The Role of Adolescents’ Representations of Attachment
and Peer Relationships in the Prediction of Delinquency

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Running Head: ATTACHMENT AND PEER RELATIONSHIPS
Abstract

This study examined adolescents’ representations of attachment and peer relationships as predictors of delinquency. Data were gathered from a sample of 151 racially and socioeconomically diverse at-risk adolescents. Results revealed a relationship between peer relationships and delinquency, such that adolescents with better peer relationships had lower levels of delinquency. In addition, an interaction effect was found for adolescents’ representations of attachment and peer relationships in the prediction of delinquency, such that for adolescents either preoccupied with or non-dismissing of attachment, the presence of close friends was associated with decreased levels of delinquency. For dismissing or non-preoccupied adolescents, however, close friendship had relatively little association with delinquency. Results are interpreted as suggesting that close, supportive friends serve an important buffering function for adolescents open to thinking about relationships, as evidenced either by preoccupation with or non-dismissal of attachment.
Introduction

Almost everyday, we encounter stories in the news concerning school shootings, gang violence, and a range of other crimes committed by adolescents. It is clear from these events that juvenile crime is a major problem in our society. Statistics, too, show that crime is an all too common occurrence for the youth of America. Violent crime rates for the total juvenile population increased by 143% from 1967 to 1996 (Federal Bureau of Investigation, 1996). In 1992, law enforcement agencies made 2.3 million arrests of persons below the age of 18, accounting for 16% of total arrests, and in 1998, 6% of all people arrested were under the age of 15, and 18% were under the age of 18 (Federal Bureau of Investigation, 1998). These startling figures only begin to illustrate just how many youths are involved in illegal activities and how enormous a problem this is in our society. Researchers from all different fields have been investigating the causes of these increased levels of juvenile crime, for it is only by understanding the variables surrounding juvenile crime that society can begin to prevent it.

Psychologists, therefore, have been studying many different realms of child development and how they relate to the formation of externalizing behavior problems. One area that has been the focus of much research concerning problem behaviors is attachment theory.

As infants, all humans form attachment relationships with their primary caregivers. These lasting bonds provide infants with comfort and reassurance when threatened (Weinfield, Sroufe, Egeland, & Carlson, 1999), as well as a secure base from which to explore the world around them. Seeking to establish and maintain a certain degree of proximity to the caregiver is the behavioral hallmark of attachment. This proximity may range from close physical contact under some circumstances to interaction or communication across some distance under other circumstances. Attachment behaviors
can therefore be seen as those that promote proximity or contact, whereas exploratory behaviors are
those that lead the infant away from the caregiver to venture forth and learn about his or her environment
(Ainsworth & Bell, 1970). There is a delicate balance between attachment behaviors and exploratory
behaviors, for if an infant is to competently explore the environment, he or she must remain confident
that the caregiver will be available if a threat arises. It is in this attachment-exploration balance that
individual differences in attachment relationships can most easily be seen (Ainsworth, 1967; Ainsworth,
Blehar, Waters, & Wall, 1978). In addition to differences in the attachment-exploration balance,
individual differences in attachment also reflect an infant’s perception of the availability of his or her
caregiver in the face of threat and the subsequent organization of responses to the caregiver in light of
those perceptions (Weinfield et al., 1999).

Briefly, there are four categories of attachment, secure, insecure/avoidant, insecure/resistant,
and disorganized/disoriented. Securely attached infants are able to depend on their caregivers as a
source of comfort and protection if that need arises. Infants who are insecurely attached, however, are
not confident in the responsiveness and sensitivity of their caregivers and therefore do not achieve the
same confidence in themselves or mastery of their environments that securely attached infants do
(Ainsworth et al., 1978; Weinfield et al., 1999). Finally, the disorganized/disoriented classification is
characterized by incomplete or contradictory attachment behaviors (Main & Solomon, 1990).

The attachment system includes not only outward behaviors but also an inner organization, and
as this inner organization changes in the course of development, so too do the observable attachment
behaviors and situations in which they are evoked (Ainsworth, 1989). This occurs because attachment
relationships are internalized in what Bowlby (1973) called “internal working models”. An individual’s
early experiences and subsequent expectations are taken forward to serve later behavioral and
emotional adaptation, and these models serve as a foundation of beliefs regarding the self, as well as relationships with both caregivers and non-caregivers (Bowlby, 1973). More specifically, a secure infant who is confident in the sensitive, responsive, and available caregiver will more likely be confident in later interactions with the world. An insecure infant, however, who has experienced not only inconsistency and insensitivity but perhaps also rejection from his caregiver will be more anxious about the availability of that caregiver. This individual will not develop the same degree of confidence in himself or mastery of his surroundings as his secure counterpart (Weinfield et al., 1999). Because of the impact these internal representations have on the organization of perceptions and expectations within each individual, they are expected to exert their influence on the individual’s later adaptation and behavior. Attachment can therefore be seen as an important construct in understanding future development and behavioral patterns of individuals.

One area that attachment has been shown to influence is the development of problem behaviors in childhood and adolescence. Past research has found a link between problem behaviors and insecure attachment strategies. Of a sample of preschool children displaying serious hostile behavior toward peers, 71% had disorganized attachment strategies as infants. Compared to variables such as maternal psychosocial problems and infant cognitive development, early disorganized attachment was in fact the strongest single predictor of deviant levels of hostile behavior (Lyons-Ruth, Alpern, & Repacholi, 1993). Disorganized attachment has also been found to be uniquely predictive of higher levels of aggression at age five (Shaw, Owens, Vondra, Keenan, & Winslow, 1996), and has been shown to be related to individual behavior problems in preschool, elementary school, and high school, and diagnostic ratings of psychopathology at age 17½ (Carlson, 1998). Children classified more generally as insecure at age seven showed significantly higher levels of externalizing behavior problems than secure children,
even after accounting for family risk, which had been linked to children’s behavior problems in the past (Easterbrooks, Davidson, & Chazan, 1993). Insecure attachment has also been found with great frequency (80%) among clinic-referred boys with oppositional defiant disorder (Greenberg, Speltz, DeKlyen, & Endriga, 1991). Overall, these findings suggest that attachment is indeed linked to problem behaviors in childhood, such that children with insecure attachment strategies may be more likely than children with secure attachment strategies to display externalizing behavior problems.

The link between insecurity and deviant behavior also remains in adolescence, though the type of insecurity that predicts deviance is less clear. Rosenstein and Horowitz (1996) found that psychiatrically hospitalized adolescents with a dismissing attachment strategy, which is characterized by a dissociation with both attachment figures and attachment experiences (Main & Goldwyn, in press), were more likely to have a conduct or substance abuse disorder. Allen, Moore, Kuperminc, and Bell (1998), however, found that a preoccupied attachment strategy, which is characterized by a preoccupation with attachment figures and memories (Main & Goldwyn, in press), was a significant predictor of higher levels of externalizing problems and delinquent behaviors among an at-risk sample of teens. Although these findings disagree on the specific attachment strategy that is linked to deviance in adolescence, it is clear that insecurity in general remains a strong predictor of problem behaviors well into adolescence.

Examining these studies as a whole, it is clear that insecure attachment is a significant predictor of later deviance. There has been much speculation regarding the mechanisms by which insecurity influences problem behaviors. One possibility concerns the internal representations of relationships (Greenberg, 1999; Greenberg, Speltz, & DeKlyen, 1993). Early expectations and experiences with the attachment figure result in the formation of internal working models, and these internal models are likely
to affect future behavior. An avoidant child may, for example, develop an aggressive or hostile behavior pattern in response to a rejecting and emotionally unavailable caregiver (Greenberg, 1999). This response pattern transcends beyond the parent-child relationship, possibly leading to a variety of externalizing behavior problems. It is thus possible that deviant behavior is the result of specific aspects of the internalized attachment relationship and prior attachment experiences.

A second possibility is seen at the level of observable behavior. Negative attention-seeking behaviors, such as whining or noncompliance, may serve to regulate caregiving patterns in situations in which other more adaptive strategies have been ineffective. Acting out may therefore serve to increase the caregiver’s proximity to the misbehaving child, thus allowing for the insecure child to receive some much needed attention (Greenberg, 1999; Greenberg et al., 1993).

While these processes have been proposed to explain the link between childhood problem behaviors and attachment, a third mechanism attempts to explain the link in adolescence by considering the unique developmental processes involved at this stage. A key task of adolescence is to develop autonomy, but as an adolescent explores new behaviors and values, his attachment relationships may be strained (Allen & Land, 1999). A secure adolescent is likely to maintain the expectation that the caregiver will remain available and the relationship intact even in the face of stress on the attachment relationship. This adolescent’s drive for autonomy, therefore, is unlikely to undermine the parental relationship, therefore maintaining parental control of deviant behavior. In insecure dyads, however, an already fragile relationship may be further strained by the added stress of a teen’s autonomy strivings. Specifically, in dismissing relationships, separations and autonomy struggles may cause emotional withdrawal and a minimization of attachment relationships. If an adolescent and parent then distance themselves, parents become less able to influence teen’s behavior, thus removing a great degree of
parental control. In preoccupied relationships, deviant behaviors may themselves become attachment behaviors if they increase the attention given to the teen by the caregiver, if, for example, delinquent behaviors lead to long discussions that bring the teen into closer contact with the parent (Allen, Moore, & Kuperminc, 1997).

A final consideration is that attachment is likely to show the most influence in the context of other risk factors that are part of the child and family ecology (Greenberg et al., 1993). Maternal control has, for example, been found to interact with preoccupation in the prediction of delinquency, such that for teens with preoccupied attachment strategies, higher levels of maternal control were associated with significantly lower levels of delinquency (Allen et al., 1998). This suggests that the presence of a specific protective factor, here a high level of maternal control, can buffer the effects of an insecure attachment.

One aspect of adolescent developmental systems that has received little attention is friendship in the context of attachment. It is well known that many teens begin to spend less time with their families and more and more time with their peers. It has in fact been found that families become a lesser source of daily interaction from age 9 to 15 and that relationships with friends become more rewarding in the latter part of this age range (Larson & Richards, 1991). By middle adolescence, the amount of time both boys and girls spend with their friends increases substantially (Csikszentmihalyi & Larson, 1984). Furthermore, peers who have the greatest influence on adolescents and those whose support is most important to adolescents are their close friends (Berndt, 1996). Thus, it is clear that teens come to spend an increasing amount of time with their friends and that in the realm of friendships, close friends are most influential. Given the emergent importance of close friends in adolescence, it is plausible that
these friends may serve as a buffer to the ill effects of an insecure attachment. Close friends may actually protect an insecure adolescent from delinquency.

Several studies have in fact found a link between poor peer relationships and externalizing problem behaviors. The presence or absence of close friendship in preadolescence has been found to be predictive of later difficulties in adulthood. Specifically, adults who had reciprocal best friends in fifth grade had less trouble with authorities and the law than those without a reciprocal best friend in fifth grade. Higher levels of peer rejection were also found to be associated with future trouble with authorities (Bagwell, Newcomb, & Bukowski, 1998). The extent to which a child was perceived as being actively excluded by peers also has been shown to have some unique predictive utility of later psychological maladjustment (Hoza, Molina, Bukowski, & Sippola, 1995). This indicates that peer rejection is a significant indicator of later psychological problems. Overall, these findings suggest that a lack of close friendship in childhood can lead to higher levels of problem behaviors later in life.

Several mechanisms have been suggested to explain the link between peer relationships and externalizing behavior problems. One way to look at the relationship between peers and delinquency is to view social rejection as a direct cause of antisocial outcomes. Acceptance into a peer group provides children with an opportunity to interact with same-age equals in a manner that promotes social and cognitive development. By interacting with peers, children develop both socially and intellectually (Piaget, 1932/1965), and the socially rejected child will be deprived of these early beneficial experiences and develop less adaptive capacities (Kupersmidt, Coie, & Dodge, 1990). In this way, maladaptive and antisocial outcomes may occur directly from social rejection. A second possibility is that the experience of being actively rejected by peers leads to feelings of anger and resentment that may lead to more aggression and eventual externalizing problems (Kupersmidt et al., 1990).
It is also possible, however, that peer rejection does not have a direct causal link with problem behaviors. Rejection may simply be a marker, but not a causal variable, in the prediction of delinquency. Children who break rules and are aggressive, perhaps for genetic or other reasons, will be disliked by peers because of that behavior. Delinquency in adolescence is simply the continuation of these antisocial behaviors on a more serious level (Kupersmidt et al., 1990).

Past research has clearly established a link both between attachment and delinquency and peer rejection and delinquency. Poor peer relationships have been shown to result in higher levels of delinquency, as have insecure attachment relationships with parents. The relationship between attachment and peer relationships in predicting delinquency, however, has not been examined. There are several ways in which attachment and peer relationships might work together to predict delinquency. An insecurely attached adolescent, who has received rejecting and often inadequate care, may develop a pattern of angry and hostile behavior in response to the emotional and physical unavailability of his caregiver (Greenberg, 1999). Although this behavior pattern may result in deviance for some adolescents, others, with close friends to provide the emotional support that the caregiver was unable to provide, may be steered away from the destructive path of delinquency. Another possibility is that adolescents with insecure attachment strategies act out simply to receive some much-needed attention from their caregivers (Allen et al., 1997; Greenberg, 1999; Greenberg et al., 1993). However, if these adolescents are able to make close friends to provide them the love and attention that their caregivers fail to give, they may fare better than those without such supportive friends. In either case, close friendship may serve as a buffer to the ill-effects of an insecure attachment.

Another important idea to consider is that delinquency does not exist in a vacuum. Many different factors may influence the development of deviance, and it is therefore important to look at how
these factors work together to result in higher levels of delinquency. It is the goal of the present study to investigate the link between peer relationships and delinquency in the context of different adolescent attachment representations. Specifically, we plan to address the following questions and hypotheses:

1) Will adolescents’ representations of attachment predict delinquency? It is expected that individuals with insecure attachment strategies will show elevated levels of delinquency.

2) Will the qualities of adolescents’ close friendships predict delinquency? It is expected that individuals who possess close, supportive friends will show lower levels of delinquency than those without such friends.

3) How will adolescents’ representations of attachment and peer relationships interact to predict delinquency? It is expected that an adolescent with an insecure attachment representation, who has received inconsistent care and attention from parents, if able to develop close supportive friends, may show lower levels of deviance than his or her counterpart who lacks close friendship.

This study examines delinquency in the context of adolescents’ representations of attachment and peer relationships among an ethnically and socioeconomically diverse sample of moderately at-risk adolescents. The sample was selected to represent a meaningful range of adolescents at various levels of psychosocial functioning, including those functioning both adequately and poorly.

Method

Participants

Participants included 151 ninth and tenth graders, 77 male and 74 female. The participants ranged in age from 14 to 18.75, with a mean of 15.91 years (SD = .81). The self-identified racial
background of the sample was 61% European American, 38% African-American, and 1.5% other. The median family income was $25,000, with a range from less than $5,000 to greater than $60,000. Mothers’ median education level was a high school diploma with some training post high-school, with a range from less than an eighth grade education to completion of an advanced degree.

Participants were recruited from public high schools in rural, suburban, and moderately urban communities. Students were selected for participation in the study based on the presence of at least one of four possible academic risk factors, including failing a single course for a single marking period, 10 or more absences in one marking period, any lifetime history of grade retention, and any history of school suspension. These broad criteria were used in order to select a wide range of adolescents at risk for developing future academic and social difficulties, ranging from those performing adequately with only occasional minor problems to those already experiencing more serious difficulties. Based on these criteria, approximately one-half of all ninth- and tenth-grade students were eligible for the study.

For analyses using the Inventory of Parent and Peer Attachment, only 70 participants were used due to missing data due to a technical error in administration of this measure. This subsample of adolescents for whom data from the Inventory of Parent and Peer Attachment were available did not differ from the larger sample, except that it had a greater composition of adolescents from racial/ethnic minority groups (57% vs. 39%, p < .01). Minority status did not significantly relate to any of the outcome variables in the study.

Procedure

After adolescents meeting the selection criteria were identified, letters were sent home to each family explaining the study as an ongoing investigation of teens’ lives and families. Phone calls were then placed to families who indicated a willingness to participate in the study. If both the adolescent and the
parents agreed to participate, they came in for two 3-hour visits at our offices. Approximately 50% of approached families agreed to participate. Families were paid a total of $105 for their participation. At each visit, families gave active, informed consent to participate. They were insured that all responses were confidential and that their responses would not be shared with one another. All data in the study was protected by a Confidentiality Certificate issued by the United States Department of Health and Human Services, which protected information from subpoena by federal, state, and local courts. Transportation and child care were provided if necessary.

**Measures**

*Adult Attachment Interview and Q-set (AAI; George, Kaplan, & Main, 1996; Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993).* This structured, semi-clinical interview focuses on early attachment experiences and their effects. Individuals are asked to describe their childhood relationships with parents in both abstract terms and with requests for specific supporting memories. For example, participants were asked to list five words describing their early childhood relationships with each parent and then to describe specific episodes that reflected those words. Other questions focused upon specific instances of physical and emotional upset, separation, rejection, trauma, and loss. Finally, the interviewer asked participants to describe changes in relationships with parents and the current state of those relationships. The interview consisted of 18 questions and lasted an average of one hour. Slight adaptations to the original adult version were made to better accommodate an adolescent population (Ward & Carlson, 1995). All interviews were audiotaped and transcribed for coding.

*The AAI Q-set (Kobak et al., 1993).* The Q-set was designed to parallel the Adult Attachment Classification System (Main & Goldwyn, in press), but to yield continuous measures of qualities of attachment organization. The data produced by the system can be reduced via an algorithm to
classifications that largely agree with three-category ratings from the AAI Classification System (Borman-Spurrell, Allen, Hauser, Carter, & Cole-Detke, 1995; Kobak, et al., 1993). Each rater reads a transcript and provides a Q-set description of the interview. One hundred items are assigned into nine categories ranging from most to least characteristic of the interview using a forced distribution. Each transcript was blindly rated by at least two people with extensive training in both the Q-set and Main Adult Attachment Interview Classification System.

Q-sets were compared with dimensional prototype sorts for: secure vs. anxious interview strategies, reflecting the overall degree of coherence, integration of semantic and episodic memories, and a clear objective evaluation of attachment; preoccupied strategies, characterized either by an unfocused, rambling discourse or an angry preoccupation with attachment figures; dismissing strategies, characterized by an inability or unwillingness to recount attachment experiences, idealization of attachment figures without the support of episodic memories, and a devaluation of attachment; and deactivating vs. hyperactivating strategies, which simply describes the overall balance between dismissing and preoccupied strategies. These dimensions had been previously validated (Kobak et al., 1993), and with them, Kobak reports being able to obtain classifications from the AAI classification system with good accuracy. An individual’s score on each dimension consisted of the correlation of the 100 items of the Q-set with that dimension (ranging from -1.00 to 1.00). The Spearman-Brown reliabilities for the final scale scores were .84 for security, .89 for dismissal of attachment, .82 for preoccupation, and .91 for the hyperactivating versus deactivating scales.

Although the Q-set system was designed to yield continuous measures of qualities of attachment organization, rather than to replicate classifications from the Main and Goldwyn (in press) system, the current study reduced the scale scores to classifications by using the largest Q-scale score above .20 as
the primary classification (Kobak et al., 1993). When these scores were compared to a subsample (N=76) of AAI’s classified by an independent coder with well-established reliability in classifying AAI’s (U. Wartner), 74% received identical codes (kappa = .56, p<.001), and 84 % matched in terms of security versus insecurity (kappa = .68).

**Quality of peer relationships (self-report).** The Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) was used to assess adolescents’ perception of their current peer relationships. Adolescents rated 25 items on a 5-point Likert scale to determine the level of trust, communication, and alienation with peers, as well as to generate a composite score of the overall quality of their peer relationships. This composite measure has been shown to have good test-retest reliability and has been related to other measures of family environment and teen psychosocial functioning (Armsden & Greenberg, 1987). Cronbach’s α in this sample was .92 for the composite score.

**Close Friendship (self-report).** Adolescents completed the Self-Perception Profile for Adolescents (Harter, 1988) to obtain a broad measure of the characteristics of their friendships. For each item, two sentence stems were presented side by side, for example, “some teens do have a close friend they can share secrets with,” but “other teens do not have a really close friend they can share secrets with.” Teens were asked to determine which statement described them best and whether the statement was “sort of true” or “really true” for them. This format was designed to reduce the effects of a pull for social desirability. A close friendship scale summed five such items to tap into a teen’s ability to make close friends with whom he or she can share personal thoughts and secrets. Harter (1988) found internal consistency reliabilities for the subscales. Internal consistency (Cronbach’s α) for this sample was .85.
Delinquency (PBI; Elliot, Ageton, Huizinga, Knowles, & Canter, 1983). To assess adolescents’ involvement in delinquent activity, the Problem Behavior Inventory was used. This is a well-validated instrument normed in a longitudinal study of a national probability sample of adolescents (Elliot, et al., 1983). Adolescents are asked to report the frequency of engaging in 38 delinquent acts in the past six months. Self-report measures of delinquency have been found to be correlated with reports from independent observers and official records, while also eliminating systematic biases in official records (Elliot & Ageton, 1980). This instrument yields a scale summing the total frequency of all delinquent acts. Because the sums of these frequencies were highly positively skewed in the current sample (adolescents overall reported low levels of delinquency), scores were log-transformed prior to all analyses.

Results

Preliminary Analyses

Demographic factors. Means and standard deviations of all demographic factors are presented in Table 1. Correlations were run between predictor variables and the outcome variable for both the subsample for which all measures were available (Table 2) and the full sample (Table 3). For both the subsample for whom data from the Inventory of Parent and Peer Attachment was available and the entire sample, income and dismissal of attachment were negatively correlated, suggesting that adolescents with more dismissing attachment strategies had lower family income levels. Minority status and dismissal of attachment were positively correlated in both the complete data subsample and the entire sample, such that for adolescents of minority background, levels of dismissal were higher. Also, for the entire sample, gender and dismissal of attachment were negatively correlated, with boys displaying greater use of dismissing attachment strategies. In addition, gender and preoccupation were
positively correlated, with girls displaying higher levels of preoccupation than boys. Mother’s education level and dismissal of attachment were negatively correlated, such that for adolescents whose mothers had lower education levels, levels of dismissal were higher. Finally, dismissal of attachment and close friendship were negatively correlated, such that adolescents with higher levels of dismissal had less close friendship competence.

Table 1

Demographic variables for entire sample of participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adolescent’s Age</td>
<td>Mean 15.91</td>
</tr>
<tr>
<td></td>
<td>SD 0.81</td>
</tr>
<tr>
<td>Adolescent’s Gender</td>
<td>Male 77 (51%)</td>
</tr>
<tr>
<td></td>
<td>Female 74 (49%)</td>
</tr>
<tr>
<td>Minority Status</td>
<td>Minority 59 (39%)</td>
</tr>
<tr>
<td></td>
<td>Non-Minority 92 (61%)</td>
</tr>
<tr>
<td>Family Income</td>
<td></td>
</tr>
</tbody>
</table>
Mean 31,664
SD 20,101

Mother’s Education
Did not complete high school 23 (16%)
High school diploma 30 (21%)
Some education beyond high school 67 (46%)
College degree or higher 26 (18%)

Note. Ns for all variables were 151 except for mother’s education level (N = 146 due to missing data)

Table 2

Intercorrelation Matrix of Variables (complete data subsample)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Income</td>
<td>--</td>
<td>-.52***</td>
<td>-.08</td>
<td>.53***</td>
<td>-.06</td>
<td>-.25*</td>
<td>.15</td>
<td>-.09</td>
</tr>
<tr>
<td>2. Minority Status</td>
<td>--</td>
<td>-.02</td>
<td>-.32**</td>
<td>-.12</td>
<td>.32**</td>
<td>-.10</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>3. Gender</td>
<td>--</td>
<td>-.17</td>
<td>.12</td>
<td>-.22</td>
<td>.21</td>
<td>-.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Mother’s education level</td>
<td>--</td>
<td>-.08</td>
<td>-.11</td>
<td>-.12</td>
<td>.17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Preoccupation</td>
<td>--</td>
<td>.18</td>
<td>-.23</td>
<td>.29*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Dismissal</td>
<td>--</td>
<td>-.18</td>
<td>.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. Attachment to peers</td>
<td>--</td>
<td>-.40***</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>8. Delinquency</td>
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</table>

Note. N = 70
*p < .05. **p < .01. ***p < .001.

Table 3

Intercorrelation Matrix of Variables (entire sample)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Income</td>
<td>--</td>
<td>-.46***</td>
<td>-.05</td>
<td>.48***</td>
<td>-.08</td>
<td>-.27***</td>
<td>.06</td>
<td>-.09</td>
</tr>
<tr>
<td>2. Minority Status</td>
<td>--</td>
<td>-.05</td>
<td>-.31**</td>
<td>-.04</td>
<td>.38**</td>
<td>-.09</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>3. Gender</td>
<td>--</td>
<td>-.04</td>
<td>.18</td>
<td>-.26**</td>
<td>.15</td>
<td>-.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Mother’s education level</td>
<td>--</td>
<td>-.13</td>
<td>-.19*</td>
<td>-.05</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Preoccupation</td>
<td>--</td>
<td>.22</td>
<td>-.16</td>
<td>.19*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Dismissal</td>
<td>--</td>
<td>-.21*</td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Close friendship</td>
<td>--</td>
<td>-.18*</td>
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</tr>
</tbody>
</table>
Primary Analyses

**Analytic strategy.** Previous research has linked family socioeconomic status, minority status, and gender to adolescent delinquency. These demographic variables were therefore included as predictors in all regression analyses. Hierarchical regression models were used for all analyses, with the demographic variables entered into the model first. The primary variables of interest, adolescents’ representations of attachment and peer relationships, as measured by either the Inventory of Parent and Peer Attachment or the Self-Perception Profile for Adolescents, were entered next to examine the explained variance in delinquency beyond the variance explained by the three demographic variables (family income, minority status, and gender). In the third and final step, the interaction term was entered to determine its contribution in predicting delinquency.

**Adolescents’ representations of attachment and attachment to peers.** In the first set of analyses, adolescents’ preoccupation with attachment and peer attachment, measured by the Inventory of Parent and Peer Attachment, were examined as predictors of delinquency. Adolescents’ self-reported delinquency was regressed on adolescent preoccupation with attachment and attachment to peers. As indicated in Table 4, after accounting for the effects of the demographic variables, a main effect was found for attachment to peers and delinquency ($\beta = -.33, p < .01$). This indicates that lower levels of attachment to peers were associated with higher levels of delinquency. No main effect was found for preoccupation and delinquency. Attachment to peers interacted with preoccupation in predicting delinquency (see Table 4), $\beta = -.36, p < .01$. As Figure 1 indicates, for preoccupied
adolescents, lower levels of attachment to peers were associated with significantly higher levels of delinquency, whereas higher levels of attachment to peers were associated with significantly lower levels of delinquency. For non-preoccupied adolescents, however, attachment to peers had relatively little relation to delinquency.

Table 4

Hierarchical regression of adolescents’ level of preoccupation and attachment to peers in predicting delinquency after accounting for related variables

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Entered</th>
<th>β</th>
<th>R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
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<td>.32</td>
<td>.04</td>
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<td></td>
<td>Statistics for this step</td>
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<td></td>
<td></td>
</tr>
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<td>2</td>
<td>Attachment to Peers, Preoccupation</td>
<td>-.33**</td>
<td>.21</td>
<td>.17**</td>
</tr>
<tr>
<td></td>
<td>Statistics for this step</td>
<td>.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Attachment to Peers * Preoccupation</td>
<td>-.36**</td>
<td>.34</td>
<td>.13**</td>
</tr>
</tbody>
</table>

Note. Beta weights are taken from the full model. N = 70.

**p < .01.

Figure 1

Interaction of adolescent’s level of preoccupation with attachment and attachment to peers in predicting delinquency
A second set of analyses examined adolescents’ use of dismissing attachment strategies and attachment to peers as predictors of delinquency. Adolescents’ self-reported delinquency was regressed on dismissal of attachment and attachment to peers. As indicated in Table 5, after accounting for demographic variables, a main effect was again found for attachment to peers ($\beta = -.43$, $p < .001$). Specifically, lower levels of attachment to peers were associated with higher levels of delinquency. The main effect of use of dismissing attachment strategies and delinquency was not significant. Attachment to peers interacted with dismissing adolescent states of mind in predicting delinquency (see Table 5), $\beta = .32$, $p < .01$. As Figure 2 indicates, for non-dismissing adolescents, lower levels of attachment to peers were associated with significantly higher levels of delinquency, whereas higher levels of attachment to peers were associated with significantly lower levels of delinquency. For dismissing adolescents, however, attachment to peers had relatively little relation to delinquency.

Table 5
Hierarchical regression of adolescents’ level of dismissal and attachment to peers in predicting delinquency after accounting for related variables

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Entered</th>
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<th>$R^2$</th>
<th>Δ$R^2$</th>
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<td>Minority Status</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Gender</td>
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<td></td>
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<td>Statistics for this step</td>
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<td>.04</td>
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<td>2</td>
<td>Attachment to peers</td>
<td>-.43***</td>
<td>.17</td>
<td>.13***</td>
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<tr>
<td></td>
<td>Dismissal</td>
<td>-.06</td>
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<td></td>
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<tr>
<td></td>
<td>Statistics for this step</td>
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<td>.17</td>
<td>.13***</td>
</tr>
<tr>
<td>3</td>
<td>Attachment to Peers * Dismissal</td>
<td>.32**</td>
<td>.25</td>
<td>.08**</td>
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<tr>
<td></td>
<td>Statistics for this step</td>
<td></td>
<td>.25</td>
<td>.08**</td>
</tr>
</tbody>
</table>

Note. Beta weights are taken from the full model. $N = 70$.

**$p < .01$. ***$p < .001$. 

Figure 2

Interaction of adolescent’s use of dismissing attachment strategies and attachment to peers in predicting delinquency

![Diagram showing interaction of dismissive attachment and attachment to peers in predicting delinquency](attachment.png)
Adolescents’ representations of attachment and close friendship. In a third set of analyses, adolescents’ preoccupation with attachment and close friendship competence, as measured by the Self-Perception Profile for Adolescents, were examined as predictors of delinquency. Delinquency was regressed on preoccupation with attachment and close friendship competence. After accounting for demographic variables, the main effect for preoccupation and delinquency ($\beta = .16, p < .10$) approached significance (Table 6). This indicates a trend toward higher levels of preoccupation predicting higher levels of delinquency. No main effect was found for close friendship and delinquency. The interaction between close friendship and adolescents’ preoccupation with attachment in predicting delinquency also approached significance, (see Table 6), $\beta = .15, p < .10$. As Figure 3 indicates, for preoccupied adolescents, lower levels of close friendship were associated with higher levels of delinquency, whereas higher levels of close friendship were associated with lower levels of delinquency. For non-preoccupied adolescents, however, close friendship had relatively little relation to delinquency.
Hierarchical regression of adolescents’ level of preoccupation and close friendship in predicting delinquency after accounting for related variables

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Entered</th>
<th>β</th>
<th>R²</th>
<th>ΔR²</th>
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</thead>
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<td></td>
<td>Gender</td>
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<td>2</td>
<td>Close friendship</td>
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<td></td>
<td>Preoccupation</td>
<td>.16⁺</td>
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<td>Statistics for this step</td>
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<td>.08</td>
<td>.06⁺</td>
</tr>
<tr>
<td>3</td>
<td>Close Friendship * Preoccupation</td>
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<tr>
<td></td>
<td>Statistics for this step</td>
<td></td>
<td>.10</td>
<td>.02⁺</td>
</tr>
</tbody>
</table>

Note. Beta weights are taken from the full model. N = 151.

Figure 3

Interaction of adolescent’s level of preoccupation with attachment and close friendship competence in predicting delinquency
In a fourth set of analyses, adolescents’ use of dismissing attachment strategies and close friendship competence were examined as predictors of delinquency. Adolescents’ self-reported delinquency was regressed on dismissal of attachment and close friendship. As indicated in Table 7, after accounting for demographic variables, the main effect for close friendship and delinquency was significant ($\beta = -.17, p < .05$). This indicates that lower levels of close friendship were associated with higher levels of delinquency. Neither the main effect for dismissal nor the interaction between dismissal and close friendship was significant.

Table 7

Hierarchical regression of adolescents’ level of dismissal and close friendship in predicting delinquency after accounting for related variables
<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Entered</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
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<tbody>
<tr>
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<td>-.08</td>
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<td>Minority Status</td>
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<td>Statistics for this step</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Close friendship</td>
<td>-.17*</td>
<td>.05</td>
<td>.03*</td>
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<tr>
<td></td>
<td>Dismissal</td>
<td>.04</td>
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<td>Statistics for this step</td>
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<td></td>
<td></td>
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<tr>
<td>3</td>
<td>Close Friendship * Dismissal</td>
<td>.04</td>
<td>.05</td>
<td>.001</td>
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</table>

**Note.** Beta weights are taken from the full model. $N = 151$. $*p < .05$.

Overall, these results indicate a consistent relationship between adolescents’ representations of attachment and peer relationships in predicting delinquency. Regression equations indicated that for preoccupied adolescents, the presence of close, supportive friends was associated with lower levels of delinquency. For dismissing adolescents, however, close friendships were relatively unrelated to delinquency. This study, therefore, provides clear evidence for the moderating effect of adolescents’ representations of attachment on the links between peer relationships and delinquency.

**Discussion**

The current study examined the role of two factors, adolescents’ representations of attachment and peers relationships, in the prediction of adolescent delinquent behavior, investigating not only the individual contributions of these factors but also how they work together to predict delinquency. The link between adolescents’ representations of attachment and peer relationships had been separately examined in relation to delinquency, but the interaction of the two had not yet been considered. The current study therefore extended beyond existing empirical research by investigating this interaction. Contrary to hypotheses, adolescents’ representations of attachment were not directly associated with
attachment and peer relationships

delinquency. However, as hypothesized, results indicated that poorer quality friendships were associated with elevated levels of delinquency. In addition, a moderating effect was found between adolescents’ representations of attachment and quality of friendship in predicting delinquency. Specifically, for insecure preoccupied adolescents, the presence of close, supportive friends was associated with lower levels of delinquency. For insecure dismissing adolescents, however, friendship had relatively little relation to delinquency. These results indicate that the quality of adolescents’ peer relationships moderated the effect of representations of attachment in predicting delinquency.

Contrary to prior research (Allen et al., 1998; Carlson, 1998; Easterbrooks et al., 1993; Greenberg et al., 1991; Lyons-Ruth et al., 1993; Rosenstein & Horowitz, 1996; Shaw et al., 1996), which has found that insecure attachment strategies are associated with elevated levels of delinquency, no such association was found in the current study. This suggests not that insecurity was completely unrelated to delinquency, but that the relationship of insecurity to delinquency differed depending upon the nature of an individual’s peer relationships, as evidenced by the interaction effect that was found.

Consistent with prior research (Bagwell et al., 1998; Hoza et al., 1995), the current study found that a lack of close friendship was related to elevated levels of delinquency. Analyses revealed that adolescents whose friendships were characterized by high levels of mutual trust and communication reported lower levels of delinquency than those whose friendships were characterized more by alienation and distrust or who had more difficulty maintaining close friendships. Although the cross-sectional nature of the current study does not allow for assessment of causation, one possible explanation of these findings is that a lack of close, supportive friends results in elevated levels of delinquency. Because close friends provide a strong support network, having such friends to lean on may prevent adolescents from becoming involved in the most serious forms of delinquency. In addition,
because both delinquency and social isolation can be seen as a rejection of social norms, they may be likely to occur together. The adolescent who possesses close friendships, however, may be more accepting of social norms and therefore less likely to engage in delinquent activity. It is also possible that maintaining close friendships leads to greater social competence, which in turn may lead to positive alternatives to delinquency, such as participation in extracurricular activities. It is also possible, however, that poor peer relationships are simply a marker in the prediction of delinquency. There may also be some other, third variable involved that predicts both quality of friendship and delinquency. Very competent adolescents may, for example, be more likely both to possess close friendships and to display low levels of delinquency.

Whereas both adolescents’ representations of attachment and peer relationships had previously been linked to delinquency, the interaction of the two predictors had not before been examined. Analyses in the current study revealed an interaction effect, such that for adolescents with more preoccupied representations of attachment, peer relationships were highly associated with delinquency. Specifically, preoccupied adolescents with close, supportive friends showed lower levels of delinquency than their counterparts without such friends. For non-preoccupied adolescents, however, peer relationships had relatively little association with delinquency. Analyses also revealed an interaction effect between dismissing strategies of attachment and peer relationships, such that for dismissing adolescents, peer relationships had relatively little association with delinquency. For non-dismissing adolescents, however, the presence of close friends was associated with lower levels of delinquency.

These results suggest, then, that for adolescents who are open to thinking about relationships and for whom close relationships are especially important, as evidenced by either preoccupation with or non-dismissal of attachment, close friendships serve as a buffer to delinquency. These adolescents may
be more attuned to relationships in general, and this extends to most, if not all, of the important relationships in their lives. Relationships, therefore, are more likely to have an impact in a variety of areas of functioning. For adolescents who are dismissing of attachment relationships and who may be more inclined to withdraw from relationships, however, close friendships are not associated with delinquency. Relationships are not a central aspect of these adolescents’ lives, and it is therefore unlikely that they will affect other areas of functioning. It may also be that the friendships of dismissing adolescents are not actually as close as they report them to be; these individuals may idealize their friendships, as they sometimes do their attachment relationships, to be more supportive and significant than they actually are. The small role friends play in the lives of dismissing adolescents, therefore, may be partly attributable to the lack of closeness in their friendships.

The current study thus suggests that close friendship is associated with lower levels of delinquency in the context of attachment strategies in which adolescents are open to thinking about their relationships. This is consistent with a previous finding by Allen et al. (1998) that high maternal control was associated with lower levels of delinquency primarily for adolescents who were open to thinking about their attachment relationships, whether this was manifested as secure valuing of attachment or preoccupation with attachment. Both the results of this study and the current study are consistent with attachment theory, which holds that internal working models, formed from an individual’s early experiences and subsequent expectations, serve as a foundation of beliefs regarding the self, as well as relationships with both caregivers and non-caregivers (Bowlby, 1973). The way an individual views relationships, including friendships, therefore, may be a direct result of his or her attachment experiences. Although both preoccupied and dismissing adolescents may have experienced rejection and inconsistency from their caregivers, preoccupied individuals have not given up thinking about those
relationships as many dismissing individuals have. This open acceptance of and attention to relationships may be the reason peer relationships exert their influence on delinquency for preoccupied, but not dismissing, adolescents.

Another possible explanation is that adolescents act out to receive much-needed attention from their parents (Allen et al., 1994). For these adolescents, the presence of close friends who will provide some of this love and attention may be associated with lower levels of delinquency. This effect may not occur for dismissing adolescents who have withdrawn from relationships, perhaps becoming able to cope without the attention and sensitivity of their caregivers. For them, the love and support from friends may not influence their lives as directly as it does for preoccupied adolescents. In addition, because preoccupied adolescents may be desperate for attention, having close friends to give them this attention makes more difference than for dismissing adolescents who do not have this overwhelming need for attention. In other words, the need preoccupation creates may be satisfied either through delinquency or close friendship. For those fortunate enough to find close friendships, delinquency may not be an option.

The buffering effect of close friendship for preoccupied and non-dismissing adolescents suggests that friendships can indeed be quite beneficial. Although the results of the current study may not be causal, one possible explanation for these findings is that close friendships may prevent, or at least diminish, delinquency in certain situations. This has significant implications in our efforts to decrease juvenile delinquency. Focusing on relationships may be key in working with troubled teens, for both parent and peer relationships may be important in limiting their deviant behavior. Adolescents are likely to need supportive and caring figures to turn to through the rough patches they encounter during the difficult transition from childhood to adulthood, and if parents do not fill this role, close friends may be
able to in some circumstances. This indicates that, contrary to the belief that friends are a negative influence and may encourage deviancy, friendships can serve an important positive role to limit delinquent behavior.

In addition to furthering our understanding of the role relationships play in predicting delinquent behavior, the current study also supports aspects of attachment theory. As Bowlby (1973) suggested, individuals form internal working models of their attachment relationships that carry into future relationships and behaviors. The findings of the current study support this by suggesting that attachment relationships extend beyond familial relationships and into peer relationships. Attachment relationships may influence the way adolescents view close friendships, therefore supporting the notion that attachment experiences impact future relationships and in turn future behavior.

Although the current study extends beyond existing empirical research by examining the relationship between adolescents’ representations of attachment and peer relationships in the prediction of delinquency, several limitations must be noted. First, because of the cross-sectional nature of this study, causation cannot be inferred. It could be, for example, that adolescents begin to experience negative changes in their friendships and even lose friends as a result of problem behavior and delinquent activity, making poor friendships a result, rather than a cause, of delinquency. Future research utilizing a longitudinal design can attempt to clarify the question of causality.

Another limitation of the current study lies with the makeup of the observed sample. Because this study was intended to identify moderately at-risk adolescents, it may not fully represent the entire range of adolescents. The results, therefore, may not be generalizable to non at-risk samples. In addition, the participants of this study consisted of only one half of those students eligible to participate based on four academic selection criteria. Although this number is reasonable due to the large time
investment families had to commit to, it may reflect a possible selection bias.

In addition, the data included in the current analyses were collected through self-report measures. This means of data collection may be flawed because adolescents’ own reports of both their behaviors and relationships may be influenced by their desire to present themselves in a certain way. Future research might benefit by gathering data from multiple informants to provide a more accurate picture of adolescents’ behaviors and relationships.

It is also important to note that the findings were stronger using the Inventory of Parent and Peer Attachment than the Self-Perception Profile for Adolescents. This may be because the Inventory of Parent and Peer Attachment is a more in-depth measure of the quality of an individual’s friendships, assessing three broad categories, trust, communication, and alienation, in a 25 question self-report. The Self-Perception Profile for Adolescents, however, consists of only five questions contributing to the assessment of close friendship and focuses more on whether or not adolescents have close friends. Future research should investigate what specific qualities of friendships contribute the most in the prediction of delinquency.

Finally, it is also important to consider that delinquency is likely the result of a wide range of factors, not simply adolescents’ representations of attachment and peer relationships. Other additional factors, such as parental monitoring techniques and adolescent autonomy, may also contribute to delinquency. In order to better understand the developmental processes that predict delinquency in adolescence, it is necessary to examine a number of different factors.

Overall, the current study extends beyond existing research by investigating the interaction between adolescents’ representations of attachment and peer relationships in predicting delinquency. The results highlight the importance of close friendships, especially to those adolescents who are more
attuned to relationships as evidenced by a preoccupied or non-dismissing attachment strategy. This is important both in further establishing attachment as a lifelong construct and also in understanding the interplay of factors as they predict delinquency. Delinquency does not exist in a vacuum, and as this study attests to, it is necessary to look at a variety of risk factors to better predict delinquency.

Whereas this study provides increased insight to the processes influencing delinquency, it still leaves many questions unanswered. Future research needs to investigate the specific aspects of friendship that most influence delinquency, the stages in adolescence that the influence of friends is most important, and additional factors that might interact with adolescents’ representations of attachment and peer relationships in predicting delinquency. With this information, it might become possible to establish programs to enable adolescents to focus on the protective factors in their lives that might steer them away from engaging in the most serious forms of delinquency.

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