		
Statistics for step		.023	.023
Step II			
Participant externalizing behavior (maternal report)	.00		
Close peer criminal behavior (age 13–15)	.05	.007	.030
Step III			
Peer report of acceptance	-.10		
Autonomy vis-à-vis peer influence	-.20*		
Statistics for step		.027*	.056

Note.  $\beta$ s are from final model.  
\* $p < .05$ .

Table 5  
Predicting Parent-Rated Global Adjustment (Age 23)

	Global adjustment (parent rated, age 23)		
	$\beta$	$\Delta R^2$	Total $R^2$
Step I			
Gender (1 = male, 2 = female)	.04		
Total family income (13)	.05		
Statistics for step		.048	.037
Step II			
Participant externalizing behavior (maternal report)	-.17*	.010*	.047*
Step III			
Peer report of acceptance	.21**		
Autonomy vis-à-vis peer influence	.17*		
Statistics for step		.118***	.165**

Note.  $\beta$ s are from final model.  
\* $p < .05$ . \*\* $p \leq .01$ . \*\*\* $p < .001$ .

sized, however, evidence of the dialectical tension between these two processes extended into adulthood, highlighting the uniquely challenging path adolescents must navigate: needing to establish positive relationships with peers, yet finding that conforming to the norms and influences of those peers can predict significant problematic behavior not just in adolescence but also in adulthood.

Establishing oneself as a socially desirable companion with one's adolescent peers appeared most strongly predictive of qualities of relationship functioning in adulthood. It is likely that the qualities that lead to acceptance by peers in adolescence—ranging from empathy and perspective taking to impulse control and good humor—also set the adolescent up to experience similar positive relationship outcomes in adulthood. In addition, the simple experience of being viewed as a desirable companion by both close friends and the broader peer group in adolescence may also set up a self-reinforcing chain of positive expectations for the adolescent, leading to more prosocial behavior and thus to more positive relationships going forward. Notably, establishing oneself as a desirable peer companion in early adolescence also predicted behavior not just with same-gender friends, but in participants' capacity to maintain a positive connection while discussing a disagreement with a romantic partner at age 21. Clearly, even in midadolescence, the stage appears to be set for success- (or difficulty) in peer and romantic relationships well into the future.

Autonomy with respect to peer influence in early adolescence was primarily predictive of success-

avoiding problematic behavior in adulthood. Early adolescents who displayed the capacity to think autonomously in the face of negative peer influences not only used alcohol less as early adults but, more important, were also less likely to have problems with alcohol and substance use. They were also less likely to engage in criminal behavior. Notably, these findings were obtained even after accounting for multiple measures of externalizing and deviant behavior in adolescence, suggesting that autonomy vis-à-vis peer influences can contribute to understanding long-term patterns of deviant behavior, even over and above simple continuities in this behavior.

The dialectical tension inherent in managing these autonomy and peer connection tasks appeared in the findings that success in each task as an adolescent appeared to also come with distinct and to some extent opposing costs in terms of future adult functioning. Most strikingly, adolescents' success in establishing themselves as desirable companions with peers predicted higher levels of alcohol use in early adulthood and, at least in simple correlations, of future problems associated with alcohol and substance use. This extends a finding linking positive peer status to increases in alcohol use during early adolescence, a likely result of being influenced by peer norms that support alcohol use (Allen et al., 2005; Becker & Luthar, 2007).

The capacity to autonomously resist peer influences, in contrast, predicted slightly lower quality of close peer relationships in adulthood. Although the benefits of autonomy in relationships have been widely noted in other contexts (Allen et al., 1994; Ryan, Deci, & Grolnick, 1995), it is not necessarily surprising that individuals who have learned to "go their own way" with respect to peer influences may in fact find that they then connect somewhat less easily with peers—at least in the early adult years immediately following adolescence. More specifically, lack of willingness to engage in minor deviant behavior (e.g., heavy drinking) in early adulthood might at times stand between early adults and their close friends.

Taken together, these findings move our understanding beyond what has been criticized as an overly simplistic "all good things go together" view of social development (Youngblade & Belsky, 1992) to a more nuanced understanding of the distinct components of adaptive peer functioning and their sequelae during this period. Most importantly, these findings make clear that establishing social competence in adolescence and early adulthood is

not a straightforward process, but involves negotiating challenging, and at times conflicting, goals between peer acceptance and autonomy with regard to negative peer influences. Notably, those adolescents who managed both of these goals simultaneously were rated by their parents as having higher levels of overall social, career, and emotional adjustment at age 23. This finding suggests the importance and the value in managing the balance between the peer connection and autonomy processes observed in this study.

The predictions to adult outcomes from early adolescent acceptance by peers and from autonomy with respect to peer influences that were observed in this study were consistently found even after accounting for predictions from baseline measures of the same or similar outcomes, and in final models these baseline measures became nonsignificant. Although causal pathways cannot be demonstrated with nonexperimental data, these findings are at least consistent with a role of these autonomy and connection processes as underlying drivers of functioning at both developmental stages assessed. Several other facets of the observed predictions also warrant mention. First, in many cases, these predictions were observed not only across methods but also across raters and across a substantial span of time that crosses significant developmental epochs. The specific outcomes predicted were also largely uncorrelated with one another, thus suggesting the broad range of potential implications of these measures of adolescent peer success and autonomy with respect to peer influences.

Several important limitations to these data also warrant mention. First, although the potential causal import of these two developmental tasks is obviously of central interest, even the longitudinal change analyses used in this study are sufficient only to disconfirm causal hypotheses not to confirm them. An additional limitation to these findings is that they do not address the issue of how the observed adolescent functional competencies were maintained over time within the individual or in the individual's social milieu. For example, we do not know the degree to which these competencies reflect internal states that go on to influence future behaviors versus patterns of social interaction that take on stability of their own, a process that has been described as "cumulative continuity" (Caspi, Bem, & Elder, 1989). Relatedly, continuities may also be maintained by qualities of both specific dyadic relationships and the larger peer network, and although several peer qualities in adolescence were considered in analyses, the larger social context beyond adolescence remains

fertile ground for future research. In addition, the relatively modest sample size in this study significantly limited power to detect moderating effects of potentially socially relevant factors such as gender or racial/ethnic status. Similarly, this study began to assess participants in early adolescence and thus was not situated to assess the underlying roots of their observed competencies at earlier points in development. It thus leaves open the question of whether competence in these developmental tasks derives from past relationship experiences (e.g., a secure attachment history or parental interactions characterized by autonomy and relatedness), temperamental/constitutional factors, or a combination of the two.

Finally, it should also be noted that these conclusions apply directly only to the specific measures assessed in this study, which capture some, but certainly not all, facets of adolescent autonomy and peer processes. The present findings do, however, suggest significant potential value in exploring adolescent and adult social development through the lens of the dialectical task of balancing key facets of connection in peer relationships with the challenge of maintaining autonomy in the midst of these connections.

## References

- Achenbach, T. M. (1991). *Manual for the Youth Self-Report and 1991 profile*. Burlington: University of Vermont.
- Achenbach, T. M., & Edelbrock, C. S. (1981). Behavioral problems and competencies reported by parents of normal and disturbed children aged four through sixteen. *Monographs of the Society for Research in Child Development, 46*, 1–82.
- Allen, J. P., Hauser, S. T., Bell, K. L., McElhaney, K. B., Tate, D. C., Insabella, G. M., et al. (2000). *The autonomy and relatedness coding system*. Unpublished manuscript, University of Virginia, Charlottesville.
- Allen, J. P., Hauser, S. T., Bell, K. L., & O'Connor, T. G. (1994). Longitudinal assessment of autonomy and relatedness in adolescent-family interactions as predictors of adolescent ego development and self-esteem. *Child Development, 65*, 179–194.
- Allen, J. P., Moore, C., Kuperminc, G., & Bell, K. (1998). Attachment and adolescent psychosocial functioning. *Child Development, 69*, 1406–1419.
- Allen, J. P., Porter, M. R., & McFarland, C. F. (2006). Leaders and followers in adolescent close friendships: Susceptibility to peer influence as a predictor of peer pressure, risky behavior, and depression. *Development and Psychopathology, 18*, 155–172.
- Allen, J. P., Porter, M. R., McFarland, C. F., Marsh, P. A., & McElhaney, K. B. (2005). The two faces of adolescents' success with peers: Adolescent popularity, social adaptation, and deviant behavior. *Child Development, 76*, 747–760.
- Allen, J. P., Porter, M. R., McFarland, F. C., McElhaney, K. B., & Marsh, P. A. (2007). The relation of attachment security to adolescents' paternal and peer relationships, depression, and externalizing behavior. *Child Development, 78*, 1222–1239.
- Arbuckle, J. L. (1996). Full information estimation in the presence of incomplete data. In G. A. M. R. E. Schumaker (Ed.), *Advanced structural modeling: Issues and techniques* (pp. 243–277). Mahwah, NJ: Erlbaum.
- Armsden, G. C., & Greenberg, M. T. (1987). The Inventory of Parent and Peer Attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence, 16*, 427–454.
- Bagwell, C. L., Schmidt, M. E., Newcomb, A. F., & Bukowski, W. M. (2001). Friendship and peer rejection as predictors of adult adjustment. In D. W. Nangle & C. A. Erdley (Eds.), *The role of friendship in psychological adjustment* (pp. 25–49). San Francisco: Jossey-Bass.
- Baxter, L. A., & Duck, S. (1988). A dialectical perspective on communication strategies in relationship development. *Handbook of personal relationships theory research and interventions* (pp. 257–273). London: Wiley.
- Baxter, L. A., & Montgomery, B. M. (1996). *Relating: Dialogues and dialectics*. New York: Guilford Press.
- Becker, B. E., & Luthar, S. S. (2007). Peer-perceived admiration and social preference: Contextual correlates of positive peer regard among suburban and urban adolescents. *Journal of Research on Adolescence, 17*, 117–144. doi:10.1111/j.1532-7795.2007.00514.x
- Bell, R. Q. (1986). Age specific manifestations in changing psychosocial risk. In D. C. Farran & J. D. McKinney (Eds.), *The concept of risk in intellectual and psychosocial development* (pp. 169–185). New York: Academic Press.
- Blanco, C., Grant, J., Petry, N. M., Simpson, H. B., Alegria, A., Liu, S.-M., et al. (2008). Prevalence and correlates of shoplifting in the United States: Results from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). *American Journal of Psychiatry, 165*, 905–913. doi:10.1176/appi.ajp.2008.07101660
- Capaldi, D., King, J., & Wilson, J. (1992). *Young Adult Adjustment Scale*. Unpublished instrument, Oregon Social Learning Center.
- Caspi, A., Bem, D. J., & Elder, G. H. (1989). Continuities and consequences of interactional styles across the life course. *Journal of Personality, 57*, 375–406.
- Cicchetti, D. V., & Sparrow, S. A. (1981). Developing criteria for establishing interrater reliability of specific items: Applications to assessment of adaptive behavior. *American Journal of Mental Deficiency, 86*, 127–137.
- Coie, J. D., Dodge, K. A., & Coppotelli, H. (1982). Dimensions and types of social status: A cross age perspective. *Developmental Psychology, 18*, 121–132.
- Collins, A., van Dulmen, M., Arnett, J. J., & Tanner, J. L. (2006). Friendships and romance in emerging adult-

- hood: Assessing distinctiveness in close relationships. In J. J. Arnett & J. L. Tanner (Eds.), *Emerging adults in America: Coming of age in the 21st century* (pp. 219–234). Washington, DC: American Psychological Association.
- Colson, E. R., & Dworkin, P. H. (1997). Toddler development. *Pediatrics in review*, *18*, 255.
- Deci, E. L., & Ryan, R. M. (2004). *Handbook of self-determination research*. Rochester, NY: University of Rochester Press.
- Elliott, D. S., Huizinga, D., & Menard, S. (1989). *Multiple problem youth: Delinquency, substance use, and mental health problems*. New York: Springer-Verlag.
- Freedman, B. J., Rosenthal, L., Donahoe, C. P., Schlundt, D. G., & McFall, R. M. (1978). A social-behavioral analysis of skill deficits in delinquent and nondelinquent adolescent boys. *Journal of Consulting and Clinical Psychology*, *46*, 1448–1462.
- Furman, W. (1999). Friends and lovers: The role of peer relationships in adolescent romantic relationships. In W. A. Collins & B. Laursen (Eds.), *Relationships as developmental contexts. The Minnesota symposia on child psychology* (Vol. 30, pp. 133–154). Mahwah, NJ: Erlbaum.
- Furman, W., Simon, V. A., Shaffer, L., & Bouchee, H. A. (2002). Adolescents' working models and styles for relationships with parents, friends, and romantic partners. *Child Development*, *73*, 241–255.
- Gaffney, L. R., & McFall, R. M. (1981). A comparison of social skills in delinquent and nondelinquent adolescent girls using a behavioral role-playing inventory. *Journal of Consulting and Clinical Psychology*, *49*, 959–967.
- Harter, S. (1988). *Manual for the Self-Perception Profile for Adolescents*. Denver, CO: University of Denver.
- Henrich, C. C., Blatt, S. J., Kuperminc, G. P., Zohar, A., & Leadbeater, B. J. (2001). Levels of interpersonal concerns and social functioning in early adolescent boys and girls. *Journal of Personality Assessment*, *76*, 48–67.
- Hill, J. P., & Holmbeck, G. N. (1986). Attachment and autonomy during adolescence. *Annals of Child Development*, *3*, 145–189.
- House, J. S., Landis, K. R., & Umberson, D. (1988). Social relationships and health. *Science*, *241*, 540–545.
- Huizinga, D., & Elliott, D. S. (1986). Reassessing the reliability and validity of self-report delinquency measures. *Journal of Quantitative Criminology*, *2*, 293–327.
- Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1987). Psychotherapeutic, licit, and illicit use of drugs among adolescents: An epidemiological perspective. *Journal of Adolescent Health Care*, *8*, 36–51.
- Lizotte, A. J., Chard-Wierschem, D. J., Loeber, R., & Stern, S. B. (1992). A shortened Child Behavior Checklist for delinquency studies. *Journal of Quantitative Criminology*, *8*, 233–245.
- Mayeux, L., Sandstrom, M. J., & Cillessen, A. H. N. (2008). Is being popular a risky proposition? *Journal of Research on Adolescence*, *18*, 49–74. doi:10.1111/j.1532-7795.2008.00550.x
- McElhaney, K. B., Antonishak, J., & Allen, J. P. (2008). They like me, they like me not: Popularity and adolescents' perceptions of acceptance predicting changing social functioning over time. *Child Development*, *79*, 720–731.
- Montgomery, B. M., & Baxter, L. A. (1998). *Dialectical approaches to studying personal relationships*, Mahwah, NJ: Erlbaum.
- Newcomb, M. D., & Bentler, P. M. (1988). Impact of adolescent drug use and social support on problems of young adults: A longitudinal study. *Journal of Abnormal Psychology*, *97*, 64–75.
- Parkhurst, J. T., & Hopmeyer, A. (1998). Sociometric popularity and peer-perceived popularity: Two distinct dimensions of peer status. *Journal of Early Adolescence*, *18*, 125–144.
- Presley, C. A., Meilman, P. W., & Lyerla, R. (1994). Development of the Core Alcohol and Drug Survey: Initial findings and future directions. *Journal of American College Health*, *42*, 248–255.
- Prinstein, M. J., Boergers, J., Spirito, A., Little, T. D., & Grapentine, W. L. (2000). Peer functioning, family dysfunction, and psychological symptoms in a risk factor model for adolescent inpatients' suicidal ideation severity. *Journal of Clinical Child Psychology*, *29*, 392–405.
- Prinstein, M. J., & Cillessen, A. H. (2003). Forms and functions of adolescent peer aggression associated with high levels of peer status. *Merrill-Palmer Quarterly*, *49*, 310–342.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68–78.
- Ryan, R. M., Deci, E. L., & Grolnick, W. S. (1995). Autonomy, relatedness, and the self: Their relation to development and psychopathology. In D. C. D. J. Cicchetti (Ed.), *Developmental psychopathology* (Vol. 1, pp. 618–655). New York: Wiley.
- Sandstrom, M. J., & Cillessen, A. H. N. (2010). Life after high school: Adjustment of popular teens in emerging adulthood. *Merrill-Palmer Quarterly*, *56*, 474–499. doi:10.1353/mpq.2010.0000
- Scharf, M., & Mayselless, O. (2001). The capacity for romantic intimacy: Exploring the contribution of best friend and marital and parental relationships. *Journal of Adolescence*, *24*, 379–399.
- Sroufe, L. A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment and Human Development*, *7*, 349–367.
- Stein, J. A., & Newcomb, M. D. (1999). Adult outcomes of adolescent conventional and agentic orientations: A 20-year longitudinal study. *Journal of Early Adolescence*, *19*, 39–65.
- U.S. Department of Health and Human Services. (2007). *The Surgeon General's call to action to prevent and reduce underage drinking*. Rockville, MD: Health and Human Services, Office of the Surgeon General.
- Youngblade, L. M., & Belsky, J. (1992). Parent-child antecedents of 5-year-olds' close friendships: A longitudinal analysis. *Developmental Psychology*, *28*, 700.