Autonomy, Relatedness, and Male Adolescent Delinquency
Toward a Multidimensional View of Social Competence

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This study explored adolescents' developmental strivings for autonomy and relatedness as motivations in social problem-solving competence, and the relevance of those strivings to explaining variation in delinquent activity. Eighty African American and Caucasian male adolescents (11 through 18 years of age) at high risk for delinquency provided their likely strategies for resolving hypothetical interpersonal dilemmas. Strategies reflecting relatedness striving and autonomous-related reasoning were correlated positively with social problem solving and academic competence. Acts of delinquency were more frequent among adolescents whose strategies showed little relatedness striving, combined with lack of understanding that relationships can support both autonomy and relatedness. These findings support the view that motivations to establish autonomy while maintaining relationships characterize important dimensions of adolescent social competence and may help enhance knowledge of adolescent problem behaviors. Recommendations for prevention and intervention efforts include increased attention to providing settings that facilitate positive expressions of developmental needs for autonomy and relatedness.

Consistent findings linking social skill deficits to adolescent problem behaviors have led to a proliferation of prevention and intervention programs aimed at reducing delinquency and other adolescent problem behaviors (Conduct Problems Prevention Research Group, 1992; Cowen, Hightower,

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Pedro, & Work, 1989). Many of these programs attempt to enhance adolescents' competencies, reflecting a strong value toward building on young people's strengths, instead of focusing on their weaknesses (Cavell, 1990; Cowen, 1985; Zeldin & Price, 1995). Unfortunately, these efforts have shown only mixed success: Whereas program evaluations typically document improvements in measured skill levels, they do not tend to show significant reductions in targeted problem behaviors, and the long-term effectiveness of the interventions remains relatively unassessed (Dishion, Loeber, Stouthamer-Loeber, & Patterson, 1984; Durlak, 1983, 1995; Mulvey, Arthur, & Reppucci, 1993).

The failure of interventions to produce significant reductions in antisocial behavior may be due, in part, to the emphasis on aspects of social competence that are assessed by overly simplistic operational definitions. Such definitions typically focus on demonstrated levels of social problem-solving skills, but they pay little attention to motivational factors that are likely to affect adolescents' choices of social problem-solving strategies. The current study explored strivings to establish autonomy and relatedness as motivational factors in adolescents' attempts to resolve hypothetical interpersonal dilemmas involving peers, parents, and other adults. Building on an often-used methodology for assessing adolescent social problem-solving competence, this study examined the extent to which adolescents' strivings for autonomy and relatedness (as reflected in strategies for resolving hypothetical dilemmas) would explain variance in antisocial behavior after first accounting for levels of social problem solving and academic competence. The study focused on antisocial behaviors that likely would result in arrest and adjudication for delinquency if brought to the attention of juvenile justice personnel; in this article, these behaviors are referred to as acts of delinquency or delinquent acts.

In emphasizing the question Do adolescents possess the skills necessary to resolve interpersonal dilemmas?, typical assessments of social problem-solving competence fail to recognize that socially skilled youths may choose less effective strategies than those of which they are capable. For example, a youth who has experienced coercive family interactions may be likely to choose similar strategies for resolving a disagreement with a peer. That choice may have more to do with the youth's beliefs in how interpersonal relationships work than in his or her capacity for employing more effective strategies. This example illustrates a need for multidimensional models of social competence that focus not only on requisite skills but also on motivational factors (Cavell, 1990; D'Zurilla & Goldfried, 1971; Felner, Lease, & Phillips, 1990).

Theories have posited that maintaining a sense of competence is a primary motivating force in human social behavior (White, 1959); indeed, assessments
of requisite social skills reflect an assumption that individuals will be motivated to choose social problem-solving strategies that demonstrate their capabilities. However, theorists have argued that to achieve a sense of competence, individuals must possess not only the knowledge of how to achieve desired outcomes but also a belief in their ability to succeed (Bandura, 1980; Connell, 1990; Dweck & Elliott, 1983). Those beliefs may hinge on an individual’s expectations of how other people will respond to his or her efforts. Faced with potential interpersonal conflicts, individuals may be more likely to choose strategies that are viewed by others as competent when they (a) possess appropriate behavioral skills and (b) also believe that employing those skills will lead to greater likelihood of fulfilling their needs for social interaction.

The Role of Autonomy and Relatedness in Adolescent Social Competence

Urgency in establishing a sense of independence from others is a hallmark of the adolescent period (Allen, Aber, & Leadbeater, 1990; Hill & Holmbeck, 1986). Growth in maturity and social competence is indexed, at least in part, by the success with which adolescents establish a sense of autonomy while maintaining positive relationships (Allen, Aber, et al., 1990; Connell, 1990; Greenberger, 1984). Early work emphasized the storm and stress inherent in adolescents’ strivings for autonomy; autonomy was seen as a necessary process of detachment from parents (Hill & Holmbeck, 1986). However, current theories focus on adolescents’ ability to manage simultaneous needs for a sense of personal autonomy in the context of close relationships with important others (Allen, Aber, et al., 1990; Allen, Hauser, Bell, & O’Connor, 1994; Hill & Holmbeck, 1986). Self-reports of autonomy from, and relatedness to, parents have been linked to a range of positive outcomes, including resistance to peer pressure, high self-esteem, high assertion and dating competence, and low rates of loneliness after leaving home to attend college (Kenny, 1987; Moore, 1987; Ryan & Lynch, 1989). Observed autonomy and relatedness in family interactions also have been found to predict increases in self-esteem and ego development from ages 14 through 16 years (Allen, Hauser, et al., 1994).

Research on autonomy and relatedness has focused almost exclusively on family relationships. Yet adolescents’ family relationships differ markedly from relationships outside the family, and positive experiences in multiple contexts are necessary for optimal development (Hartup, 1989). Steinberg and Silverberg (1986) documented a transitional developmental phase from pre- through midadolescence, in which gains in emotional autonomy from parents were accompanied by increased dependence on peers. In that study,
older adolescents showed higher levels of emotional autonomy from parents but appeared more susceptible to antisocial peer pressure than did younger adolescents. They reasoned that early expressions of independence from parents are stepping stones in the process to achieving true autonomy, which is characterized by a lack of undue reliance both on parents and peers (Lamborn & Steinberg, 1993; Steinberg & Silverberg, 1986).

Gavazzi, Anderson, and Sabatelli (1993) provided evidence that successfully establishing a sense of autonomy and relatedness across social contexts is associated positively with social adjustment. From a family systems and peer networks perspective, those researchers examined perceptions of tolerance for autonomy and relatedness from parents and peers as predictors of psychosocial maturity and severity of presenting problems among clinically referred adolescents. Relatedness was assessed by reports of perceived social support from parents and peers. Autonomy from parents was assessed by self-reports of lack of parental intrusiveness, and autonomy from peers was assessed by self-reports of low levels of conformity to peers. Adolescents with the highest levels of psychosocial maturity reported high levels of family relatedness and peer autonomy. High levels of family autonomy and relatedness predicted low levels of problem severity. Interestingly, family relatedness moderated the effects of peer relatedness in predicting both maturity and problem severity: Peer relatedness was associated with positive outcomes, but in its absence, family relatedness played a protective role.

In spite of the likely importance of a sense of autonomy in relationships with adults and with peers across diverse social settings, there is little information about how adolescents' attempts to establish autonomous relationships might be related to their overall social competence or to the problem behaviors, such as acts of delinquency, often studied in relation to competence. One way to address these issues is to examine whether involvement in delinquent activity varies as a function of the quality of adolescents' attempts to establish their autonomy while maintaining positive relationships with others. Connell (1990) defined autonomy as the "experience of choice in the initiation, maintenance, and regulation of behavior, and the experience of connectedness between one's actions and personal goals and values," and relatedness as "the need to feel securely connected to the social surround and the need to experience oneself as worthy and capable of love" (pp. 62-63). Consistent with these definitions, Grotevant and Cooper (1985) have suggested that self-assertion and taking responsibility for clearly communicating a point of view are important behavioral markers of autonomy. Those authors also argued that a responsiveness to the views of others is an important behavioral marker of relatedness. In the model of successful individuation proposed by Grotevant and Cooper, behaviors aimed at maintaining related-
ness must occur in the context of mutual respect and understanding for the views of others and of expressions of distinctiveness of the self from others.

Specific strategies that reflect strivings toward autonomy and relatedness may have some relation to an adolescent’s overall level of social competence; however, the meaning of those strategies will depend on the larger organismic-developmental context in which they occur (Sroufe, 1992). For example, a boy changes his mind to agree with a friend. That strategy appears to reflect an attempt to maintain relatedness. However, the degree to which the strategy also is judged competent may depend on whether the boy was convinced of the other person’s point of view or whether he was merely giving in to avoid a disagreement. The boy’s behavior may take on differing meanings depending on whether he viewed his actions as occurring within a context supportive of autonomy and relatedness (Allen, Hauser, et al., 1994; Walker & Taylor, 1991).

The example illustrates a paradox central to understanding how processes of autonomy and relatedness can operate simultaneously. Failure to pursue strategies aimed at maintaining relatedness may reflect lack of confidence in the availability of relationships (e.g., alienation from, or avoidance of, relationships). Conversely, active attempts to establish and maintain relationships may reflect lack of confidence that relationships can tolerate and even encourage independence (e.g., insecurity). Hence adolescents who are low in strivings for relatedness might feel either secure or alienated depending on their overall view of relationships (Sroufe & Fleeson, 1986). To understand the difference, strategies for managing conflict must be evaluated in the context of the internal models that adolescents employ in reasoning about their social relationships. Lack of strivings for relatedness would be expected to predict acts of delinquency only when strategies reflect alienation from relationships. It is important to examine not only how much adolescents pursue strategies aimed at establishing autonomy and maintaining relatedness but also the reasoning that underlies adolescents’ choices of social problem-solving strategies.

**Integrating Motivational Analysis of Social Problem Solving With Traditional Skill-Based Assessments**

A common method for assessing social problem solving is to ask adolescents how they would attempt to resolve each of a series of hypothetical interpersonal dilemmas (Cavell, 1990). The adolescents’ responses then are scored for their level of demonstrated social problem-solving skill. This methodology has been employed by researchers to assess social problem-solving competence using an array of operational definitions, including the likely
effectiveness of the adolescents’ proposed strategies (Freedman, Rosenthal, Donohoe, Schlundt, & McFall, 1978) and the level of sophistication of interpersonal negotiation strategies (Brion-Meisels & Selman, 1984). However, this methodology has not been used to assess the relevance of autonomy and relatedness as motivators of socially competent behavior or to acts of delinquency.

In the current study, social competence and orientations toward autonomy and relatedness were examined through adolescents’ responses to a series of hypothetical vignettes. The vignettes involved interpersonal conflicts with peers, parents, and other adults. The analysis of these responses represents an attempt to move beyond a requisite skills model of social competence toward a model in which social skills and developmentally linked motivations to use those skills play equally important roles. Thus analyses focused both on adolescents’ likely strategies for resolving hypothetical interpersonal conflicts and on their reasoning about their chosen strategies. This methodology presents two problems that merit discussion. First, because adolescents’ responses to the same set of vignettes provided the basis for constructing multiple measures used in the study, correlations among the measures would be expected as a function of the shared method used to collect the data. Unfortunately, it was not possible to separate the substantive correlations of autonomy and relatedness with social problem-solving competence from the correlations observed in the measurement of these constructs that are due to shared method variance. Despite this limitation, the approach of combining a qualitative analysis of adolescents’ strategies for social problem solving with more traditional assessments of social problem-solving competence offers a potential for enriching understanding of the link between adolescent social competence and delinquent activity. Second, it is possible that associations of delinquent activity with adolescents’ orientations toward autonomy and relatedness might be explained by other readily available measures of success (e.g., academic competence). Rather than reflecting a separate dimension of adolescent competence, successful efforts to establish autonomy and relatedness simply might mark a general tendency to engage challenges in interpersonal and achievement domains. Because the purpose of the current study was to examine links between social competence and acts of delinquency, a conservative analytic strategy was chosen in which main effects and interactions among the measures of autonomy and relatedness were considered as predictors of adolescents’ self-reported delinquent acts only after first accounting for the effects of measures of social problem-solving competence and academic competence.
The goal of the present study was to examine associations of adolescents' strivings for autonomy and relatedness with self-reported acts of delinquency in a high-risk, male, adolescent sample. Specifically, two questions were examined: (a) Do adolescents' orientations toward autonomy and relatedness help explain variance in acts of delinquency over and above predictions made from available measures of social problem-solving skills and academic competence? and (b) Do adolescents' strivings for autonomy and relatedness function differently in predicting acts of delinquency depending on whether or not they occur in the context of adolescent models of relationships that can support both autonomy and relatedness? To obtain data about a population in which issues of prediction and treatment are relevant on a daily basis, this cross-sectional study examined a multiracial sample of adolescents identified by service programs that target youths at high risk for committing acts of delinquency and for substance abuse. By considering the interplay of autonomy and relatedness with adolescent social competence in interpersonal and achievement domains, this study offers a first step toward identifying potential links between social competence and social development in adolescence.

METHOD

Participants

This study draws on data from a study of social development among high-risk adolescent males (Arthur, 1991). The original study was limited to males because boys account for the large majority of juvenile crime and arrests (Elliott, Huizinga, & Menard, 1989; McCord, 1990), and because theories being tested in the original study had been developed to explain male delinquency. Eighty male adolescents, 11 through 18 years of age ($\bar{X} = 14.51$, $SD = 2.00$), were sampled from a population targeted by five state-funded delinquency prevention programs in Virginia. The programs were located in five differing rural, suburban, and urban communities that were designated by the state Department of Mental Health, Mental Retardation, and Substance Abuse Services (DMHMRSAS) as exposing adolescents to high risk of substance abuse and acts of delinquency. All youths residing in these communities were considered to be at high risk of involvement in delinquent activity or for escalating to more serious delinquent activity. Program sites included two churches, two youth recreation centers, and a 4-H center. Several adolescents who were not involved in the youth development project but attended one of the recreation centers were recruited to participate in the study. Because
TABLE 1: Sample Characteristics (N = 80)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Age in years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 through 13</td>
<td>27</td>
<td>33.75</td>
</tr>
<tr>
<td>14 through 16</td>
<td>39</td>
<td>48.75</td>
</tr>
<tr>
<td>17 through 18</td>
<td>14</td>
<td>17.50</td>
</tr>
<tr>
<td>Race or ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>65</td>
<td>81.25</td>
</tr>
<tr>
<td>Caucasian</td>
<td>15</td>
<td>18.75</td>
</tr>
<tr>
<td>Lives with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two parents</td>
<td>34</td>
<td>42.50</td>
</tr>
<tr>
<td>Mother only</td>
<td>37</td>
<td>46.25</td>
</tr>
<tr>
<td>Other relatives</td>
<td>9</td>
<td>11.25</td>
</tr>
<tr>
<td>Grade point average (mean)</td>
<td>1.87</td>
<td></td>
</tr>
<tr>
<td>(SD)</td>
<td>(1.03)</td>
<td></td>
</tr>
<tr>
<td>Achievement test percentile rank</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading (mean)</td>
<td>48.80</td>
<td></td>
</tr>
<tr>
<td>(SD)</td>
<td>(30.13)</td>
<td></td>
</tr>
<tr>
<td>Math (mean)</td>
<td>48.95</td>
<td></td>
</tr>
<tr>
<td>(SD)</td>
<td>(29.67)</td>
<td></td>
</tr>
<tr>
<td>Frequency of delinquent acts (mean)</td>
<td>77.02</td>
<td></td>
</tr>
<tr>
<td>(SD)</td>
<td>(146.84)</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>15.50</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>0-667</td>
<td></td>
</tr>
</tbody>
</table>

attendance and membership in these programs fluctuated, it is impossible to determine the percentage of boys involved in the youth development projects who also agreed to participate in this study; however, nearly all boys who were approached agreed to participate. Thus the participants comprised a convenience sample of adolescents residing in high-risk communities.

Descriptive statistics confirm the at-risk nature of the sample (see Table 1); 96.3% of the sample reported committing at least one act of delinquency in the previous year, and the median number of acts of delinquency was 15.5 (range 0-667). These frequencies correspond roughly to the annual individual offending rates reported from the National Youth Survey for "exploratory" or "non-serious" delinquents (Elliott et al., 1989, p. 55). Eighty-one percent of the participants in the current study were African American; the remaining 19% were Caucasian. Forty-three percent of the participants lived with two parents, whereas 46% lived with the mother only, and 11% lived with another relative. Academic achievement was somewhat low, with participants earning school grades of 1.87 on a 4-point scale (A = 4.0, F = 0.0) and earning standardized test scores below the 50th percentile in both the math and reading sections of the tests.
Procedure

Procedures for recruitment and data collection were reviewed and approved by the state agency (DMHMRSA) overseeing the youth development programs and by a university review board for research on human subjects. Participant recruitment was conducted at program sites. A researcher explained that the purpose of the study was to understand the challenges and opportunities that adolescents face. Youths were told that they would be asked questions about their thoughts and feelings, as well as about positive and negative behaviors in which they were engaged (e.g., school activities, acts of delinquency). They were also told that their participation was voluntary, that their answers would be kept confidential, and that they would be paid $10 for completing an interview of approximately 1 hour in length. Boys who assented and obtained signed consent from a parent or legal guardian were allowed to participate. The consenting parent or legal guardian also authorized the researchers to collect and use information from school records. At the end of the session, interviewers further explained the purpose of the study and answered questions about the project.

Each participant was interviewed by one of four trained interviewers at the program site, and interviews were recorded on audiotape. Interviewers included three graduate students in psychology and an undergraduate psychology major (two male and two female interviewers). Training included reading and discussion of techniques for interviewing adolescents, role plays, and practice interviews with a pilot sample of youths involved in the juvenile justice system. Interviews were conducted during a 3-month period in the summer of 1989, and audiotape-recorded interviews were reviewed throughout this period to ensure that consistency was maintained over time and across interviewers.

Measures

_Hypothetical dilemmas_. A 7-item version of the 44-item Adolescent Problem Inventory (API), an empirically derived measure developed by Freedman et al. (1978), was used to assess social problem-solving (SPS) competence and as the basis for probes of autonomy striving, relatedness striving, and autonomous-related reasoning. This inventory of hypothetical situations was developed as a taxonomy of problem situations and skill deficits characteristic of clinical adolescent populations. The original scale was developed to assess social problem-solving competence in adolescent boys, 14 through 17 years of age (a separate inventory of hypothetical situations was developed for girls by Gaffney & McFall, 1981). The original
scale has been shown to discriminate between delinquent and nondelinquent samples, as well as between institutionalized delinquent boys who exhibited frequent acting-out behavior problems and institutionalized delinquent boys exhibiting few behavior problems within the institution (Freedman et al., 1978).

To administer the API, an interviewer presents each boy with a set of hypothetical situations involving interpersonal conflict. Situations include conflicts with peers, parents, and teachers, and situations in which adolescents might be tempted to engage in acts of delinquency (e.g., a friend asks you to deliver drugs downtown for him). The boy is asked what he would do if faced with the situation. Responses then are scored on a 9-point scale using situation-specific criteria for evaluating performance competence. Maximally competent responses are those that a group of independent judges (including peers, juvenile court judges, parents, and psychologists) previously had identified as most likely to resolve the conflict and reduce the likelihood of its recurrence.

The shortened version of the API used in the present study has been shown to have properties similar to the original measure and to be highly correlated \( r > .80 \) with the scores from the total scale (Aber, 1986; Arthur, 1991). Similar shortened versions of this measure have been used in cross-sectional and longitudinal studies of adolescent development and have been found to predict a range of problem behaviors, including acts of delinquency, drug use, and unprotected sexual activity (Allen, Leadbeater, & Aber, 1990, 1994; Leadbeater, Hellner, Allen, & Aber, 1989). The seven dilemmas included the following (abstracted for brevity):

1. A policeman stops you on the street after curfew.
2. Your father gives you an ultimatum about getting your hair cut.
3. A friend asks you to deliver drugs downtown for him; he offers drugs and money in return.
4. A teacher accuses you of writing obscene words on the walls of the men's room.
5. You want to break up with your girlfriend without hurting her.
6. You are called names in the school yard by a boy you do not know well.
7. You have been goofing off at your job until just before closing time, and you see the manager approaching you.

The procedure for administering the API was modified in two ways to enable additional analysis of adolescents' social problem-solving strategies. First, after asking how they would attempt to resolve each dilemma, adolescents were asked why they would choose that strategy and what they felt was the best way the situation could turn out for them. Second, after providing their likely responses to all of the hypothetical dilemmas, each dilemma was
presented a second time, along with a competent response that was described as “another boy’s response.” Adolescents answered probes eliciting their expectations of efficacy in being able to carry out an adaptive response and the extent to which they valued competent responses of others (responses to the second set of probes were not examined in the present study).

*Ratings of social problem-solving competence.* Two raters (the third author and an undergraduate psychology major), who were unaware of other information about the adolescents and who were trained in the previously described coding system, scored, on a 9-point scale, adolescents’ responses to these situations. Interrater reliability assessed by intraclass correlation was .89. The scores by the two raters across the seven situations were averaged to yield a score for overall SPS competence.

*Ratings of autonomy and relatedness.* Three measures relevant to autonomy and relatedness were coded from adolescents’ responses to each of the seven API situations: strategies indicative of autonomy striving, strategies indicative of relatedness striving, and autonomous-related reasoning. Two raters (the first author and an undergraduate psychology major) scored the adolescents’ responses on 9-point, criterion-referenced scales developed for this study. Scores were based on participants’ responses to follow-up probes for each API vignette, which asked why they felt they would choose their reported strategy and what they felt was the best way this situation could turn out for them. Scoring criteria for these measures are summarized in Table 2.

*Autonomy striving* measures the extent to which youths report that they would attempt to solve interpersonal difficulties by articulating and asserting their own interests and needs. *Relatedness striving* measures the extent to which youths report that they would attempt to resolve interpersonal difficulties in ways that affirm and maintain relationships with others (e.g., being polite, listening to what others have to say). *Autonomous-related reasoning* measures the degree to which adolescents demonstrate a capacity to consider both autonomy needs and the importance of maintaining relationships. This subscale focuses on adolescents’ reasoning about situations rather than on the nature of their stated behavioral intentions; it thus reflects the adolescents’ understanding that social interactions can support both autonomy and relatedness. Composite scores for each variable reflecting autonomy and relatedness were constructed by averaging scores for the seven inventory items. Adequate interrater reliability, assessed by intraclass correlation coefficients, was obtained for each of these measures (Cicchetti & Sparrow, 1981). Reliability estimates were .82 for autonomy striving, .66 for relatedness striving, and .72 for autonomous-related reasoning.
TABLE 2: Summary of Scoring Criteria for Autonomy Striving, Relatedness Striving, and Autonomous-Related Reasoning

<table>
<thead>
<tr>
<th>Autonomy striving</th>
<th>0</th>
<th>Unassertive; stating a goal but not acting to attain it or acting toward a goal that is difficult to identify.</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Typical strategies: ignoring; leaving; giving in; complying (unreflective).</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Assertive; making efforts to fully attain a clearly specified goal. Goal is consistent with personal needs and confronts the situation directly. Fully promoting personal goals.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Typical strategies: insisting; telling; proposing solutions; refusing to comply.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relatedness striving</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Typical strategies: yelling; attacking; refusing; ignoring.</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Fully compliant. Focused on doing what the other person wants or attempting to please the other person.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Typical strategies: helping out; paying attention; being polite; being honest; finding integrative solutions that meet others’ needs.</td>
</tr>
<tr>
<td>Autonomous-related reasoning&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0</td>
<td>No expressions of awareness of own needs/needs of others in a situation. Undifferentiated sense of own/others’ thoughts and feelings. Responses do not demonstrate an ability to reflect on how actions may affect personal needs or those of others.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Typical strategies: fight or flight responses; lack of reasons for actions, or consideration of possible effects.</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Expresses full awareness of personal needs/rights and those of others. Able to evaluate different points of view objectively, recognizing that specific goals in a situation relate to broader goals. Recognition that contextual factors affect goals of self/other.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Typical strategies: trying to work things out in ways that meet clearly stated personal goals/goals of others. Addressing the complexities of different needs and expectations in a situation.</td>
</tr>
</tbody>
</table>

a. Separate scores for reasoning about personal needs and the needs of others were coded and then averaged together to form a single score ($r = .66$, $p < .001$).

*Academic competence.* A measure of academic competence was included to provide an independent, non-self-report, assessment of participants’ success in meeting conventional social expectations. To obtain a reliable estimate of participants’ level of academic achievement relative to other students at their grade level, a composite measure was constructed from (a) school records of the adolescents’ previous year’s (1988-1989) grade point average (GPA) and (b) their national percentile scores on the mathematics and verbal
sections of their most recent Iowa Test of Basic Skills (ITBS; Hieronymus & Hoover, 1986). The ITBS is administered to all students in Virginia school districts during their 4th-, 8th-, and 11th-grade years. Reflecting the wide age range among participants in the present study, the test scores were from either the 4th-, 8th-, or 11th-grade versions. The available scores were from differing, but equivalent, forms of the test administered over 3 academic years. Most scores (65%) were from the 1988-1989 academic year, 21% were from 1987-1988, and 13% were from 1986-1987. Although collapsing these diverse scores into a single composite measure was not ideal, high levels of 4-year test-retest reliability from 4th to 8th grade (r = .74 for reading and r = .78 for math) indicate that the scores provide reliable and stable estimates of participants' academic achievement relative to other students at their grade level (Hieronymus & Hoover, 1986). A composite academic competence score was obtained by converting participants' GPA and the reading and math achievement test scores to z-scores and then averaging them (Cronbach's alpha = .89).

Frequency of delinquent acts. Self-reported frequency of delinquent acts was measured with an instrument validated and normed in a longitudinal study of a national probability sample of adolescents (Elliott, Ageton, Huizinga, Knowles, & Canter, 1983; Elliott et al., 1989) and was later used both in cross-sectional and longitudinal studies of adolescents at high risk for acts of delinquency (Allen, Leadbeater, et al., 1990, 1994; Leadbeater et al., 1989). Self-reported delinquent acts have been found to correlate significantly with reports obtained from independent observers and official records, to be highly reliable, and to eliminate systematic biases present in official records of deviant behavior (Elliott & Ageton, 1980; Farrington, 1973; Patterson & Stouthamer-Loeber, 1984). Items are a representative set of delinquent acts ranging from felonies (e.g., assault, robbery) to misdemeanors (e.g., petit larceny) and items theoretically relevant to a delinquent lifestyle or subculture (e.g., gang fighting, carrying a hidden weapon). Frequency of delinquent acts was measured as the total number of times youths reported engaging in each of 30 nonoverlapping acts of delinquency during the previous 6 months (Elliott & Ageton, 1980).

RESULTS

Preliminary Analyses

The measure of frequency of delinquent acts was positively skewed; thus, scores were transformed to their natural logarithms in order to improve the
distribution. A single case was found to have an extreme score more than three standard deviations below the mean on SPS competence. This outlier was recoded to reduce its possible influence on associations with other variables (Tabachnick & Fidell, 1989). All other variables had adequate distributions for further analyses.

Effects of demographic variables on criterion and independent variables were first examined. To assess age effects, mean differences were examined across three categories, corresponding to early, middle, and late adolescence (11 through 13, 14 through 16, and 17 through 18 years of age). Race/ethnicity effects were assessed by examining mean differences between African American and Caucasian adolescents. To assess effects of household composition, mean differences were examined between adolescents living with two parents as compared with those living with mother only or with other relatives (the latter two categories were collapsed because differences between these two groups on criterion or independent variables were not found to be significant).

*Effects of demographic variables on acts of delinquency.* An analysis of variance (ANOVA) was conducted to examine main effects of age, race/ethnicity (African American, Caucasian), household composition (living with two parents, other family situations), and two-way interactions on frequency of delinquent acts. A significant effect emerged for household composition, $F(1, 75) = 17.09, p < .001$. Adolescents living with two parents reported fewer acts of delinquency ($\bar{X} = 2.12$) than did adolescents living with a single parent or with other relatives ($\bar{X} = 3.58$). Effects for age, race, and the two-way interactions were not significant.

*Effects of demographic variables on independent variables.* A multivariate analysis of variance (MANOVA) was conducted to examine main effects of age, race/ethnicity, household composition, and two-way interactions on academic competence, social problem-solving competence, autonomy striving, relatedness striving, and autonomous-related reasoning. Significant MANOVAs were followed by ANOVAs, and Tukey's studentized range tests ($\alpha = .05$) were conducted for univariate effects.

Multivariate effects were significant for age, $F(10, 142) = 2.77, p < .01$, and race/ethnicity, $F(5, 71) = 4.31, p < .01$. Effects for household composition and two-way interactions were not significant. Examination of univariate effects revealed a significant age effect for academic competence, $F(2, 75) = 6.95, p < .01$; 11- through 13-year-olds had higher mean academic competence ($\bar{X} = 0.39$) than 14- through 16-year-olds ($\bar{X} = -0.28$), but did not differ from 17- through 18-year-olds ($\bar{X} = 0.03$). Consistent with previous research,
an age effect for relatedness striving, $F(2, 75) = 2.81, p < .07$, approached significance. Social problem-solving strategies proposed by 17- through 18-year-olds ($\bar{X} = 3.74$) reflected higher levels of relatedness striving than those of 14- through 16-year-olds ($\bar{X} = 3.19$), but did not differ significantly from those of 11- through 13-year-olds ($\bar{X} = 3.21$). No other age effects reached significance. A race/ethnicity effect was significant for academic competence, $F(1, 75) = 17.17, p < .001$. Caucasian adolescents ($\bar{X} = 0.92$) had higher mean academic competence than did African American adolescents ($\bar{X} = -0.21$). No other race/ethnicity effects reached significance.

**Correlational analysis.** Bivariate relations among delinquency, SPS competence, academic competence, and indicators of autonomy and relatedness were examined next. Means, standard deviations, and the intercorrelations of these measures are presented in Table 3.

Autonomy striving and relatedness striving were correlated positively with autonomous-related reasoning ($r = .40, p < .001$, and $r = .47, p < .001$, respectively). Autonomy striving and relatedness striving were correlated negatively, but not significantly ($r = -.22, p < .06$). These results indicated that autonomy striving, relatedness striving, and autonomous-related reasoning were not collinear and that independent effects of these dimensions of adolescent social orientation could be examined in further analyses.
As discussed previously, it was expected that the measures of autonomy striving, relatedness striving, and autonomous-related reasoning would be correlated with SPS competence, because (a) these measures were constructed from adolescents' responses to the same hypothetical vignettes and (b) all measures were intended to assess the quality of adolescents' strategies. As expected, relatedness striving and autonomous-related reasoning were correlated moderately and positively with SPS competence \((r = .59, p < .001\), and \(r = .60, p < .001\), respectively). Autonomy striving was uncorrelated with SPS competence. Whereas these correlations indicated substantial overlap between SPS competence and measures of autonomy and relatedness, there remained considerable proportions of variance in the measures of autonomy striving, relatedness striving, and autonomous-related reasoning that could not be explained by adolescents' levels of SPS competence. Neither autonomy striving nor relatedness striving were related to academic competence; however, autonomous-related reasoning was correlated positively with academic competence \((r = .27, p < .05)\). These findings were consistent with the expectation that adolescents' ability to understand that relationships can support both autonomy and relatedness in social problem-solving situations would be related to overall competence, whereas specific strategies reflecting strivings toward autonomy and relatedness, in and of themselves, might not be related to competence.

SPS competence and academic competence were related negatively to frequency of delinquent acts \((r = -.35, p < .01,\) and \(r = -.23, p < .05\), respectively). Neither autonomy striving, relatedness striving, nor autonomous-related reasoning were significantly correlated with delinquency.

**Major Analysis**

A hierarchical regression equation was computed to examine (a) whether adolescents' motivations to establish autonomy and maintain relationships might help explain variance in acts of delinquency over and above predictions made from available measures of problem-solving skills, and (b) whether the associations between strivings for autonomy and relatedness differed for adolescents who expressed high, as compared to low, levels of autonomous-related reasoning. Thus main effects and interactions of autonomy striving and relatedness striving with autonomous-related reasoning were examined. The interaction of autonomy striving with autonomous-related reasoning measured the extent to which adolescents' ability to reason about both autonomy and relatedness in social problem-solving situations moderated the effect of autonomy-striving strategies to predict acts of delinquency. Similarly, the interaction of relatedness striving with autonomous-related reasoning
measured the extent to which adolescents’ ability to reason about both autonomy and relatedness in social problem-solving situations moderated the effect of relatedness-striving strategies to predict acts of delinquency.

Table 4 summarizes the results of the hierarchical regression equation. Household composition (living with two parents as compared to living with mother only or with other relatives) was entered as a covariate in the first step. Because acts of delinquency did not vary as a function of age or race/ethnicity, these variables were not included in the equation (an equation computed with age and race/ethnicity as covariates, however, produced essentially the same results). Main effects for SPS competence and academic competence were entered in the second step, followed by main effects for autonomy striving, relatedness striving, and autonomous-related reasoning in the third step. Interactions of autonomy striving and relatedness striving with autonomous-related reasoning were entered in the fourth step. Overall, independent variables accounted for 37% of the variance in acts of delinquency.

The first step of the equation tested the association of family composition with acts of delinquency and significantly accounted for 19% of the variance in acts of delinquency. Adolescents living with two parents committed significantly fewer acts of delinquency (β = -.38, p < .001) than those living
with a single parent or with other relatives. The second step of the equation tested the independent associations of SPS competence and academic competence with acts of delinquency. This step significantly accounted for 9% of the variance in acts of delinquency. SPS competence ($\beta = -.33, p < .01$) contributed significantly to the equation, indicating that more socially skilled youths reported lower frequency of delinquent acts.

The third step of the equation tested whether autonomy striving, relatedness striving, and autonomous-related reasoning were independently related to acts of delinquency after accounting for effects of social and academic competence. This step did not significantly increase the proportion of explained variance in acts of delinquency.

The fourth step of the equation tested whether associations of autonomy striving and relatedness striving with acts of delinquency were moderated by levels of autonomous-related reasoning. This moderating effect was examined by testing the interactions of autonomy striving, relatedness striving, and autonomous-related reasoning. This step of the equation accounted significantly for 7% of the variance in acts of delinquency. The interaction of relatedness striving with autonomous-related reasoning had a significant and positive regression weight ($\beta = .29, p < .01$). To further describe this significant interaction, correlations of relatedness striving with delinquency were examined for adolescents who expressed low as compared with high levels of autonomous related reasoning using a median split. Relatedness striving was related negatively to acts of delinquency for adolescents who expressed low levels of autonomous-related reasoning ($r = -.36, p < .05$) and was unrelated to acts of delinquency for adolescents who expressed high levels of autonomous-related reasoning ($r = -.00, ns$). The interaction of autonomy striving with autonomous-related reasoning was not significant.

**DISCUSSION**

The results of this study lend support to a multidimensional view of adolescent social competence, which considers motivations toward autonomy and relatedness independent of their social skills. Adolescents' strategies for managing their developmental needs for autonomy and relatedness in the context of interpersonal conflicts with adults and peers appear to characterize their motivations to resolve interpersonal problems in ways that are linked to their overall competence and their engagement in acts of delinquency.

Adolescents whose problem-solving strategies showed high levels of autonomous-related reasoning were both more socially and academically competent than those who demonstrated low levels of autonomous-related
reasoning. Adolescents whose problem-solving strategies showed higher levels of relatedness striving were more socially competent. Thus motivations to establish autonomy and maintain relatedness showed direct associations with interpersonal and academic competence; however, effects of these motivations in predicting acts of delinquency appeared as a complex interaction. Specifically, after first accounting for social and academic competence in a hierarchical regression equation, the relationship between relatedness striving and acts of delinquency was moderated by autonomous-related reasoning. For adolescents at low levels of autonomous-related reasoning, relatedness striving was related negatively to acts of delinquency. Little effort to pursue strategies aimed at maintaining relationships combined with an inability to understand that relationships can support both autonomy and relatedness may reflect alienation from peers, parents, and other adults. This sense of alienation from relationships, in turn, may be associated with high levels of delinquent activity.

For the youths who expressed high levels of autonomous-related reasoning, relatedness striving showed no correlation to acts of delinquency. As indicated by the pattern of correlations between social problem-solving competence, academic competence, relatedness striving, and autonomous-related reasoning, these youths also were more socially competent and described strategies more likely to result in maintenance of relationships. This lack of association between relatedness striving and acts of delinquency may reflect a greater sense of confidence in these youths’ abilities to maintain relationships.

There were no findings to indicate that autonomy striving was related to acts of delinquency. Even among adolescents who demonstrated low levels of autonomous-related reasoning, it was not an excess of autonomy striving; rather, it was a deficit in relatedness striving that explained variance in acts of delinquency. This finding is consistent with a substantial body of research relating problem behaviors to difficulties in relationships (Allen, Aber, et al., 1990) and indicates the importance of recognizing that autonomy and relatedness strivings are not necessarily at opposite ends of a continuum.

The lack of findings for autonomy striving does not indicate that autonomy is unimportant. Although unrelated to acts of delinquency, autonomy striving might be associated with other problems, such as social withdrawal or anxiety. The measure of autonomy striving emphasized assertiveness and taking personal responsibility for expressing a point of view. Although theoretically relevant to the development of autonomy (Connell, 1990; Groevert & Cooper, 1985), self-assertion in potentially conflictual situations may assess different aspects of autonomy than are captured by measures used in other studies (e.g., an ability to resist peer pressure). Adolescents who are willing
to employ assertive problem-solving strategies in provocative situations nevertheless might be willing to conform to antisocial peer pressure if they feel there is little likelihood of conflict. Among adolescents at high risk for delinquency, a tendency to employ assertive strategies also might be confounded with high levels of aggression (Achenbach, 1991); thus, restricted variance may have attenuated the correlation between autonomy striving and delinquency.

Taken together, these findings indicate that it is not enough simply to examine adolescents' pursuit of relatedness (or lack thereof) in social interactions when trying to understand delinquent activity. Rather, the developmental context in which adolescents pursue or fail to pursue relatedness may be critical. In this study, adolescents who reported high frequencies of delinquent acts were characterized by an inability to understand that relationships can support autonomy and relatedness simultaneously and by strategies reflecting little effort to pursue relatedness in social interactions. Neither variable alone was sufficient to predict delinquency.

Inconsistent with previous research, significant age effects were not found for the measures of autonomy striving, relatedness striving, and autonomous-related reasoning (although a statistical trend indicated that older adolescents tended to report higher levels of relatedness striving than young or middle adolescents). A possible explanation for the lack of age effects can be found in the argument offered by Steinberg and his colleagues (Lamborn & Steinberg, 1993; Steinberg & Silverberg, 1986) that the transitional period from early to middle adolescence is marked by a trading of dependence on parents to dependence on peers. Age effects are likely to appear when issues of autonomy and relatedness are measured with reference either to parents or to peers. Age effects specific to particular reference groups of peers as compared to adults may have been confounded in this study, because the social problem-solving dilemmas included situations involving peers and adults. Unfortunately, it was not possible to test this possibility reliably by examining subsets of peers compared to adult dilemmas because of the limited number of dilemmas available.

An important limitation of this study is that several of the findings relied on associations among self-report measures. Although relations to non-self-report measures (e.g., academic competence) were found among the central constructs, assessments of acts of delinquency and of autonomy and relatedness were based on self-reports, which may have inflated the correlations among these measures. Nevertheless, the findings offer encouraging evidence that the results are not simple artifacts of the methods employed. The interaction of relatedness striving and autonomous-related reasoning signifi-
cantly added to the variance explained in acts of delinquency after accounting for household composition, as well as academic competence and social problem-solving competence. Adolescents’ motivations toward autonomy and relatedness provided unique information that was independent of social problem solving and academic competence. A problem for future research is to develop ways of assessing adolescents’ motivations toward autonomy and relatedness that do not rely on self-report. One possibility is through observation of dyadic or group interactions. Reliable and valid observational coding systems for describing adolescent/parent interactions have been developed, but those methods have not been adapted yet for describing adolescents’ interactions in other social settings. Given the increased importance of peers during adolescence, attention also should be given to obtaining multi-informant reports from peers and parents.

The results of the present study offer first steps in linking successful resolution of developmental tasks of adolescence to social competence. One important developmental task of adolescence—that of establishing a sense of autonomy while maintaining positive relationships with others—was examined in relation to social problem-solving competence and acts of delinquency. Findings indicate that adolescents who are able to balance positive expressions of relatedness to others with an understanding of how social interactions can be supportive of both autonomy and relatedness may be more likely to avoid involvement in delinquent activity. These findings lend support to a broad conceptualization of adolescent social competence in which having a positive social orientation is considered as an independent dimension. Examining (or intervening to enhance) adolescent social competence by focusing solely on problem-solving skills may leave out an important element: adolescents’ orientations toward relationships with others. In addition to a pragmatic concern with increasing adolescents’ social skills, prevention and intervention efforts should also be sensitive to young people’s developmental needs for gaining a sense of personal autonomy in the context of positive relationships with other important people in their lives. Attention to these developmental needs may be an essential element in successful programs that focus on increasing adolescents’ abilities and on providing sensitive socializing environments that facilitate young people’s abilities to express their need for autonomy in the context of positive relations with others (Allen, Kuperminc, Philliber, & Herre, 1994; Weissberg, Caplan, & Harwood, 1991). Future research should focus on increasing understanding of how social settings encourage youthful understanding of social expectations and promote positive expressions of their normative developmental needs for autonomy and relatedness.
REFERENCES


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