# Intimacy in adolescent friendship: The roles of attachment, coherence, and self-disclosure

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──────────────── ABSTRACT ────────────────
This study examined attachment, coherence, and self-disclosure as predictors of intimacy in adolescent friendships as well as the extent to which coherence and disclosure mediate the relationship between attachment and intimacy. Gender and grade-level effects on intimacy development were also examined for one hundred ninety-six seventh, eighth and ninth grade students (116 boys and 80 girls). Attachment, coherence, and disclosure strongly predicted intimacy. Self-disclosure and coherence also interacted to influence intimacy where a tendency toward self-disclosure contributes to intimacy to a greater extent at low (when compared to high) levels of coherence. Structural Equation Modeling indicated that only coherence and self-disclosure had a direct effect on intimacy. Avoidant and anxious attachment had an indirect affect on intimacy, and were mediated by coherence and disclosure. Clinical implications of the results are discussed.

KEY WORDS: adolescence • attachment • coherence • friendship • intimacy • self-disclosure

Intimacy is described as closeness to another person and as openness in describing and sharing thoughts and feelings. Researchers perceive intimacy as the hallmark of adolescent friendship (see, for example, Berndt & Hanna, 1995; Buhrmester & Prager, 1995; McNelles & Connolly, 1999; Parker & Gottman, 1989; Reisman, 1990; Shulman, Elicker, & Sroufe,

1994). Although researchers are unequivocal regarding the importance of intimacy development during adolescence, less is known about the processes and variables that influence it. Therefore, the primary goal of this study is to investigate the extent to which internal resources, namely secure attachment with a primary caregiver and a strong sense of coherence (e.g., a global orientation toward the world as comprehensible, manageable, and meaningful; Antonovsky, 1987), and external resources (i.e., the ability to appropriately self-disclose to friends), influence intimacy development during adolescence. Furthermore, we work from a developmental perspective where attachment to parents is considered the child's first human relationship which then models the child's subsequent interpersonal constructs including friendship and intimacy. Thus, a sense of coherence and self-disclosure evolving from the child's sense of security (Antonovsky, 1987; Bowlby, 1982; Cassidy, 2001). We will initially discuss the importance of intimacy (reflected in self-disclosure) in adolescent friendship. We then review the contribution of attachment and sense of coherence to the development of intimacy during that period.

## Intimacy and self-disclosure in adolescent friendship

Intimacy is central to an adolescent's socioemotional adaptation (Sullivan, 1953) and is considered an important resource in developing his or her interpersonal and intrapersonal growth (Buhrmester, 1990). Intrapersonally, ego identity is necessary for the processing of intimate interactions (Erikson, 1963). Interpersonally, intimacy in adolescent friendships imbues individuals with a sense of belonging and self-worth (Erikson, 1963; Rawlins, 1992). The close friend also serves as an important source of emotional support and a safe environment for self-exploration and identity formation (Buhrmester, 1990; Parker & Gottman, 1989).

Youngsters' ability to build trust and experience intimacy depends on their capacity to appropriately self-disclose (e.g., to share feelings, thoughts, and desires) and to develop an affective bond with a friend (Parker & Gottman, 1989; Sullivan, 1953). The friends' characteristics and the overall friendship quality are also important to intimacy development within friendship.

Intimacy is usually linked with positive friendship features (e.g., prosocial behavior, enhancement of self-worth) and with high friendship quality (Berndt, 2002). On the other hand, friends who engage in problem behaviors (e.g., delinquent activities or substance use) or friendship with very negative features (e.g., conflicts, dominance) may jeopardize adolescents' self-worth, the ability to appropriately disclose, and the development of intimacy (e.g., Berndt, 2002; Claes et al., 2005; Barnow, Lucht, & Freyberger, 2005).

Intimacy in friendship and social adjustment interrelate. On the one hand, adolescents who described their friendships as compassionate, disclosing, and satisfying also reported being more competent, more sociable, less hostile, less anxious, less depressed, and having higher self-esteem when compared to peers involved in less intimate friendships (Buhrmester, 1990).

On the other hand, adolescents who are more competent may have the capacity to foster and develop better and more intimate friendships.

With cognitive development, advances in operational thinking, and increased emotional maturation (e.g., conceptualization of emotions), adolescents become better able to participate in direct self-disclosure through discussing their relationships, emotions, and differentiating between what is "me" and what is "not me" (Hartup, 1993). Greater maturity in role-taking abilities enables adolescents to adopt a more generalized, abstract perspective of others that encompasses not only each member's unique characteristics, but also the understanding of the relationship's meaning (Selman, 1981).

Self-disclosure involves a tendency and willingness to share personal or private thoughts and feelings with others. A dramatic increase in self-disclosure occurs during adolescence and it is mainly through this self-disclosure that adolescents develop intimacy (Buhrmester & Prager, 1995). Loyalty, mutual commitment, and mutual trust are important for friends' ability to self-disclose and, by extrapolation, to develop intimacy in their friendship (Laursen, 1993). Lack of intimate friendships during this period may constitute a source of stress as the youngster may lack an important source of social support and coping assistance (Parker, Rubin, Price, & DeRosier, 1995; Sullivan, 1953).

## Intimacy and attachment

Shulman, Laursen, Kalman, and Karpovsky (1997) suggested that intimacy development during adolescence involves both closeness and individuality. Closeness reflects feelings of mutual empathy, commitment, affective bonding, and a sense of security in the relationship. Individuality, in turn, reflects the understanding that the two friends are different entities. During this period, friends need to establish a balance between closeness and each friend's separate development of self. Baxter (2004) explained this balance between closeness and individuality as a dialectic between an autonomous self and the self in a dialogue with significant others (parent and friends). According to Baxter's model, persons are motivated to expand their self-boundaries through a dialogue with others with different perspectives, resources and identity. Thus, the development of the self is a result of a dynamic dialogue of sameness and difference and of the reflection of the self through the view of others.

In adolescence, the task is to develop the capacity for mature intimacy in friendships and romantic relationships while simultaneously maintaining close and autonomous relationships with parents (Scharf, Mayseless, & Kivenson-Baron, 2004). As children reach adolescence and strive toward autonomy, the peer group also becomes an important attachment figure which provides acceptance and self-validation (Rawlins, 1992), identification, and self-regulation (Keiley & Seery, 2001; Nickerson, & Nagle, 2005). Rawlins and Holl (1988) suggested that during adolescence a dialectic complementary communicative interplay occurs where both parents and

friends are a source of information for consulting and decision-making. Friends may be used as a source for non-judgmental acceptance, however, in contrast to potential parental disapproval. This may not undermine attachment to parents (Ainsworth, 1989; Buhrmester, 1996), however attachment to peers may become as prominent as parental attachments (Ainsworth, 1989; Bowlby, 1982; Freeman & Brown, 2001), with both parents and friends being identified as primary attachment figures.

When the establishment of intimate friendships becomes salient, autonomy and separation from the parents becomes an important developmental task (Buhrmester, 1990; Liberman, Doyle, & Markiewicz, 1999). Child–parent interactions and connectedness continue to play an important part in adolescence. However, despite the decrease in shared activities, adolescents continue to use their parents as a secure base from which they may expand their increasing autonomy. A successful balance of autonomy and relatedness in adolescent–parent interactions may even be a stage-specific manifestation of attachment security (Allen, Kuperminc, & Moore, 1997). A secure attachment with the primary caregiver is associated with, and predictive of, socially competent behavior with peers. In contrast, insecurely attached children may be at risk for the development of problematic peer relationships (Booth-Laforce et al., 2006). Indeed, Keiley and Seery (2001) described similar patterns of relationships between parents towards adolescents and their adolescents towards their peers. Given a fairly consistent pattern of interactions with attachment figures during childhood and adolescence, the most representative models of these interactions are solidified through thousands of repeated experiences and increasingly become part of the individual's developing personality. Like other cognitive schemas, these internalized models (i.e., secure or insecure attachment patterns) generally remain stable throughout the individual's lifetime, tend to operate automatically and unconsciously, and may be transferred to other relationships (e.g., peers) (e.g., Mikulincer & Shaver, 2003). Therefore, it is likely that adolescents employ similar attachment strategies in their relations with parents and peers.

Due to advances in operational thinking and the increased differentiation of self from others, the perceived availability of the parental attachment figure becomes a more important focus than actually maintaining physical proximity to the caregiver. The attachment figure's availability is determined by the child's belief that the attachment figure is open to communication, is physically accessible, and will be responsive if called on for help (Bowlby, 1973; Kerns, 1996; Liberman et al., 1999). Although the adolescent may actively avoid relying on parents when stressed, the knowledge that the parent remains an attachment figure when truly needed is crucial during this period (Allen & Land, 1999).

According to attachment theory, the quality of the parent–child relationship is strongly related to the quality of the child's subsequent close peer friendships. Specifically, securely attached children are more likely to form harmonious, intimate, and responsive friendships compared to those who are insecurely attached (e.g., Berlin & Cassidy, 1999; Bowlby, 1973; Sroufe

& Fleeson, 1986; Youngblade & Belsky, 1992). The attachment–peer relation link can be conceptualized with respect to three main dimensions: cognitive, behavioral, and affective (Liberman et al., 1999). The cognitive dimension emphasizes children's expectations of how they and others are likely to behave in social situations. Unlike securely attached children, insecurely attached children may expect their peers to be unresponsive to their needs. Consequently, insecure children expect rejection and may behave in ways that elicit it (Goldberg, 1991). From a behavioral perspective, secure (versus insecure) children will be more capable of exploring their social environment, resulting in higher levels of social engagement with peers, which in turn enables them to develop social skills. Secure children also learn to interact in a cooperative and synchronous manner within the parent–child relationship, which can then be generalized to relations with peers (Youngblade & Belsky, 1992). From an affective standpoint, secure children learn to effectively regulate negative emotions, enabling them to display positive emotions that benefit interactions with peers, whereas insecure children may learn to display emotions inappropriately (Kobak & Sceery, 1988). According to this model, it is likely that the early attachment relationship plays an important role in mediating adolescents' relations with peers through all three dimensions: expectations of peer behavior, social skills development and exposure to peer models, and, finally, the ability to display appropriate affect in peer interactions.

## Sense of coherence

Despite the significance of the attachment–friendship link in adolescence, we do not know enough concerning how this link evolves or its potential contribution to intimacy development. Moreover, little is known about the impact of other intrapersonal resources, such as the child's sense of coherence, on this link. Sense of coherence constitutes a global perceptual orientation with cognitive and affective elements. It reflects the extent of dynamic confidence with which individuals view their internal and external environments as predictable and assess life situations to be working out as well as can be expected (Antonovsky, 1987).

According to Antonovsky (1987), sense of coherence includes three primary dimensions: comprehensibility, manageability, and meaningfulness. Comprehensibility refers to the extent to which internal and external stimuli are evaluated as ordered, consistent, structured, and clear rather than chaotic, disordered, random, accidental, or inexplicable. The person high in comprehensibility expects future stimuli will be predictable or, if surprising, then at least structurable and explicable.

Manageability refers to the balance between one's resources and the demands placed on those resources. An appropriate balance occurs when the individual perceives that available resources are adequate to meet the demands posed by social situations. The resources may be under one's control or controlled by legitimate others (spouse, friends, colleagues, etc.).

Meaningfulness, a motivational aspect, refers to the extent to which one feels that life makes sense emotionally, that at least some of life's problems and demands are worthy of energy investment, commitment, and engagement. Moreover, life's problems and demands are welcome challenges rather than burdens that one would much rather do without. Having consistent emotional bonds and a sense of belonging is relevant to the development of meaningfulness, as well as to achieving the feeling that one can significantly contribute to shaping one's fate.

## Attachment, coherence and intimacy

Inasmuch as working models of attachment–friendship and the sense of coherence both greatly depend on the consistency and quality of the child's interactions with a close person in the environment, the salutogenic model (Antonovsky, 1979, 1987) assumes a link between types of attachment and sense of coherence. Children who develop avoidant attachment will only trust themselves and will not demonstrate the belief that help can be found when needed. Children with anxious attachment will perceive life events as unpredictable and will feel helpless when coping with stressful events, thus revealing a weak sense of comprehensibility and meaningfulness (Mikulincer & Florian, 1998; Sagi & Antonovsky, 1996). Children with secure attachment will internalize a sense of stability in life events, feelings of manageability, and meaningfulness in life experiences.

Few studies have examined the sense of coherence in adolescence, even though a strong sense of coherence seems to be particularly important during this life stage with its many internal and external changes (e.g., ego identity development and physical maturation). To the best of our knowledge, no studies have examined the link between adolescents' sense of coherence and attachment styles. A strong sense of coherence may help adolescents perceive developmental tasks as challenging and meaningful and foster more efficient and less anxious ways of coping with them (Antonovsky & Sagi, 1986). A strong sense of coherence may help the adolescent develop trust, loyalty, and commitment, which are essential to intimacy development in friendship, as well as the feeling that help can be obtained when needed.

## Gender Differences

Although no gender differences have been found in adolescents' sense of coherence (Margalit & Eysenck, 1990), differences have been identified in regard to intimacy. When compared with adolescent boys, girls tend to self-disclose more, have more intimate friendships, and experience greater increases in both expressed and experienced intimacy between early and late adolescence (Buhrmester & Prager, 1995; Camarena, Sarigiani, & Peterson, 1990; Shulman et al., 1997). Attachment theory does not specifically predict gender differences (Mikulincer & Shaver, 2003), nor does research tend to

report them (e.g. Feldman, Gowen, & Fisher, 1998; Howard & Medway, 2004; Waldinger et al., 2003).

## Present Study

The present study, therefore, examines gender differences in intimacy during early adolescence, as well as the influence of gender on the development of intimacy during this period. Several studies have also documented increases in intimacy and self-disclosure as individuals move toward adolescence (e.g., Buhrmester & Prager, 1995; McNelles & Connolly, 1999); thus, the current study will also investigate the contribution of grade level (age) to the development of intimacy.

In sum, this study aimed to explore gender and grade-level differences in intimacy; correlations between intimacy, attachment, coherence, and self-disclosure; the contribution of attachment, coherence, and self-disclosure (while controlling for gender and grade level) as predictors of intimacy during adolescence; and to examine a mediational model of intimacy development in which self-coherence and self-disclosure mediate between attachment styles and intimacy in adolescence (e.g., see Figure 1). Based on the preceding literature review, we assumed that internal resources, namely a secure attachment with a primary caregiver and a strong sense of coherence, and external resources, namely self-disclosure with friends, would influence the development of intimacy during adolescence.

## Method

### Participants
The sample consisted of 196 children aged 12 to 15 years (116 boys and 80 girls). Children were randomly recruited from the seventh ($n = 74$; 33 girls and 41 boys), eighth ($n = 76$; 28 girls and 48 boys, and ninth ($n = 46$; 19 girls and 27 boys) grades from five different schools throughout Israel. These schools are characterized as suburban middle-class by the Israeli Ministry of Education.

**FIGURE 1**
**The research model**
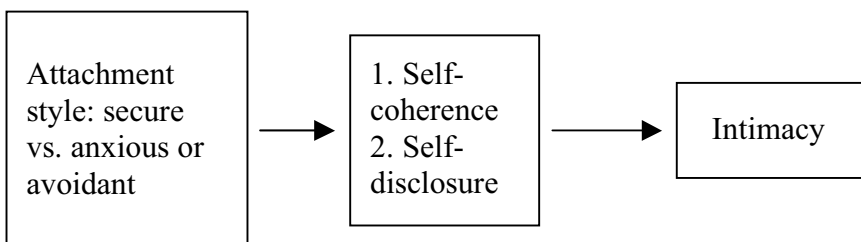
## Measurement

**Intimacy.** The Shulman et al. (1997) Intimacy Scale assessed adolescents' perceptions of intimacy with a best friend. This self-report scale includes 47 items divided into five subscales. Items are accompanied by 4-point Likert-type scales ranging from 1 ("not true") to 4 ("very true"). The original subscales assess (i) emotional closeness and the friend's availability and assistance (e.g., "Gives me a lot of care and attention"; $\alpha = .90$); (ii) balanced relatedness, or the friend's tolerance for the respondent's differing opinions and ideas (e.g., "Respects my ideas"; $\alpha = .69$); (iii) respect, or the friend's respect for the respondent's competence and uniqueness (e.g., "Thinks I'm worth listening to"; $\alpha = .81$); (iv) conformity, or similarity in appearance and ideas, and the importance of conforming on these issues (e.g., "My friend thinks we have the same expectations for the future"; $\alpha = .79$); and (v) control, or a preference for unilateral decision making (e.g., "When we have a problem he/she manages it"; $\alpha = .77$).

We performed a second order factor analysis to examine whether the five subscales are unique. Results indicated two factors with eigenvalue greater than 1, explaining 80.6% of the variance (see Table 1). The first factor, Intimacy, included four of the subscales – emotional closeness, respect for the friend, balanced relatedness, and conformity – thus describing responsive and coordinated intimate friendships. The second factor, Control, included only the control subscale, thus appearing to comprise a different aspect of intimacy that is beyond the scope of this paper. It was therefore excluded from further analysis.

**Attachment style.** We used the Attachment Styles Questionnaire (ASQ; Mikulincer, Florian, and Tolmacz, 1990) to determine attachment styles. The ASQ includes 15 statements – five items each for secure (e.g., "I find it relatively easy to get close to others"), avoidant (e.g., "I find it difficult to allow myself to depend on others"), and anxious (e.g., "I often worry that others won't want to stay with me"). Each item was accompanied by a 7-point bipolar scale ranging from 1 ("not at all") to 7 ("very much"). Using this categorical measure, 135 (70.3%) of the adolescents classified themselves as 'secure', 26 (13.5%) classified themselves as 'anxious' and 31 (16.1%) classified themselves as 'avoidant'. In addition to the categorical

**TABLE 1**
**Factor loading coefficients of intimacy categories for the two factors**

| Factors | Intimacy | Control |
|---|---|---|
| Emotional closeness | .92 | −.03 |
| Respect for the friend | .87 | .03 |
| Balanced relatedness | 82 | .16 |
| Conformity | .81 | −.33 |
| Control | .13 | .97 |

measure according to Mikulincer and Shaver (2003) in this study we also used a continuous method for evaluating the anxiety and avoidance dimensions of attachment. The internal consistency in our study was $\alpha = .79$ and $\alpha = .83$ for the Anxious Attachment and the Avoidant Attachment dimensions, respectively. Items were averaged for each factor and high scores reflected anxiety or avoidance. The anxiety and avoidance dimensions were not significantly associated ($r = .32$; $df = 194$; *ns*).

**Sense of coherence.** The Margalit and Ziv (1997) Adolescent Sense of Coherence Scale consisted of 16 items, each accompanied by 5-point Likert-type scales ranging from 1 ("never") to 5 ("always"). Items described adolescents' feelings of confidence in their world on three dimensions: (i) comprehensibility – understanding the environment (e.g., "Usually after things have happened, you figure out that you either exaggerated or underestimated their importance"); (ii) sense of manageability – feelings of control and confidence that when help is needed, it will be available (e.g., "Have you ever felt that people you trusted disappointed you?"); and (iii) meaningfulness – motivation and interest in investing efforts in various tasks (e.g., "You get a lot of pleasure out of the things you do"). Following Antonovsky (1987), we calculated a global score that reflected all three dimensions. After omitting item 11 because of a low total correlation, the final 15 items exhibited acceptable reliability ($\alpha = .78$). Higher scores indicated a stronger sense of coherence.

**Self-disclosure.** The Shulman et al. (1997) Self-Disclosure Scale assessed adolescents' tendency to share personal issues (i.e., family, friends, and physical development) with a best friend. The scale contains 24 items (8 items for each of the three subjects), each accompanied by a 4-point scale ranging from 1 ("rarely") to 4 ("almost always"). Adolescents rated the extent to which they tend to share issues concerning (i) family, i.e., parental attributes and home atmosphere (e.g., "characteristics or behaviors you do not like about your parents"; $\alpha = .90$); (ii) friends, or perceptions of and exchanges within close peer relationships (e.g., "your expectations about your friend"; $\alpha = .79$); and (c) physical development, i.e., concerns about appearance and maturation (e.g., "concerns about your appearance"; $\alpha = .84$). Correlations between these three subscales ranged from $r = .53$ to .70, while overall self-disclosure showed a high internal reliability ($\alpha = .92$). The scale was used by Horesh and Apter (2006) and revealed high internal reliabilities (global scale, $\alpha = .91$; and Cronbach Alphas in Horesh and Apter ranged from .89 to .95 for the self-disclosure subscales).

### Procedure
After receiving parental permission, participants completed the questionnaires in their schools. Participants worked in groups of 5 to 7 while separated from other subjects. The examiner provided instructions and individual explanations upon request. Instructions for the intimacy and the self-disclosure questionnaires indicated that participants were to answer them

while considering a specific best friend relationship. Students who could not identify a best friend were removed from the sample (*n* = 17; 9 boys and 8 girls). The order of scales was randomized for each group of participants to eliminate sequence effects.

## Data analyses
First, multivariate analyses of variance (MANOVA) and univariate analyses of variance (ANOVA) were performed to examine group differences in intimacy by gender and age. Second, correlational analyses were conducted to examine the linear relationships between intimacy, attachment, coherence, and self-disclosure. The predictive contribution of the independent variables to intimacy was assessed via hierarchical regression and a Structural Equation Modeling (by AMOS) was performed to examine the possibility of a mediating model where sense of coherence and self-disclosure mediates the relationship between attachment and intimacy.

## Results

### Gender and grade-level differences in intimacy
To examine group differences, we conducted a 2 × 3 (gender by grade level: seventh/eighth/ninth) MANOVA on the four dimensions of intimacy (emotional closeness, balanced relatedness, respect for friend, and conformity). The MANOVA yielded a significant gender effect, $F(5, 186) = 4.29, p <.001$, but no significant grade-level or interaction effects. Follow-up univariate ANOVAs (see Table 2) revealed that females scored significantly higher than males on three of the four subscales of intimacy (the only exception being 'respect for friend'). Likewise, girls scored higher than boys on the global intimacy variable.

### Relationships among intimacy, attachment, coherence, and self-disclosure
Table 3 presents the correlations among intimacy, attachment, coherence, and self-disclosure. All the correlations were statistically significant and in

**TABLE 2**
**Means, Standard Deviations, and *F* Values for gender differences in intimacy**

| Dimension | Female (*n* = 80) | | Male (*n* = 116) | | Group differences |
|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *F* (1,190) |
| Conformity | 2.46 | .58 | 2.24 | .54 | 7.38** |
| Emotional closeness | 3.10 | .55 | 2.91 | .59 | 4.95* |
| Balanced relatedness | 3.07 | .56 | 2.91 | .52 | 4.64* |
| Respect for friend | 3.01 | .55 | 2.92 | .53 | 1.79 |
| Intimacy | 2.92 | .49 | 2.74 | .48 | 6.11* |

* $p < .05$; ** $p < .01$.

**TABLE 3**
**Intimacy: Correlations with attachment, coherence, and self-disclosure**

| | | INTIMACY | | | |
|---|---|---|---|---|---|
| | Conformity | Emotional closeness | Balanced relatedness | Respect for the friend | Intimacy |
| ATTACHMENT | | | | | |
| Avoidant | –.17* | –.32*** | –.31*** | –.25*** | –.30*** |
| Anxious | –.18* | –.30*** | –.36*** | –.29*** | –.32*** |
| COHERENCE | .30*** | .37*** | .35*** | .38*** | .42*** |
| SELF-DISCLOSURE | | | | | |
| Family | .37*** | .41*** | .29*** | .21** | .39*** |
| Friends | .47*** | .50*** | .36*** | .37*** | .51*** |
| Physical perception | .33*** | .41*** | .26*** | .28** | .39*** |
| General | .44*** | .50*** | .35*** | .32*** | .48*** |

$* p < .05; ** p < .01; *** p < .001.$
*Note*: $(df = 194)$

the expected direction. First, avoidant and anxious attachment correlated negatively with all the intimacy subscales and with the overall category. Second, all three dimensions of self-disclosure (family, friends, and physical appearance) correlated positively with all the dimensions of intimacy. Finally, a greater sense of coherence correlated with higher levels of all four intimacy dimensions and with the overall category.

### Predicting intimacy from attachment, coherence, and self-disclosure

Hierarchical regression analyses were performed to investigate the contribution of attachment, coherence, self-disclosure, and their interactions to the prediction of intimacy during adolescence (see Table 4). The first step of the analysis introduced gender and grade level as controls. We entered the attachment dimensions of avoidance and anxious in the second step of the regression and coherence and self-disclosure in the third step. The fourth and final step consisted of the interactions between the various predictors. In the first three steps, the variables' entrance was forced, while in the fourth step, variables entered according to the significance of their contribution $(p < .05)$.

The regression analysis revealed that the predictors explained 43% of the variance of intimacy. In the first step, only gender significantly predicted intimacy. In the second step, low levels of both avoidant and anxious attachment were related to higher levels of intimacy. In the third step, self-disclosure and coherence both significantly predicted intimacy. Higher degrees of both self-disclosure and coherence led to higher levels of intimacy. When self-disclosure and coherence were entered into the equation, the contribution of the attachment factors were attenuated and were no longer significant, suggesting that self-disclosure and coherence mediate

**TABLE 4**
**Hierarchical regression analysis for the prediction of intimacy among**
**adolescents (β coefficient)**

|  | Step | | | |
| --- | --- | --- | --- | --- |
| **Predicting variables** | **1** | **2** | **3** | **4** |
| Gender | .17* | .14* | .17 | .07 |
| Grade level | .09 | .08 | .07 | −.02 |
| Attachment | | | | |
|    Avoidant | | −.18** | −.07 | .02 |
|    Anxious | | −.24** | −.09 | −.13 |
| Coherence | | | .34*** | .37*** |
| Self-disclosure | | | .44*** | .45*** |
| Coherence × self-disclosure | | | | −.16* |
| $R^2$ | .04* | .28*** | .40*** | .43*** |
| $\Delta R^2$ | .04* | .24*** | .12* | .03* |

* $p < .05$; ** $p < .01$; *** $p < .001$.

between attachment and intimacy. In the fourth step, only the interaction between self-disclosure and coherence was significant.

To clarify the interaction, we performed a median split on Sense of Coherence (median = 3.5) and calculated separate correlations between intimacy and self-disclosure for both the high and low coherence groups. A higher correlation emerged between intimacy and self-disclosure among the group of adolescents with a poorer sense of coherence ($r = .58, p <.001$) than among those with a stronger sense of coherence ($r = .40, p <.001$). This finding suggests that the tendency to disclose contributed more to the explanation of the variance in intimacy when the sense of coherence was low.

## Do Coherence and Self-Disclosure Mediate Between Attachment and Intimacy?

We performed structural equation modeling (using AMOS 5) to examine our model positing that self-coherence and self-disclosure mediate the relationship between attachment and intimacy. The exogenous variables were age (according to grade), gender, avoidant and anxious attachment; the mediating variables were sense of coherence and self-disclosure; and the dependent variable was intimacy.

Analyses indicated that the data fit the model very well (goodness of fit index = .99; $\chi^2 = 6.84$; $df = 2$; $p = .335$; RMR = .009; AGFI = .95). Figure 2 presents only the significant β coefficients ($p <.05$). The figure shows that gender (with girls disclosing more than boys), and grade level (older participants tend to disclose more) significantly predicted self-disclosure. Avoidant attachment made a significant negative contribution to sense of coherence and a minor, but still significant, negative contribution to self-disclosure. Anxious attachment made a significant negative contribution only to sense of coherence. Only sense of coherence and self-disclosure directly influenced

**FIGURE 2**
**Structural equation modeling: Examination of the role of coherence and**
**self-disclosure as mediators between attachment and intimacy**
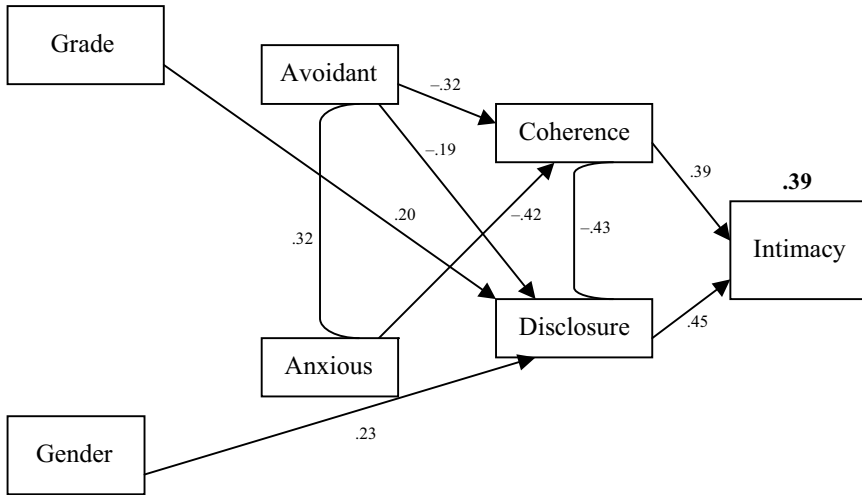


intimacy. According to the path model, avoidant and anxious attachment had an indirect effect on intimacy and were mediated by sense of coherence and by self-disclosure. The effects of age and gender (girls) on intimacy were mediated only by self-disclosure.

## Discussion

Overall, the findings of the present study support the hypothesis that young adolescents' intimacy would be predicted by their attachment characteristics, sense of coherence, and tendency to disclose private thoughts and feelings. Only sense of coherence and self-disclosure showed direct effects on intimacy, while avoidant and anxious attachment had an indirect effect on intimacy, mediated by sense of coherence and self-disclosure. Finally, gender and age were shown to have an indirect effect on intimacy, though mediated only by self-disclosure; girls self-disclose more than boys; and the older the participant (i.e., the higher the grade level), the stronger the tendency towards self-disclosure.

These findings support Bowlby's (1979) contention that the quality of an individual's experiences with a primary caregiver influences the quality of relations with significant others throughout life. More specifically, our data demonstrated the link between an adolescent's sense of security (i.e., low levels of anxious and avoidant attachment) and their ability to form an intimate friendship with a peer.

These outcomes are consistent with research like that of Allen and Land (1999) who found that secure adolescents valued same-sex friendships,

whereas avoidant adolescents pushed peers away, particularly those who could become close friends. Mikulincer and Selinger (2001) have reported that secure adolescents place a high value on both attachment goals (obtaining proximity, support, sense of security) and affiliation goals (accomplishment of joint projects, having fun together) in their same-sex friendships. Moreover, secure youngsters pursued more intimacy in their relationships and manifested this intimacy by engaging in behaviors that clearly revealed this intimacy, such as by disclosing secrets, being together, or supporting others when they were sad. In contrast, insecure adolescents showed less flexibility in the activation of attachment and affiliation systems. Anxious adolescents focused exclusively on attachment goals and tended to pursue attachment goals more than affiliation goals in both attachment- and affiliation-activating contexts. Avoidant adolescents tended to dismiss both attachment and affiliation goals in both types of contexts.

Cassidy (2001) described anxious individuals as focused on obtaining but not providing support, as less flexible in accepting aspects of others and as tending to exaggerate the importance of proximity, intimacy, involvement, connectedness, and other manifestations of an attachment that suggested a desire for interpersonal fusion. Avoidant individuals tend to lack empathy and to devalue the importance of close relationships. Threatened by the relationship needs of others and by the possibility of losing control over relationships, or by being rejected, they keep rigid self-boundaries and avoid intimate friendships (Cassidy, 2001; Lopez, 2001). Our study contributes to the existing findings by taking them one step further and linking two personality variables: attachment styles and sense of coherence – as direct predictors of a major task of adolescence, that of forming intimate relationships. Attachment style mainly reflects the adolescent's primary relationships with the parents that are manifested in later relations (e.g., peers during adolescence: Freeman & Brown, 2001), whereas coherence reflects the basis for self-identity and competence. It seems that attachment security would enhance confidence in the ability to deal with distress, incorporate new information, and deal with cognitive ambiguity. Thus, attachment security may enhance greater mastery and broaden the sense of coherence (Al-Yagon & Mikulincer, 2004; Mikulincer & Shaver, 2007). A strong sense of coherence refers to adolescents' experience of congruence between intrapsychic and environmental stimuli and to their experience of themselves as persons who have the resources to cope with these stimuli. High meaningfulness within the sense of coherence construct indicates that adolescents perceive themselves as making a significant contribution in shaping their own destiny.

It can be concluded that attachment security and a strong sense of coherence may represent a holistic approach in the development of the ability to form intimate relationships such as close friendships. Similarly, individuals who are less characterized by secure attachment and less competent interpersonally due to early attachment failure will be less equipped to build and maintain intimate friendships. It seems that a parent who provides the conditions for a secure attachment is probably also providing the conditions for a high sense of coherence. In that sense, both of these states (i.e., secure

attachment and sense of coherence) have a cumulative effect on the adolescent's capabilities to form intimate friendships.

Intimacy does not necessarily mean closeness, but rather the ability to negotiate closeness. Intimacy incorporates several abilities: to seek support, provide support, negotiate, and feel comfortable as and with an autonomous self (Cassidy, 2001). In this vein, our path model suggests that secure attachment has an effect on intimacy through a sense of coherence and self-disclosure, suggesting that secure adolescents seem to effectively handle the dialectic of intimacy that includes both closeness and autonomy. Anxious adolescents may wish for closeness (and merge into the intimate friend), but do not negotiate closeness effectively, whereas avoidant adolescents may exaggerate issues of autonomy and differentiation and avoid intimacy altogether (Lopez, 2001).

That self-disclosure serves as a mediator between attachment and intimacy is consistent with prior research. Mikulincer and Shaver (2003) asserted that persons who wish to move toward intimacy should promote their own intimate disclosures and should be responsive to others' disclosing communications. Also, Baxter (2004) suggested that in being open to another person, one is willing to listen to him or her from that person's perspective, to display receptivity to what that person has to say, and to be open to change in one's own beliefs and attitudes. Mikulincer and Nachshon (1991) have described how attachment strategies shape a person's self-disclosure and reactions to a partner's self-disclosure. Secure people were more likely to self-disclose and to be highly responsive to a partner's disclosure. They disclosed more personal information and felt better interacting with a high- rather than with a low-disclosing partner, and they were attentive to the issues raised in the partner's disclosures and expanded upon them in their own discourse, thus engaging in what the authors termed, "topical reciprocity." Persons who endorsed an avoidant attachment style were less comfortable and willing to self-disclose, were uncomfortable with a highly disclosing partner, did not disclose personal information even to such a partner, and were reluctant to create open and friendly relationships with others (Mikulincer & Nachshon, 1991). For individuals with an anxious attachment style, self-disclosure involved a momentary breaching of boundaries with a partner and met a need for increased closeness. Anxious people could use self-disclosure as a means of merging with others and of reducing their fear of abandonment, rather than as a means for enhancing reciprocal intimacy. As a result, although anxious people were found to report heightened willingness toward self-disclosure, they tended to disclose indiscriminately to people who were not prepared for intensely intimate interactions (e.g., strangers, low-disclosing partners) and tended to be unresponsive to their partner's disclosures (Mikulincer & Shaver, 2003).

Attachment security includes possessing declarative beliefs regarding the manageability of life problems and problems in the social sphere, which play a central role in maintaining emotional stability and personal adjustment (Mikulincer & Shaver, 2005). The path analysis indicating that sense of coherence serves as a mediator between attachment style and intimacy

also supports Antonovsky's (1979, 1987) conceptualizations of the coherence concept. Coherence means the ability to strike a balance between the autonomous self and others, and between inner resources and the environment's demands, while maintaining one's sense of self-worth. In other words, adolescents with a strong sense of coherence can manage the dialectic between developing trustful relationships and preserving autonomy, maintaining loyalty to a close friend as well as to themselves, and providing support. All these features are essential for the development of intimacy. In addition, a high sense of meaningfulness, integral to the coherence construct, contributes to the motivational aspect of developing close and intimate relationships. Meaningfulness fuels the suspense that relationships are worthy of energy investment and are a challenge rather than a burden. The ability to maintain consistent emotional bonds is one outcome of a stronger sense of meaningfulness (Antonovsky, 1979, 1987).

The interaction between coherence and self-disclosure that emerged in the regression analysis provides valuable information regarding harbingers of harmonious intimacy. This interaction indicated that the combination of high self-disclosure with low sense of coherence contributed to the explanation of the variance in intimacy. In this way, adolescents with a strong sense of coherence may tend to preserve their autonomy, perhaps at the expense of forming intimate friendships that demand negotiation between the self's boundaries and self-disclosure. This interaction suggests that to form intimate friendships, adolescents should be mature enough to balance their sense of coherence (constituting their sense of identity and autonomy) and their ability to share inner feelings and fantasies with close friends without worrying about the risk to the self's boundaries. As Erikson (1963) discussed, the major developmental task of adolescence comprises the consolidation of a firm sense of identity, which manifests itself vis-à-vis intimate peer relations in the capacity to form intimate friendships without losing the self in these relations.

Taken together, attachment, coherence, and self-disclosure emerge as important contributors to the ability to develop intimacy during adolescence. Intimacy, which constitutes the ability to negotiate closeness, seems to reflect the adolescent's facility in maintaining the boundaries of the self while at the same time opening up and sharing aspects of the self with a close friend without experiencing a blurring of those boundaries. Self-disclosure constitutes the instrument that enables intimacy; yet a secure attachment and a sense of coherence seem crucial for this process to evolve.

## Study limitations and directions for future research

Our study also had its limitations, thus, before concluding, it is important to note that our picture is still not complete. The focus of the current study was on personality (attachment) and competence (coherence) variables that contribute to and affect intimacy in adolescence. Thus, the dyadic nature of friendship was not examined. Indeed, the characteristics of both the friend and friendship, such as gender configuration of the dyad, the friend's attachment style, and his or her competence in terms of sense of coherence, may

be important factors contributing to the development of intimacy in adolescent friendship. These issues, however, were not included in our study. Future studies should incorporate dyadic investigations of friendship qualities, as well as both friends' personal characteristics, to fully understand the processes that lead to intimacy development in adolescent friendships.

Other limitations of the study concern its reliance on self-reports. Therefore, future research should focus on examining intimacy in adolescents' friendships via other assessment measures such as interviews, direct observations, or dyadic evaluation by both friends.

## Implications

Our results have important clinical and therapeutic implications. Clinically, according to Antonovsky (1979, 1987), the development of one's sense of coherence spans the first three decades of life, becoming stable only around the age of 30. Therefore, intervention programs targeting adolescents' sense of coherence may improve youngsters' ability to develop intimate friendships. Such programs should devote special attention to helping adolescents find a balance between the ability to maintain self-boundaries and the ability to share their intimate world with close friends. Clinically, the current study emphasized the assumed link between child–parent relationships and peer relationships by demonstrating that secure (vs. avoidant or anxiously attached) children establish more intimate friendships.

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