

THE RELATIONSHIP BETWEEN ATTACHMENT STYLE, BIRTH ORDER, AND ADJUSTMENT IN CHILDREN WHO GROW UP WITH A SIBLING WITH MENTAL RETARDATION

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Introduction

This study examined the relationship between birth order, attachment style, and adjustment in children with a sibling who has mental retardation (MR). Raising a child with MR creates a situation that requires psychological and pragmatic adjustments in the family's functioning. This situation can be perceived as being stressful and which influences the entire family and especially the healthy siblings (Breslau *et al.*, 1981; Gath, 1992). In previous years, research on the siblings of individuals with disabilities was guided by the assumption that siblings would automatically experience adjustment problems (Cuskelly, 1999; O'Kane-Grissom and Borkowski, 2002). This approach was referred to as the maladjustment view and focused on pathology in the families of individuals with disabilities without recognition or measurement of potential benefits (Glidden, 1993).

Therefore, for many years the siblings of a child with MR were considered to be at greater risk of having adjustment problems than children whose siblings were developing normally (Boyce and Barnett, 1993). Stoneman and Brody (1993) contend that only recently have researchers begun to investigate the possibility that the experience of having a brother or sister with a disability may have beneficial consequences. O'Kane-Grissom and Borkowski (2002) found that adolescents with a sibling who had a disability did not differ on their levels of self-efficacy than adolescents without a sibling with a disability. These results and the variance and intensity of sibling responses uncovered in the literature have demonstrated that there are siblings who have a high risk of maladjustment, while others have normal adjustment (Boyce and Barnett, 1993; Gath and Gumley, 1987; Stoneman and Brody, 1993). Thus, there is a need for research that will help to delineate possible vari-

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ables and processes that may explain the variance in the adjustment of siblings with a brother or sister with MR uncovered in the literature.

A possible cause of these differences may be found in variables associated with the specific family or those related to the disability. One such variable that has generated a fair amount of research is birth order (Adler, 1927) because of the assumption that it is related to adjustment in the family and to mental health. However, research on birth order has not revealed clear and consistent results (Parker, 1998). Some investigators have demonstrated that older siblings are at greater risk because of the burden placed upon them in helping to care for the child with MR (Boyce and Barnett, 1993; Breslau, 1982). However, Grossman (1972) contends that the older siblings have a greater understanding, have attained a status in the family hierarchy that allows them a certain amount of control and, thus, can cope better with the situation. These older siblings have also spent the first few years of their lives in a normal family environment and this experience is important for their mental health and the development of positive coping skills (Friedlin and Florian, 1996).

Other investigators have indicated that younger siblings of the child with MR have a greater risk of maladjustment because of the family hierarchy (Breslau, 1982; Dyson *et al.*, 1989). They have problems understanding the older siblings' deviance from the norm and tend to compete with them for parental attention. Younger siblings were born into an emotionally loaded environment that is complex and which may affect their emotional growth and stability (Dyson *et al.*, 1989). The parents may be over-involved with the older child with MR and neglect the needs of the younger siblings (Hauenstein, 1990). There is no time for

emotional support for the child, as parents may feel obligated to provide maximum support for the child with MR because of their guilt feelings and, thus, the needs of the younger child might not be met. Shulman (1988) maintains that the lack of availability of the parents may be in the emotional realm because of the potential sorrow and depression caused by the birth of the child with MR.

The variance in the results of studies related to birth order on siblings with a brother or sister with MR seems to indicate that there is the need for more controlled research and, more specifically, to look at the interaction between birth order and other possible variables that can perhaps explain the different results obtained. The major focus for research should be on the varied developmental pathways and sequences that may be normal for different kinds of siblings in different family environments (Schreiber, 1984).

One possible variable associated with developmental pathways that may interact with birth order is the concept of attachment style. Bowlby (1988) defined attachment as the "disposition of the child to seek proximity to and contact with a specific figure and to do so in certain situations, notably when he is frightened, tired or ill" (p. 371). Attachment refers to a universal system of behaviours, with a biological basis, and includes reciprocal behaviours and emotional bonding between the infant and a significant caregiver who, in most cases, is the mother (Bowlby, 1973, 1988). This system aims at preserving closeness between the two and it has a biological function of survival and defense of the infant. Bowlby (1969) maintains that attachment to the mother is the basic system and, with time, additional attachment hierarchies are formed (Cassidy, 1999). The effects of attachment are observed across the life span and there is

evidence of continuity of patterns across both individual lives and generations (McKinsey-Crittenden, 2000). These attachment styles are also expressed in the mother's caring behaviour toward the infant with the basic factors being sensitivity and availability.

Bowlby (1973, 1988) maintains that there is a relationship between attachment styles and one's adjustment. The person with good adjustment is one who has a secure attachment style with the significant figures in his/her life. On the other hand, insecurity in attachment provides the basis for the development of an anxious and unstable personality. On the basis of the above, attachment style was perceived as a potentially important variable to explain the differences found on the impact of birth order on sibling adjustment.

The quality of children's attachment to parents and, correspondingly, the parent's quality as a secure attachment figure for the child are classified according to Ainsworth's "the strange situation paradigm" (Ainsworth *et al.*, 1978; Grossman and Grossman, 2000). These attachment styles can be measured by the use of a questionnaire developed for the purpose (Finzi *et al.*, 1996).

The potential role of the infant-mother attachment as a mediating variable between birth-order status of the siblings and their adjustment was hypothesised. The study assumed that siblings born before the child with MR were born into a normative family and hence there was more potential for establishing secure attachment styles. This secure attachment style would act as a buffer against stress caused by the birth of a sibling with MR and, therefore, these siblings would have better adjustment. Children born after the sibling with MR were born into an environment that was different from that of

the normative family. The assumption here was that there would be less potential for a secure attachment because of the emotional and practical involvement of the parents with the child with MR. It was assumed that mothers who have to deal with the child with MR would be less free emotionally and practically to deal with the other children in the family. As a result of this, there is the possibility that these siblings would have poorer adjustment in the future.

It was also hypothesised that the relationship between birth order and adjustment will depend on attachment style. The difference between adjustment of the older and the younger siblings with secure attachment styles will be significantly greater than the difference between older and younger siblings with insecure attachment styles. This hypothesis is based on the assumption that the cognitive ability of the older siblings will be enhanced by the more positive personality attributes associated with a secure attachment style. For younger siblings, the secure attachment style would not enhance their cognitive abilities to the same extent as for older siblings because the cognitive ability of the younger siblings was less developed.

Method

Participants

Fifty-two children ranging in age from 7 to 13 (mean = 9.81, *SD* = 1.98), with a biological sibling who resided with them in the same household and who were from intact families, were included in the study. In the experimental group, there were 25 siblings (14 girls and 11 boys, with a mean age of 9.56, *SD* = 2.16) who either

had a brother or sister with MR. Thirteen of these participants were born before the sibling with MR and were classified as the older group and 12 were born after the sibling with MR and comprised the younger group. The children in the experimental group had a brother or sister with MR, 10 with Down's syndrome, 11 with other types of MR, and four with cerebral palsy and MR. Eleven of the children with MR were classified as having mild MR, 10 children as having moderate MR and four with severe MR. The mean age of the brothers and sisters with MR was 9.6, with an *SD* of 4.86.

Twenty eight of the families had between 1-3 children, 14 families had four children and 10 families had 5-8 children. Ten of the mothers in the experimental group had university degrees (15 years or more education), 15 mothers had 14 or less school years, while among the fathers there was one with a university degree (15 or more years of education) and 24 fathers had 14 or less years of education. In the control group there were 16 mothers with academic degrees (15 years or more education) and 11 mothers with 14 or less years of education, while among the fathers there were 14 with academic degrees (15 years or more of education) and 13 fathers with 14 or less years of education. The majority of the families in both the experimental and control groups had average or above average incomes, with only one family in the control group classifying themselves as having below average income.

The participants in the control group were from various regular schools in the community and there were 27 sibling dyads in this group, 19 girls and 8 boys, with a mean age of 10.07 and an *SD* of 1.84. Seven participants were first born and were termed older, while 12 were the youngest child in the family, thus termed

younger. Eight children who did not fit the above were categorised by the nearest approximation to being younger or older on the basis of comparison with the experimental group.

Instruments

The information was gathered from a series of questionnaires that are presented below.

Attachment style. The siblings completed a Hebrew version of the "Categorization of Attachment Style Scale" for use with children (Finzi *et al.*, 1996). This scale was adapted from the Hebrew adult version (Mikulincer *et al.*, 1990) that was based on the original questionnaire in English (Hazan and Shaver, 1987). There are 15 questions in the questionnaire, with five questions relating to each attachment style. The participant was asked to rate the question on how much it expresses his/her feelings on a 5-point Likert scale, ranging from *completely true* to *completely untrue*. Three attachment style scores were derived for each participant from the responses to the 15 questions and the highest of the three scores reflects the attachment style of the participant. Finzi *et al.* (1996) reported Cronbach's alphas of .62 for the secure style, .75 for the avoidant style, and .80 for the ambivalent style, and a test-retest yielded a score of $r = .94$ for the secure style, $r = .92$ for the avoidant style, and $r = .87$ for ambivalent attachment. In the present study, Cronbach's alphas for the total group were .58 for the secure style, .63 for the avoidant style, and .66 for the ambivalent style. Although they were lower than the scores obtained by Finzi *et al.*, we decided to use the scale, as it is the only valid scale available in

Hebrew for children in the age group of the study.

Adjustment. The teachers of the normal siblings in both the experimental and control groups completed Smilansky's (1976) child adjustment scale for each participant. Although the initial scale was constructed for nursery school children, it was later revised to include school age children (Kedem-Harold, 1991). This scale has 18 items related to the scholastic, emotional, and social adjustment of the child in school. The teachers were instructed to choose one of the five possibilities for each item that described a certain behaviour in the scale. For example, there are five possible responses to the question "Is the child sociable?" - (1) mostly is alone; (2) has problems in social relationships; (3) is active socially to a certain extent; (4) has many social relationships; (5) is always involved in social interactions. Three mean scores, one for each of the three factors, are derived from the questionnaire; they reflect the teacher's evaluation of the scholastic, emotional, and social adjustment of the siblings. Smilansky found a reliability score of $r = .91$ on a test-retest for the total scale and Cronbach's alpha scores that ranged between .66 and .77 for the three subscales; Kedem-Harold (1991) found a Cronbach alpha of 0.95 for 10 year olds. In the present study, Cronbach's alphas were .89 for the total score, .85 for scholastic achievement, .82 for emotional adjustment, and .75 for social adjustment.

Demographic questionnaire. The birth order of the child was obtained from this questionnaire that was filled out by the parents. Questions related to the age and gender of the child, his/her order in the family, the gender and age of the sibling with MR, type of MR, the size of the family, and the socioeconomic level, profession, and education of the parents.

Procedure

Permission to carry out the study was obtained from the Ministry of Education and in accordance with its criteria and regulations for research with pupils. The participants were contacted by a letter to the parents that was sent by the school requesting permission to allow their children to participate in the study. Participation in the study was voluntary and parents who were prepared to participate returned the form to the school with their permission to include their child in the study and to allow the teacher to fill out the adjustment questionnaire. On receiving the permission, the investigators contacted the parents by phone, explaining the purpose of the study in more detail and setting a date to meet the siblings in their home. During the meeting in the home the parents filled out the demographic questionnaire and the children answered the attachment style questionnaire. The information given to the children in both the experimental and control groups was that the questionnaire aimed at examining how children of their age feel and think. After the meeting with the parents and the child, a meeting was arranged with the teacher to fill out the adjustment questionnaire. The teachers were informed that the child was participating in a study that examined the influence of birth order on adjustment.

It should be mentioned that the need to achieve conformity between the experimental and control groups created many problems for the investigators and is one of the main reasons for the small sample.

Results

TABLE I presents the means and *SDs* and one-way MANOVAs for attachment styles of the siblings in both groups. The results of the MANOVA analyses indicated that children with a sibling with MR demonstrated significantly more secure attachment styles than siblings in the control group, $F(1, 50) = 5.18, p < .05$. However, there were no significant differences between the groups on the ambivalent style, $F(1, 50) = 0.38, p > .05$, and the avoidant style, $F(1, 50) = 0.84, p > .05$. Children in the experimental group with a sibling with MR did not have more insecure attachment styles than those in the control group. Furthermore, attachment styles in the total sample were similar to the distribution of attachment styles found in the general school population in Israel (Finzi *et al.*, 1996).

The second analysis related to adjustment of the siblings in the control and experimental groups. The means and *SDs* and the results of the one-way MANOVA are presented in TABLE II. As can be seen from the table, there were no significant differences between the two groups on any of the three kinds of adjustment: scholastic adjustment, $F(1, 50) = 0.00, p > 0.05$; emotional adjustment, $F(1, 50) = 1.59, p > 0.05$; and social adjustment, $F(1, 50) = 0.14, p > 0.05$. There was no significant difference between the total scores of adjustment for each group, $F(3, 47) = 1.75, p > 0.05$. Thus, the assumption that siblings of children with MR would have more adjustment problems as compared to siblings of children without MR was not supported. Furthermore, a *t*-test revealed that there was no significant difference on adjustment between siblings with secure attachment styles as compared to those with insecure attachment styles, $t(50) = 1.65, p > 0.05$.

The third analysis related to the possible impact of birth order on the adjustment of the sibling with a brother or sister with MR. The means and *SDs* and the results of the one-way MANOVA are presented in TABLE III. As can be seen from the table, there were no significant differences between older and younger siblings on any of the adjustment categories: scholastic adjustment, $F(1, 23) = 1.81, p > 0.05$; emotional adjustment, $F(1, 23) = 2.43, p > 0.05$; and social adjustment, $F(1, 23) = 0.13, p > 0.05$. There was also no significant difference on the total score for each group, $F(3, 21) = 0.99, p > 0.05$.

The possible interaction effects between birth order and attachment style on adjustment of the siblings who have a brother or sister with MR were measured by a two-way MANOVA. The means, *SDs*, and results of the two-way MANOVA are presented in TABLE IV. The two main effects were attachment style and birth order, and the dependent variable was adjustment. On the attachment style variable, the siblings were divided into two groups, secure and insecure, as the two insecure subgroups were combined because of the small *n* in each cell. There were no significant differences on the main effects or a significant difference on the interaction effects between attachment style and birth order for the combined scores adjustment, $F(3, 19) = 0.10, p > .05$. There were also no significant interaction effects between birth order and attachment style for each of the adjustment factors: scholastic, $F(1, 21) = 0.13, p > .05$; emotional, $F(1, 21) = 0.04, p > .05$; and social, $F(1, 21) = 0.11, p > .05$. The attachment style of children with a sibling with MR does not influence the direction or relationship between their birth order and their adjustment.

TABLE I
Means, SDs, and MANOVA results of attachment style for each group

Group	Secure		Avoidant		Ambivalent	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Experimental	3.92	0.64	2.51	0.73	2.72	0.91
Control	3.53	0.58	2.70	0.72	2.86	0.73
	$F(1, 50) = 5.18$ $*p = 0.03$		$F(1, 50) = 0.84$ $p = 0.36$		$F(1, 50) = 0.38$ $p = 0.54$	

* $p < .05$

TABLE II
Means, SDs, and MANOVA results of adjustment scores for both group

Group	Scholastic adjustment		Emotional adjustment		Social adjustment	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Experimental	3.69	0.60	4.35	0.48	4.04	0.52
Control	3.69	0.72	4.12	0.78	3.98	0.59
	$F(1, 50) = 0.00$ $p = 0.99$		$F(1, 50) = 1.59$ $p = 0.21$		$F(1, 50) = 0.14$ $p = 0.71$	

TABLE III
Means, SDs, and MANOVA results according to birth order of the siblings

Group	Scholastic adjustment		Emotional adjustment		Social adjustment	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Younger	3.53	0.55	4.19	0.62	4.00	0.51
Older	3.83	0.62	4.49	0.26	4.08	0.56
	$F(1, 23) = 1.81$ $p = 0.19$		$F(1, 23) = 2.43$ $p = 0.13$		$F(1, 23) = 0.13$ $p = 0.72$	

TABLE IV
Means, SDs and MANOVA results of adjustment scores as a function of birth order and attachment style of siblings with a brother or sister with MR

Group	Scholastic adjustment		Emotional adjustment		Social adjustment		
	Younger	Older	Younger	Older	Younger	Older	
Secure attachment	<i>M</i>	3.67	3.93	4.17	4.48	4.09	4.12
	<i>SD</i>	0.57	0.67	0.25	0.72	0.54	0.62
Insecure attachment	<i>M</i>	3.57	3.11	4.28	4.50	3.93	3.73
	<i>SD</i>	0.43	0.24	0.33	0.19	0.31	0.31
	$F(1, 21) = 0.13$ $p = 0.72$		$F(1, 21) = 0.04$ $p = 0.84$		$F(1, 21) = 0.11$ $p = 0.72$		

Discussion

The results provided support for the contention that a “maladjustment approach” to understanding the impact of MR of one of the children on their siblings is not valid in all cases. In the present study, the results indicated that the presence of a child with MR in the family does not negatively affect sibling adjustment or attachment style. Contrary to expectations of the pathological approach, siblings with a brother or sister with MR had a higher ratio of more secure than less insecure attachment styles than the siblings in the control group. It would appear that the assumption that mothers of children with MR would be less available emotionally and physically for the other children and this would affect attachment style was not uncovered. This conclusion provided support for the results of studies that found that MR in the family does not necessarily lead to neglect, but may even be a catalyst for emotional growth (Carr, 1995; Floyd and Costigan, 1997; Gath, 1992).

A number of speculations can be made to explain these results. Perhaps siblings with a brother or sister with MR may have internalised cognitive models of trust in their environment because they were perhaps exposed to a more sensitive, warm, and caring environment by the parents. This exposure may have instilled in them an acceptance of individual human differences and would perhaps indicate that the key to understanding the adjustment of siblings may be due to how the parents cope with the realities of having a child with MR in the family. Attachment style did not act as a mediator between birth order and adjustment. However, the more positive attachment style of the experimental group suggests that these families demonstrated overall better adjustment because attachment style is not only an

indicator of the emotional and social profile of the individual, but also of the family’s functioning. There is good reason to assume that families that participated in the study were coping well with the situation, as the literature on families of persons with secure attachment describes those families as showing high levels of cohesiveness, adaptive behaviour, and low levels of conflict (Mazor-Chadad, 1994, Pfaller *et al.*, 1998).

As mentioned above, the siblings of children with MR do not have more adjustment problems than the siblings in the control group. Although they have more secure attachment styles, their adjustment was not better than that of the participants in the control group as might have been expected. Perhaps the relationship between attachment style and adjustment is not linear and other factors may influence adjustment. One of these suggested was birth order, but the results did not confirm this assumption, as there were no differences between younger and older siblings on adjustment. Another possible reason for the lack of difference of adjustment may be due to the teachers’ biases in favour of the siblings with a brother or sister with MR and that perhaps manifested itself in higher evaluations of their adjustment.

However, there are several limitations of the above study. The small number of participants and the small numbers in the different cells may explain the lack of significance for a number of relationships. Perhaps with a larger sample, more significant relationships might have been uncovered. A second limitation was that, although an effort was made to ensure equivalence of the two groups, there were differences between the two groups and there were twice as many females as males in the control group, while in the experimental group the ratio of females to males

was fairly similar. These differences may have influenced the results, as gender of the siblings appears to be an important factor in their adjustment. Because of the above limitations and lack of previous research on the relationship between attachment style and birth, the results obtained should be viewed with caution. Furthermore, future research should look at the relationship between siblings of children with MR from a longitudinal perspective and not at any one time in the siblings' life. The reasons for this may be that different variables related to the child with MR, to his/her sibling, and to the parents may have a different impact on adjustment at different stages in the families' life.

Summary

This study examined the relationship between birth order, attachment style, and adjustment in children growing up with a sibling who has mental retardation (MR). Fifty-two children, aged seven to 13 years old, participated in the study. Twenty-five participants were in the experimental group, with 13 born before and 12 after a sibling with moderate to severe MR. The remaining 27 children had siblings with normal development and they served as a control group. Attachment style was measured by the attachment style classification questionnaire (Finzi *et al.*, 1996) and adjustment by Smilansky's (1976) child adjustment questionnaire. The results show that the presence of a child with MR in the family does not necessarily negatively affect either attachment style or adjustment of healthy siblings. Furthermore, it was found that siblings of a child with MR have more secure attachment styles than those in the control group.

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