Published in final edited form as:
Am J Intellect Dev Disabil. 2011 January ; 116(1): 81–95. doi:10.1352/1944-7558-116.1.81.

Marital Satisfaction and Parenting Experiences of Mothers and Fathers of Adolescents and Adults With Autism

Sigan L. Hartley,
University of Wisconsin—Madison

Erin T. Barker,
University of Wisconsin—Madison

Marsha Mailick Seltzer, and
University of Wisconsin—Madison

Jan S. Greenberg
University of Wisconsin—Madison

Frank J. Floyd
Georgia State University

Abstract

The association of marital satisfaction with parenting burden and quality of the parent–child relationship was examined in 91 married mothers and fathers of co-residing adolescents and adults with autism spectrum disorders. Within-couple differences between mothers and fathers in how child characteristics related to these parenting experiences were also evaluated. Multilevel modeling was used to control for the dependency in couple data. Marital satisfaction was an important predictor of parenting experiences, particularly for fathers. Mothers reported feeling closer to their son or daughter than did fathers. Fathers' parenting experiences were more strongly impacted by child characteristics than were mothers' parenting experiences. Results emphasized the connection between the marital relationship and parenting experiences and overlapping but unique experiences of mothers and fathers.

Autism spectrum disorders are neurodevelopmental disorders characterized by impairments in communication, social reciprocity, and repetitive–restricted interests and behaviors (American Psychological Association, 2000). Due to the lifelong nature of autism spectrum disorders, mothers and fathers often continue to have active parenting responsibilities in their child's adolescence and adulthood (Krauss, Seltzer, & Jacobson, 2005). Parenting an adolescent or adult with an autism spectrum disorder presents unique challenges, including assisting the individual in navigating complex social relationships, transitioning out of school and into job and community settings, and planning for long-term care. The marital relationship may be a particularly important resource for dealing with these challenges. A spouse is often the primary source of emotional and instrumental support for parenting demands (Belsky, 1984), and this may be particularly true for parents of sons or daughters with an autism spectrum disorder, given their added parenting challenges. The parenting experiences of mothers and fathers also may be impacted by different aspects of the

For correspondence regarding this article, contact Sigan L. Hartley, Assistant Professor, Human Development and Family Studies and Waisman Center, University of Wisconsin—Madison. Middleton Building, 1305 Linden Dr., Madison, WI 53706. hartley@waisman.wisc.edu.

characteristics, functional abilities, and symptoms of their adolescent or adult son or daughter with an autism spectrum disorder. Unfortunately, fathers are infrequently included in research studies, and there is a paucity of comparative studies of parenting experiences in mothers versus fathers of adolescent or adult sons or daughters with an autism spectrum disorder.

Our goals in this study were as follows: (a) to examine differences between mothers and fathersin the impact of marital satisfaction on parenting burden and quality of the parent–child relationship in families of co-residing adolescents and adults with an autism spectrum disorder and (b) to examine the impact of child characteristics, symptoms, and functioning on marital satisfaction and quality of the parent–child relationship in mothers versus fathers. Current services are focused on parents, and, in particular, mothers, and younger children with an autism spectrum disorder. The present study can inform the development of services tailored toward the needs and experiences of mothers and fathers who co-reside with adolescences and adults with an autism spectrum disorder. Marital quality may be a key determinant of successful parental adaptation to the challenges of co-residing with an adolescent or adult son or daughter with an autism spectrum disorder and, therefore, a key target in interventions.

Importance of the Marital Relationship

Quality of the marital relationship in parents of sons or daughters with disabilities has been the focus of numerous research studies. Many of these studies examined the impact of having a son or daughter with a disability on the marital relationship. Some studies have indicated that there is no difference in quality of the marital relationship between parents of children with a disability and parents of children without a disability (e.g., Abbott & Meredith, 1986; Holmbeck et al., 1997; Kazak, 1987), whereas other studies have suggested an adverse effect of having a child with a disability (e.g., Bristol, Gallagher, & Schopler, 1988; Florian & Findler, 2001). Several studies have also examined the child characteristics (e.g., behavior problems) related to high- versus low- quality marital relationships (e.g., Baker, Blacher, & Olsson, 2005; Simmerman, Blacher, & Baker, 2001). However, few studies have examined how the marital relationship affects parenting experiences when the child has a disability.

Quality of the marital relationship is an important determinant of parenting experiences in families with typically developing sons or daughters. Parents in the general population who are in well-functioning marital relationships report less parenting burden or stress than parents in poorly functioning marital relationships (e.g., Belsky, 1984; Benzies, Harrison, & Magill-Evens, 2004). Researchers have also shown that the marital relationship “spills over” into the parent–child relationship. Parents who have better quality marital relationships report better quality parent–child relationships (e.g., Almeida, Wethington, & Chandler, 1999; Krishnakumar & Buehler, 2000; Schoope-Sullivan, Schermer-horn, & Cummings, 2007). There is some evidence that this spillover may be particularly true for fathers (e.g., Belsky, Youngblade, Rovine, & Volling, 1991; Howes & Markman, 1989; Stoneman, Brody, & Burke, 1989).

Quality of the marital relationship has also been shown to be an important determinant of parenting experiences in mothers and fathers of children and adults with intellectual disability. Mothers and fathers who are dissatisfied with their marriage report more parenting burden or stress than those who are satisfied with their marriage (Essex, 2002; Essex & Hong, 2005; Kersh, Hedvat, Hauser-Cram, & Warfield, 2006). Furthermore, researchers have shown that the quality of the marital relationship influences the parent–child relationship in families of sons or daughters with intellectual disability. Floyd and

Zmich (1991) found that positive interactions with one's spouse were related to fewer aversive parent–child exchanges for both mothers and fathers of children with mild to moderate intellectual disability. Essex (2002) similarly found that marital satisfaction was associated with feelings of closeness to the son or daughter in both mothers and fathers of adults with intellectual disability, and there was some indication that this association was stronger in fathers. It is likely that the marital relationship is also an important determinant of the parenting burden and the quality of the parent–child relationship in families with an adolescent or adult with an autism spectrum disorder.

Differences in Parenting Experiences in Mothers Versus Fathers

Little research has compared the parenting experiences of mothers versus fathers of adolescents and adults with an autism spectrum disorder. However, several studies have examined mother–father differences in parents of younger children with an autism spectrum disorder or other developmental disability (e.g., Hastings, Kovshoff, Ward, Espinosa, Brown, & Remington, 2005; Moes, Koegel, & Scheibon, 1992; Pottie, Cohen, & Ingram, 2008). The results of these studies have suggested that there are important mother–father differences in parenting experiences. In families with younger children with an autism spectrum disorder, mothers have often reported more parenting burden or stress than fathers (Beckman, 1991; Moes et al., 1992; Sharpley, Bitsika, & Efremidis, 1997). However, this difference has not always been found (Davis & Carter, 2008; Hastings et al., 2005; Pottie & Ingram, 2008; Rimmerman, Turkel, & Crossman, 2003). Studies have also found differences between mothers and fathers in the quality of the parent–child relationship. Fathers have been found to have more distant relationships with their child with intellectual disability than mothers (Beckman, 1991; Bristol et al., 1988; McConachie, 1989; Pruchno & Patrick, 1999). It is not known whether this difference between mother–child and father–child closeness also occurs when the son or daughter with an autism spectrum disorder is an adolescent or adult.

The distinct parenting experiences of mothers and fathers may also be differentially influenced by child characteristics. The quality of the father–child relationship has been shown to be more strongly impacted by the child's level of functioning, atypical language, and behavior problems than the mother–child relationship in families of young children with developmental disabilities (Bristol et al., 1988; McConachie, 1989) and in a study of families of adults with intellectual disabilities (Essex, 2002). More specifically, fathers reported more distant and less positive relationships with their son or daughter when they were considered lower functioning and had more behavior problems, whereas a similar pattern was not seen in the mother–child relationship. The degree to which this pattern also occurs in families with an adolescent or adult with an autism spectrum disorder remains unknown. The nature of parenting an adolescent or adult with an autism spectrum disorder differs from parenting a young child; parents are faced with their own challenges related to aging into mid- to later life and are dealing with their son's or daughter's challenges, such as transitioning out of school and into work and community activities. Parenting an adolescent or adult with an autism spectrum disorder also differs from that of parenting an adult with another type of developmental disability; the distinct profile of symptoms and deficits associated with autism spectrum disorders has been shown to be particularly stressful to parents (e.g., Abbeduto et al., 2004; Kasari & Sigman, 1997).

In this study, we examined the impact of marital satisfaction on parenting burden and feelings of closeness with the son or daughter in 91 married couples co-residing with their adolescent or adult son or daughter with an autism spectrum disorder. We also examined differences between mothers and fathers in the impact of child variables on parenting burden and feelings of closeness with the affected son and daughter. Based on past research, we

tested the following hypotheses: (a) Mothers compared with fathers will report higher levels of parenting burden and feel closer to their adolescent or adult son or daughter with an autism spectrum disorder; (b) marital satisfaction will be negatively related to parenting burden and positively related to feelings of closeness with the relevant son or daughter, particularly for fathers; and (c) closeness in the father–child relationship will be more strongly impacted by the functioning level of the son or daughter with an autism spectrum disorder (i.e., presence of intellectual disability and poor health) and severity of autism symptoms of the son or daughter than in the mother–child relationship.

Method

Participants

Analyses for this study were based on 91 married couples co-residing with their adolescent or adult son or daughter with an autism spectrum disorder. The data were drawn from an ongoing longitudinal study of 406 families of adolescents and adults with an autism spectrum disorder in Massachusetts and Wisconsin (for detailed description of participant recruitment and selection, see Lounds, Seltzer, Greenberg, & Shattuck, 2007; Shattuck et al., 2007). This study is based on data from the second wave of data collection, in 2000–2001. We focus on Time 2 data because this was the only point when we administered measures of marital satisfaction to both mothers and fathers.

All adolescents and adults had received an autism spectrum disorder diagnosis (i.e., autistic disorder, Asperger disorder, or pervasive developmental disorder, not otherwise specified [PDDNOS]) from an educational or health professional and had a research-administered Autism Diagnostic Interview—Revised (ADI-R; Lord, Rutter, & Le Coutuer, 1994) profile consistent with the diagnosis. Nearly all (94.6%) of the adolescents and adults met lifetime criteria for a diagnosis of autistic disorder, with the remainder meeting criteria for other autism spectrum disorders. Families were recruited through service agencies, schools, and clinics.

Of the families of the 406 adolescents and adults with an autism spectrum disorder, 22 decided not to continue in the study at Time 2, 18 could not be located, and 5 experienced the death of either the primary respondent or son or daughter and, thus, were no longer included in the study. Of the families continuing to participate, parents of 249 adolescents and adults with an autism spectrum disorder were married at Time 2. Although the primary respondent in our study was the mother, we invited fathers to also complete self-administered measures at Time 2. The present analysis is based on the 91 married couples in which fathers participated in the study at Time 2 and whose son or daughter with an autism spectrum disorder continued to live at home.

Independent *t* tests were conducted to examine differences between the 91 families in the present study and the 74 families for whom parents were married and co-resided with the son or daughter with an autism spectrum disorder at Time 2 but fathers declined to participate in the study. In the 91 families included in the present study, fathers were in better health, $t(164) = 2.09$, $p = .04$, than in the 74 families not included, as rated by mothers. There were not significant differences between the families included and not included in variables such as the son or daughter's age, health, behavior problems as assessed through maternal ratings on the Scales of Independent Behaviors—Problem Behavior Scale (Bruininks, Woodcock, Weatherman, & Hill, 1996), or severity of autism symptoms based on maternal report using the ADI-R. In addition, there were not significant differences between the families included and not included in this study in terms of parent age, ethnicity, education, employment status, or family income, or in maternal ratings of

parenting burden, closeness to their son or daughter with an autism spectrum disorder, or marital satisfaction.

The characteristics of the adolescents and adults with an autism spectrum disorder in this study are presented in Table 1. Sixty-four (70.3%) were male and 27 (29.7%) were female; they ranged in age from 11 to 46 years. More than half (58.2%) also had a diagnosis of intellectual disability. More than three fourths (86.8%) of the adolescents and adults with an autism spectrum disorder spent 21 or more hours per week in structured activities out of the family home. A pattern of multiple activities was prominent; 69 adolescents and adults attended school, 16 were employed, 8 were involved in workshops, 8 attended day activity programs, 9 participated in community activities, 11 were involved in volunteering activities, and 10 had other day activities. Half (49%) of the of the adolescents and adults with an autism spectrum disorder were rated as having a General Maladaptive Sum Score in the *marginally serious* to *very serious* range on the Scales of Independent Behavior—Revised (SIB-R; Bruininks, Woodcock, Weatherman, & Hill, 1996). On average, the adolescents or adults with an autism spectrum disorder were rated by the mothers as having *good* to *excellent* health.

The majority of families (92.3%) consisted of the biological parents of the son or daughter with an autism spectrum disorder. However, 1 (1.1%) family consisted of an adoptive mother and father who had adopted their son as an infant. Six (6.6%) families consisted of the biological mother and a stepfather. Stepfathers had known the son or daughter between 7 to 19 years (M = 13.23 years, SD = 4.03 years) at the time of data collection. Mothers ranged in age from 33 to 73 years (M = 48.17, SD = 7.32), and fathers ranged in age from 36 to 78 years (M = 50.97, SD = 7.95). The large majority of mothers (98.9%) and fathers (97.8%) were Caucasian. As shown in Table 1, most of these mothers and fathers had graduated from college (53.8% and 65.9%, respectively). The majority of the families (62.1%) reported a household income equal to or greater than $60,000.

Procedure and Measures

Information on parenting burden, closeness to son or daughter with an autism spectrum disorder, and marital satisfaction was collected from mothers and fathers through independently completed self-report questionnaires. Mothers also participated in a 2- to -3-hr, in-home interview, in which they reported on characteristics of their son or daughter.

Parenting burden—Mothers and fathers independently completed the Burden Interview (Zarit, Reever, & Bach-Peterson, 1980). This measure assessed parents' subjective perception of the personal difficulty and distress associated with their parenting role as well as objective burden related to caretaking. The Burden Interview consisted of 29 items rated on a 4-point scale from 0 9 (*not at all*) to 3 (*extremely*). Sample items include, "Because of my involvement with my son/daughter, I don't have enough time for myself," and "I feel that in the past, I haven't done as much for my son/daughter as I could have or should have." The total score was used to assess participants' subjective level of parenting burden. The Burden Interview has strong reliability and concurrent validity (Vitaliano, Young, & Russo, 1991). In this sample, the Cronbach's alphas for the total score were .89 and .86 for mothers and fathers, respectively.

Closeness to son or daughter—Parents' feelings of closeness to their son or daughter with an autism spectrum disorder were assessed through the Positive Affect Index (Bengtson & Schrader, 1982). Mothers and fathers independently completed the 10-item scale; 5 five items asked the parent to rate their feelings of trust, intimacy, understanding, fairness, and respect toward their son or daughter, and the other 5 items asked for the parent's perception

of the extent to which their son or daughter displayed feelings of trust, intimacy, understanding, fairness, and respect toward them. Items were rated on a 6-point scale, from 1 (*not at all*) to 6 (*extremely*). The items were summed to create a total score that represented the degree to which the parent perceived emotional closeness between him- or herself and the son or daughter. The Positive Affect Index has strong construct and discriminant validity in parents of typically developing children (Bengtson & Allen, 1993; Bengtson & Schrader, 1982). This index also has high internal consistency in mothers (.89) and fathers (.91) of adults with intellectual disability (Essex, 2002). In this sample, the Cronbach's alphas for the total score were .89 and .85 for mothers and fathers, respectively.

Marital satisfaction—The Marital Satisfaction Questionnaire for Older Persons (MSQFOP; Haynes et al., 1992) was used to measure marital satisfaction. A total score based on 17 of the 20 items in the MSQFOP was used in this study. Items in the total score included satisfaction with spousal communication, companionship, and health. Parents rated items using a 6-point scale ranging from 1 (*very dissatisfied*) to 6 (*very satisfied*), such that higher scores reflected greater marital satisfaction. Examples of items included, "The frequency with which my wife/husband and I have pleasant conversations," and "How well my wife/husband listens to me." The MSQFOP score has high test–retest reliability (.84) and good criterion-related validity (Haynes et al., 1992). In this sample, the Cronbach's alphas for the total MSQFOP score were .94 and .93 for mothers and fathers, respectively.

Parent demographics—Parent gender was coded as male (1) and female (−1). Parent education was included in analyses because past research has shown it to be an important determinant of parenting experiences (e.g., Essex, 2002). Education was coded as *less than college graduate* (0) and *college graduate and beyond* (1). We also conducted multilevel modeling (MLM), including household income as a Level 2 indicator of socioeconomic status. However, results did not differ, and, thus, this variable was not included in the final models.

Characteristics of the son or daughter with autism spectrum disorder—We examined several characteristics of the son or daughter with an autism spectrum disorder, including age, gender, diagnosis of an intellectual disability, number of hours spent outside of the family home, health, and severity of autism symptoms. Age was coded in years. Gender was coded as *male* (0) and *female* (1). Intellectual disability was determined by assessing cognitive functioning on the Wide Range Intelligence Test (Glutting, Adams, & Sheslow, 2000) and adaptive behavior on the Vineland Adaptive Behavior Scale (Sparrow, Carter, & Cicchetti, 1993). Individuals with scores above 75 on both measures were classified as not having intellectual disability, and those with scores below 75 on both measures were classified as having intellectual disability. For sample members with scores below 75 on only one of the two measures, or for whom there were missing data, a review of available records (historical standardized assessments; parent report of prior diagnoses; clinical and school records) and a clinical consensus procedure was used to determine intellectual disability status. The number of hours the son or daughter with an autism spectrum disorder spent outside of the family home each week was based on the hours he or she spent in structured day activities and was coded as follows: 0–10 hr per week (0); 11–20 hr per week (1); 21–30 hr per week (2); 31–40 hr per week (3); and 41–50 hr per week (4).

Mothers rated their child's health using the single item, "How would you rate the overall health of your child at the present time?" A 4-point rating scale, ranging from 1 (*poor*) to 4 (*excellent*) was used. In a meta-analysis of 27 studies, such ratings of health were valid assessments of morbidity and predictive of mortality across a variety of populations (Idler & Benjamini, 1997).

The son or daughter's autism symptoms were evaluated using ratings of current functioning on the ADI-R. Interviews with mothers included 33 items from the ADI-R diagnostic algorithm applicable to adolescents and adults. Interviewers participated in an approved ADI-R training program, and interrater agreement between interviewers and two supervising psychologists averaged 88%. In previous research, the ADI-R diagnostic algorithms had good test–retest reliability, diagnostic validity, convergent validity, and sensitivity and specificity (Hill et al., 2001; Lord et al., 1997). Individual ADI-R items are scored on an ordinal scale. For the present analysis, we recoded each item to reflect either *no impairment* (0, corresponding to an ADI-R code of 0) or *some degree of impairment* (1, corresponding to an ADI-R code of 1, 2, or 3). This coding strategy has been used previously (Fecteau, Mottrun, Berthiaume, & Burack, 2003; Shattuck et al., 2007) and allowed us to capture the qualitative difference between having and not having a given autism symptom. A summary score was calculated by summing the Communication, Social Reciprocity, and Repetitive Behaviors/Stereotyped Interest domain scores. Verbal items were excluded from this summary score so that data from nonverbal sons–daughters with an autism spectrum disorder could be included.

Data Analysis Plan

Interspouse correlations were conducted to examine the degree of correspondence in mothers' and fathers' ratings of parenting burden, closeness to the son or daughter with an autism spectrum disorder, and marital satisfaction. Analyses were then conducted to identify similarities and differences between mothers and fathers in the impact of marital satisfaction and child characteristics on parenting burden and feelings of closeness to the son or daughter. Data from married couples are typically considered to be nonindependent observations, as the emotions and experiences of one spouse often affect the emotions and experiences of the other spouse (Kelley et al., 2003; Kelley & Thibaut, 1978). To examine the degree of nonindependence between the data from mothers and fathers in our study, we calculated interclass correlations to determine the extent to which variance in our dependent variables was due to between-couples versus within-couple variance. For parenting burden, 52.03% of the variance was due to between-couples factors whereas 47.07% was due to within-couple factors. For feelings of closeness with one's son or daughter, 51.76% of the variance was due to between-couples factors and 48.23% was due to within-couple factors. Given the nonindependence in the data from mothers and fathers, we used a MLM approach (Raudenbush & Bryk, 2002; Singer & Willett, 2003) because it enabled us to treat parents as being nested in married couples and, thus, account for multiple sources of variance, including both the between- and within-couple variance in examining mother–father differences in parenting experience (Raudenbush & Bryk, 2002; Snijers & Bosker, 1999).

Multilevel models using HLM 6.0 software (Raudenbush, Bryk, Cheong, & Congdon, 2004) were separately run to examine our outcomes, parenting burden and closeness in the parent–child relationship. In both MLM analyses, the Level 1 (parent-level) variables included parent gender, parent education, and marital satisfaction. The Level 2 (couple-level) variables included the following characteristics of the son or daughter with an autism spectrum disorder: age, gender, presence of intellectual disability, and severity of autism symptoms. Effect coding was used for parent gender (*mothers* = −1, *fathers* = 1), and all other variables were grand-mean centered (see Snijers & Bosker, 1999). Thus, the mean coefficients represent the average parenting burden or closeness to son or daughter with an autism spectrum disorder for the couple and the average difference in parenting burden or closeness to son or daughter, given each of the child characteristic variables. Level 1 slopes were constrained, whereas Level 1 intercepts and Level 2 slopes and

Results

Interspouse Correlations

Table 2 presents the means, standard deviations, ranges, and interspouse correlations for mother and father ratings of parenting burden, closeness to the son or daughter with an autism spectrum disorder, and marital satisfaction. The interspouse correlations for these variables were significant, but the magnitude of the correlations indicated low consistency across spouses for parenting burden and moderate to strong consistency across spouses for perceptions of emotional closeness in the parent–child relationship and marital satisfaction.

Prediction of Parenting Burden

Table 3 presents the results of the MLM analysis for parenting burden. In contrast to our prediction, there was not a significant main effect of parent gender on parenting burden. In support of our hypothesis, there was a significant main effect of marital satisfaction on parenting burden; across all couples, when the other predictors were at their mean value, parents with less than average marital satisfaction experienced more parenting burden than parents with above average marital satisfaction. The interaction effect of parent gender and marital satisfaction in predicting parenting burden was not significant.

There was a significant main effect of the child age on parenting burden; across all couples, when the other predictors were at their mean value, parenting burden was higher for parents with younger (i.e., adolescents) sons or daughters with an autism spectrum disorder than those with older (i.e., adults) sons or daughters with an autism spectrum disorder. There was a significant interaction between child health and parent gender in predicting parenting burden. As depicted in Figure 1, parent gender moderated the impact of child health on parenting burden, such that poor child health contributed more strongly to parenting burden for fathers than for mothers. The overall pseudo R^2 indicated that 30% of the variance in parenting burden was accounted for by the model.

Prediction of Closeness to the Son or Daughter With an Autism Spectrum Disorder

Table 3 also presents the results of the MLM analysis for predicting parents' feelings of closeness to the son or daughter with an autism spectrum disorder. In line with our hypothesis, there was a significant main effect of parent gender on feelings of closeness to the son/daughter with an autism spectrum disorder. In reference to the overall mean, when the other predictors are at their mean value, mothers reported having a closer relationship than fathers. There was not a significant main effect of marital satisfaction on parent–child emotional closeness. However, as predicted, there was a significant interaction between parent gender and marital satisfaction on parent–child emotional closeness. This moderating effect is illustrated in Figure 2. Across all parent dyads, fathers with above-average marital satisfaction perceived having a closer parent–child relationship than fathers with below-average marital satisfaction, whereas the perceived closeness in the mother–child relationship was not impacted by marital satisfaction.

There were two significant main effects of child characteristics on perceptions of emotional closeness with the son or daughter with an autism spectrum disorder. With regard to the overall mean when the other predictors were at their mean value, poorer child health and a higher severity of autism symptoms were predictive of lower ratings of closeness. In addition, there was a significant interaction between parent gender and child age on perceptions of emotional closeness to the son or daughter. This moderating effect is illustrated in Figure 3 and suggested that the mother–child relationship was largely unaffected by child age during these later developmental stages, whereas fathers of adults with an autism spectrum disorder experienced a closer parent–child emotional relationship

than did fathers of adolescents with an autism spectrum disorder. There was also a significant interaction between parent gender and the amount of time that the son or daughter spent out of the family home. This moderating effect is illustrated in Figure 4 and suggested that, although mothers experienced a closer parent–child relationship when their adolescent or adult son or daughter with an autism spectrum disorder spent more time at home, fathers experienced a closer parent–child relationship when their adolescent or adult son or daughter with an autism spectrum disorder spent less time at home. The overall pseudo R^2 indicated that 32% of the variance in feelings of emotional closeness with the son or daughter was accounted for by the model.

Discussion

We found the marital relationship in this study to be an important resource for helping mothers and fathers handle the challenges of parenting an adolescent or adult son or daughter with an autism spectrum disorder. We examined the relation between quality of the marital relationship and parenting experiences in married mothers and fathers of adolescents and adults with an autism spectrum disorder. Consistent with our hypothesis, across all parent dyads, parents with above-average marital satisfaction were less burdened by their adolescent or adult son or daughter with the disorder than parents with below-average marital satisfaction. This finding supports previous research on families with typically developing sons or daughters (e.g., Belsky, 1984; Benzies et al., 2004). A good marital relationship is a source of support that is related to lower levels of parenting burden. In contrast, a poor marital relationship may be an added difficulty and source of distress for parents and, thus, associated with heightened parenting burden. Marital satisfaction was also related to feelings of emotional closeness in the father–child relationship but not in the mother–child relationship. This finding is consistent with previous reports of parents of typically developing children (e.g., Beckman, 1991; Pruchno & Patrick, 1999) and suggests that in the face of marital dissatisfaction, fathers become more distant from their adolescent or adult son or daughter with an autism spectrum disorder, whereas mothers relationship with their son or daughter is much less affected by marital quality. However, future longitudinal studies are needed to confirm the direction of this relation, because it is also plausible that in the face of distant parent–child relationships, fathers experience marital dissatisfaction.

In this study, we also examined differences between mothers and fathers of adolescents and adults with an autism spectrum disorder in parenting experiences and the child variables related to these parenting experiences. Consistent with our hypothesis, mothers reported feeling closer to their adolescent or adult son or daughter with an autism spectrum disorder than fathers. In contrast to our prediction, mothers and fathers reported comparable levels of parenting burden. Although our prediction of increased parenting burden in mothers, as opposed to fathers, was based on evidence for this pattern in several previous studies of parents of younger children with an autism spectrum disorder (Beckman, 1991; Moes, Koegel, & Scheibmon, 1992; Sharpley, Bitsika, & Efremidis, 1997), not all studies have found significant differences in parenting burden or stress between mothers and fathers (e.g., Davis & Carter, 2008; Pottie & Ingram, 2008; Rimmerman et al., 2003). Additional research is needed to understand the extent to which this discrepancy is related to differences in sample characteristics (e.g., age), study design, analytic strategy (e.g., MLM versus regression), or secular trends across studies.

In the present study, there was a general pattern for the parenting experiences of fathers to be more sensitive to child characteristics than the parenting experiences of mothers. In our sample, closeness in the father–child relationship was related to child age, such that fathers of adults with an autism spectrum disorder felt closer to their son or daughter than did

fathers of adolescents. In contrast, feeling of closeness in the mother–child relationship was relatively unaffected by child age. Additional longitudinal research is needed to understand the mechanisms that are driving the suggested pattern for fathers to have a closer relationship to their son or daughter with an autism spectrum disorder as they enter their adult years. In families of children with disabilities, the division of labor has been shown to be traditional, with fathers assuming the role of being the economic provider (e.g., Bristol et al., 1988; Essex et al., 1999). As fathers age into mid- to later life, they may become more financially secure and subsequently devote more of their attention and time to their adult son or daughter.

Parent gender also moderated the impact of child health on parenting burden; fathers were more burdened by their adolescent or adult son or daughter's poor health than were mothers. In addition, closeness in the mother–child relationship was unaffected by the amount of time that the son or daughter with an autism spectrum disorder spent out of the family home; however, fathers reported having a closer father–child relationship when the adolescent or adult spent more time out of the family home. Thus, for fathers who co-reside with their adolescent or adult son or daughter with an autism spectrum disorder, having the son or daughter spend time away from the home and in day activities appears to help facilitate a closer father–child relationship. In contrast to our prediction and findings from families of younger children (Bristol et al., 1988; McConachie, 1989) and adults (Essex, 2002) with other types of developmental disabilities, the presence of intellectual disability and severity of autism symptoms appeared to similarly influence mothers and fathers of adolescents and adults with an autism spectrum disorder.

There were several significant main effects of child characteristics on parenting burden and perception of closeness to the son or daughter with an autism spectrum disorder that were found for both mothers and fathers. Age was negatively related to parenting burden, such that parents of adolescents reported more burden than parents of adults. This finding is consistent with previous reports that adolescence may be a particularly stressful period for parents of sons or daughters with developmental disabilities given the transitions (e.g., transitioning from school to community placements) occurring during this period (e.g., Blacher, 2001). The health of the adolescent or adult with an autism spectrum disorder was also related to feelings of closeness in the parent–child relationship, with better health being related to feeling closer to the son or daughter. In addition, having less severe autism symptoms was related to having a closer parent–child relationship across mothers and fathers.

It is important to note that the direction of the causal effects among marital satisfaction, child characteristics, and parenting experiences cannot be determined from this study, because measures of fathers' marital satisfaction were collected at only one time point. Future longitudinal studies are needed to understand the likely bidirectional relations among these variables. Marital satisfaction of parents is likely to both contribute to and be influenced by parenting burden and closeness in the parent–child relationship. Future studies will also need to examine the specific mechanism accounting for the link between quality of the marital relationship and parenting experiences in families of adolescents and adults with an autism spectrum disorder. For example, parenting alliance as well as specific parenting behaviors (e.g., behavioral control and psychological autonomy and warmth) have been shown to be important factors linking quality of the marital relationships to parenting experiences in typically developing families and families of children with intellectual disability (e.g., Floyd, Gilliom, & Costigan, 1998; Floyd & Zmich, 1991; Schoppe-Sullivan et al., 2007). Alternative measures of the quality of the marital relationship are also needed in future studies. For example, interpersonal conflict, which was not measured in the present study, may be a particularly important component of poor-quality marriages that impact

parenting experiences. Moreover, in this study, we assessed satisfaction with spousal communication, companionship, and health using the MSQFOP (Haynes et al., 1992). Other aspects of marital quality not assessed in this measure may be relevant to parenting experiences.

There are additional limitations to this study. Mothers reported on the autism symptoms of the adolescent and adult sons or daughters with an autism spectrum disorder. Thus, these ratings may not be representative of fathers' experience of their son or daughter's autism symptoms. How-ever, autism symptoms were assessed by the ADI-R (Lord et al., 1994), in which trained interviewers obtain detailed descriptions of the son or daughter's behavior and scored each item on the basis of these descriptions rather than relaying on maternal ratings. This procedure may have reduced the likelihood that maternal perceptions biased the ratings. Nevertheless, in future studies, researchers should obtain independent ratings of child characteristics from fathers as well as mothers. Moreover, the amount of time that parents spent with their son or daughter with an autism spectrum disorder was not measured and likely accounts for some of the observed variance in parenting experiences. This study involved married couples, which may have restricted the range in marital satisfaction ratings. Couples with very low marital satisfaction may have separated–divorced and/or fathers may have selected out of this study. However, there was not a significant difference in mother's ratings of marital satisfaction between the 91 married mothers in this study and the 158 married mothers for whom fathers did not participate in the study. In addition, 1 family in this study consisted of an adoptive mother and father and 6 families consisted of a biological mother and stepfather. However, the parents had adopted the son or daughter as an infant, and the stepfathers had been involved in the son or daughter's lives for between 7 and 19 years. When these 7 families were excluded from analyses, results remained the same. Another limitation to the sample is that families were predominately Caucasian, limiting the generaliz-ability of findings.

There are also many strengths of this study, including the large sample of mothers and fathers and the use of a MLM approach for dealing with the nonindependence in the data of married mothers and fathers. Findings from this study underscore the importance of taking a broader family perspective when examining the interrelations between the quality of the marital relationship and parenting experiences to better understand the overlapping yet unique needs of mothers and fathers of adolescents and adults with an autism spectrum disorder. Findings suggest that interventions that enhance parents' marital relationship (e.g., helping parents carve out private, "couple time" or to effectively communicate about their needs and wants) may be important for reducing parenting burden and enhancing the father–child relationship in families of adolescents and adults with an autism spectrum disorder. Overall, the parenting experiences of fathers were more sensitive to child characteristics than were the parenting experiences of mothers.

Acknowledgments

This manuscript was prepared with support from the National Institute on Aging (R01 AG08768 to M. Seltzer), the National Institute on Child Health and Human Development (P30 HD03352 to M. Seltzer, T32 HD07489 to L. Abbedduto), and the Autism Society of South-eastern Wisconsin. We are grateful to the families who participated in this study for their continued support of our research.

References

Abbeduto L, Seltzer MM, Shattuck P, Krauss MW, Orsmond G, Murphey M. Stress and coping in mothers of youths with Down syndrome, autism, and Fragile X syndrome. American Journal on Mental Retardation. 2004; 109:237–254. [PubMed: 15072518]

Abbott DA, Meredith WH. Strengths of parents with retarded children. Family Relations. 1986; 35:371–375.

Almeida DM, Wethington E, Chandler A. Daily spillover between marital and parent-child conflict. Journal of Marriage and the Family. 1999; 61:49–61.

American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th Edition, text revision. American Psychiatric Association; Washington, DC: 2000.

Baker BL, Blacher J, Olsson MB. Preschool children with and without developmental delay: Behaviour problems, parents' optimism and well-being. Journal of Intellectual Disability Research. 2005; 49:575–590. [PubMed: 16011551]

Beckman PJ. Comparison of mothers' and fathers' perceptions of the effect of young children with and without disabilities. American Journal on Mental Retardation. 1991; 95:585–595. [PubMed: 2043351]

Belsky J. The determinants of parenting: A process model. Child Development. 1984; 52:83–96. [PubMed: 6705636]

Belsky J, Youngblade L, Rovine M, Volling B. Patterns of marital change and parent-child interaction. Journal of Marriage and the Family. 1991; 53:487–498.

Bengtson, VL.; Allen, KR. The life course perspective applied to families over time. In: Boss, P.; Doherty, W.; LaRossa, R.; Schumm, W.; Steiinmetz, S., editors. Sourcebook of family theories and methods: A contextual approach. Plenum Press; New York: 1993. p. 469-498.

Bengston, V.; Schrader, S. Parent-child relations. In: Mangen, D.; Peterson, W., editors. Research instruments in social gerontology. Vol. Volume 2: Social roles and social participation. University of Minnesota Press; Minneapolis: 1982. p. 115-185.

Benzies KM, Harrison MJ, Magill-Evan J. Parenting stress, marital quality and child behavior problems at age 7 years. Public Health Nursing. 2004; 21:111–121. [PubMed: 14987210]

Blacher J. Transition to adulthood: Mental retardation, families, and culture. American Journal on Mental Retardation. 2001; 106:173–188. [PubMed: 11321608]

Bristol MM, Gallagher JJ, Schopler E. Mothers and fathers of young developmentally disabled and nondisabled boys: Adaptation and spousal support. Developmental Psychology. 1988; 24:441–451.

Bruininks, RH.; Woodcock, R.; Weatherman, R.; Hill, B. Scales of Independent Behavior—Revised. Riverside; Chicago: 1996.

Campbell L, Kashy DA. Estimating actor, partner, and interaction effects for dyadic data using PROC MIED and HLM: A user-friendly guide. Personal Relationships. 2002; 9:327–342.

Cook WL, Kenny DA. The actor-partner interdependence model: A model of bidirectional effects in developmental studies. International Journal of Behavioral Development. 2005; 29:101–109.

Davis NO, Carter AS. Parenting stress in mothers and fathers of toddlers with autism spectrum disorders: Associations with child characteristics. Journal of Autism and Developmental Disorders. 2008; 38:1278–1291. [PubMed: 18240012]

Essex EL. Mothers and fathers of adults with mental retardation: Feelings of intergenerational closeness. Family Relations. 2002; 51:156–165.

Essex EL, Hong J. Older caregiving parents: Division of household labor, marital satisfaction, and caregiving burden. Family Relations. 2005; 54:448–460.

Fecteau S, Mottrun L, Berthiaume C, Burack JA. Developmental changes in autistic symptoms. Autism. 2003; 7:255–268. [PubMed: 14516059]

Florian V, Findler L. Mental health and marital adaptation among mothers of children with cerebral palsy. American Journal of Orthopsychiatry. 2001; 71:358–367. [PubMed: 11495338]

Floyd FJ, Gilliom LA, Costigan CL. Marriage and the parenting alliance: Longitudinal prediction of change in parenting perceptions and behaviors. Child Development. 1998; 69:1461–1479. [PubMed: 9839428]

Floyd FJ, Zmich DE. Marriage and the parenting partnership: Perceptions and interactions of parents with mentally retarded and typically developing children. Child Development. 1991; 62:1434–1448. [PubMed: 1786726]

Glutting, J.; Adams, W.; Sheslow, D. Wide Range Intelligence Test. Wide Range; Wilmington, DE: 2000.

Greenberg JS, Seltzer MM, Krauss MM, Kim H-W. The differential effects of social support on the psychological well-being of aging mothers of adults with mental illness or mental retardation. Family Relations. 1997; 46:383–394.

Greenberg JS, Seltzer MM, Greenley JR. Aging parents of adults with disabilities: The gratifications and frustrations of later-life caregiving. The Gerontologist. 1993; 33:542–550. [PubMed: 8375685]

Hastings RP. Child behaviour problems and partner mental health as correlates of stress in mothers and fathers of children with autism. Journal of Intellectual Disability Research. 2003; 47:231–237. [PubMed: 12787155]

Hastings RP, Kovshoff H, Ward NJ, Espinosa FD, Brown T, Remington B. System analysis of stress and positive perceptions in mothers and fathers of preschool children with autism. Journal of Autism and Developmental Disorders. 2005; 35:635–644. [PubMed: 16177837]

Haynes SN, Floyd FJ, Lemsky C, Rogers E, Winemiller D, Werle M, et al. The Marital Satisfaction Questionnaire for Older Persons. Psychological Assessment. 1992; 4:473–482.

Hill A, Bolte S, Petrova G, Beltcheva D, Tacheva S, Poustka F. Stability and interpersonal agreement of the interview-based diagnosis of autism. Psychopathology. 2001; 34:187–191. [PubMed: 11549928]

Holmbeck GN, Gorey-Ferguson L, Hudson T, Seefeldt T, Shapera W, Turner T, et al. Maternal, paternal, and marital functioning in families of preadolescents with spina bifida. Journal of Pediatric Psychology. 1997; 22:167–181. [PubMed: 9114641]

Howes P, Markman HJ. Marital quality and child functioning: A longitudinal investigation. Child Development. 1989; 60:1044–1052. [PubMed: 2805882]

Idler EL, Benjamini Y. Self-rated health and mortality: A review of twenty-seven community studies. Journal of Health and Social Behavior. 1997; 38:21–39. [PubMed: 9097506]

Jaccard, J.; Turrisi, R.; Wan, C. Interaction effects in multiple regression. Sage; Newbury Park, CA: 1990.

Kasari C, Sigman M. Linking parental perceptions to interactions with young children with autism. Journal of Autism and Developmental Disorder. 1997; 27:39–57.

Kazak AE. Families with disabled children: Stress and social networks in three samples. Journal of Abnormal Child Psychology. 1987; 15:137–146. [PubMed: 3553273]

Kelley, HH.; Holmes, JG.; Kerr, N.; Reis, HT.; Rusbult, CE.; van Lange, PAM. An atlas of interpersonal situations. Cambridge University Press; Cambridge, UK: 2003.

Kelley, HH.; Thibaut, J. Interpersonal relations: A theory of interdependence. Wiley; New York: 1978.

Kenny, D.; Kashy, D.; Cook, W. Dyadic data analysis. Guilford Press; New York: 2006.

Kersh J, Hedvat TT, Hauser-Cram P, Warfield ME. The contribution of marital quality to the well-being of parents of children with developmental disabilities. Journal of Intellectual Disability Research. 2006; 50:883–893. [PubMed: 17100949]

Krauss MW, Seltzer MM, Jacobson HT. Adults with autism living at home or in non-family settings: Positive and negative aspects of residential status. Journal of Intellectual Disability Research. 2005; 49:111–124. [PubMed: 15634320]

Krishnakumar A, Buehler C. Inter-parental conflict and parenting behaviors: A meta-analytic study. Family Relations. 2000; 49:25–44.

Lord C, Pickles A, McLennan M, Rutter M, Bregman J, Folstein S, et al. Diagnosing autism: Analyses of data from the Autism Diagnostic Interview. Journal of Autism and Developmental Disorders. 1997; 27:501–517. [PubMed: 9403369]

Lord C, Rutter M, LeCouteur A. Autism Diagnostic Interview—Revised: A revised version of a diagnostic interview for caregivers of individuals with possible pervasive developmental disorders. Journal of Autism and Developmental Disorders. 1994; 24:659–685. [PubMed: 7814313]

Lounds J, Seltzer MM, Greenberg JS, Shattuck P. Transition and change in adolescent and young adults with autism: Longitudinal effects on maternal well-being. American Journal on Mental Retardation. 2007; 112:401–417. [PubMed: 17963433]

McConachie H. Mothers' and fathers' interaction with their young mentally handicapped children. International Journal of Behavioral Development. 1989; 12:239–255.

Moes D, Koegel RL, Schreibmon L, Loos L. Stress profiles for mothers and fathers of children with autism. Psychological Reports. 1992; 71:1272–1274. [PubMed: 1480714]

Pleck, JH.; Masciadrelli, BP. Paternal involvement by U.S. residential fathers: Levels, sources, and consequences. In: Lam, ME., editor. The role of the father in child development. 4th ed. Wiley; Hoboken, NJ: 2004. p. 222-271.

Pottie CG, Cohen J, Ingram K. Parenting a child with autism: Contextual factors associated with enhanced daily parental mood. Journal of Pediatric Psychology. 2009; 34:419–429. [PubMed: 18794189]

Pottie CG, Ingram KM. Daily stress, coping, and well-being in parents of children with autism: A multilevel modeling approach. Journal of Family Psychology. 2009; 22:855–864. [PubMed: 19102606]

Pruchno R, Patrick JH. Mothers and fathers of adults with chronic disabilities: Caregiving appraisals and well-being. Research on Aging. 1999; 21:682–713.

Raudenbush SW, Brennan RT, Barnett RC. A multivariate hierarchical model for studying psychological change within married couples. Journal of Family Psychology. 1995; 9:161–174.

Raudenbush, SW.; Bryk, SJ. Hierarchical linear models: Applications and data analysis methods. 2nd ed. Sage; Thousand Oaks, CA: 2002.

Raudenbush, SW.; Bryk, AS.; Cheong, YK.; Congdon, R. HLM 6: Hierarchical Linear and Nonlinear Modeling. Scientific Software International; Lincolnwood, IL: 2004.

Rimmerman A, Turkel L, Crossman R. Perception of child development, child-related stress and dyadic adjustment: Pair analysis of married couples of young children with developmental disability. Journal of Intellectual and Developmental Disability. 2003; 25:188–195.

Schoppe-Sullivan SJ, Schermerhorm AC, Cummings M. Marital conflict and children's adjustment: Evaluation of the parenting process model. Journal of Marriage and Family. 2007; 69:1118–1134.

Seltzer MM, Greenberg JS, Krauss MW, Hong J. Predictors and outcomes of the end of co-resident caregiving in aging families of adults with mental retardation or mental illness. Family Relations. 1997; 46:13–22.

Seltzer MM, Krauss MW, Shattuck PT, Orsmond G, Swe A, Lord C. The symptoms of autism spectrum disorders in adolescence and adulthood. Journal of Autism and Developmental Disorders. 2003; 33:565–581. [PubMed: 14714927]

Sharpley C, Bitsika V, Efremidis B. Influence of gender, parental health, and perceived expertise of assistance upon stress, anxiety, and depression among parents of children with autism. Journal of Intellectual and Developmental Disability. 1997; 22:19–28.

Shattuck PT, Seltzer MM, Greenberg JS, Orsmond GI, Bolt D, Kring S, et al. Change in autism symptoms and maladaptive behaviors in adolescents and adults with autism spectrum disorders. Journal of Autism and Developmental Disorders. 2007; 37:1735–1747. [PubMed: 17146700]

Simmerman S, Blacher J, Baker BL. Fathers' and mothers' perceptions of father involvement in families with young children with a disability. Journal of Intellectual and Developmental Disability. 2001; 26:325–338.

Snijders, T.; Bosker, R. Multilvel analysis: An introduction to basic and advanced multilevel modeling. Sage; Thousand Oaks, CA: 1999.

Sparrow, SS.; Carter, AS.; Cicchetti, DV. Vineland Screener: Overview, reliability, validity, administration, and scoring. Yale University Child Study Center; New Haven, CT: 1993.

Stoneman A, Brody GH, Burke M. Marital quality, depression and inconsistent parenting: Relationship with observed mother-child conflict. American Journal of Orthopsychiatry. 1989; 59:105–117. [PubMed: 2929725]

Vitaliano P, Young H, Russo J. Burden: A review of measures used amongcaregivers of individuals with dementia. Gerontologist. 1991; 31:9–14. [PubMed: 2007480]

Zarit SH, Reever KE, Bach-Peterson J. Relatives of the impaired elderly: Correlates of feelings of burden. Gerontologist. 1980; 20:649–655. [PubMed: 7203086]

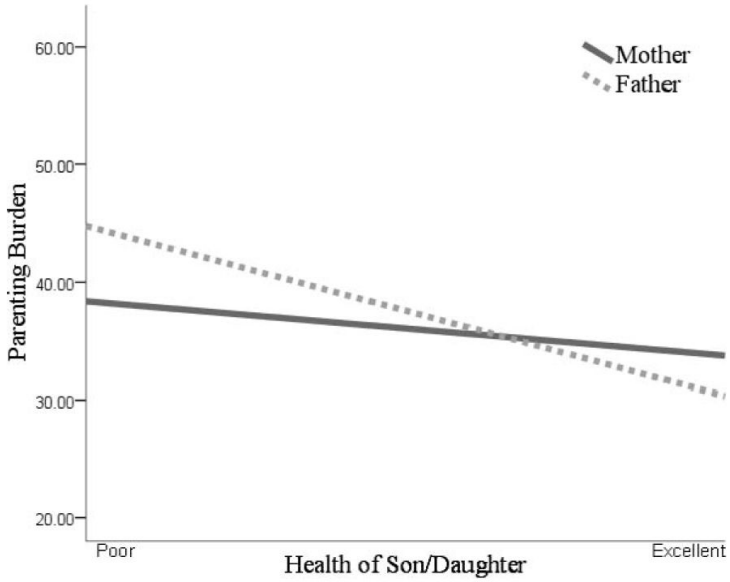

Figure 1.
Interaction of parent gender and health of son or daughter with an autism spectrum disorder in predicting parenting burden.

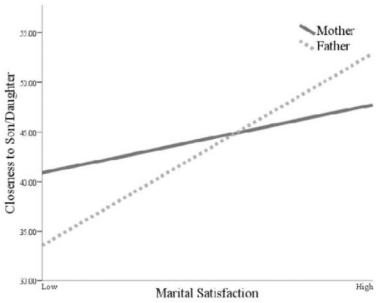

Figure 2.
Interaction of parent gender andmartial satisfaction in predicting perceptions of emotional closeness in the parent–child relationship.

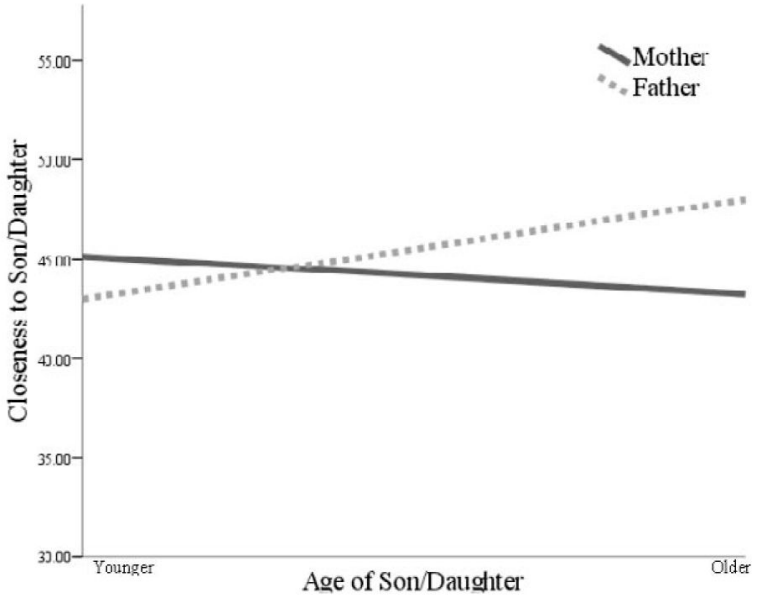

Figure 3.
Interaction of parent gender and age of the son or daughter with an autism spectrum disorder in predicting perceptions of emotional closeness in the parent–child relationship

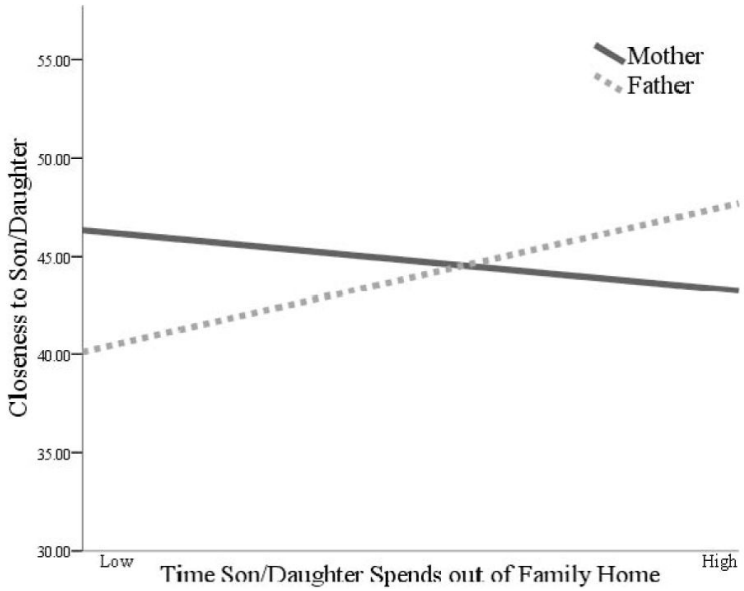

Figure 4.
Interaction of parent gender and time spent out of the family home by the son or daughter with an autism spectrum disorder in predicting perceptions of emotional closeness in the parent–child relationship.

Table 1

Characteristics of Parents and Adolescents–Adults With an Autism Spectrum Disorder

Parental demographics	
Maternal education (*n* [%])	
< College graduate	42 (46.2%)
College graduate or beyond	49 (53.8%)
Paternal education	
< College graduate	31 (34.1%)
College graduate or beyond	60 (65.9%)
Family income	
<$30,000	7 (8.0%)
$30,000–$59,999	26 (29.9%)
≥$60,000	54 (62.1%)
Child demographics	
Age (years)	
M (*SD*)	18.76 (5.57)
Range	11–46
Male (*n* [%])	64 (70.3%)
Intellectual disability (n [%])	
Yes	53 (58.2%)
No	38 (41.8%)
Health	
M (*SD*)	3.33 (0.65)
Range	1–4
ADI-R	
M (*SD*)	24.27 (8.49)
Range	4–40
SIB-R General Maladaptive sum score	
M (*SD*)	112.57 (9.93)
Range	99–148
% marginally serious–very serious	49.50%
Time spent outside of the family home (*n* [%])	
0–10 hrs/week	4 (4.4%)
11–20 hr/week	8 (8.8%)
21–30 hr/week	24 (26.4%)
31–40 hr/week	38 (41.8%)
41–50 hr/week	17 (18.6%)

Note. ADI-R = Autism Diagnostic Interview–Revised (Lord, Rutter, & Le Coutuer, 1994); SIB-R = Scales of Independent Behavior–Revised (Bruininks, Woodcock, Weatherman, & Hill, 1996).

Table 2

Mother–Father Comparisons of Key Variables in Models

	Mothers		Fathers		
	***M* (*SD*)**	**Range**	***M* (*SD*)**	**Range**	**Interspouse *r***
Parenting burden	34.18 (8.23)	18–59	33.97 (8.64)	18–59	.23**
Closeness to son/daughter	44.67 (7.52)	30–60	44.23 (7.57)	23–58	.40**
Marital satisfaction	75.82 (16.34)	38–102	75.61 (16.03)	28–102	.52**

** $p < .01$.

Table 3

Multilevel Model Results

	Parenting burden			Closeness to son/daughter		
	Coefficient	***SE***	***t* ratio**	**Coefficient**	***SE***	***t* ratio**
Intercept	34.04	0.71	48.22***	44.39	0.56	79.59***
Parent characteristics						
Parent gender (PG)	1.22	1.71	0.72	−3.89	1.84	**−2.11***
Marital satisfaction	−0.11	0.04	**−2.97****	0.07	0.04	1.94
Education	0.60	1.47	1.42	1.55	1.25	0.64
PG × Marital Satisfaction	−0.02	0.02	−1.07	0.05	0.02	**2.20***
Child characteristics						
Age	−0.33	0.10	**−3.24****	0.08	0.10	0.75
Gender	−0.04	1.60	−0.03	0.09	1.30	0.07
Intellectual disability	2.77	1.65	1.67	0.70	1.27	0.55
Health	−2.00	1.40	−1.43	2.26	0.84	**2.70****
Autism symptoms	0.10	0.09	1.12	−0.17	0.07	**−2.27***
Time spent out of the family home	−1.05	0.64	−1.65	0.35	0.50	0.50
PG × Age	0.05	0.05	0.96	0.13	0.06	**2.30***
PG × Health	−1.11	0.56	**−2.00***	0.82	0.58	1.42
PG × Time spent out of the family home	−0.50	0.33	−1.48	1.15	0.38	**3.07****

Note. The pseudo R^2 statistics were .30 for parenting burden and .32 for closeness with the son or daughter with an autism spectrum disorder. We reran the model with the inclusion of household income as a Level 2 indicator of socioeconomic status; there was not a significant main effect of household income for parenting burden (coefficient = 0.72, *SE* = 1.20, *t* ratio = 0.69) or closeness to the son/daughter (coefficient = 1.23, *SE* = 1.24, *t* ratio = 0.98), and other findings did not differ.

* $p < .05$.

** $p < .01$.

*** $p < .001$. Boldfaced numbers also denote statistical significance.