Although there is considerable evidence linking the security of children's attachment to their mothers to child competence and adaptive functioning, the distinct picture of adjustment problems characteristic of each pattern of insecure attachment has received less research attention, especially during middle childhood. This study examined the concurrent associations between the child's representation of the mother-child attachment relationship and adaptive functioning in the school during middle childhood. Participating were 113 fourth and fifth graders; subjects were given the Doll Story completion task, which had been modified for their use. Based on this measure, children were classified as secure, avoidant, ambivalent, or disorganized with regard to attachment representation. Teachers assessed each child's academic achievement, emotional and social adjustment, and frequency of behavior problems. Each participating class underwent a sociometric procedure. The findings indicated that secure children showed better adjustment to school as reflected in teachers' reports of scholastic, emotional, social, and behavioral adjustment, as well as in peer-rated social status. Discriminant analyses allowed identification of distinct profiles of problems for each insecure attachment representation prototype. Almost 94 percent of the subjects were correctly classified into their attachment representation prototype. (KB)
Insecure Attachment Representations and Profiles of Problematic adjustment to School in Middle Childhood

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Keywords: Attachment, Adaptation, Middle Childhood, School

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Abstract

Security of infant-caregiver attachment was found to have a continuing effect on various domains of children's functioning up to school age. Research has repeatedly shown that infants whose relationships with their parents are characterized as secure, as opposed to insecure, are generally more competent and exhibit better adaptive functioning as toddlers and preschoolers (Moss, Parent, Gosselin, Rousseau, & St-Laurent, 1996; Wartner, Grossman, Fremmer-Bombik, & Suess, 1994). Studies which examined the three insecure attachment patterns mostly demonstrated that children exhibiting the avoidant or the disorganized patterns display the least competent adjustment in preschool and early school-age period, and the highest prevalence of hostile aggressive behavior problems with the disorganized group being the worst (Moss, Rousseau, Parent, St-Laurent, & Saintonge, 1998; Lyons-Ruth, Easterbrooks, & Cibelli, 1997; Lyons-Ruth, Alpern, & Repacholi, 1993). However, no clear-cut externalizing or internalizing pattern was evident. By contrast, ambivalent children tended to be socially inept or show less autonomous relational styles and some evidence of social withdrawal (Oppenheim, Sagi, & Lamb, 1988; Finnegan, Hodges, & Perry, 1996). Nevertheless, the distinct picture of adjustment problems characteristic of each of the insecure patterns has been less explored, especially during middle childhood.

This study examines the concurrent associations between the child's representation of the mother-child attachment relationships and adaptive functioning in the school during middle childhood. Specifically the study sought to expand previous research by looking at the distinct profiles of adjustment problems evinced by children of different insecure attachment representations.

One hundred and thirteen fourth and fifth-grade children were administered the Doll Story completion task (Bretherton, Ridgewy, & Cassidy, 1990) which was modified for use with children in middle childhood. Based on these measures children were classified as secure, avoidant, ambivalent, or
disorganized with regard to attachment representation. Their teachers completed several questionnaires assessing each child's academic achievement, emotional and social adjustment, and frequency of behavioral problems (internalizing and externalizing). In addition, each participating class underwent a sociometric procedure.

Based on an understanding of the internal models of each of the attachment patterns and their attachment strategies, disorganized children were expected to evince a combination of externalizing and internalizing symptoms showing low ego-strength, such as low self-image, and aggression related to inability to control impulses.

In contrast, avoidant children were expected to evince internalizing and externalizing symptoms related to lack of empathy and regard for others, such as instrumental aggression, defiance and loneliness. Finally, ambivalent children were expected to show symptoms related to their exaggeration of their neediness, such as immaturity, crying and nagging.

As expected, secure children showed better adjustment to school as reflected in teacher’s reports of scholastic, emotional, social, and behavioral adjustment, as well as in peer-rated social status.

Using discriminant analyses distinct profiles of problems were identified for each of the insecure attachment representation prototype. Four functions have been found. On the base of these function 93.8% of the subjects correctly classified into there attachment representation prototype (79% of the secure Prototype, 82.4% of the avoidant Prototype, 97.3% of the ambivalent Prototype, and 100% of the disorganized Prototype).

This function accorded well with the profile expected. Findings indicated the usefulness of attachment theory in understanding adjustment to the school environment in middle childhood, and in delineating a more specific profile of problems for each insecure attachment pattern.
Security of infant-caregiver attachment was found to have a continuing effect on various domains of children's functioning up to school age. Research has repeatedly shown that infants whose relationships with their parents are characterized as secure, as opposed to insecure, are generally more competent and exhibit better adaptive functioning as toddlers and preschoolers (Moss, Parent, Gosselin, Rousseau, & St-Laurent, 1996). Studies which examined the three insecure attachment patterns mostly demonstrated that children exhibiting the avoidant or the disorganized patterns display the least competent adjustment in preschool and early school-age period, and the highest prevalence of hostile aggressive behavior problems with the disorganized group being the worst (Moss, Rousseau, Parent, St-Laurent, & Saintonge, 1998). By contrast, ambivalent children tended to be socially inept or show less autonomous relational styles and some evidence of social withdrawal (Finnegan, Hodges, & Perry, 1996).

Nevertheless, the distinct picture of adjustment problems characteristic of each of the insecure patterns has been less explored, especially during middle childhood. This study examines the concurrent associations between the child's representation of the mother-child attachment relationships and adaptive functioning in the school during middle childhood. Specifically the study sought to expand previous research by looking at the distinct profiles of adjustment problems evinced by children of different insecure attachment representations.

113 4th and 5th-grade children were administered the Doll Story completion task (Bretherton, Ridgeway, & Cassidy, 1990) which was modified for use with children in middle childhood. Based on these measures children were classified as secure, avoidant, ambivalent, or disorganized with regard to attachment representation. Their teachers completed several questionnaires assessing each child's academic achievement, emotional and social adjustment, and frequency of behavioral problems. In addition, each participating class underwent a sociometric procedure. Based on an understanding of the internal models of each of the attachment patterns and their attachment strategies, Disorganized children were expected to evince a combination of externalizing and internalizing symptoms showing low ego-strength, such as low self-image, and aggression related to inability to control impulses. In contrast, avoidant children were expected to evince internalizing and externalizing symptoms related to lack of empathy and regard for others, such as instrumental aggression, defiance and loneliness. Finally, ambivalent children were expected to show symptoms related to their exaggeration of their neediness, such as immaturity, crying and nagging.

As expected, secure children showed better adjustment to school as reflected in teacher's reports of scholastic, emotional, social, and behavioral adjustment, as well as in peer-rated social status. Using
discriminant analyses distinct profiles of problems were identified for each of the insecure attachment representation prototype. These profiles accorded well with those expected. Findings indicated the usefulness of attachment theory in understanding adjustment to the school environment in middle childhood, and in delineating a more specific profile of problems for each insecure attachment pattern.
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Abstract

Security of infant-caregiver attachment was found to have a continuing effect on various domains of children’s functioning up to school age. Research has repeatedly shown that infants whose relationships with their parents are characterized as secure, as opposed to insecure, are generally more competent and exhibit better adaptive functioning as toddlers and preschoolers (Moss, Parent, Gosselin, Rousseau, & St-Laurent, 1996; Wartner, Grossman, Fremmer-Bombik, & Suess, 1994). Studies which examined the three insecure attachment patterns mostly demonstrated that children exhibiting the avoidant or the disorganized patterns display the least competent adjustment in preschool and early school-age period, and the highest prevalence of hostile aggressive behavior problems with the disorganized group being the worst (Moss, Rousseau, Parent, St-Laurent, & Saintonge, 1998; Lyons-Ruth, Easterbrooks, & Cibelli, 1997; Lyons-Ruth, Alpern, & Repacholi, 1993). However, no clear-cut externalizing or internalizing pattern was evident. By contrast, ambivalent children tended to be socially inept or show less autonomous relational styles and some evidence of social withdrawal (Oppenheim, Sagi, & Lamb, 1988; Finnegan, Hodges, & Perry, 1996). Nevertheless, although studies support the idea that a secure relationship with the primary caregiver reduces child vulnerability to development of behavior problems at school age, findings are unclear with respect to the distinct picture of adjustment problems characteristic of each of the insecure patterns, especially during middle childhood.
Objectives

1) To examines the concurrent associations between the child’s representation of the mother-child attachment relationships and adaptive functioning in the school during middle childhood.

2) Specifically the study sought to expand previous research by looking at the distinct profiles of adjustment problems evinced by children of different insecure attachment representations.

Hypothesis

1) Disorganized children were expected to evince a combination of externalizing and internalizing symptoms showing low ego-strength, such as low self-image, and aggression related to inability to control impulses.

2) Avoidant children were expected to evince internalizing and externalizing symptoms related to lack of empathy and regard for others, such as instrumental aggression, defiance and loneliness.

3) Ambivalent children were expected to show symptoms related to their exaggeration of their neediness, such as immaturity, crying and nagging.
Method

Subjects:

The sample consisted of one hundred and thirteen children in 4th and 5th grade (two classes each grade), 48 male and 65 female. The mean age of the children was 10.4 years (range 9.5 to 11.5 years). The sample was recruited from an elementary school in a middle-class suburban area in Israel. Compliance was high and of 61 children in 4th grade 58 (95%) agreed to participate as did 57 (100%) in 5th grade. Parental permission was received for participation.

Measure of attachment representation

An adapted version of the Doll Story Completion task (Bretherton, Ridgeway, & Cassidy, 1990) was used in the present study to assess the quality and the security of the child’s representation of the mother-child attachment relationships. This task is a semi-structured doll-play procedure developed by Bretherton and her colleagues for 3-year-olds (Bretherton et al., 1990). In it, an adult companion introduces a neutral story and then moves the child through a series of five attachment-related stories. Children complete the stories using a set of family figure dolls and other simple props.

The attachment stories are as follows:

(1) spilled juice, while the family is seated at dinner table, the child accidentally spills juice on the floor.

(2) hurt knee, the child falls off a high rock and hurts his/her knee.

(3) monster in the bedroom, the child is sent to bed and cries out that there is a monster in his/her bedroom.

(4) departure story, the mother and father leave for an one day trip and a baby-sitter stays with the children.
(5) reunion story: the baby-sitter sees the parents as they return the following morning and
announces their return to the children.

The companion introduces each story with a short script and encourages the child to enact the
story completion by saying, “Show me what happened next”. Open-ended questions and prompts
are given as necessary to encourage the child to play.

Modification to the task

In the present research minor modifications were made, following extensive pre-testing with 30
children, when adapting the Doll Story Completion task for the middle childhood age group. This
modification included minor changes in the procedure and criteria for security and a suggested
classification into four attachment patterns. The changes to the procedure were planned to enhance
the activation of attachment-related feelings for middle-childhood children, and included: a)
Changing the monster in the Monster in the bedroom story stem to “Scary figure”; b) In the
original hurt knee story stem, the child crying after falling from the rock says: “I’ve hurt my knee”.
We added the sentence: “I am bleeding.”; c) In the departure story, the period of separation was
extended from 1 night to 3 days to make it more appropriate for the older children. In addition, the
older siblings were taken out so that they would not act as replacement caregivers.

Coding the attachment representation

The most significant modification being the evaluation of attachment patterns according to the
child’s representations of mother-child attachment relationships. In other words, an assessment
was made of the strategy underlying the child’s “internal working model” guiding his/her
suggested solutions to stressful situations within the framework of an attachment-related story.

Use of emotional expressions, relationships with caregiver, protagonist’s worldview and
narrative structure were all taken into consideration in classification. The measure enabled the
classification of the child’s representation into one secure and three insecure (Avoidant,
Ambivalent, Disorganized) attachment Prototype-based classification.
Reliability Checks. Twenty video-taped Doll Story Completion interviews were used to test interjudge reliability. There was good agreement regarding the classifications of the children into the four Prototype-based classification on 17 of the 20 cases (85% agreement, $\chi^2=28.82$, df=6, $p<.001$, Kappa=.77).

Additional reliability and validity checks. A judge (Y.Z.), who did not participate in the data collection phase, rated 50 of the interviews based on a comprehensive manual and following 20 trial cases. There was a good agreement between this new judge and D.G. regarding the classifications of the children into the four prototype-based classification on 45 of the 50 cases (85% agreement, Kappa = .81).

An additional study was designed to assess test-retest reliability, independence of tester’s identity, and discriminant validity with regards to cognitive skills, such as logical reasoning and language proficiency. Twenty seven 10-12 year-old children (11 boys and 16 girls) participated in this study. The children were administered the Doll Story Completion task twice over a three month interval.

There was a good agreement between the two judges regarding the classifications of the subjects into the four prototype-based classification on 26 of the 27 cases (93.8% agreement, Kappa=.91).

Results were not significantly affected by tester’s, or judge’s identity. Thus the results of the test-retest indicated the stability of the classification of the subjects into the four prototype-based classification over a three month period, and their reliability across testers and judges.

Additionally the t-tests which were conducted to assess whether the children classified into the four attachment prototype differed on language skills or logical thinking were not significant. The classification of the child’s representations into the four prototypes were independent of
relevant intellectual skills, such as logical reasoning or language proficiency, demonstrating
discriminant validity of the measure.

Measures of adaptation

Teacher’s reports:

Adjustment rating scale The children’s homeroom teachers completed a school adjustment
rating scale (Smilansky & Shefatya, 1977) consisting of 18 items and three sub-scales
(scholastic, emotional and social functioning, 6 items per each sub-scale, range 6-36 each ). The
items for each sub-scale are as follows: (1) Scholastic adjustment - comprehension, interest,
concentration, ambition, perseverance, and self-confidence; (2) emotional adjustment -
discipline, appearance, honesty, emotional balance, moodiness, likability; (3) social adjustment
- aggression, sociability, leadership, energy and activity, independence, scapegoat role. The
scale has been used extensively with kindergartners (e.g., Levy-Shiff, 1982) and school-aged
children (e.g., Levy-Shiff, Zoran & Shulman, 1997).

Teacher’s Report Form (TRF: Achenbach, & Edelbrock, 1991) which includes the items of the
internalizing and the externalizing scale was completed by the children’s homeroom teachers.
The scales include 69 problem-behavior descriptions rated by teachers on a 3-point scale (not at
all, sometimes, or very often true). The Internalizing scale comprises 3 subscales (withdrawn,
somatic complaints, anxious depressed - 35 items) and the Externalizing scale comprises 2
subscales (delinquent behavior, aggressive behavior - 34 items). TRF is a widely used measure
of child behavior and includes age- and gender-normalized scores and clinical cut-off scores
for Internalizing and Externalizing problems, which were used in the present study.
Classroom assessment:

Classification of sociometric status  Sociometric information regarding the children was collected using a slightly modified version of the method employed by Asher and Dodge (1986). Each child was asked to nominate 3 classmates he or she wanted to be good friends with and to nominate three children that he or she is not ready to be friends with. A categorization into peer status groups ("rejected", "neglected", "popular", and "average") was performed, following the procedure described by Asher and Dodge. Additionally, in the present study the difference between perceived rejection-by-peers and actual peer-rejection scores was calculated to create a "discrepancy score".

Results

Attachment distributions: Based on the present study modification of the Doll Story Completion task, and the classification of the child's representation of the mother-child attachment relationship into four attachment Prototype-based classification, 66% (n=75) of the children were given a secure Prototype, 15% (n=17) an avoidant Prototype, 6% (n=7) an ambivalent Prototype, and 13% (n=14) a disorganized Prototype (see figure 1).
Attachment representation and profiles of teacher-reported behavior problems: As expected, secure children showed better adjustment to school as reflected in teacher's reports of scholastic, emotional, social, and behavioral adjustment, as well as in peer-rated social status.

Using discriminant analyses distinct profiles of problems were identified for each of the insecure attachment representation prototype. Four functions have been found. On the base of these function 93.8% of the subjects correctly classified into there attachment representation prototype (79% of the secure Prototype, 82.4% of the avoidant Prototype, 97.3% of the ambivalent Prototype, and 100% of the disorganized Prototype).

This function accorded well with the profile expected in the hypothesis (see Table 2,3,4)
Table 2: Function discriminating the disorganized prototype. "Aspects of low ego-strength"

<table>
<thead>
<tr>
<th>Aspect Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feels worthless or inferior</td>
</tr>
<tr>
<td>Disturbs other pupils</td>
</tr>
<tr>
<td>Screams a lot</td>
</tr>
<tr>
<td>Disobedient at school</td>
</tr>
<tr>
<td>Teases a lot</td>
</tr>
<tr>
<td>Unhappy, sad, or depressed</td>
</tr>
<tr>
<td>Overtired</td>
</tr>
<tr>
<td>Sulks a lot</td>
</tr>
<tr>
<td>Physical problems without known medical cause</td>
</tr>
<tr>
<td>Demands must be met immediately, easily frustrated</td>
</tr>
<tr>
<td>Feels hurt when criticized</td>
</tr>
<tr>
<td>Talks out of turn</td>
</tr>
<tr>
<td>Is afraid of making mistakes</td>
</tr>
</tbody>
</table>
Table 3: Function discriminating the avoidant prototype. “Aspects of Lack of empathy, instrumental aggression”

- Unusually loud
- Disrupts class discipline
- Withdrawn, doesn’t get involved with others
- Cruelty, bullying, or meanness to others
- Temper tantrums or hot temper
- Would rather be alone than with others
- Gets in many fights
- Stubborn, sullen, or irritable
- Explosive and unpredictable behavior
- Lying or cheating
- Feels others are out to get him/her
- Physically attacks people
- Feels or complains that no one loves him/her
- Nervous, high-strung, or tense
- Doesn’t seem to feel guilty after misbehaving
- Suspicious
- Threatens people
- Steals
- Defiant, talks back to staff
- Destroys property belonging to others
Table 4: Function discriminating the ambivalent prototype. “Aspects of neediness and immaturity”

- Stares blankly
- Demands a lot of attention
- Destroys his/her own things
- Argues a lot
- Sudden changes in mood or feelings
- Worries
- Showing off or clowning
- Easily jealous
- Cries a lot
- Overconforms to rules
- Tardy to school or class
- Self-conscious or easily embarrassed
- Feels too guilty
The findings of the present research also support the hypothesized association between the Child's attachment representations and adjustment to school. Using Analysis of Variance on the *adjustment rating scale* showed that children exhibiting secure representation demonstrated better adjustment to the school. This advantage in adjustment was reflected in teachers’ higher evaluations of the secure child on sociability, emotional balance and likability—by the teachers (see figure 5). The children exhibiting the disorganized representations showed the poorest discipline and self-confidence and the highest evaluations of being in scapegoat role (see figure 6). Children exhibiting the avoidant representation showed the poorest mood, the poorest leadership and activity in class (see figure 7). Children exhibiting the ambivalent representation showed adjustment levels equivalent to an intermediate position between the superior adjustment of the secure group and the poor adjustment shown by the avoidant and the disorganized groups.
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