Socioemotional and Behavioral Adjustment Among School-Age Children With Learning Disabilities

The Moderating Role of Maternal Personal Resources

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The study examined the role of maternal personal resources (mother's attachment style, coping strategies, and affect) in moderating the effects of learning disabilities (LD) on children's socioemotional and behavioral adjustment (self-rated sense of coherence, loneliness, and hope; and mother-rated child behavior checklist measures), as well as on their secure attachment among school-age children with LD. The sample consisted of 110 mother–child dyads: 59 mothers and their children with LD (29 boys, 30 girls) and 51 mothers and their typically developing children (21 boys, 30 girls) from the same schools. Preliminary analyses indicated significant group differences on all children's measures and in several of the maternal personal resources. Mothers' low use of avoidant coping strategies and less avoidance in close relationships with significant others were found to moderate the effect of children's disabilities on children's level of loneliness, feelings of hope, and secure attachment. Results are discussed in terms of understanding these maternal personal resources' influences on socioemotional well-being among school-age children with LD.

Research on children's development and later socioemotional adjustment has emphasized the contribution of vulnerability and protective factors at the individual, family, and community levels (Campbell, 2003; Luthar & Cicchetti, 2000). However, most studies investigating children with learning disabilities (LD) have emphasized the effect of children's individual characteristics on their socioemotional and behavioral functioning. These studies suggested that internal neurological factors (e.g., information-processing disorders, impulsivity, performance and production deficits), which affect the academic skills of these children, may also affect their social and emotional perceptions and interpretations, which, in turn, may impair their social, emotional, and behavioral skills (Bender & Wall, 1994; Culbertson, 1998; Spafford & Grosser, 1993). Thus, such children evidence diverse socioemotional difficulties such as high levels of peer rejection and loneliness, low sense of coherence, low self-concept, and high levels of depression and anxiety (e.g., Bender & Wall, 1994; Culbertson, 1998; Margalit & Levin-Al-Yagon, 1994; Morrison & Cosden, 1997; Wenz-Gross & Siperstein, 1998). In addition, research has shown that children with LD demonstrate more behavioral problems, somatic problems, and withdrawn behaviors than do typically developing children (Dyson, 2003; Grolnick & Ryan, 1990). On the other hand, research focusing on personal factors that protect children with LD from maladjustment outcomes has emphasized the role of factors such as high verbal skills, high self-esteem, and a delineated understanding of the nature and course of the disabilities (Morrison & Cosden, 1997).

In examining the family level of vulnerability and protective factors that may contribute to children's adjustment, studies have underscored the parental and familial characteristics that affect parents' capacity to provide optimal care. These variables may include family rigidity or disorganization, family cohesion, parenting behaviors, parental well-being, and parents' psychopathology (Campbell, 2003; Greenberg, Speltz, & DeKlyen, 1993; Luthar & Cicchetti, 2000; Werner, 1993). These aspects of familial and parental characteristics have been linked with disruptive behavior problems in early childhood (Campbell, 1994; Patterson & Dishion, 1988; Snyder, 1991; Webster-Stratton, 1990), as well as with maladjusted functioning in middle childhood and adolescence (e.g., Cummings, Davies, & Campbell, 2000; Greenberg, Lengua, Coie, & Pinderhughes, 1999; Sheeber, Hops, & Davis, 2001). Moreover, several follow-up studies have suggested that maladaptive functioning among children is more likely to persist when associated with family dysfunction or parental psychopathology (Campbell, 1994, 1998; Denham et al., 2000; Greenberg et al., 1993).

Despite the growing awareness regarding the contribution of the family level to children's adjustment, especially parental personal resources among a variety of low-risk and high-risk samples (e.g., Belsky, 1984; Belsky & Barends, 2002;

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Campbell, 2003; Parke, 2004; van Bakel & Riksen-Walraven, 2002), relatively few studies have focused on these aspects among children with LD. Moreover, inasmuch as most of the research literature on parenting focused on maternal personal resources (see Campbell, 2003, for a review), they will comprise the focus of the current study.

Maternal Personal Resources

A variety of research supported the prediction that parents' psychological resources, as well as their developmental histories, directly influence childrearing quality and, through parenting, child development (Belsky, 1984; Belsky & Barends, 2002; Parke, 2004). Moreover, Belsky (1984) argued that parental psychological resources comprise the most important determinant—more influential than the child's individual characteristics or the contextual sources. According to his model, to provide optimal childcare, parents must possess sufficient psychological resources manifested in abilities to take others' perspectives, regulate impulses, feel secure in their own lives, and find ways to meet their owns needs. Research on parental personal resources assumed to play a substantial role in child development has examined parental well-being and psychopathology (e.g., Campbell, 2003; Goodman & Gotlib, 2002; Greenberg et al., 1993; Luthar & Cicchetti, 2000; Werner, 1993), parental personality (Belsky & Barends, 2002), and parental ego-resiliency (van Bakel & Riksen-Walraven, 2002), among others.

The present study followed this line of research, focusing on three maternal personal resources among mothers of children with LD:

- coping strategies
- affect
- attachment anxiety or avoidance

The first two of these parental personal resources were included in line with prior studies that revealed significant differences between parents of children with and without disabilities (e.g., Margalit, 1990; Margalit & Ankonina, 1991; Margalit, Raviv, & Ankonina, 1992). These findings call for additional exploration to examine the possible role of those factors in moderating the effects of LD on children's socioemotional and behavioral adjustment. The third resource, attachment, was included in the study due to growing awareness regarding the important contribution of adults' attachment representations to a variety of their own psychological resources, such as affect regulation and coping with distress (e.g., Mikulincer & Florian, 2001; Mikulincer & Shaver, 2004; Shaver & Hazan, 1993; Shaver & Mikulincer, 2002).

Regarding the first maternal resource investigated here, prior studies have emphasized the role of coping strategies and coping resources as central mediators of potential stress-related responses that affect well-being, behavior, and adjustment (Lazarus, 1999). *Coping strategies* refers to both cognitive and behavioral efforts used to manage specific external and internal demands that tax an individual's resources (Folkman & Moskowitz, 2004; Lazarus, 1999). Two major types of coping stategies have been highlighted: (a) active coping methods (e.g., information seeking, problem solving) and (b) avoidant coping strategies (e.g., efforts to deny or escape the stressful situation).

Several research studies on parents of children with LD have investigated the stressful impact of the child's disabilities on parental coping resources and affect, as well as on different aspects of family functioning (e.g., Donowa, 1995; Margalit et al., 1992; Margalit, Al-Yagon, & Kleitman, 2006). These studies revealed that parents of children with disabilities reported higher levels of avoidant coping compared to parents with typically developing children (Margalit, 1990; Margalit et al., 1992). These findings were consistent with other studies indicating that although both active and avoidant coping measures correlated with adaptive functioning, the active coping strategy failed to discriminate between individuals (Holahan & Moos, 1985; Kobasa, 1982). However, most of the studies that examined parental coping strategies focused on the influence of these strategies on parental well-being and functioning and rarely examined the contribution of these strategies to their offspring' socioemotional and behavioral adjustment.

The second maternal resource studied here, also assumed to affect mothers' ability to provide optimal childcare, comprised maternal affect. An extensive body of literature has demonstrated the association between mothers' affect and children's maladjusted behaviors (e.g., Goodman & Gotlib, 2002; National Institute of Child Health and Human Development [NICHD] Early Child Care Research Network, 1999; Zahn-Waxler, Duggal, & Gruber, 2002). These studies indicated that from infancy through adolescence, children of clinically depressed parents are at risk for a variety of problems. For school-age children in particular, studies indicated that children of depressed mothers demonstrated social problems with peers and poor academic performance (Radke-Yarrow, 1998). Moreover, these studies reported increasing evidence of such children's clinical problems as anxiety, mood, and disruptive behavior disorders. Furthermore, these studies underscored that even in the absence of serious psychopathology, maternal affect such as anxiety or high depression levels influenced the mother's quality of care and her tolerance and interpretation of her child's behavior (Campbell, 2003).

Although Bowlby's (1969/1982) attachment theory focused on others' responses to the individual infant's needs, he argued that his theory might explain individuals' reactions to others' emotional signals and needs (i.e., the "caregiving behavioral system"). Similar to the attachment behavioral system, the caregiving behavioral system entails two major competences: (a) the ability to support others in regulating their distress and (b) the ability to provide sensitive care (Bowlby, 1969/1982).

Focused on this caregiving system, studies have emphasized the association between adults' patterns of attachment and parental caregiving (e.g., Crowell & Feldman, 1988, 1991; Haft & Slade, 1989; Lyons-Ruth, Yellin, Melnick, & Atwood, 2005; van IJzendoorn, 1995). For example, Crowell and Feldman (1988) demonstrated that secure mothers were more supportive, provided more help, and communicated in warmer ways with their children as compared to insecure mothers. Similar findings were reported in a meta-analysis study (van IJendoorn, 1995) that indicated the association between the mother's attachment representations and her ability to provide responsive care to her offspring. Notably, both interview measures (i.e., the Adult Attachment Interview; George, Kaplan, & Main, 1985) and questionnaire measures (e.g., the Experiences in Close Relationships Scale; Brennan, Clark, & Shaver, 1998) demonstrated significant links with various measures of parental caregiving (Gillath, Shaver, & Mikulincer, in press).

The Current Study

In line with Belsky and Barends' (2002) recommendation to emphasize the importance of exploring the moderating effects of parental personal resources among children with different characteristics, the present study aimed to examine the role of three maternal resources (coping strategies, affect, and attachment style) in moderating the effects of LD on children's socioemotional and behavioral adjustment (self-rated sense of coherence, loneliness, and hope; and mother-rated child behavior checklist measures) among school-age children with LD. In doing so, the current study attempted to offer a complementary perspective that investigated the contribution of vulnerability and protective factors at the individual level, as well as identifying parents' psychological resources as an important factor for these children's socioemotional and behavioral adjustment. Moreover, in light of the paucity of research examining patterns of attachment among these children with LD, the present study aimed to extend the work in this field by focusing on intergenerational attachment relations for this group of children by examining the contribution of maternal attachment measures in explaining differences in these children's secure attachment.

The assessment of children's socioemotional and behavioral adjustment included internalizing aspects (loneliness, sense of coherence, hope and internalizing behavior syndrome per Achenbach, 1991), as well as externalizing aspects (externalizing behavior syndrome per Achenbach) and children's attachment style. Children's adjustment was examined here via self-report measures and maternal evaluations, in line with previous studies emphasizing the higher reliability found for children's self-reports than for parental ratings on internalizing characteristics and the opposite outcomes for externalizing characteristics (Ronen, 1997).

Corresponding with these objectives, the present study sampled a group of school-age Israeli children with LD who attended general education classes and a comparison group of typically developing children to test two general hypotheses. The first prediction was that maternal personal resources (level of avoidant/ active coping, negative/positive affect, and anxious/ avoidant attachment style) would moderate the effect of children's LD on their socioemotional and behavioral adjustment. The second hypothesis focused on the intergenerational attachment relations, aiming to extend work in this field by focusing on the contribution of maternal attachment measures in moderating the effects of LD on children's secure attachment.

Method

Participants

The children's sample consisted of 110 mother–child dyads: 59 mothers and their children with LD (29 boys, 30 girls) and 51 mothers and their typically developing children (21 boys, 30 girls) from the same schools. Children's ages ranged from 8 to 11 years (M = 9.68, SD = .97). These children attended public elementary schools in urban areas of central Israel.

Children's Characteristics

LD group. Previous psycho-educational evaluation had given all 59 children a diagnosis of LD. Mothers reported what kind of diagnostic evaluations (neuropsychological, psychodidactic, etc.) their child underwent and the special dispensations in school that the child consequently received from the school psycho-educational team. In line with the educational policy of the Israeli Ministry of Education, and similar to the diagnostic features suggested by the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision; *DSM-IV-TR*, American Psychiatric Association, 2000), all children receiving this diagnosis had an average IQ level (ranging from 85 to 115) and demonstrated substantially lower achievements on standardized tests (in reading, writing, and/ or mathematics) than expected for age, schooling, and level of intelligence. The diagnostic assessments included instruments such as the *Wechsler Intelligence Scale for Children–Third Edition* (WISC-III; Wechsler, 1991), *Kaufman Assessment Battery for Children* (K-ABC; Kaufman & Kaufman, 1983a, 1983b), *Bender-Gestalt Test for Young Children* (Koppitz, 1975), *Rey-Osterrieth Complex Figure Test* (Osterrieth, 1944; Rey, 1941), and the Hebrew adaptation of the *Rey-Auditory Verbal Learning Test* (Vakil & Blachstein, 1993). Due to confidentiality directives, no data were available regarding individual children's achievements. According to Israeli educational policy, these children received special assistance by inclusive teachers during school hours.

Comparison group. To obtain a comparison sample of families without children having LD, each mother of a child with LD was asked to refer another family of her acquaintance from the same neighborhood, with a child in the same school,

whom she perceived as having similar life conditions (e.g., socioeconomic status and number and ages of children), but who had no children with known learning or other disabilities. Mothers of children in the comparison group confirmed that their children had typical development, without difficulties in academic functioning or in social, behavioral, or emotional functioning. From an original pool of 60 referred dyads of mothers and their typically developing children, 2 children were excluded due to mothers' reports of the child's academic problems in reading, 2 other children who met the criteria for participation moved out of the area before data collection, and 5 others declined to participate. According to mother report, the children participating in the comparison group did not demonstrate difficulties in reading, writing, or mathematics, nor did they receive diagnostic evaluation or special assistance from school staff or other professionals (including medical treatments). Chi-square tests and *t*-test analyses showed no significant differences between the two groups regarding children's age or gender.

Mothers' Characteristics

Mothers of children with LD. Mothers' ages ranged from 30 to 49 years (M = 40.10, SD = 5.32), and their education ranged from 9 to 22 years (M = 13.54, SD = 2.75). Regarding marital status, 53 mothers were married and 6 were divorced. Regarding maternal work status, 48 worked full-time, and 11 did not work outside the home.

Mothers of children without LD. Mothers' ages ranged from 31 to 50 years (M = 41.05, SD = 5.89), and their education ranged from 9 to 21 years (M = 13.94, SD = 2.50). Regarding marital status, 46 mothers were married and 5 were divorced. Regarding maternal work status, 43 worked full-time, and 8 did not work outside the home.

A set of *t*-test analyses, as well as chi-square tests, revealed no significant differences between the two groups regarding mothers' characteristics (age, education, and marital status).

Instruments

Children's Self-Report Instruments

1. *Loneliness and Social Dissatisfaction Questionnaire* (Asher, Parkhurst, Hymel, & Williams, 1990). The Hebrew adaptation (Margalit, 1991) of this children's self-report scale consisted of 16 primary items tapping a child's feelings of loneliness (e.g., "I have nobody to talk to in my class," "I am lonely") and 8 filler items (e.g., "I like school") that covered various activity areas. The scale asked children to read the items and to rate how frequently they experienced the feeling described in an item, on a 5-point scale ranging from *Never* (1) to *Always* (5). Asher et al. (1990) recommended the computation of a single total score tapping the global sense of loneliness. In the current sample, the high Cronbach alpha coefficient for the 16 items (.92) allowed for the computation of a total loneliness score by summing up the 16 items. Higher scores reflected more frequent feelings of loneliness.

2. *Children's Sense of Coherence Scale* (Margalit & Efrati, 1995). This children's self-report scale consisted of 16 items tapping three dimensions of children's sense of confidence in the world: (a) sense of comprehensibility—feelings that one understands one's environment (e.g., "I feel that I don't understand what to do in class"); (b) sense of manageability—feelings of control and confidence that positive rewards are available (e.g., "When I want something, I'm sure I'll get it"); and (c) sense of meaningfulness—motivation and interest in investing effort in different tasks (e.g., "I'm interested in lots of things"). The scale asked children to read the items and to rate how frequently they experienced the feeling described in an item, on a 4-point scale ranging from *Never* (1) to *Always* (4). Antonovsky (1987) recommended the computation of a single total score tapping the global sense of coherence. In the current study the Cronbach alpha for the 16 items was .79. Higher scores reflected a higher sense of coherence.

3. *Attachment Security Style* (Kerns, Klepac, & Cole, 1996). The Hebrew adaptation (Granot & Mayseless, 2001) of this children's self-report scale consisted of 15 items designed to assess children's perceptions of security in parent-child relationships in middle childhood and early adolescence. The items on this scale tapped the following: (a) the degree to which children believed a particular attachment figure to be responsive and available, (b) the children's tendency to rely on the attachment figure in times of stress, and (c) children's reported ease and interest in communicating with the attachment figure. Children rated the 15 items on a 4-point scale using Harter's (1982) "Some kids . . . other kids" format. Children were asked to read a statement such as "Some kids find it easy to trust their mom BUT other kids are not sure if they can trust their mom," to choose which statement was more characteristic of them, and then to indicate whether the statement was *really true* for them or *sort of true* for them. Ratings on this 4-point scale were summed across the 15 items, to form an attachment security score ranging from 15 to 60. Higher scores indicated a more secure relationship. In line with Park and Hazan (1990), a score of 45 served as a specific categorical cut-off point to distinguish secure from insecure child–mother attachment. In the current study, the Cronbach alpha for internal consistency was .75.

4. *Children's Hope Scale* (ages 8–16; Snyder et al., 1997). The Hebrew adaptation of this scale (Margalit, Efrati, & Idan, 2004) consisted of six primary items: three agency items that referred to goal-directed energy (e.g., " I think I am doing pretty well") and three pathway items that referred to planning to meet goals (e.g., "I can think of many ways to get the things in life that are important to me"). The scale asked children to read the items and to rate how frequently they expe-

rienced the feeling described in an item, on a 6-point scale ranging from *None of the time* (1) to A*ll of the time* (6). Similarly to previous studies (for a review, see Snyder, 2002), in the current study the Cronbach alphas were .82 for the overall scale, .70 for the agency subscale, and .72 for the pathway subscale.

Instruments Completed by Mothers

1. *Coping scale* (Moos, Cronkite, Billings, & Finney, 1987). The Hebrew adaptation of this scale (Margalit et al., 1992) reflected the parents' view of their coping strategies and consisted of 20 items on a 4-point Likert scale ranging from *Not appropriate* (1) to *Yes, fairly often* (4). The scale comprised two factors: avoidant coping, with 9 items such as "Tried to reduce tension by eating more," and active coping, with 11 items such as "Made a plan of action and followed it." In the current study, the Cronbach alphas were .75 for the overall scale, .77 for the active coping factor, and .65 for the avoidant coping factor. Higher scores reflected a higher perceived use of the particular pattern of coping strategies.

2. *Affect scale* (Moos et al., 1987). The Hebrew adaptation of this scale (Margalit & Ankonina, 1991) reflected the parents' view of their own affect. The scale consisted of 28 items on a 5-point Likert scale ranging from *Not at all appropriate* (1) to *Very appropriate* (5). The scale comprised two major factors: a positive affect factor (including a positive affect subscale and a self-confidence subscale), with 14 items such as "friendly," "energetic," and "happy," and a negative affect factor (including a negative affect subscale and a global depression subscale), with 14 items such as "feel guilty," "worthless," or "worried." In the current study, the Cronbach alphas were .85 for the positive affect factor and .87 for the negative affect factor. Higher scores reflected a higher perceived type of affect.

3. *Experiences in Close Relationships Scale* (ECR; Brennan et al., 1998). As recommended by Shaver and Mikulincer (2002), this self-report measure provides important and reliable information regarding adults' representations of their attachment relations with significant others (e.g., friends, parents, siblings, romantic partners). The Hebrew adaptation of this scale (Mikulincer & Florian, 2000) consisted of 36 self-reported items tapping the dimensions of attachment anxiety and avoidance. Participants rated the extent to which each item described their feelings in close relationships on a 7-point scale ranging from *Not at all* (1) to *Very much* (7). Eighteen items tapped attachment anxiety (e.g., "I worry a lot about my relationships"), and 18 items tapped attachment avoidance (e.g., "I prefer not to show a partner how I feel deep down"). The reliability and construct validity of the two subscales have been demonstrated (Brennan et al., 1998). In the current sample, Cronbach alpha for the 18 anxiety items was .81, and Cronbach alpha for the 18 avoidance items was .83. Two scores were computed by averaging items on each subscale.

4. *Child Behavior Checklist* (CBCL; Achenbach, 1991). The Hebrew adaptation (Zilber, Auerbach, & Lerner, 1994) of this standardized instrument consisted of 112 behavioral items (and 1 open-ended item) scored on a three-step response scale from *Not true* (0) to *Very true* or *Often true* (2). Principal components analyses of the CBCL carried out by Achenbach (1991) yielded eight narrowband syndrome scales and two broadband syndrome scales. The narrowband syndrome scales referred to withdrawal, somatic complaints, anxiety/depression, social problems, thought problems, attention problems, delinquency problems, and aggression problems. Withdrawal, somatic complaints, and anxiety/depression formed the broadband *internalizing* syndrome, whereas delinquency problems and aggressiveness problems formed the broadband *externalizing* syndrome. In the current sample, Cronbach alphas for the CBCL's two broadband syndrome scales were .89 for the internalizing scale and .91 for the externalizing scale. Cronbach alphas for the eight narrowband syndromes ranged from .74 to .89. Higher CBCL scores indicated more maladaptive behaviors within the specific syndrome.

Procedure

All of the parents of children with LD volunteered to participate in the study after being contacted through LD parent organizations or through the children's school counselors.

Graduate students in educational counseling underwent training to administer the test battery to the LD and the comparison groups, and visited the mothers and children individually in their homes. First, children completed the set of four questionnaires—Loneliness and Social Dissatisfaction, Sense of Coherence, Attachment Style, and Hope scales—alone in a quiet room. The order of the scales was randomized across participants. The examiner read sample items aloud for each questionnaire to ensure children's understanding and provided additional help if necessary to students with LD. Second, the examiner explained each of the four maternal instruments to the mothers, who completed them in a quiet room. The order of the scales was randomized across participants.

Experimental Design and Statistical Analysis

This study first examined a preliminary set of analyses that focused on group differences (children with and without LD). The second set of analyses investigated whether maternal variables moderated the effect of children's LD on their socioemotional and behavioral adjustment. The third set of analyses focused on the intergenerational attachment relations by examining whether the two dimensions of maternal attachment relations with significant others (i.e., low anxiety and avoidance) moderated the effect of children's LD on their tendency to form a less secure attachment. In general terms,

a moderator is a variable that affects the direction and/or strength of the relation between an independent (or predictor) variable and a dependent (or criterion) variable (Baron & Kenny, 1986).

Results

Preliminary Analysis

To decrease the chance of Type 1 errors, a multivariate analysis of variance (MANOVA) focused on group differences (children with/without LD), with the following 15 dependent variables: all of the children's measures (self-rated sense of coherence, loneliness, hope agency/pathways subscales, and attachment; and mother-rated child externalizing/internalizing behavior checklist) and all of the mothers' measures (avoidance/anxiety attachment subscales, avoidant/active coping strategies, and the four affect subscales). The MANOVA yielded a significant effect for the study group, $F(15, 94) = 4.53$, $p < .001$, Partial $\eta^2 = .44$.

Table 1 presents the means, standard deviations, and *F* scores for the univariate analyses of variance (ANOVAs) of all the study variables, separately for the dyads of children with LD and the dyads of children with typical development. Regarding the children's outcomes, significant intergroup differences emerged for the two groups of children on all of the socioemotional and behavioral adjustment measures. Moreover, these results indicated substantial differences in the two groups' standard deviations. As presented in the table, the standard deviations for children with LD were in some measures (e.g., externalizing) twice as great as those of children without LD. These results may reflect a large amount of heterogeneity within this group of children.

As a group, the children with LD reported higher loneliness, a lower sense of coherence, lower agency (goal-directed energy), lower pathways (planning to meet goals), and less attachment security compared to their typically developing peers. In addition, the children with LD were rated by their mothers as having more emotional, social, and behavior problems (i.e., withdrawal, somatic complaints, anxiety/depression, social problems, thought problems, attention problems, delinquency problems, and aggressiveness problems) than were children with typical development. Similarly, significant intergroup differences between the two groups of children emerged regarding the two broadband CBCL syndrome scales (i.e., externalizing and internalizing), whereby children with LD were rated by their mothers as having more externalizing and internalizing problems than were children with typical development.

Findings on this table also demonstrated that mothers from the two groups differed on four measures: avoidant coping and active coping (i.e., Coping scale), global depression, and self-confidence (i.e., Affect Scale). Mothers of children with LD reported a higher level of avoidant coping, lower level of active coping, higher level of global depression, and lower level of self-confidence in comparison to mothers of children with typical development.

Do Maternal Personal Resources Moderate the Effects of LD on Children's Socioemotional and Behavioral Adjustment?

The second set of analyses examined whether maternal factors moderated the effects of children's LD on each of their socioemotional and behavioral adjustment measures (i.e., sense of coherence, loneliness, hope, and externalizing and internalizing behavior). In a set of hierarchical multiple regression analyses conducted for each of the children's adjustment measures, children's affiliation to study/comparison group (children without LD = 0; children with LD = 1), as well as each of the maternal factors (i.e., mother's attachment subscales, coping strategies, and affect subscales), were entered in the first step. In the second step, an interaction term was included in the model, which crossed children's affiliation to study/comparison group with each of the maternal factors. Affiliation to group and maternal factors were centered before the interaction term was generated. When significant interaction effects emerged, additional regression analyses were conducted to examine the relations between the independent and dependent variables separately for the two groups of children. Two analyses revealed significant moderating effects for maternal personal resources.

Mother's Avoidant Coping and Child's Loneliness. The first analyses yielding significant moderating effects for maternal personal resources tested whether mothers' scores on low use of avoidant coping strategies moderated the effects of children's LD on their feelings of loneliness. As described above, children's affiliation to study/comparison group, as well as maternal scores on avoidant coping, were entered in the first step. The interaction between children's group affiliation and maternal avoidant coping (after centering these variables) was included in the second step.

In the first step—$F(2, 108) = 18.65$, $p < .00$—26% of the variance in children's feelings of loneliness was explained by group affiliation ($\beta = .44$, $p < .001$) and by maternal avoidant coping scores ($\beta = .17$, $p < .05$). In the second step, the interaction between group affiliation and maternal avoidant coping scores ($\beta = .22$, $p < .01$) explained an additional 5% of the variance, $F_{change}(1, 108) = 7.40$, $p < .00$. The positive regression coefficient indicates that a high level of maternal avoidant coping was associated with a strong relation between children's affiliation to group and high feelings of loneliness. To better understand the nature of the group's moderating effects, additional regression analyses were conducted to examine the relation between the independent and dependent

TABLE 1. Means, Standard Deviations, and *F* Scores of Child's and Mother's Variables According to Study Group

Variable	Children with learning disabilities		Children with typical development		*F*
	M	*SD*	*M*	*SD*	(1, 109)
			Children's measures		
Sense of coherence	46.65	6.78	51.22	4.11	15.81***
Loneliness	35.27	14.21	23.26	4.77	20.38***
Hope: Agency	11.45	3.36	14.53	2.14	33.67***
Hope: Pathways	11.33	3.50	12.94	3.10	5.71*
CBCL[a]: Externalizing	11.97	9.20	5.64	5.14	17.04***
CBCL: Internalizing	10.62	7.81	5.47	4.77	15.07***
Attachment score	45.70	7.62	49.75	5.50	9.04**
			Maternal measures		
Mothers' attachment:					
Avoidant	3.43	.98	3.10	.81	3.47
Anxious	3.18	1.12	2.91	.73	1.93
Mothers' coping:					
Avoidant	16.50	3.62	14.85	3.54	5.43*
Active	32.25	5.80	35.10	5.03	6.70**
Mothers' affect:					
Positive affect	26.70	5.13	27.60	5.17	.77
Self-confidence	22.60	4.18	24.20	3.77	3.95*
Negative affect	18.17	5.66	16.97	7.46	.84
Global depression	10.66	3.90	9.28	3.13	3.66*

[a]Significant effect of study group emerged for all eight narrow-band *Child Behavior Checklist* (CBCL; Achenbach, 1991) subscales: Withdrawal, Somatic Complaints, Anxiety/Depression, Social Problems, Thought Problems, Attention Problems, Delinquency Problems, and Aggression Problems.
*$p < .05$. ** $p < .01$. *** $p < .001$.

variables (maternal avoidant coping and children's feelings of loneliness), separately for the two groups of children. Among the group of children with LD, the regression analysis revealed a significant contribution for maternal avoidant coping, $F(1, 59) = 6.60$, $p < .05$, which explained 10% of the variance ($b = 1.26$, $p < .05$). Among the group of children with typical development, the findings indicated that maternal avoidant coping did not significantly contribute to an explanation of differences on children's feelings of loneliness ($b = -.33$, $p > .05$).

These results demonstrated the moderating effect of maternal avoidant coping on the association between children's LD and loneliness. That is, when the mother showed higher use of avoidant coping, the association between her child's disabilities and high feelings of loneliness became stronger.

Mother's Avoidant Attachment and Child's Hope. The second analysis that demonstrated the moderating effect of maternal personal resources tested whether mothers' scores on avoidance in close relationships with significant others (i.e., the ECR avoidant attachment subscale) moderated the effects of children's LD on their feelings of hope (i.e., agency thinking and goal-directed energy). As described above, the first step in this multiple regression model consisted of children's affiliation to the study/comparison group, as well as maternal scores on avoidance attachment. The interaction between children's group affiliation and maternal avoidance of close relations (after centering these variables) was included in the second step.

In the first step, 17% of the variance in children's feelings of hope was explained only by group affiliation ($\beta = -.40$, $p < .001$), $F(2, 108) = 10.91$, $p < .001$. In the second step, the interaction between group affiliation and maternal avoidant attachment scores ($\beta = -.20$, $p < .05$) explained an additional 4% of the variance, $F_{change}(1, 108) = 5.20$, $p < .05$. The negative regression coefficient indicates that a high level of maternal avoidance in close relationships was associated with a

strong relation between children's group affiliation and low feelings of hope.

To better understand the nature of the group's moderating effects, additional regression analyses were conducted to examine the relation between the independent and dependent variables (maternal avoidance in close relationships and children's feelings of hope), separately for the two groups of children. Among the group of children with LD, the regression analysis revealed a near-significant contribution for maternal avoidance in close relationships, $F(1, 59) = 3.62$, $p = .06$, which explained 6% of the variance ($b = -1.48$, $p = .06$). Among the group of children with typical development, the findings indicated that maternal avoidance in close relationships did not significantly contribute to an explanation of differences on children's feelings of hope ($b = .87$, $p > .05$).

These results demonstrated the moderating effect of maternal avoidance in close relationships on the association between children's LD and feelings of hope. That is, when the mother showed higher avoidance in her close relationships with significant others, the association between her child's disabilities and low feelings of hope became stronger.

Do Anxiety and Avoidance in Maternal Attachment Moderate the Effects of LD on Children's Secure Attachment?

The third set of analyses examined whether maternal attachment subscales (anxiety and avoidance) moderated the effects of children's LD on their tendency to report on less attachment security as compared with their typically developing peers. In this multiple regression model predicting children's attachment security, children's group affiliation and maternal scores on the two ECR attachment subscales (avoidant/anxious) were entered in the first step. The interaction between children's group affiliation and maternal avoidance/anxiety in close relationships (after centering these variables) was included in the second step.

In examining the moderating effect of the mothers' avoidant attachment subscale, the current results indicated that 23% of the variance in children's attachment security scores was explained by children's group affiliation ($\beta = -.24$, $p < .01$) and by mothers' avoidance in close relationships ($\beta = -.40$, $p < .001$), $F(2, 108) = 16.18$, $p < .001$. In the second step, the interaction between children's group affiliation and maternal avoidant attachment scores explained an additional 4% of the variance ($\beta = -.20$, $p < .05$), $F_{change}(1, 108) = 5.40$, $p < .05$. The negative regression coefficient indicates that a high level of maternal avoidance in close relationships was associated with a strong relation between children's affiliation to group and children's low scores on attachment security.

To better understand the nature of the group's moderating effects, additional regression analyses were conducted to examine the relation between the independent and dependent variables (maternal avoidance in close relationships and children's attachment security), separately for the two groups of children. Among the group of children with LD, the regression analysis revealed a significant contribution for maternal avoidance $F(1, 59) = 22.28$, $p < .001$, which explained 27% of the variance ($b = -3.98$, $p < .001$). Among the group of children with typical development, the findings indicated that maternal avoidance in close relationships did not significantly contribute to an explanation of differences in children's attachment security ($b = -1.29$, $p > .05$).

These results demonstrated the moderating effect of maternal avoidance in close relationships on the association between children's LD and their attachment security. That is, when the mother showed higher avoidance in her close relationships with significant others, the association between her child's disabilities and low feelings of security in the attachment relationship with the mother became stronger.

For mothers' anxiety in close relationships subscale, no significant contribution emerged in the prediction of children's security attachment relationships when these blocks of predictors were tested.

Discussion

The present study aimed to investigate the role of maternal personal resources in moderating the effects of LD on children's socioemotional and behavioral adjustment. Moreover, in light of the paucity of research examining patterns of attachment among these children with LD, the present study also aimed to extend work in this field by focusing on the contribution of maternal attachment measures in moderating the effects of LD on children's secure attachment.

Before addressing these two core questions, this section will first briefly discuss the findings yielded by the preliminary set of analyses. Overall, children with LD manifested more problems in socioemotional and behavioral adjustment than did their typically developing peers. These outcomes emerged both on self-report measures and on maternal evaluations. Specifically, in line with previous research, children with LD reported a higher level of loneliness and a lower sense of coherence as compared with their typically developing peers (e.g., Al-Yagon & Mikulincer, 2004a; Asher et al., 1990; Margalit & Levin-Al-Yagon, 1994; Pavri & Monda-Amaya, 2000). Moreover, children with LD reported lower scores on hope measures: They perceived themselves as lower in both the capacity to derive pathways toward desired goals and the agency thinking necessary to use those pathways. Prior studies highlighted the association between hope and various adjustment measures among children and adults (e.g., Snyder, 2002), although the construct of hope was rarely investigated among children with LD. Thus, the current findings may expand knowledge regarding coping resources among these children.

The present outcomes also revealed that mothers evaluated their children with LD as higher on both of the CBCL broadband syndrome scales (externalizing and internalizing problem behaviors) in comparison to mothers' evaluations of their typically developing children. Similar findings emerged on the eight narrowband syndrome scales: withdrawal, somatic complaints, anxiety/depression, social problems, thought problems, attention problems, delinquency problems, and aggressiveness problems. These results resemble previous reports whereby parents evaluated their children with LD as higher than typically developing children on level of behavior problems and on level of anxiety and somatic complaints (for a review, see Dyson, 2003).

My findings also demonstrated that children with LD reported less attachment security as compared with their typically developing peers. These findings correspond with recent studies indicating an association between school-age children's LD and their patterns of attachment toward others (Al-Yagon & Mikulincer, 2004a, 2004b).

Beyond documenting the effects of children's LD on their own socioemotional and behavioral adjustment and attachment, the current findings also reveal the significant association between children's disabilities and several of the maternal personal resources. Mothers of children with LD reported a higher perceived use of avoidant coping strategies, as well as lower perceived use of active coping strategies. In addition, they reported stronger feelings of depression and lower feelings of self-confidence compared with mothers of typically developing children. Previous studies highlighted the association between adults' well-adjusted functioning and both avoidant and active coping, but found that the active coping measure failed to discriminate between individuals (Holahan & Moos, 1985; Kobasa, 1982; Margalit, 1990; Margalit et al., 1992).

The first hypothesis tested in the current study was that maternal personal resources (mother's level of avoidant/active coping, negative/positive affect, and attachment anxiety/avoidance) would moderate the effect of children's LD on their socioemotional and behavioral adjustment. Several of the mothers' personal resources appear to moderate the relations between children's LD and their socioemotional and behavioral adjustment. Specifically, maternal low use of avoidant coping seems to protect these children with LD from experiencing strong feelings of loneliness. Moreover, a low level of maternal avoidance in her close relationships with significant others (i.e., attachment avoidance) seems to buffer these children with LD from experiencing low feelings of hope (i.e., agency thinking and goal-directed energy).

The second hypothesis focused on the intergenerational attachment relations, aiming to extend work in this field by focusing on the contribution of maternal attachment measures in moderating the effects of LD on children's secure attachment. The present results suggests that a low level of maternal avoidance in close relationships seems to protect these children with disabilities from forming a less secure attachment. Conversely, no significant contribution was detected for the mothers' attachment anxiety subscale in the prediction of children's security attachment.

Taken together, these outcomes emphasize the potentially important role of two maternal personal resources—the mother's low use of avoidant coping strategies and her low avoidance in close relationships—for the socioemotional functioning of her child with LD in three areas: the child's loneliness, hope, and secure attachment. However, the moderating effects of maternal resources and attachment on the relevant dependent measures were relatively modest (e.g., effects of maternal avoidance on children's feelings of hope in the LD sample). Thus, the present outcomes should be interpreted with caution, and future research should employ larger samples and validate the group comparison. Yet, the current findings do generate interesting hypotheses about the potential contribution of maternal resources to the socioemotional and behavioral adjustment of children with LD.

As already noted, the first maternal resource—coping strategies—refers to both cognitive and behavioral efforts used to manage specific external and internal demands that tax an individual's resources. Studies have underscored that coping strategies comprise central mediators of potential stress-related responses that affect individuals' well-being, behavior, and adjustment (Folkman & Moskowitz, 2004; Lazarus, 1999).

Similar to previous studies, the current findings suggest the potentially important moderating role of avoidant coping strategies and fail to prove the impact of the active coping factor. Avoidant coping refers to strategies such as efforts to deny or escape the stressful situation. However, previous studies focused on the role of these strategies in explaining parental well-being and adaptive functioning (Holahan & Moos, 1985; Kobasa, 1982, Margalit et al., 1992; Margalit, Al-Yagon & Kleitman, 2006). The current findings indicate that among school-age children with LD, mothers who rarely use avoidant coping strategies (e.g., keeping feelings to oneself; avoiding other people's company' and decreasing tension by eating, sleeping, or using substances) seem to buffer these children with LD from experiencing strong feelings of loneliness. However, it should be noted that although a moderator is a variable that affects the direction and/or strength of the relation between an independent (or predictor) variable and a dependent (or criterion) variable (Baron & Kenny, 1986), the current preliminary analyses, as well as prior research (Margalit, 1990; Margalit et al., 1992) that reported higher levels of avoidant coping among parents of children with LD, raise an important question regarding the possible bidirectionality between the child's disability and the mothers' avoidant coping with stressors.

The second maternal personal resource highlighted here—maternal attachment relations—suggests that mothers' low attachment avoidance may play an important role in buffering these children with LD from experiencing low feelings of

hope, as well as a less secure attachment. Regarding the intergenerational transmission of attachment, prior studies emphasized that maternal attachment security affects how parents treat their children, citing the association between adult patterns of attachment and various parental caregiving measures (e.g., Crowell & Feldman, 1988, 1991; Haft & Slade, 1989; Lyons-Ruth et al., 2005; van IJzendoorn, 1995). However, similar to the van IJzendoorn and Bakermans-Kranenburg's (1997) model, which accentuated the role of both contextual variables and child characteristics in examining the intergenerational transmission of attachment, the current study also reveals the influence of children's individual characteristics (i.e., their LD).

Moreover, these results suggest that the group of children with LD seem more vulnerable to a maternal tendency to adopt attachment-deactivating strategies (Mikulincer & Shaver, 2004), which refer to self-reliant attitudes that decrease dependence on others, as well as to denial of personal faults or weakness. Presumably, maternal attachment-deactivating strategies may influence the degree of social support that mothers secure. Prior studies indicated a link between mothers' lower level of social support and insecure infant attachment to the mother (see Osofsky & Thompson, 2000, for review).

In addition, low group scores on this pattern of avoidance, reflecting that a mother only infrequently distrusted her relationship partner's goodwill or maintained emotional distance from significant others, seemed to protect her child with LD from experiencing low feelings of hope. These results expand on Snyder's (2002) argument regarding the association between children's attachment relations and hope (i.e., goal-directed energy and planning to meet goals). According to Snyder, attachment to the caregiver is crucial for learning goal-directed thinking. Moreover, he argued that goal-directed hopeful actions emerge in the context of other people. However, beyond the association found between these two variables, the current study also suggests the contribution of the mother's own attachment relations to her child's feelings of hope.

An interesting finding was that no significant moderating effect emerged in examining the third maternal personal resource—affect. In contrast to prior research, which underscored that maternal affect such as anxiety or high depression levels influenced mothers' quality of care and children's adjustment even in the absence of serious maternal psychopathology (Campbell, 2003), the current findings reveal that among these children with LD, the mothers' overt behaviors (i.e., coping strategies and patterns of relations with others) and not their inner feelings and moods seem to be those associated with children's socioemotional adjustment.

Overall, the findings suggest that these children with LD are more vulnerable to differences in maternal personal resources than are their typical counterparts. These outcomes raise some important questions calling for additional exploration regarding the contribution of children's specific disabilities such as internal neurological factors (e.g., information- processing disorders, impulsivity, performance and production deficits) that may contribute to children's perceptions and interpretations, which, in turn, may affect their vulnerability to a variety of maternal personal resources. Furthermore, the current findings may support the notion of multiple or "cumulative" risk models indicating that for the group of children with LD, well-adjusted functioning was better predicted by combinations of protective and vulnerable factors at different levels, such as the individual and maternal levels, than by individual factors alone. These findings resemble those yielded by previous research on high-risk children (e.g., Greenberg, Speltz, DeKlyen, & Jones, 2001). In addition, similar to prior studies (e.g., Belsky, 1997; Greenberg et al., 2001) that emphasized the possible contribution of children's difficulties to their vulnerability to a variety of parental styles, the current LD sample also seemed more sensitive than typically developing children to differences in maternal personal resources. This sensitivity might explain the different pattern of associations found in the current study between maternal variables and children's adjustment measures for the two groups.

Implications, Limitations, and Directions for Future Study

The results of this study hold theoretical and practical implications. The theoretical contribution focuses on two major issues: (a) the potential effect of maternal factors on the adjustment of children with LD and (b) an extension of the work in this field by focusing on intergenerational attachment relations among this group of children with LD. The practical implications concern the possible implementation of the current findings, especially when validated by further research, for developing effective interventions among children with LD. In light of the current outcomes emphasizing the possible buffering role of maternal personal resources (low levels of attachment avoidance and of avoidant coping strategies), such interventions may focus on enhancing maternal strengths by decreasing avoidance coping strategies and the maternal tendency to adopt attachment-deactivating strategies. These interventions may increase mothers' awareness concerning the possible potential risks of their own avoidant behavior patterns for children's adjustment. As Folkman and Moskowitz (2004) recommended, the concept of coping may not only offer an explanation of individuals' differences in dealing with stressors but also furnish a portal for intervention and treatment programs because it lends itself to cognitive-behavioral intervention. Further studies attempting to develop such intervention programs should examine their effectiveness in buffering the socioemotional and behavioral problems of school-age children with LD.

There are a number of limitations in the design and variable selections. First, the Coping scale (Moos et al., 1987) that

reflected the parents' view of their coping strategies, although used widely in the literature, showed low reliability, calling for further exploration of external validity. Second, although both sets of mothers were from the same urban neighborhoods of similar socioeconomic status, volunteered to participate, and showed no significant intergroup differences on chi-square and *t* test analyses of maternal age, education, and marital status, the current recruitment strategy may nonetheless have led to a selection bias. One may speculate, for example, that these mothers of non-LD children, who were acquainted with families of LD children and who complied easily with their acquaintances' request for participation, could be less depressed or less avoidant than typical mothers of non-LD children, as seen in the apparently lower variability within this particular comparison sample. Future research should utilize other recruitment methodologies to validate the current findings and to eliminate the possibility that the mothers of non-LD children referred by the mothers of LD children did not differ a priori from the general population.

Also, the large number of analyses conducted in this study met theoretical concerns, but could have increased the likelihood of statistical significance; therefore, future studies may do well to use a more parsimonious approach. Moreover, the small size of effects that emerged from the analyses, possibly stemming from both the sample size and the low reliability found for the maternal coping scale, call for larger future samples and further exploration of the coping measure to reach more definitive conclusions about the interesting hypotheses generated by the current findings.

In addition, conceptual matters also deserve a word of caution despite the interesting direction of the current findings. The present outcomes suggest that these children with LD may be more vulnerable to differences in maternal personal resources than were their typical counterparts. To further understand the relationships at play in the mother–child interactions, future research should examine the unique contribution of these maternal resources to the socioemotional adjustment of children with a variety of other disabilities, such as mental retardation, attention-deficit/hyperactive disorder, or chronic physical illness. In addition, studies should examine the longevity of such perceptions over time and utilize qualitative interview methods to elaborate on these children's and parents' structured self-reports. Moreover, further study would do well to focus on the individual characteristics of children with LD (i.e., verbal skills, temperament, attention-deficit/hyperactivity disorder), as well as parenting style and the parents' own disabilities.

Finally, the current findings show that the set of predictors did not moderate the effect of children's LD on their high CBCL scores as rated by mothers. Therefore, further study should focus on additional sources of information to evaluate children's adjustment, along with those examined in the present study (i.e., children's self-reports and maternal evaluations), such as teacher and peer evaluations.

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