The relationship of adolescents' expectations and values to delinquency, hard drug use, and unprotected sexual intercourse

JOSEPH P. ALLEN,† BONNIE J. LEADBEATER,† AND J. LAWRENCE ABER‡
†University of Virginia; ‡Yale University; and §Barnard College of Columbia University

Abstract
This study examined adolescents' expectations and values about how competent behaviors would work for them in difficult social situations and explored the relation of these appraisals to adolescents' delinquency, drug use, and sexual intercourse without use of adequate birth control. Several lines of research on the determinants of adolescent achievement motivation, social competence, and various problem behaviors are integrated within a unified framework based on both motivational and cognitive-social learning theories. One hundred adolescents at-risk for problematic behaviors, aged 15½–18, received structured interviews measuring their expectations of self-efficacy in performing socially competent behaviors, their expectations about the outcomes of these behaviors, their values toward these behaviors, their perceptions of the values of peers, and their identification with the values of important adults. Adolescents also reported their recent levels of delinquency, hard drug use, and unprotected sexual activity. Adolescents' expectations and values were significantly related to all three problem behaviors; males' low efficacy expectations and females' lack of identification with an adult's values were the strongest correlates of problem behaviors. Adolescents' expectations and values are considered as potentially important aspects of adolescents' models of themselves in social interactions, which may mediate the link between problematic family relationships in childhood and deviant behavior in adolescence.

Recent research suggests that problem behaviors of adolescents, such as delinquency, illicit drug use, and early sexual activity, may be stage-specific markers of chronic underlying difficulties in social development (Bell, 1986; Huesmann, Eron, Leitsch, & Walder, 1984; Loeber, 1982). Bell and others (Bell, 1986; Kohlberg, Ricks, & Suarey, 1984) emphasized the importance of identifying the underlying bases of risk of problems in social development that are manifested as problem behaviors in adolescence and that may lead to other negative outcomes later in life. Identifying these

An earlier version of this article was presented at the 1987 Biennial Meeting of the Society for Research in Child Development, Baltimore, MD. The research was supported by a grant from the W. T. Grant Foundation to J. Lawrence Aber. Further information about this grant is available from Dr. Aber. The analysis and write-up of the research was partly supported by NIMH-NRSA Grant #MH0475-02 to Joseph Allen and grants from the W. T. Grant Foundation and the Spencer Foundation to J. Lawrence Aber. The authors would like to thank Edward Zigler, Seymour Sussman, and Ed Gordon for their advice in the conduct of the study, Iris Hellner, Vicki Nakkula, Amy Baker, and the staff of the Adolescent Risk Research Project for their help in carrying out the study, and the schools, service programs, and young people whose generosity with their time made this study possible. We also wish to thank Christina Mitchell, Ed Seidman, Stuart Haner, and Campbell Laper for their helpful comments on an earlier draft of this article.

Address reprint requests to: Joseph Allen, Department of Psychology, Gilmore Hall, University of Virginia, Charlottesville, VA 22903.
bases of risk is essential both in understanding the development of adolescent problem behaviors and in targeting scarce resources toward the prevention and treatment of these behaviors. This study examines a framework that suggests that one such risk basis that leads to problem behaviors in adolescence may be the expectations and values that adolescents hold with regard to problematic social situations.

The potential role of expectations and values as bases of risk for problems in social adaptation is suggested by both cognitive–social learning and developmental–motivational theories of human behavior (Bandura, 1977; Dweck & Elliott, 1983). Increasingly, expectations and values have been linked to child and adolescent social competence. In childhood, biases in social appraisal processes have been related to social aggression (Dodge, 1980; Dodge & Murphy, 1984). In late childhood and adolescence, expectations and values have been related to progress in psychotherapy and to multiple measures of social competence (Allen, Weissberg, & Hawkins, 1989; Weisz, 1986). Given the frequently reported relation between poor family and environmental conditions in childhood and problematic behavior in adolescence and beyond (Huesmann, Eron, Lefkowitz, & Waider, 1984; Loeber & Dishion, 1983; Patterson, 1986), an adolescent’s expectations and values appear likely to serve as risk bases mediating the relation between these early experiences and later problem behaviors (Allen, Aber, & Leadbeater, in press). Yet, to date, even the concurrent relationship between serious adolescent problem behaviors and adolescents’ expectations and values in social situations has not been directly examined. This study takes this initial step.

The specific features of adolescents’ expectations and values that were considered include adolescents’ (1) expectations of self-efficacy in performing competent behaviors, (2) expectations about the outcomes of competent behaviors, (3) values toward competent behaviors, (4) perceptions of the values of peers toward competent behaviors, and (5) identification with perceived adult values toward these behaviors. As will be discussed, these specific components of expectations and values were selected because they had been previously related to social competence, although their relation to adolescent problem behaviors has not generally been examined.

Expectations of self-efficacy have been defined as individuals’ beliefs about whether they can succeed in their attempts to behave competently, beliefs that, in turn, influence the degree of effort and persistence that they expend in trying to perform competent behaviors (Bandura, 1977). Expectations of self-efficacy, when measured in reference to specific situations and behaviors, have been related to a range of adaptive behaviors (Bandura, Adams, Hardy, & Hollings, 1980; McIntyre, Lichtenstein, & Mermelstein, 1983). In addition, efficacy expectations are conceptually related to perceived competence (Harter, 1982) and to self-esteem, which has been related to adolescent drug use (Rees & Wilborn, 1983). Efficacy expectations have not, however, been examined for their relation to problematic adolescent behaviors.

Outcome expectations refer to beliefs about whether actually behaving competently will lead to desired outcomes. Outcome expectations about psychotherapy have been related to positive changes in therapy with children and adolescents (Weisz, 1986). In contrast, high expectations about the positive outcomes of maladaptive behaviors have been related to increased incidence of such behaviors as alcohol abuse in adults (Brown, Creamer, & Steenson, 1987; Cooper, Russell, & George, 1988). With respect to competent behaviors, outcome expectations and beliefs about self-efficacy can be viewed as complementary components of beliefs about overall control as considered by Weisz (1986), Rotter (1975), and Seligman (1975). Overall control expectations have also been related to popularity with peers, empathy, and birth control knowledge (Adams, 1983; Lieberman, 1981), although they have not been related to adolescent problem behaviors.

Adolescents’ values about performing competent behaviors, perceptions about the values of peers, and identification with
the values of an important adult reflect affective appraisals that have received modest elaboration within cognitive-social learning and motivational perspectives on social adaptation (Bandura, 1977; Dweck & Elliott, 1983). Within sociological frameworks, however, they have long been considered relevant to adolescent deviance (Cohen, 1955). Recent research has related adolescents’ values toward salient social behaviors to social competence as rated by teachers, peers, and self-ratings (Allen, Weissberg, & Hawkins, 1989). In addition, the values of an adolescents’ peers have been related to positive participation in treatment by incarcerated delinquents (Buck, 1984). Finally, lack of identification with the prosocial values of a parent has been related to adolescent drug use (Brook, White, Gordon, & Brook, 1984a, 1984b).

Each of these constructs reflects an appraisal of how competent behaviors would work if attempted and/or successfully performed during a social interaction. For example, an adolescent, in deciding whether to try to give a tactful response when stopped by a police officer, might consider whether: (a) he/she could behave tactfully in the situation (self-efficacy), (b) this behavior would influence the officer (outcome expectations), (c) he/she valued such behavior (adolescent values), (d) his/her peers would value it (peer values), and (e) he/she identifies with the positive values an important adult held toward the behavior (identification). Existing research suggests that appraisals of how competent behaviors would work are constructed from prior experiences and influence the current degree of effort and persistence placed into performing competent behaviors (Bandura, 1977; Dweck & Elliott, 1983).

Although existing research on adolescents’ expectations and values provides much data that suggest a relationship to adolescent problem behaviors, this relationship has not been directly examined. In addition, research that has been conducted on expectations and values has rarely measured them with reference to clearly specified and developmentally salient situations, even though such measurement appears necessary for truly informative assessments (Bandura, 1977; Epstein, 1979). Also, the small amount of research that has been conducted has typically focused on only a single problem behavior in isolation (e.g., drug use), even though different problem behaviors are considered on both theoretical and empirical grounds to be related to common syndromes in adolescence (APA, 1987; Donovan & Jessar, 1985). In contrast, simultaneous consideration of multiple problem behaviors helps in identifying characteristics in common across problem behaviors that may constitute an underlying basis for risk of deviant behavior.

Finally, different components of adolescents’ expectations and values in social situations have typically been examined in isolation from each other. This has made it difficult to compare the role of different constructs—such as self-efficacy and outcome expectations—or to examine possible overlap between theories and constructs. In contrast, Weisz (1986) and colleagues (Weisz, Weiss, Wasserman, & Rintoul, 1987) demonstrated the potential of an integrated theoretical and measurement framework to clarify the relationships among different features of children’s and adolescents’ appraisals of their participation in psychotherapy as these relate to depression and other outcome measures. In sum, a great deal of research has been done on the importance of expectations and values and on adolescent problem behaviors, but research has not yet examined the relation of one to the other in a coherent fashion. Such research is essential if the potential of expectations and values to help explain the development of adolescent problem behaviors (as well as more normative pathways through adolescence) is to be fully utilized.

This study was designed to examine the relation of multiple components of adolescents’ expectations and values to several different adolescent problem behaviors. Measures of adolescents’ expectations and values were developed with reference to highly specific behaviors in problematic social situations that had been previously related to adolescent social functioning.
samples in demographic and behavioral characteristics and revealed no additional variance explained and no interaction of source of adolescent (school vs. service program) on any of the relationships tested in this article, thus suggesting that it was appropriate to collapse the sample across these sources. This sampling strategy reflects the fact that the population of multi-problem adolescents receiving services is unlikely to be sampled adequately from any single type of source. This strategy does, however, limit the generalizability of this study, as the sample obtained cannot be claimed to clearly represent any single discrete group of adolescents.

Demographic characteristics. Mean age for adolescents in the sample was 16.9 years (SD = .70). The sample was 48% white, 32% black, 16% Hispanic, and 4% other. Parents of 26% of adolescents were married; 35% of parents were divorced; 12% had never been married; 11% were separated; and, for 16% of adolescents, at least one parent had died. Sixty percent of adolescents' families had received some form of public welfare payments in their lives.

Problem behaviors in the sample. Table 1 presents the mean scores for each of the three problem behaviors used in this study, along with data from national norms where available. These data confirm that, on average, this sample exhibited significantly more behavior problems than normative samples of adolescents, although there is significant variation in levels of problem behaviors within the sample. Incidence of both delinquency and drug use is two to four times as high as the national norms. The mean score for unprotected sexual activity was equivalent on average to engaging in sexual intercourse without using any birth control two to three times per month.

Measures

Problem behaviors. Measures of problem behaviors were obtained from a structured interview compiled from existing self-report
### Table 1. Mean incidence of behavior problems of adolescents

<table>
<thead>
<tr>
<th></th>
<th>Delinquent Offenses (prior 6 mos.)</th>
<th>Hard Drug Use (prior 6 mos.)</th>
<th>Unprotected Sexual Activity (prior mos.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Males</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sample</td>
<td>144.6</td>
<td>11.1</td>
<td>2.71</td>
</tr>
<tr>
<td>( (SD) )</td>
<td>(286.5)</td>
<td>(35.4)</td>
<td>(1.93)</td>
</tr>
<tr>
<td>national norms</td>
<td>34.5</td>
<td>3.0</td>
<td>n.a.</td>
</tr>
<tr>
<td>( (SD) )</td>
<td>(38.6)</td>
<td>(1.4)</td>
<td></td>
</tr>
<tr>
<td><strong>Females</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sample</td>
<td>49.4</td>
<td>11.8</td>
<td>2.53</td>
</tr>
<tr>
<td>( (SD) )</td>
<td>(107.7)</td>
<td>(38.4)</td>
<td>(1.37)</td>
</tr>
<tr>
<td>national norms</td>
<td>18.06</td>
<td>2.8</td>
<td>n.a.</td>
</tr>
<tr>
<td>( (SD) )</td>
<td>(38.6)</td>
<td>(1.0)</td>
<td></td>
</tr>
</tbody>
</table>

*Note*: National norms are interpolated from data reported by Elliott et al. (1983) for delinquency and drug use over the prior year. Unprotected sexual activity is measured on a 0–8 scale with scores roughly proportional to the risk of pregnancy created by having intercourse with no birth control 0 to 8 times per month.

measures of adolescent behavior problems. When carefully obtained, self-reports of problem behaviors have been found to (a) correlate significantly with reports obtained from independent observers and official records, (b) be highly reliable, and (c) eliminate systemic biases present in official records of deviant behavior (Elliott & Ageton, 1980; Farrington, 1973; Patterson & Stouthamer-Loeber, 1984). In addition, study of behaviors such as unprotected sexual intercourse is virtually impossible without use of self-report data.

Delinquency and hard drug use were measured with an instrument validated and normed in a longitudinal study of a national probability sample of adolescents (Elliott, Ageton, Huizinga, Knowles, & Canter, 1983). Delinquency was measured as the total number of times youths reported engaging in a list of 30 nonoverlapping, illegal acts during the previous 6 months.1 Hard drug use was measured as the total number of instances of illicit use of each of five classes of hard drugs (heroin, cocaine, hallucinogens, amphetamines, and tranquilizers) in the previous 6 months.

Unprotected sexual activity was measured for all adolescents on a 0–8 scale indicating the relative risk of pregnancy from sexual activity in the prior month. The scale score was calculated based on a report of the frequency of intercourse, the probability of nonuse of birth control during any given act of intercourse, and the probability of failure of method used. The resulting 0–8 score reflects a level of risk approximately equal to having completely unprotected intercourse from 0 to 8 times in the prior month. The convergent validity of similar self-report measures of adolescent sexual behavior has been established in several prior studies (Jones & Philliber, 1983; Jorgensen, King, & Torrey, 1980).

**Social problem-solving competence.** The Adolescent Problem Inventory (API) for boys (Freedman et al., 1978) and the Problem Inventory for Adolescent Girls (PIAG) (Gaffney & McFall, 1981) were used to measure adolescents’ social problem-solving competence (SPS-competence) and as the basis for probes of adolescents’ expectations and values toward competent behaviors. Adolescents’ self-reported most likely responses to a series of problematic hypothetical situations were rated for their competence. Situations included conflicts with peers, parents, and teachers, and situations in which adolescents might be tempt-

---

1. Exact forms of this and all measures used in this study, along with formulas for computing variables used, are available from the authors.
ed to engage in delinquent behaviors. No items directly addressed the decision to use drugs or engage in unprotected sexual activity. Ratings of adolescents' responses are averaged across situations to produce an overall measure of SPS-competence. Extensive reliability and validity data on both the male and female versions have been previously reported (Freedman et al., 1978; Gaffney & McFall, 1981; Hunter & Kelley, 1986; Ward & McFall, 1986). Shortened versions of both measures were used so that a different version of the measure could be readministered in a future follow-up study.2

Adolescents' expectations and values about behaviors. Adolescents' expectations and values about socially competent behaviors were measured by asking adolescents to listen to a subset of 12 problem situations from the API or PIAG a second time, followed by competent responses to each situation (derived from the API and PIAG coding manuals), which were described as "another young person's response." After hearing each situation and competent response, adolescents responded to probes of their values, the values of a peer and adult, and their efficacy and outcome expectations, all with reference to the competent response. This technique measures expectations and values about developmentally salient behaviors in well-specified situations. A sample item is presented in Table 2.

Adolescent values toward competent behaviors were measured by asking adolescents whether they would like another person more or less for engaging in the specified competent response (Allen, Weissberg, and Hawkins, 1989). Answers were given on an anchored 100-point scale ranging from definitely like them less to definitely like them more. Following their answers to this and all probes of expectations and values, adolescents were asked why they gave the answers they did, to assure that they were understanding and thoughtfully responding to the questions. Using the same technique, perceived peer values were assessed for a previously named peer "whose opinions mattered most" to the youth. Perceived adult values were similarly assessed. Because prior research suggested that perceived adults' values may be most important relative to the adolescent's values (Brook et al., 1984a, 1984b), a measure of identification with the positive values of an important adult was created by subtracting the perceived adult value score from the adolescent value score on each item. The resulting score indicates how close a youth came to valuing competent behaviors as strongly (or in a few cases more strongly) than the named adult.

Efficacy expectations (Bandura, 1977) were measured for each behavior by asking, "Do you think you could actually [perform the specified competent behavior] if you tried to?" Young people answered on an anchored 100-point scale ranging from definitely no to definitely yes for each behavior. Outcome expectations were measured using the same format and scale to answer the question, "If you actually [performed the behavior] do you think it would help things go better for you in the situation?"

Scores for each feature of adolescents' appraisals of competent behavior were obtained by averaging responses to each probe across the 12 sets of situations. All measures had internal consistencies (Cronbach's alpha) between .63 and .83, and test-retest reliabilities between .77 and .89 over a 5-day to 4-week period (N=31), except for identification with an adults' values, which had a test-retest reliability of .45 over 4 weeks, but .78 for retests conducted within 5 to 10 days of the original testing (N=17).

---

2. The shortened API was correlated at r=.95 with a 44-item version that has been used previously with adequate construct validity (Freedman et al., 1978). Reanalysis of the original PIAG data for girls indicates that the items in the shortened form were highly correlated with scores from the full 52-item measure (r=.93) (Gaffney & McFall, 1985). Interrater reliabilities for the API and PIAG in this study were quite high (r=.91 for boys, r=.89 for girls). With both measures, slight modifications to item content were made to make the items more realistic and relevant to urban populations of youth.
Table 2. Sample problem situation with probes for expectations and values (adapted from Freedman et al., 1978)

<table>
<thead>
<tr>
<th><strong>Problem Situation with Hypothetical Response of “Another Young Person”</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>One of your friends does some dealing on the street. Once in a while, he even gives you some pills or herb for free. Now he says to you, “Listen man, I’ve got to deliver some stuff downtown, but I can’t do it myself. How about it—will you take this stuff down there for me? I’ll give you some new stuff to try plus $25 besides, for half an hour’s work. Will you help me out?”</td>
</tr>
<tr>
<td>One young person said: “I’d refuse to do it in a confident way so that my friend knew I wouldn’t take that risk even for a friend.”</td>
</tr>
</tbody>
</table>

**Probes of Expectations and Values**

- **Youth values**
  - WOULD YOU LIKE A PERSON MORE OR LESS FOR doing that in this situation?
- **Peer values**
  - WOULD (NAME OF CLOSE PEER) LIKE A PERSON MORE OR LESS FOR doing that in this situation?
- **Adult values**
  - WOULD (NAME OF CLOSE ADULT) LIKE A PERSON MORE OR LESS FOR doing that in this situation?
- **Self-efficacy**
  - If you were in the situation: DO YOU THINK YOU COULD DO WHAT HE DID if you tried to?
- **Outcome expectations**
  - IF YOU DID WHAT HE DID, WOULD THAT HELP THINGS GO BETTER FOR YOU IN THIS SITUATION?

Note: Adolescents gave all answers on an anchored 100-point scale, ranging from definitely like them less to definitely like them more for the value probes, and from definitely no to definitely yes for efficacy and outcome expectation probes.

**Procedure**

Adolescents were recruited for the study through staff of service programs or schools. Adolescents were told that all participation was optional and that they would be paid $15 for a 2-hour interview about how adolescents handle day-to-day problems. Interviews were conducted at program or school facilities in a private room away from other activities, and confidentiality of the interview data was repeatedly emphasized. After obtaining adolescents’ informed agreement to participate, interviewers administered the API for boys or the PLAG for girls, measures of adolescents’ expectations and values about competent behaviors, and a structured interview consisting of demographic and problem behavior questions. Adolescents were repeatedly reminded that they should decline to answer any question that they felt uncomfortable answering honestly. At the conclusion of the interview, adolescents were asked whether they had significant concerns that their answers would not be kept confidential and whether they had answered any questions falsely. Fewer than 10% of adolescents answered affirmatively to either question—these adolescents did not significantly differ from other adolescents on any of the measures in the study. The five female and two male interviewers in the study all had received graduate training in psychology or counseling, as well as training and supervision in the interview techniques used.

**Results**

**Preliminary analyses**

- **Co-occurrence of problem behaviors.** Measures of delinquency and hard drug use were positively skewed and, thus, were transformed using a natural log transformation prior to analyses. Simple correlations of problem behaviors for each gender revealed that delinquency and hard drug use were intercorrelated for both males ($r = .46$) and females ($r = .65$, both $p < .001$). For females, delinquency and hard drug use were also related to unprotected sexual activity ($r = .45$, $p < .01$; $r = .34$, $p < .05$, respectively). Unprotected sexual activity was not related to delinquency or hard drug use for males. Although these correlations provide some support for the notion that dif-
different problem behaviors of adolescence may constitute a syndrome (Donovan & Jesson, 1985), problem behaviors were analyzed separately given the extensive and separate research and theoretical literatures dealing with each behavior.

**Age and interviewer effects.** No effects of interviewer, sex of interviewer, or adolescent's age were found on any of the measures of adolescent expectations and values, SPS-competence, or problem behaviors.

**Gender.** No significant differences across gender were found in adolescents' expectations or values about competent behaviors. Gender differences in problem behaviors were found only for number of delinquent acts committed in the prior year with males reporting more delinquent acts than females (males: $M=269$, females: $M=119$, $p<.001$). However, because of differences across gender in the actual measures for adolescents' expectations and values, further analyses were conducted separately by gender.

**Psychometric characteristics of measures of adolescents' expectations and values**

For both sexes, the five different features of adolescents' appraisals of competent behaviors were significantly intercorrelated. Correlations ranged from .36 to .75 for males and from .18 to .68 for females. These correlations necessitate that features of adolescents' appraisals of competent behaviors be analyzed in relationship to problem behaviors using simultaneous multiple regressions that are sensitive to overlapping variance between constructs.3

3. An alternative approach, factor analysis of the five components of adolescents' models of how adaptive behavior might work for them, was considered but not used here, both because the individual components of these models have each been the focus of independent research traditions and because the single-factor solution yielded by these analyses was believed to reflect a high degree of shared error variance (e.g., patterns of use of the 100-point scale) that artificially inflated correlations between measures of expectations and values.

**Relationships of adolescents' expectations and values to social problem-solving competence**

The relationships between adolescents' expectations and values about competent behavior and the male and female measures of social problem-solving competence were examined using simultaneous multiple regressions. These analyses provide a preliminary indication of the convergent validity of the measurement framework used. One would expect at least a moderate degree of relationship between adolescents' values and expectations and SPS-competence measured with reference to the same hypothetical situations if adolescents' appraisals of competent behaviors are related to their problem-solving behavior. Regression equations revealed a strong relationship between adolescents' expectations and values and SPS-competence for both males (Multiple $r=.74$, $p<.001$) and females (Multiple $r=.64$, $p<.005$). Examination of regression weights for each equation revealed that self-efficacy was the only significant contributor to the predictive equation for males ($p<.001$) and the only near significant contributor to the equation for females ($p<.10$). For descriptive purposes, simple correlations with Bonferroni corrections were also performed between the five measures of adolescents' expectations and values and scores on the API or the PIA. These correlations ranged from .45 to .73 for males (all $ps<.001$; all significant after correction for examination of five correlations) and from .37 to .56 for females (all $ps<.05$; all correlations except for correlation with outcome expectations remained significant after Bonferroni correction). For both males and females, perceived self-efficacy was the strongest correlate of SPS-competence. Overall, adolescents' appraisals of competent behavior were clearly related to adolescents' social problem-solving competence in difficult hypothetical situations, although it appeared that different features of these appraisals overlapped significantly in statistically predicting this competence.
The relationships between SPS-competence and self-reported problem behaviors were also examined. These relationships indicate whether the behaviors tapped by the hypothetical problem situations in the API and PIAG (and used to measure adolescents' appraisals of competent behavior) are related to actual behavior problems in this sample. SPS-competence was significantly negatively correlated with delinquency and drug use for both males ($r_s = -.56$, $-.58$, respectively; $p_s < .001$; both significant after Bonferroni correction for examining five correlations) and females ($r_s = -.39$, $-.38$, respectively; $p_s < .05$; neither correlation was significant after Bonferroni correction). No relationship between SPS-competence and unprotected sexual activity was found for either gender. These findings suggest that the situations measured in the API and PIAG were relevant for use in measuring adolescents' appraisals of competent behavior—although their applicability to female problem behaviors, in general, and unprotected sexual activity, in particular, is unclear.

**Relationships between adolescents' appraisals of competent behaviors and problem behaviors**

The central question addressed in this study was: To what extent are adolescents' appraisals of competent behaviors related to adolescent problem behaviors? This question was addressed by entering the five features of adolescents' appraisals of competent behaviors simultaneously into a regression equation to predict each of the problem behaviors studied.

For males, adolescents' appraisals of competent behaviors were strongly related to both delinquency and hard drug use, but not significantly related to unprotected sexual activity in regression equations. These results are presented in Table 3. There was evidence of suppressor effects. Efficacy expectations that were lower than would be expected from knowledge of an adolescents' values were related to higher levels of delinquent activity, and efficacy expectations that were lower than would be expected from knowledge of an adolescents' values were related to higher levels of hard drug use. However, the intercorrelations between adolescents' expectations and values may have created some instability in the regression coefficients reported.

To explore fully the relationship of adolescents' expectations and values to problem behaviors, and for comparison to prior studies that considered different expectations and values in isolation, Table 3 also includes the results of univariate correlations relating adolescents' expectations and values to problem behaviors, with Bonferroni corrections for the fact that five components of adolescents' appraisals of competent behaviors were examined in relationship to each problem behavior. Appropriate alpha protection at the .05 level within a problem behavior is obtained by only interpreting correlations significant at $p < .01$. In univariate analyses, self-efficacy was negatively related to delinquent behavior; and, self-efficacy, outcome expectations, and perceived peer values were all negatively related to hard drug use.

For females, low identification with an adult's positive values toward competent behaviors was significantly related to unprotected sexual activity in regression equations, but not to delinquent behavior or hard drug use. However, in univariate correlations with Bonferroni corrections, low identification with an adult's values was related to both unprotected sexual activity and delinquent behavior. Results of regression equations and univariate correlations are also presented in Table 3. Thus, in contrast to males, a single feature of females' appraisal of competent behaviors—identification with an adults' values—was the only correlate of problem behaviors in both univariate and multivariate analyses.

**Discussion**

In this study, we developed and evaluated a framework for considering adolescents' expectations and values about attempting
Table 3. Simultaneous regression analyses and correlations of adolescents' expectations and values with problem behaviors

<table>
<thead>
<tr>
<th></th>
<th>Self-Efficacy</th>
<th>Outcome Expectations</th>
<th>Adolescent Values</th>
<th>Peer Values</th>
<th>Identification with Adult Values</th>
<th>Multiple r</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MALES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delinquent behaviors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>regression weights</td>
<td>-.88***</td>
<td>.70**</td>
<td>-.04</td>
<td>-.16</td>
<td>.06</td>
<td>.61***</td>
</tr>
<tr>
<td>simple correlations</td>
<td>-.46***‡</td>
<td>-.11</td>
<td>-.31*</td>
<td>-.30*</td>
<td>-.24</td>
<td>-</td>
</tr>
<tr>
<td>Hard drug use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>regression weights</td>
<td>-.71**</td>
<td>-.02</td>
<td>.53*</td>
<td>-.32</td>
<td>-.00</td>
<td>.59**</td>
</tr>
<tr>
<td>simple correlations</td>
<td>-.52***‡</td>
<td>-.39***‡</td>
<td>-.33*</td>
<td>-.45***‡</td>
<td>-.30*</td>
<td>-</td>
</tr>
<tr>
<td>Unprotected sexual activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>regression weights</td>
<td>-.16</td>
<td>.33</td>
<td>.33</td>
<td>-.25</td>
<td>-.11</td>
<td>.31</td>
</tr>
<tr>
<td>simple correlations</td>
<td>.13</td>
<td>.23</td>
<td>.19</td>
<td>-.00</td>
<td>.15</td>
<td>-</td>
</tr>
<tr>
<td><strong>FEMALES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delinquent behaviors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>regression weights</td>
<td>-.10</td>
<td>-.11</td>
<td>-.16</td>
<td>-.06</td>
<td>-.27</td>
<td>.40</td>
</tr>
<tr>
<td>simple correlations</td>
<td>-.29*</td>
<td>-.04</td>
<td>-.30*</td>
<td>-.19</td>
<td>-.38***‡</td>
<td>-</td>
</tr>
<tr>
<td>Hard drug use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>regression weights</td>
<td>-.06</td>
<td>.09</td>
<td>-.07</td>
<td>-.07</td>
<td>-.25</td>
<td>.36</td>
</tr>
<tr>
<td>simple correlations</td>
<td>-.25</td>
<td>-.05</td>
<td>-.26</td>
<td>-.25</td>
<td>-.35*</td>
<td>-</td>
</tr>
<tr>
<td>Unprotected sexual activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>regression weights</td>
<td>.31</td>
<td>.08</td>
<td>-.25</td>
<td>-.02</td>
<td>-.47**</td>
<td>.51*</td>
</tr>
<tr>
<td>simple correlations</td>
<td>-.09</td>
<td>.04</td>
<td>-.28</td>
<td>-.28</td>
<td>-.47‡‡</td>
<td>-</td>
</tr>
</tbody>
</table>

Notes: All regression weights are standardized.

‡p < .05, after Bonferroni corrections (applicable only to simple correlations).

Competent behaviors in difficult social situations. Several features of adolescents' appraisals of how competent behavior might work for them were measured with good psychometric properties and were significantly related to several adolescent problem behaviors within a group of adolescents at-risk for problematic behavior. This within-group analysis provides a more demanding test of the utility of the theoretical framework used in this study than would a study contrasting normal and high-risk adolescents. However, the sample used was an unusual one, and the results of this study clearly require replication with other samples prior to being more broadly generalized. In addition, although the self-report measures of problem behaviors in this study had been well validated and appear maximally sensitive to problem behaviors, further research is also needed that uses convergent measures such as official and other-based reports of adolescent problem behaviors. Given these limitations, it is nevertheless important to note that adolescents' expectations and values were able to account for quite sizable percentages of the variance in several different previously validated measures of problematic behaviors.

Although the cross-sectional design of this study cannot reveal causal relationships, these findings do show that adolescents who reported high levels of problem behaviors rendered less positive appraisals of how competent behaviors would work for them. Longitudinal analyses are now needed to examine whether expectations and values are causally related to problem behaviors—as analyses by Weiss (1986) found in the relationship between expectations and progress in child or adolescent psychotherapy. At a minimum, the findings of this study suggest that developmentally oriented interventions designed to promote
competent behavior in adolescents with behavior problems should consider the possible influence of adolescents' negative expectations and values toward competent behaviors.

The findings of this study raise the question of whether adolescents' turn to problematic behaviors following their negative appraisals of competent behaviors. For example, Bandura's (1977) theory of self-efficacy suggests that adolescent males who engaged in higher levels of delinquency and drug use in this study may have had low self-efficacy as a result of past failures with competent behaviors, which in turn reduced their persistence in carrying out competent behaviors. This reduced persistence may have led to further reductions in efficacy in carrying out competent behaviors over time until only less competent behaviors were perceived as available to the adolescent. Similarly, females in this study who engaged in higher levels of delinquency and unprotected sexual activity were less identified with the positive values of an important adult—findings parallel to earlier studies relating females' lack of identification with an adult to drug use (Brook, White, Gordon, & Brook, 1984b). Perhaps, similar to males with low self-efficacy, females fail to identify with adults' positive values as a result of prior negative experiences with significant adults, and this, in turn, reduces the likelihood of engaging in competent behaviors valued by adults. Longitudinal studies are now clearly needed to examine both the sources and directions of causal influence among adolescents' expectations and values and adolescent problem behaviors (Aber, Allen, & Leadbeater, 1988).

The relevance to problematic behaviors of efficacy expectations for males and identification with an adult's values for females is consistent with research on the differential importance of instrumental and relational aspects of relationships for males and females, respectively (Leaper, 1986; Leffkowitz & Tesiny, 1984). However, the use of slightly different measures of expectations and values across genders, as well as the relatively small magnitude of differences between the correlations reported, make any firm conclusions about gender differences premature, although they do suggest the importance of further study of this issue.

The finding that single measures of expectations or values could account for most of the explained variance in problem behaviors in this study suggests an important degree of overlap between the different measures of expectations and values previously employed by different investigators. For example, a univariate relationship was found between males' drug use and lack of identification with an adult's values, as expected from prior studies (Brook, White, Gordon, & Brook, 1984a), but this relationship disappeared when identification was considered in the context of other aspects of males' appraisals of competent behaviors. This suggests that for males, lack of identification with an adult's values may be redundant with a low sense of self-efficacy in explaining problematic behaviors.

However, complicated multivariate relationships were also found that suggest the importance of simultaneous consideration of different aspects of adolescents' expectations and values. For example, discrepancies among relatively high outcome expectations and values and relatively lower efficacy expectations were particularly related to males' drug use and delinquent behavior. It may be that delinquent adolescents, who are likely to be at more impulsive levels of ego development (Frank & Quinlan, 1976), take unrealistically positive views of both competent and incompetent behaviors. The discrepancy between their appraisals of competent behaviors and their own perceived lack of efficacy in performing these behaviors may increase their frustration and their likelihood of turning to less competent behaviors that they believe they are able to perform.

These findings all demonstrate the importance of considering expectations and values in a comprehensive fashion. It is quite possible, for example, that both low
self-efficacy and lack of identification with an important adult reflect different aspects of problematic models of self-in-relationships. Further studies that reduce the shared method variance between constructs are now needed to allow fuller exploration of the interrelation among these different constructs. Future research seeking to predict adolescent problem behaviors should also begin to examine the relationship of adolescents' appraisals of adaptive behavior to other characteristics of adolescent development, such as their level of ego development and the sophistication of their interpersonal negotiation strategies (Leadbeater, Hellner, Allen, & Aber, 1989). Such research is needed to help explicate the relation between adolescent deviance and more general aspects of adolescent social development. This study considered not only multiple measures of adolescents' expectations and values, but also multiple adolescent problem behaviors, and found relationships of adolescents' expectations and values to several different, moderately intercorrelated problem behaviors. These multiple relationships suggest the possible role of expectations and values as bases of risk for a range of social difficulties in adolescence. They may also help explain the co-occurrence of adolescent problem behaviors found in this and other studies (Donovan & Jessar, 1985; Kandel & Raveis, 1987).

The relation between appraisals of competent behaviors and adolescents' problematic behaviors—about which appraisals were not solicited—also suggests that adolescents' appraisals may be somewhat cross-situationally applicable. For example, females' identification with an adult's values were most strongly related to their unprotected sexual activity in this study, even though the values were measured entirely with respect to nonsexual situations, and females' problem-solving competence in these same situations was not related to their unprotected sexual activity. One interpretation of the observed relationship of adolescents' expectations and values to behaviors across different situations is that these expectations and values reflect the existence of broader internal models of social interactions that are applied across a variety of socially challenging situations (Mischel & Peake, 1982).

An intriguing perspective for understanding the developmental significance of such models is suggested by recent findings within lifespan attachment theory that internal models of self-in-relationships may be learned primarily in family interactions, but predict a variety of indices of social functioning in adolescence and adulthood (Kobak & Sceery, 1988; Main, Kaplan, & Cassidy, 1985). This perspective suggests the hypothesis that adolescents' expectations and values may be formed partly in family relationships and may serve as a mediating link in the frequently noted relationship between family characteristics and adolescent problem behaviors (Allen, Aber, & Leadbeater, in press).

This interpretation is particularly consistent with recent behavioral research on the long-term effects of problematic parent-child interactions. Patterson and associates (Bank, Patterson, & Reid, 1987; Patterson, 1986) reported that inconsistent family management practices in childhood are among the best predictors of delinquency in adolescence. It may be that this inconsistency, and the lack of control of behavior that follows from it, results in a low general sense of self-efficacy in controlling one's behavior in adolescence. Of course, this requires assuming that a low sense of self-efficacy generalizes from parent-child interactions to situations outside of the family. However, the finding that values toward competent behaviors in nonsexual situations were related to unprotected sexual intercourse suggests just how broadly expectations and values may be generalized. Significantly, in infancy, the infant's efficacy in getting its needs met, the consistency of caregiver-infant interaction, and the infant's security of attachment all appear related (Lamb, 1981). Thus, both attachment research and behavioral family research may be converging upon the same phenomena—consistent and unsatisfying parent-
Adolescent expectations and values

child interactions—as a source of internalized models of relationships characterized by low self-efficacy and a lack of identification on the part of the child. This study suggests that aspects of such models of relationships can be measured and are strongly related to self-reported deviant behavior in adolescence.

Overall, then, adolescents' expectations and values suggest a mechanism by which problematic family interactions in childhood become internalized and generalized to apply to new situations. This study took a first, initial step toward documenting the importance of these expectations and values in explaining adolescent problem behaviors. Additional research is now needed to explore longitudinally the pathways by which such expectations and values are developed, maintained, and relate over time to problematic adolescent behaviors.

References


Gaffney, L. R., & McFall, R. M. (1985). A multiple-choice test to measure social skills in delinquent and non-delinquent girls [Printed raw data]. University of Queensland, St. Lucia, Queensland, Australia.


