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Depression and Social Adjustment in Siblings of Boys with Autism[1]

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Compared 22 siblings of autistic boys and 34 other siblings on measures of depression, social adjustment, and the amount of child care and domestic responsibility the siblings carry within the family. The relationship between sibling gender, age, birth order, qualities of the boy with autism, and family characteristics, and siblings' scores on the above measures were examined. Results of this research showed that siblings of autistic boys scored significantly higher on depression than the comparison group, but not on problems of social adjustment. There were no statistically significant gender differences; however, different gender-related patterns emerged on the correlates which may be of theoretical significance for future studies.

Over the past 10–15 years, there has been considerable research on the effect on the family of living with a child with autism (Bristol, 1987, 1984, 1979; Bristol & Schopler, 1983; Fisman, 1988; Holroyd & McArthur, 1976; Konstantareas & Homatidis, 1989; Wolf, Noh, Fisman, & Speechley, 1989). However, this research has focused almost exclusively on parents, with research on siblings limited to two empirical studies (Mates, 1990; McHale, Sloan, & Simeonsson, 1986), two anecdotal articles (DeMyer, 1979b; Sullivan, 1979), and DeMyer's (1979a) qualitative exploration. As a result, there is still much that is unknown about how these siblings compare with other siblings.

[1]This report derives from the author's dissertation research (Gold, 1990), which studied the siblings and parents of boys with autism. The author gratefully acknowledges the assistance of Peter Szatmari, Jackie Roberts, and three anonymous reviewers for comments on drafts of this article.

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There appear to be both positive and negative effects on siblings of living with a child with autism (DeMyer, 1979a, 1979b; Mates, 1990; McHale et al., 1986; Sullivan, 1979). In general, although these siblings do not overall have more adjustment problems than other children, they (like siblings of children with other disabilities) are predisposed to risk in the presence of certain factors. McHale, Simeonsson, and Sloan (1984) divided these risk factors into three categories, the characteristics of the (a) disabled child, (b) nondisabled sibling, and (c) family. One important purpose of the present study was to examine the impact of some of the risk factors on the siblings of children with autism, and to explore the conditions under which their social and psychological adjustment are more likely to be adversely affected by the presence of the child with autism.

The characteristic of the disabled child that seems most clearly related to poorer sibling adjustment is increased severity of the disability (Farber, 1959; Giannandrea, 1984; Lobato, 1983; McHale et al., 1984; Vadasy, Fewell, Meyer, & Schell, 1984). It has also been shown that disabilities that are ambiguous or undefined are associated with poorer sibling outcome, especially in families of higher socioeconomic status (McHale et al., 1984). This is a point of particular relevance to the siblings of children with autism, because of the ambiguity associated with this disorder (Bristol, 1984). The other important risk factor in this category is the age of the disabled child, although the findings here are inconsistent: Some see increased difficulty and stress for the sibling as the disabled child grows older (e.g., McHale et al., 1984), whereas others have found the opposite (Giannandrea, 1984). Neither of the above risk factors have been investigated with reference to siblings of children with autism.

The gender of the nondisabled sibling seems to be central to his or her experience with the disabled child, particularly when gender is considered together with the nondisabled sibling's birth order and the socioeconomic status of the family (Cleveland & Miller, 1977; Gath, 1974, 1978; Lobato, 1983; McHale et al., 1984; McKeever, 1983; Schreiber, 1984; Trevino, 1979). The striking differences between brothers and sisters of disabled children have been frequently noted in the literature, and repeatedly explained by the different roles sisters and brothers play in the family (i.e., sisters frequently take an active caretaking role, whereas brothers do not) (Cleveland & Miller, 1977; Farber, 1959; Gath, 1974, 1978; Trevino, 1983). In support of this view, Lobato, Barbour, Hall, and Miller (1987) found that mothers of handicapped children reported that preschool sisters had more responsibility for child care and household tasks than preschool brothers, and more than the sisters and brothers in a control group. Unusual expectations and responsibilities imposed on siblings for caregiving or domestic work increase the likelihood of role strain and problems in

both social and academic adjustment (Farber, 1959; Gath, 1974, 1978; McHale et al., 1984).

When the birth order of the sibling is considered alone without gender, it is generally not considered in and of itself a factor affecting psychosocial adjustment (Ferrari, 1984; Lavigne & Ryan, 1979). However, in one of the few studies where the gender and birth order of the siblings of disabled children were considered together, an interaction effect between the two emerged, with younger brothers of disabled children showing more psychological impairment than older brothers, but older sisters showing more impairment than younger ones (Breslau, 1982). With reference to age spacing, Breslau found that for both brothers and sisters of disabled children, those less than 2 years younger than the disabled child had greater adjustment difficulties than those more than 2 years younger, whereas there was no interaction effect between either gender and birth order or gender and age spacing in a community sample.

A recent study which included only the oldest (nondisabled) siblings of children with autism found no differences between brothers and sisters on measures of self-concept, academic achievement, or home or school adjustment (Mates, 1990). Regarding birth order, McHale et al. (1986) found no differences between siblings who were older or younger than the autistic child on the quality of the sibling relationship; however, siblings who were younger expressed more negative feelings toward the child with autism.

The literature suggests that siblings in larger families seem to adjust better than siblings in smaller ones, unless the family is financially unstable (Gath, 1974; McHale et al., 1984), or unless the sibling is an eldest or middle-born girl (Gath, 1974; Lobato, 1983). In the research on families with autistic children, Mates (1990) did not find evidence of this; however, McHale et al. (1986) found that larger family size was associated with less embarrassment and fewer feelings of burdens for siblings.

The presence of a disabled child may directly influence the non disabled sibling, but more often the effects are mediated by the way the family operates as a whole (McHale et al., 1984). For example, siblings of disabled children make a better adjustment if the parents have a good marital relationship (McHale et al., 1984). Siblings also to a large extent echo and identify with their parents' feelings and attitudes (Featherstone, 1982; Gath, 1978; Giannandrea, 1984; McHale et al., 1986), and parental shame, guilt, anxiety, or acceptance may be more critical influences on the sibling than the objective characteristics of the disabled child (Trevino, 1979). For this reason, it is crucial that family process variables be included in research on siblings. Unfortunately, an exclusive focus on status variables (e.g., family

size) has characterized all the research on siblings of children with autism until now, with one noteworthy exception (McHale et al., 1986).

The present study avoids several limitations of the previous research by including a comparison group of siblings of nondisabled children, by obtaining reports about the siblings from multiple sources (from mothers and fathers as well as the siblings themselves), and by going beyond status variables to examine family process variables, and link these to siblings' adjustment outcomes.

This research explores group differences between siblings of children with autism and siblings of nondisabled children in terms of social adjustment and depression, because of indications in the literature that siblings of disabled children may have difficulties in these particular areas (Beck & Rosenberg, 1986; Cadman, Boyle, & Offord, 1988; Gath, 1974; Lobato et al., 1987). It also brings together the risk variables from the literature, many of which have never before been examined with this population, to explore some of the correlates of well-being for these siblings, and under what conditions they are most likely to cope well or be vulnerable, given the unique stresses with which they live. In light of the emphasis in the literature on the particular vulnerability of sisters due to the caregiving role, an important factor investigated in this study is the amount of domestic and child care work performed by the sisters in these families, and the impact of this work on the psychosocial outcomes of these girls.

METHOD

Subjects

Twenty-two siblings of boys with autism (11 sisters and 11 brothers) participated in this study, and 34 siblings of nondisabled boys (17 sisters and 17 brothers) formed the comparison group. The first group of siblings was located through three agencies in the Toronto area which serve children with autism and their families. The boys with autism had been diagnosed at agencies which used the DSM criteria of autism, and they ranged from mild to severe in their symptoms.[3] The comparison group came from several schools in the Toronto area, and included only families where there was no chronic illness or disability of any kind. Letters were sent from the

[3]In this research, only boys with autism were included, because three or four out of five autistic people are male, therefore this is the most common situation (DSM-III-R, American Psychiatric Association, 1987; Konstantareas, Leary, & Lennox, 1981, p. 5). Furthermore, the gender of the autistic child seems to affect the level of family stress, with males with autism found to be more stressful than females with autism (Bristol, 1987a, 1984, 1979; Fisman, 1988).

three agencies and the schools, inviting parents to take part in the research, and interested parents contacted the researcher directly. Participating siblings were between 7 and 17 years of age, and living at home with both biological parents and either a brother with autism or a nondisabled (comparison group) brother. Only one sibling per family took part. Although the two groups of families were not matched on specific characteristics, no statistically significant differences were found between them when compared, using chi-square analyses, on family size, income, ethnicity, parents' education, or sibling age (see Table I). The mean age for siblings in this study was 13 years and 2 months.

Procedures

"Depression" was measured by siblings' scores on the Children's Depression Inventory (CDI; Kovacs, 1980–1981). The CDI was selected for this study because it is the most widely used and thoroughly researched *self-report* instrument for measuring children's depression (Finch, Saylor, & Edwards, 1985; Kazdin, 1981; Kovacs, 1983; Saylor, Finch, Spirito, & Bennett, 1984), and it is well-known that parent reports are not adequate for assessing internalizing symptoms, such as depression, in children. The CDI has been administered to both clinical and nonclinical samples of children between 7 and 17 years of age, and consists of 27 multiple-choice items asking the child how he or she has felt during the previous 2 weeks.

"Social adjustment" was operationalized by siblings' scores on the Parent Report form of the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1981). The CBCL, composed of 113 questions pertaining to specific behaviors of the child, is versatile and widely used in a variety of settings dealing with children's mental health. It can distinguish between clinical and nonclinical populations (Achenbach & Edelbrock, 1979, 1981) and has norms that reflect both age and gender differences. Both mothers and fathers completed the CBCL on the sibling. Since this instrument yields scores on two dimensions, Behavior Problems (BP) and Social Competence (SC), each sibling received four scores: the mother's Behavior Problem (BP) score, the mother's Social Competence score (SC), the father's Behavior Problem (BP) score, and the father's Social Competence score (SC).

Siblings also completed a questionnaire, Questions for Siblings, constructed by this researcher. This questionnaire asked all siblings the following yes–no questions: (a) whether they thought their parents expected the same amount of help from all the children in the family; (b) whether there were any good things about having an (autistic or nondisabled) brother,

Table I. Siblings with Specific Individual and Family Characteristics

Characteristics	Siblings	
	Autistic group	Comparison group
Age in years		
7–11	5	17
12–17	17	17
Mean age	13.52	12.78
Gender		
Female	11	17
Male	11	17
Gender and birth order		
Female		
Younger	5	6
Older	6	10
Male		
Younger	7	3
Older	4	13
Annual family income[a]		
$0–39,000	13	5
$40–59,000	6	8
$60,000 and over	12	19
Number of children in family		
2	16	16
3–4	11	18
5 or more	4	0
Severity		
Mild	3	
Moderate	10	
Severe	4	
Parental education		
Professional	13	13
Bachelors	8	13
Technical, college, some university	25	19
High school or less	22	23
Ethnicity[b]		
Canadian	13	17
British Isles	3	5
Eastern European	2	4
Mixed	5	5
Other (Western European, Oriental, African)	2	3

[a] Some parents refused to answer the question about income. Income is in Canadian dollars.
[b] For a family to be classified within an ethnic category, both parents had to identify themselves in the same category. Otherwise, families were classified as being of "mixed" ethnicity.

and (c) whether there was anything they wanted to do, but could not, because of their (autistic or nondisabled) brother.

The siblings of boys with autism were also asked: (a) whether they had people to talk to about having an autistic brother; (b) whether they had met any other children with a disabled sibling, and (c) whether they had participated in a siblings' group.

All siblings were asked two open-ended questions: (a) how important they thought it was to their parents that they do well in school (scored as not important, important, or extremely important), and (b) siblings of autistic boys were asked what they believed caused their brother's autism. The latter question was scored as either reasonably accurate given the developmental stage of the sibling, or as clearly inaccurate.

Questions for Siblings also included two sets of questions developed by this researcher to determine the amount of domestic work (housework) and caregiving work (child care) done by siblings (see Appendix A). Siblings' Domestic Work and Caregiving Work scores were calculated by taking the mean of the relevant set of questions. A Cronbach coefficient alpha was conducted on both sets of questions, and the results were .94 for Domestic Work and .88 for Caregiving Work, demonstrating considerable internal consistency on each of these scales.

Additional relevant information about the family was collected from the parents, including open-ended questions on ethnicity, family size, and the birth order and age spacing of all the children, and multiple-choice questions on family income and the education and occupation of both parents. Parents also answered several other questions, some of which included their expectations of the sibling for help around the house (open-ended), the number of major family stresses other than the boy with autism, and their satisfaction with the marital relationship (both multiple-choice), and whether there were any positive things about having an autistic child (yes/no). Parents' expectations of sibling help were scored as either appropriate or inappropriate, given the sibling's age. Parents of autistic boys were also asked the date of diagnosis, and five multiple-choice questions which provided a symptom severity score. (For copies of these instruments, see Gold, 1990.) Appendix B summarizes the variables investigated through the Questions for Siblings and the parent information sheet.

All of the instruments used in this study were self-administered written questionnaires. Families were visited in their homes either by me or one of three trained assistants, whose role consisted of distributing and collecting the questionnaires, answering questions of a procedural nature, and occasionally helping a sibling to understand the meaning of a word (e.g., *sibling*). No other prompts or advice were provided that might have influenced subjects' responses.

Table II. Means and Standard Deviations of Sisters and Brothers on Tests

	Autistic group				Comparison group			
	Sisters		Brothers		Sisters		Brothers	
Tests	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
CBCL[a]								
Mothers								
BP	55.00	4.40	49.50	4.33	53.53	11.21	51.67	6.90
SC	49.29	4.68	54.20	10.85	55.36	11.83	53.00	7.53
Fathers								
BP	49.22	10.70	51.80	9.28	49.65	13.39	47.79	9.61
SC	48.50	6.35	48.50	14.86	52.50	14.40	59.40	13.72
CDI	14.20	10.24	9.98	6.27	7.94	8.09	7.03	6.05
Caregiving work	3.71	0.59	3.94	0.50	4.30	0.86	4.12	0.70
Domestic work	3.72	0.43	3.94	0.26	3.35	0.58	3.68	0.51

[a] BP = the Behavior Problems subscale of the CBCL, and SC = the Social Competence subscale of the CBCL. Both mothers and fathers rated siblings on the CBCL, therefore their ratings are provided discretely.

RESULTS

Differences Between Siblings of Autistic Boys and the Comparison Group

The data from the CDI, the CBCL, and the scales for Caregiving Work and Domestic Work were analyzed in a series of 2 × 2 analyses of variance (ANOVAs), on gender (sister or brother) by family type (autistic or comparison). Type III sum of squares were analyzed, and the General Linear Model (GLM) from SAS was used due to the unequal cell sizes. The variables listed above were then analyzed to identify which were significantly related to subjects' scores on the CDI and the scales for Caregiving Work and Domestic Work (the tests with results which reached significance on the ANOVAs). Pearson correlations were used for continuous variables, and *t* tests for bivariate variables.

Tables II and III present the means and standard deviations for all tests. There were no significant differences on the CBCL between groups for either family type or gender on ratings by either parent (mother or father) on either of the two scales, Behavior Problems (BP) or Social Competence (SC).

Table III. Means and Standard Deviations of Siblings on Tests

	Autistic group		Comparison group	
Tests	*M*	*SD*	*M*	*SD*
CBCL				
Mothers				
BP	51.85	5.57	52.36	9.35
SC	45.50	10.25	48.48	11.42
Fathers				
BP	49.00	10.40	48.66	11.52
SC	46.10	10.95	46.63	13.44
CDI	12.09	8.57	7.49	7.05
Caregiving	3.83	0.54	4.21	0.78
Domestic	3.83	0.37	3.51	0.56

[a] BP = the Behavior Problems subscale of the CBCL, and SC = the Social Competence subscale of the CBCL. Both mothers and fathers rated siblings on the CBCL, therefore their ratings are provided discretely.

The ANOVA on the CDI yielded significance for family type, with the siblings of boys with autism scoring significantly higher than the comparison group of siblings, $F = 4.79$; $p < .04$. There were no gender or interaction effects.

The mean score of the siblings of autistic boys on the CDI was 12.1 ($SD = 8.57$). Kovacs (1983) offered three cutoff scores for the CDI, ranging from scores of 11 to 13.[4] Based upon the first two cutoff scores, the siblings of autistic boys in this study can be considered not only significantly different from other siblings but also depressed in terms of the CDI. When the most conservative cutoff score is applied (i.e., 13), 50% of the siblings of autistic boys ($n = 11$, 7 girls and 4 boys) fall into the depressed range, in contrast to only 26% of the comparison group ($n = 9$).

In addition, 2 × 2 ANOVAs on family type by sibling age were used to compare siblings in both groups who were 12 years of age or older (adolescents) with those who were younger than 12 years of age (children). These analyses were conducted because of the literature on depression

[4]Kovacs (1983) discussed the pros and cons of using each of the three cutoff scores. She concluded that the cutoff score of 13 would "miss" about 49% of clinically depressed cases, and that the cutoff score of 11 is most advantageous, if administration of the CDI is followed by a clinical evaluation. From her discussion, it is unclear which of the cutoff points is most useful for a research study such as this.

indicating an increase in depression in adolescence (Albert & Beck, 1975; Teri, 1982), as well as a gender effect for adolescents (Blackstock, Brown, Connelly, Johnston, & Mackay, 1987; Teri, 1982). A main effect was found for sibling age, with adolescent siblings scoring higher on depression than those under 12 years of age, $F = 6.12$; $p < .02$ (adolescent $M = 11.37$, child $M = 6.1$). Within the autistic group, 91% of the siblings scoring 13 and above on the CDI were adolescents ($n = 10$). There were no significant interaction or gender effects.

The 2 × 2 ANOVAs on domestic work and caregiving work yielded significance for domestic work only, with main effects for both family type, $F = 5.70$; $p < .03$; and gender, $F = 4.25$; $p < .05$; but no interaction. For gender, the effect was in the predicted direction: Sisters did more domestic work than brothers. For family type, the findings were surprising: Siblings of boys with autism in this study did significantly less domestic work than other siblings.

Variables Associated with Depression, Caregiving Work, and Domestic Work for Siblings of Autistic Boys

Significance was obtained on one of the t tests conducted. Siblings who had no one to talk to about having an autistic brother scored significantly higher on the CDI than those who did, $t = 2.56$; $p < .03$ ($M = 18.1$ vs. 8.4). On the Pearson correlations, all of the correlates of higher CDI scores were related to either (a) the autistic boy, or (b) mother variables that described a sense of harassment or burden (e.g., finding her caregiving responsibilities to be a problem, working full-time, having no one to provide a break when she needs one) (see Table IV).

With reference to the correlates related to the autistic boy, there are some differences between the CDI correlates for the sisters and the brothers. For brothers, higher CDI scores were significantly correlated with the response that there is nothing good about having an autistic brother. For sisters, a higher CDI score correlated significantly and positively with specific characteristics of the autistic child: the age of the autistic boy, the length of time since his diagnosis, and being younger than the autistic boy. Having an older brother with autism who was also relatively advanced in age was correlated with higher depression scores for sisters. None of the other variables investigated significantly correlated with CDI scores of siblings of boys with autism.

The correlations regarding caregiving work and domestic work may be considered together here, in light of the high correlation between the two scales. The only significant correlates for sisters of autistic boys

Table IV. Significant Correlates of Depression (Higher CDI Scores), and Greater Amounts of Caregiving Work and Domestic Work for Siblings of Autistic Boys

Variable	*r*	*p*
Depression: Sisters		
Greater length of time since the diagnosis of autism	.680	.021
Higher age of the autistic boy	.724	.012
Being younger than the autistic boy	.621	.042
Having a mother who finds her caregiving responsibilities to be a problem	.810	.015
Having a mother who works full-time	.664	.026
Depression: Brothers		
Feeling there are no good things about having an autistic brother	.673	.047
Having a mother who has no-one to provide her with a break when she needs one	.915	.0005
Having a mother who has never participated in a parents' group	.643	.045
Caregiving work: Sisters		
Having a mother who is less well-educated	.783	.007
Having a father who is less well-educated	.701	.024
Feeling there are some good things about having an autistic brother	.770	.009
Having a realistic understanding about the causation of autism	.775	.014
Having a brother with moderate (rather than severe) autistic symptoms	.890	.043
Domestic work: Brothers		
Having a mother who has someone else to do her caregiving activities if she stopped doing them	.699	.036
Having a mother who has difficulties in social adjustment	.624	.040
Having a mother who does relatively little caregiving work	.671	.024
Having a father who is dissatisfied with how he is spending his days	.692	.039

were on caregiving work, and for brothers only on domestic work (see Table IV). In the case of the sisters, doing more caregiving work was significantly correlated with having a positive and realistic view of autism, a brother with moderate symptoms, and parents who were not well-educated. In contrast, the correlates of brothers of autistic boys suggest a father who is dissatisfied with how he spends his days and a mother who is socially maladjusted and does relatively little caregiving work.

DISCUSSION

This research explored depression and social adjustment among the siblings of autistic boys. As expected, siblings of autistic boys scored higher on the depression measure than siblings of nondisabled boys. However, no differences were found on social adjustment by family type, or on gender between the sisters and brothers of autistic boys on either depression or social adjustment.

The most significant finding of this research is that the siblings of autistic boys in this study scored significantly higher on the CDI than the siblings of nondisabled boys, and according to two of the three possible cutoff scores, they could be considered depressed. However, caution must be exercised in generalizing from this finding. First, when the most conservative cutoff score for the instrument is applied, only 50% of these siblings fall into the depressed range. Second, although the age difference between the two groups did not reach significance, in this sample there were proportionately more adolescent siblings in the autistic group than in the comparison group. In light of the finding that the adolescents in this study scored higher on depression than the children (a finding corroborating previous research), this may have influenced the results. This having been said, the results of this study do indicate a tendency among siblings of autistic boys toward higher scores on the CDI. Further studies are needed to evaluate the significance of this finding.

Although no gender differences were found on the ANOVAs of the CDI scores, the correlates of depression appear to differ for brothers and sisters of autistic boys. Particularly striking is the finding that specific characteristics of the autistic boy correlate significantly with sisters' depression but not with brothers'. This suggests that although there may be similar levels of depression among the sisters and brothers of autistic boys, the factors contributing to depression may differ by gender. This could have numerous implications for research and clinical work.

The significant *t* test underlines the importance of these siblings having someone they can talk to about the boy with autism. This finding is consistent with previous work that stressed the benefits to siblings of open communication in the family, specifically about the disabled child (McKeever, 1983). It also may affirm the usefulness of siblings' groups in that these provide siblings with peers with whom they can talk about the boy with autism (Cruz, Andron, & Sammons, 1984).

The finding that siblings of autistic boys scored significantly higher than other siblings on the CDI, but not on the CBCL, is worthy of comment. At the most obvious level, this difference could be attributed to the

CDI and the CBCL simply measuring different constructs. In fact, the results of this study are consistent with Ferrari's (1984) finding that siblings of developmentally disabled children are more likely to manifest internalizing symptoms than externalizing symptoms, as well as with those descriptions in the literature portraying siblings of disabled children as coping well socially and academically, and being more than usually mature and responsible, but burdened (DeMyer, 1979a; Gath, 1974; Marcus, 1977; Sullivan, 1979). However, the difference in the CDI and CBCL results may also reflect the discrepancy found in other studies between self-report and parent-rated measures (Ferrari, 1984; Lobato et al., 1987; Weissman et al., 1987), and underscores the importance of using self-report measures when investigating internalizing symptoms.

The finding that sisters of both family types did significantly more domestic work than brothers was not surprising, and conforms to the literature regarding increased domestic responsibilities for sisters (Farber, 1959; Gath, 1974). However, the results did not indicate that the sisters of autistic boys did significantly more domestic work than the other three sibling groups. Furthermore, the family-type finding on sibling domestic work was surprising, namely, that siblings of autistic boys report doing less domestic work than siblings of nondisabled boys. Possible explanations for this may include parental guilt toward the siblings or fears of burdening them, or parents turning to siblings for help with the autistic boy rather than with housework. (It is noteworthy that on caregiving work, there is a difference on family-type that approaches significance, $p < .06$.) Also of interest in this study was the difference in the correlates for caregiving work and domestic work between the sisters and brothers of autistic boys.

APPENDIX A

Questions for Siblings on Caregiving Work and Domestic Work

How often are *you* the one in your family who does each of these things? (1 = Always, 2 = Most of the time, 3 = About 1/2 the time, 4 = Once in a while, 5 = Never)

Domestic work

- washing dishes
- tidying up
- cleaning your own room

- cleaning other rooms
- food shopping on a regular basis
- vacuuming
- taking out the garbage
- planning or organizing meals
- serving meals
- cleaning up after meals
- cooking family meals
- doing laundry
- making beds
- dusting
- supervising other siblings (not just the autistic child)
- "just being home" to make sure things run smoothly
- generally taking care of things at home
- are there other ways you "help out" at home that are not on this list? _____

Caregiving work

- washing him
- dressing him
- bathing him
- feeding him
- babysitting for him
- taking him out
- doing school programs with him
- playing with him
- "watching" or "keeping an eye on" him
- are there other ways you "help out" with him that are not on this list? _____

APPENDIX B

Summary of the Variables Investigated through Questions for Siblings and the Parent Information Sheet

(1) Characteristics of the child with autism
Severity of the autism
Age
Date of diagnosis

(2) Characteristics of the family
Size
Socioeconomic status
Ethnicity
Parental education
Parental occupation
Presence of major family stresses other than the boy with autism
Parental expectations of sibling for help around the house
Parents' perceived marital satisfaction
Parents' ability to identify positive things about having a child with autism

(3) Characteristics of the nondisabled sibling
Gender
Birth order
Age spacing
The ability to identify positive things about having a brother with autism
Perceived restriction on activities due to the boy with autism
Past contact with other children with disabled siblings
Participation in a siblings' group
Having someone to talk to about having a brother with autism
Beliefs regarding the causation of autism

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