NIH Public Access
Author Manuscript
Fam Relat. Author manuscript; available in PMC 2015 December 01.

Published in final edited form as:
Fam Relat. 2014 December ; 63(5): 627–638. doi:10.1111/fare.12093.

Division of Labor in Families of Children and Adolescents with Autism Spectrum Disorder

Sigan L. Hartley,
Human Development and Family Studies and Waisman Center, University of Wisconsin-Madison

Iulia Mihaila,
Human Development and Family Studies and Waisman Center, University of Wisconsin-Madison

Hannah S. Otalora-Fadner, and
Human Development and Family Studies and Waisman Center, University of Wisconsin-Madison

Paige M. Bussanich
Human Development and Family Studies and Waisman Center, University of Wisconsin-Madison

Abstract

Couples who have a child or adolescent with autism spectrum disorder (ASD) are faced with the difficult decision of how to divide childcare responsibilities and paid employment. We examined the division of labor and its relation to parenting stress and marital adjustment in 73 married couples who have a child or adolescent with ASD. Mothers and fathers independently reported on their global level of parenting stress and marital adjustment and then completed a 7-day online daily diary of time spent in childcare, time spent in paid employment, and satisfaction with the time that one's spouse spent in childcare. Overall, couples demonstrated a pattern of partial role specialization in which mothers engaged in more childcare and fathers engaged in more paid employment. Child age was negatively related and degree of disability was positively related to role specialization. Time spent in paid employment and satisfaction with the time that one's spouse spent in childcare had important associations with parenting stress and marital adjustment.

Division of Labor in Families of Children and Adolescents with Autism Spectrum Disorder

Autism spectrum disorder (ASD) is the fastest growing developmental disability, now estimated to occur in 1 in 88 children in the United States (Center for Disease Control and Prevention [CDC], 2012). Children and adolescents with ASD present with impairments in social communication and interaction and restricted and repetitive behaviors (American Psychiatric Association, 2013), and often have co-occurring behavior problems, such as aggressive behavior and inattention (Gadow, DeVincent, Pomeroy, & Azizian, 2004; Hartley, Sikora, McCoy, 2008). In addition, approximately half of children and adolescents with ASD have an IQ in the intellectual disability (ID) range (CDC, 2012). Thus, parents must often manage their son or daughter's autism symptoms and co-occurring behavior problems, assist their son or daughter with ASD with activities of daily living, and navigate and participate in interventions. The financial cost of raising a child or adolescent with ASD

Correspondence concerning this article should be addressed to Sigan Hartley, 4101 Nancy Nicholas Hall, University of Wisconsin-Madison, Madison, WI, 53706. hartley@waisman.wisc.edu.

NIH-PA Author Manuscript
NIH-PA Author Manuscript
NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

is also considerable; families pay an average of $6,000 out of pocket each year on services such as applied behavioral therapy, occupational theory, and speech/ language pathology (Liptak, Stuart, & Auinger, 2006). Couples who have a child or adolescent with ASD must therefore tackle the difficult decision of how to divide childcare responsibilities and paid employment.

To date, little is known about the division of labor and its relation to parenting stress and marital adjustment in couples who have a child or adolescent with ASD. A handful of studies, however, have examined the division of labor in couples who have a child or adolescent with a developmental disability more broadly. Findings from these studies indicate that mothers of young and grown children with developmental disabilities spend less time in paid employment than their peers who have children without developmental disabilities (e.g., Brandon, 2000; Leiter, Krauss, Anderson, & Wells, 2004). Fathers of children and adolescents with developmental disabilities also spend less time in paid employment than their peers who have children without developmental disabilities, but this difference is much smaller (Olsson & Hwang, 2006; Warfield, 2005). In families of children and adolescents with developmental disabilities, mothers have also been shown to take on the lion share of childcare responsibilities (Dyer et al., 2009; Simmerman, Blacher, & Baker, 2001). As a result, a pattern of role specialization (i.e., mother takes on more childcare and father takes on more paid employment) is evident and this pattern is more pronounced than in families of typically developing children and adolescents (e.g., Dyer et al., 2009;Olsson & Hwang, 2006; Warfield, 2005).

One explanation for the pronounced pattern of role specialization in families of children and adolescents with developmental disabilities is the ‘demand-response hypothesis.’ This hypothesis predicts that role specialization is a response to high levels and/or a stressful nature of childcare (Patterson, Sutfin, & Fulcher, 2004). In support of the ‘demand-response hypothesis,’ studies on the general population indicate a shift toward role specialization during the transition to parenthood that lasts through the early childhood years, the period in which childcare demands are highest (e.g., Cowan & Cowan, 1992). There is evidence that the nature of ASD is particularly stressful on parents; parents of children and adolescents with ASD report higher levels of parenting stress and lower levels of psychological well-being than do parents of children and adolescents with other types of developmental disabilities (Abbeduto et al., 2004; Hartley et al., 2012). Factors purported to contribute to the poorer well-being of parents of children and adolescents with ASD include the uncertainty of an ASD diagnosis, the stressful profile of symptoms and behaviors, and a lack of public tolerance for these symptoms and behaviors (Gray & Holden, 1992). Given the stressful nature of ASD, it follows that couples who have a child or adolescent with ASD may be especially likely to exhibit role specialization.

The ‘demand-response hypothesis’ may also be a valuable theory for understanding variability in the division of labor *among* couples who have a child or adolescent with ASD. Specifically, as individuals with ASD grow up and gain independent skills, daily childcare responsibilities often decrease. Thus, couples who have an older son or daughter with ASD may exhibit less role specialization, given reduced childcare demands, than couples who have a younger son or daughter with ASD. Moreover, couples who have a child or

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

adolescent with ASD with a high level of disability (i.e., presence of ID and greater degree of autism symptoms and co-occurring behavior problems) may be more likely to engage in role specialization, given their higher level of childcare demand, than couples who have a child or adolescent with ASD with a low level of disability. In the present study we examine role specialization through mother-father differences in *time spent in childcare* and in *time spent in paid employment*, and its association with child age and level of disability.

Role specialization has been shown to be related to high levels of parenting stress and other indices of poor psychological well-being in mothers in the general population (Coltrane, 2000; Steil, 1997) and in mothers of young and grown children with developmental disabilities (e.g., Heller et al., 1997; Shearn & Todd, 2000). The mechanisms driving these effects, however, are unclear. Three factors have been proposed to account for the negative impact of role specialization on mothers. First, childcare is challenging, particularly in the context of a developmental disability; thus, it has been argued that high levels of childcare put mothers at risk for parenting stress and poor psychological well-being (Heller et al., 1997; Olsson, & Hwang, 2006). Second, absent or low participation in paid employment may contribute to poor outcomes in mothers. Involvement in paid employment has been shown to be positively related to psychological well-being in mothers of children and adolescents with developmental disabilities (Olsson & Hwang, 2006; Shearn & Todd, 2000), perhaps because mothers in paid employment experience buffering effects from having multiple roles (Barnet & Hyde, 2001), and thus are better able to tolerate ‘bad’ parenting days. Third, the negative effect of role specialization may be due to a sense of unfairness by mothers; mothers may resent that they are more involved in childcare than their spouse. In studies of mothers of infants in the general population, satisfaction with the division of labor, regardless of the actual division of labor, predicted maternal psychological well-being (Goldberg & Perry-Jenkins, 2004). Thus, an unequal division of labor may only lead to a high level of parenting stress if mothers are dissatisfied with this arrangement.

In contrast to mothers, role specialization may be related to a lower level of parenting stress in fathers of children and adolescents with ASD. In families of children and adolescents with developmental disabilities, fathers often report a lower level of parenting stress than mothers (e.g., Woodman, 2014; Olsson & Hwang, 2001), and it has been argued that this difference may be explained by fathers’ lower involvement in childcare (Heller et al., 1997; Olsson, & Hwang, 2006). Moreover, number of hours spent in paid employment was found to be positively associated with psychological well-being in a study of Swedish fathers of children with ID (Olsson & Hwang, 2006), perhaps because success at work fosters positive affect and sense of self-efficacy (Stajkovi & Luthans, 1998) that may spillover into parenting. Thus, high involvement in paid employment may contribute to a lower level of parenting stress in fathers of children and adolescents with ASD. Satisfaction with the time that one’s spouse spends in childcare may also be linked to parenting stress in fathers; fathers who perceive their spouse as not doing enough childcare may resent their own childcare activities.

The division of labor is strongly linked to marital adjustment, defined as satisfaction with the quality of one’s marital relationship in terms of conflict resolution, cohesion, and communication (Locke & Wallace, 1959), within the general population. Specifically,

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

although the actual division of labor is often not related to marital adjustment, dissatisfaction with the division of labor is generally related to lower levels of marital adjustment (Ehrenberg, Gearing-Small, Hunter, & Small, 2001; Lavee et al., 1996). Couples who have children and adolescents with ASD are at risk for poor marital adjustment; a recent study found that couples who had a child with ASD were more likely to divorce than a matched comparison group of couples who had children without disabilities (Hartley et al., 2010). Dissatisfaction with the division of labor may play a role in the marital adjustment of couples of children and adolescents with ASD.

Present Study

The present study will be the first to examine role specialization (i.e., mother-father difference in *time spent in childcare* and in *time spent in paid employment*), and the effect of *time spent in childcare*, *time spent in paid employment*, and satisfaction with the time that one's spouse spent in childcare on parenting stress and marital adjustment in married couples who have a child or adolescent with ASD. Mothers and fathers from 73 married couples independently completed a daily diary assessing their *time spent in childcare*, *time spent in paid employment*, and satisfaction with the time that one's spouse spent in childcare each day for 7 consecutive days. Mothers and fathers also independently rated their global level of parenting stress and marital adjustment prior to beginning the 7-day daily diary. The study questions were: 1) Do families of children and adolescents with ASD evidence role specialization? 2) Is the degree of role specialization related to child age and disability level? 3) How is role specialization and *time spent in childcare*, *time spent in paid employment*, satisfaction with the time that one's spouse spent in childcare related to parenting stress in mothers and fathers of children and adolescents with ASD? 4) How is role specialization and *time spent in childcare*, *time spent in paid employment*, and satisfaction with the time that one's spouse spent in childcare related to marital adjustment in mothers and fathers of children and adolescents with ASD?

We hypothesized that, on average, families of children and adolescents with ASD would exhibit role specialization (i.e., mothers would spend more *time in childcare* than fathers, and fathers would spend more *time in paid employment* than mothers). In support of the 'demand-response hypothesis', the age of the child or adolescent with ASD was expected to be negatively related to role specialization (i.e., mother-father difference in *time spent in childcare* and in *time spent in paid employment*). Similarly, the child or adolescent with ASD's level of disability (i.e. presence of ID and degree of autism symptoms and behavior problems) was hypothesized to be positively related to role specialization. Based on previous studies of parents of children and adolescents with ASD, role specialization was expected to be positively related to parenting stress in mothers, but negatively related to parenting stress in fathers. Moreover, *time spent in childcare* was expected to be positively related to parenting stress and *time spent in paid employment* was expected to be negatively related to parenting stress in mothers and fathers of children and adolescents with ASD. Satisfaction with the time that one's spouse spent in childcare was hypothesized to be negatively related to parenting stress and marital adjustment in both mothers and fathers of children and adolescents with ASD.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Method

Participants

Eighty married couples who had a child or adolescent with ASD (aged 5-20 years) participated in the study. However, measures of interest were only completed by 73 of these couples. There were no differences in household income, parent education, child age, or severity of child autism symptoms between the 73 couples who were included in the present analyses and the 7 couples who were excluded because of incomplete data. Couples were recruited through fliers mailed to families of children and adolescents with an educational label of ASD from 8 regional public schools and posted at ASD clinics and on ASD listserves. All couples resided in a Midwestern state in the U.S. The majority of parents (n = 140) were the biological parent of the child or adolescent with ASD, while 2 parents were adoptive parents and 4 parents were step-parents. All adoptive and stepparents had been key parenting figures in the child or adolescent with ASD's life for at least 5 years (*M* = 6.73, *SD* = 4.23). All children and adolescents had a documented diagnosis of ASD by a medical or educational specialist (including documentation of the Autism Diagnostic and Observational Schedule [ADOS; Lord, et al., 2001]), and met or exceeded the ASD cutoff on the Social Communication Questionnaire (SCQ; Rutter, Bailey, & Lord, 2006). Six couples had more than one child or adolescent with ASD; in these couples, one child or adolescent was randomly selected to be the target child. Parents ranged in age from 25 to 61 years (*M* = 44.55, *SD* = 8.77), about half (54.8%) had at least a college degree, and 92.1% were White, non-Hispanic. The mean household income was $90 -$100K (range <20K to > $160K). Children and adolescents with ASD had an average age of 12.27 years (*SD* = 4.97), were prominently male (75.8%). The average age of diagnosis was 5.5 years (*SD* = 2.31) and 45.21% had ID, which is in line with ASD population studies (CDC, 2012).

Procedure

Mothers and fathers attended a 2-3 hour lab or home visit in which they independently completed a packet of measures. Following this visit, mothers and fathers independently completed an online daily diary for 10 consecutive days in which they answered a brief series of questions about their experiences and feelings and the behavior of their child or adolescent with ASD over the past 24 hours. Only 7 of the 10 days were used in the present study, such that participants reported on 5 week days and 2 weekend days. Of the 1022 possible entries (7 days x 146 participants), 4.01% were not completed. Participants with missing entries were included in analyses as long as they had completed at least 3 week day and 1 weekend day entries.

Measures

Child and Adolescent with ASD Variables—The child or adolescent's gender and date of birth were reported by parents. Gender was coded as male (1) and female (-1). The child or adolescent's age was coded in years. The child or adolescent's ID status was assessed through review of medical or educational records (based on intellectual ability and adaptive behavior testing) and verified through parent report. ID status was coded as not present (0) or present (1).

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Parent Demographics—Parents reported on their gender, coded as male (1) and female (-1). Parents also reported their household income, which was coded 0 to 14, starting at less than $20,000 (0) and increasing by $10,000 intervals, and their education level, which as coded from 1 (less than high school) to 8 (Masters or doctorate degree). Household income and parent education were included in the analyses given their association with *time spent in paid employment* and the division of labor (Coltrane, 2000).

Child or Adolescent Autism symptoms—The Social Communication Questionnaire (SCQ; Rutter et al., 2006) is a parent questionnaire with 40 yes-no questions that rate the child's ASD-related social functioning and communication, resulting in a total score ranging from 0 -40, with higher scores indicating more impairment. The SCQ has been shown to have adequate reliability and validity (Rutter et al., 2006). The SCQ had good internal consistency in the present sample (Cronbach's alpha =.83).

Child or Adolescent Behavior Problems—The daily behavior problems of the child or adolescent with ASD were assessed through the 7-day daily diary. Mothers and fathers separately rated the frequency (present vs. absent) and severity (5 point scale) of behavior problems in the past 24 hours using a modified version of the Scales of Independent Behavior-Revised (SIB-R; Bruininks, Woodcock, Weatherman, & Hill, 1996). This measure assesses 8 areas of behavior problems: unusual or repetitive behavior, uncooperative behavior, socially offensive behavior, withdrawn or inattentive behavior, disruptive behavior, hurtful to self, hurtful to others, and destructive to property. The SIB-R has been used with mothers of individuals with ASD (Seltzer et al., 2010). In the present study, we created a daily composite severity score (i.e., total severity across all 8 behavior problems). We then calculated the average of fathers and mothers daily composite severity score within couples and this score was used in analyses.

Time Spent in Childcare—In the daily diary, parents reported how much time in the previous 24 hours they had spent in caregiving activities related to the child or adolescent with ASD using the following scale: 1= 0 minutes, 2 = 5 to 10 minutes, 3 = 15 to 30 minutes, 4 = 45 minutes, 5 = 1 hour, 6 = 1.5 hours, 7 = 2 hours, 8 = 2.5 hours, 9 = 3 hours, 10 = 4 hours, 11 = 5 hours, 12 = 6 to 7 hours, 13 = 8 hours, 14 = 9 hours, 15 = 10 hours, 16 = 11+ hours. A mean score was created by summing the number of hours reported for each day of the daily diary and then dividing by the total number of days.

Time Spent in Paid Employment—In the daily dairy, parents reported how much time in the previous 24 hours they spent in paid employment activities using the scale described for time spent in childcare. A mean score was created by summing the score across days and then dividing by the total number of days.

Satisfaction with the Time that One's Spouse Spent in Childcare—Parents rated their level of satisfaction with the time their spouse spent in the previous 24 hours in caregiving activities related to the child or adolescent with ASD. A 5-point Likert scale was used ranging from 0 (not at all satisfied) to 5 (extremely satisfied). A mean score was created by summing the ratings across days and then dividing by the total number of days.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Parenting Stress—Mothers and fathers independently completed the Burden Interview (Zarit, Reever, & Bach-Peterson, 1980) prior to the start (within 9 days) of the daily diary. The Burden Interview is a global measure of subjective perception of the personal difficulty and distress associated with caregiving and consists of 29 items rated on a 4-point scale from 0 (not at all) to 3 (extremely). The Burden interview has been shown to have strong reliability and concurrent validity in the general population (Vitaliano, Young, & Russo, 1991) and had strong internal consistency (Cronbach's alpha =.88) in the present sample.

Marital Adjustment—The Marital Adjustment Test (MAT; Locke & Wallace, 1959) was independently completed by mothers and fathers prior to the start (within 9 days) of the daily diary. The MAT is a 15-item measure, in which items are answered on a variety of response scales, of overall marital adjustment. The MAT has been shown to have adequate reliability and good criterion-related validity for both men and women (Freeson & Plechaty, 1997). In the present sample, the MAT had good internal consistency (Cronbach's alpha =. 87).

Data Analysis Plan

Seven of the 146 (4.78%) participants had missing items on the measures of parenting stress, marital adjustment, or autism symptoms. However, all participants completed at least 85% of the items on any given measure; thus the calculated mean score of the existing data was used in place of the missing items. In the daily diary, of the 1022 possible entries (7 days x 146 participants), 4.01% were not completed. Participants with missing entries were included in analyses as all had completed at least 3 week days and 1 weekend day entry. Mean imputation using the existing week day or week end day was used in place of the missing daily diary item. An alpha of $p \geq .05$ was used to determine significance for all analyses.

In order to address study question 1, 'Do families of children and adolescents with ASD evidence role specialization?', a repeated measure multivariate analysis of variance (MANOVA) and follow-up bonferroni-corrected paired sample t-tests were used to compare the average time that mothers versus fathers spent in childcare and in paid employment within a 24 hour period across the 7-day daily diary. *Time spent in childcare* related to the child or adolescent with ASD and related to other children in the family were both collected. However, only *time spent in childcare* related to the child or adolescent with ASD was included in analyses.

In order to address study question 2, 'Is degree of role specialization related to child age and disability level?' correlations were first examined between child/adolescent variables and mother-father differences in *time spent in childcare* and in *time spent in paid employment*. Hierarchical multiple linear regressions were then conducted in which child/adolescent age and disability level variables of ID status, autism symptoms, and behavior problems were the independent variables and *role specialization* was the dependent measure. Role specialization was assessed through: mother-father difference in *time spent in childcare* and in *time spent in paid employment*. Household income and parent education were controlled

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

for in analyses given their association with the division of labor in the general population (Coltrane, 2000).

In order to address study question 3, 'How is role specialization and *time spent in childcare*, *time spent in paid employment*, satisfaction with the time that one's spouse spent in childcare related to parenting stress in mothers and fathers of children and adolescents with ASD?' and question 4 'How is role specialization and *time spent in childcare*, *time spent in paid employment*, and satisfaction with the time that one's spouse spent in childcare related to marital adjustment in mothers and fathers of children and adolescents with ASD?', multilevel modeling using hierarchical linear modeling (HLM; Raudenbush, Bryk, Cheong, & Congdon, 2006) were conducted. Multilevel modeling provides a way to handle non-independent observations from married couples. Indeed, in the present sample, interclass correlations indicated that 22% of the variance in parenting stress and 25% of the variance in marital adjustment was due to between-couple variance, while 23% and 34%, respectively, was due to within-couple variance. This approach enabled us to treat parents as being nested within couples and, thus, account for both the between- and within-couple variance in the dependent variables.

In our multilevel models, parent gender was included to test for differences in effects between mothers and fathers. The interactions between parent gender and *time spent in childcare*, *time spent in paid employment*, satisfaction with the time that one's spouse spent in childcare, and mother-father difference in *time spent in childcare* were also examined. Only significant interaction terms were included in final models. Child or adolescent with ASD variables (age, ID status, autism symptoms, and behavior problems) and parental education and household income were entered into models to examine and control for their effect on between-couple differences in dependent variables. Effect coding was used for parent gender (mothers = -1, fathers = 1). All other variables were grand-mean centered (Snijders & Bosker, 1999). Level 1 slopes were constrained, whereas Level 1 intercepts and Level 2 slopes varied at random.

Results

Role Specialization

Table 1 presents the means and standard deviations for the average *time spent in childcare* and *time spent in paid employment* for mothers and fathers within a 24 hour period throughout the 7-day daily diary. A repeated measures MANOVA indicated an overall significant difference between mothers and fathers on the combined dependent variables ($F(1, 72) = 39.35$, $p < .001$, Wilks' Lambda = 0.66, partial $\eta 2 = 0.34$). Paired sample t-tests indicated that, within-couples, fathers reported a significantly higher level of *time spent in paid employment* than mothers. In contrast, mothers reported a significantly higher level of *time spent in childcare* related to the child or adolescent with ASD than fathers. Only 8 (10.96%) mothers and 2 (2.74%) fathers reported not spending any time in paid employment. All parents reported spending time in childcare.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Child Variables related to Role Specialization

Table 2 displays the correlations among study variables. Hierarchal multiple linear regressions were conducted to identify the child/adolescent variables related to the degree of mother-father difference in *time spent in childcare* and in *time spent in paid employment*. Table 3 presents the regression findings. Child/adolescent age was significantly negatively related to degree of mother-father difference in *time spent in paid employment*. There was also a significant main effect of autism symptoms on mother-father difference in *time spent in childcare* and in *time spent in paid employment*. Specifically, mother-father difference in *time spent in childcare* and in *time spent in paid employment* was greater in couples of children or adolescents with a greater number of autism symptoms. There was not a significant effect of the child/adolescent's ID status or behavior problems on mother-father difference in *time spent in childcare* or on mother-father difference in *time spent in paid employment*.

Role Specialization and Parenting Burden

There was not a significant difference between mothers and fathers in level of parenting stress (Table 1). Multilevel models using HLM were conducted to examine the effect of *time spent in childcare*, *time spent in paid employment*, *satisfaction with spouse's time spent in childcare*, and mother-father difference in *time spent in childcare* on parenting stress. Parent gender, and its interaction term was included in models in order to test for differences in effects between mother and fathers. Child/adolescent variables were entered in the model to examine and control for between-couple differences.

Table 4 presents the model predicting parenting stress. There was a significant main effect of parenting gender such that mothers reported higher levels of parenting stress than fathers. There was also a significant main effect of *time spent in paid employment*; parents with higher levels of *time spent in paid employment* had higher levels of parenting stress. However, interaction between parent gender and paid employment was significant. This interaction is depicted in Figure 1 and indicates that *time spent in paid employment* in fathers was positively related to parenting stress, but *time spent in paid employment* in mothers were unrelated to parenting stress. There was also a significant main effect of satisfaction with the *time that one's spouse spent in childcare*. Across all couples, when the other predictors were at their mean values, parents who had lower than average level of satisfaction with the time that one's spouse spent in childcare reported a higher level of parenting stress than parents with higher than average level of satisfaction with the time that one's spouse spent in childcare. There was not a significant main effect of *time spent in childcare* or mother-father difference in *time spent in childcare* on parenting stress. Across all couples, when the other predictors were at their mean value, parents of children and adolescents with a higher than average frequency/severity of behavior problems had a higher level of parenting stress than parents of children and adolescents with a lower than average frequency/severity of behavior problems.

Role Specialization and Marital Adjustment

There was not a significant difference between mothers and fathers in level of marital adjustment (Table 1). A multilevel model using HLM was also conducted to examine the

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

effect of *time spent in childcare*, *time spent in paid employment*, satisfaction with the time that one's spouse spent in childcare, and mother-father difference in *time spent in childcare* on marital adjustment. Parent gender, and its interaction terms, was included in models in order to test for differences in effects between mother and fathers. Only significant interactions were included in the final model. Child/adolescent variables were entered as controls within the model. Table 2 also presents the model predicting marital adjustment. There was not a significant main effect of parent gender. There was a significant main effect of satisfaction with the time that one's spouse spent in childcare. Across all couples, when the other predictors were at their mean value, parents with a higher than average level of satisfaction with the *time that one's spouse spent in childcare* reported higher marital adjustment than parents with a lower than average level of satisfaction with the *time that one's spouse spent in childcare*. There was not a significant main effect of t*ime spent in childcare*, *time spent in paid employment*, or mother-father difference in *time spent in childcare* on marital adjustment. There was not a significant effect of household income or parent education level on marital adjustment. There was also not a significant effect of child age, ID status, autism symptoms, or behavior problems on marital adjustment.

Discussion

Our findings indicate that role specialization, as hypothesized, often occurs in families of children and adolescents with ASD. On average, fathers of children and adolescents with ASD spent significantly more time than mothers in paid employment, while mothers spent significantly more time in childcare than fathers. Specifically, mothers spent approximately 41% less time in paid employment than fathers, while fathers spent approximately 26% less time in childcare related to the child or adolescent with ASD than mothers. Interestingly, despite spending significantly more time in childcare than fathers, mothers were just as satisfied with the time that their spouse spent in childcare as fathers. One possibility is that the mother-father difference in childcare is not noticeable or genuinely experienced as a difference by mothers. Alternatively, mothers, on average, may be aware of this difference but content with an unequal division of childcare related to the child or adolescent with ASD.

Overall, variables related to the child or adolescent with ASD accounted for a small amount of variability in role specialization, suggesting that other family or parental variables are more influential in the division of labor. In line with our hypothesis, role specialization, both in terms of mother-father difference in *time spent in childcare* and in *time spent in paid employment*, was positively related to the child or adolescent with ASD's number of autism symptoms. The age of the son or daughter with ASD was also negatively related to mother-father difference in *time spent in paid employment*. Specifically, mothers of younger children with ASD were less involved in paid employment than mothers of older children or adolescents with ASD. These findings are consistent with the 'demand-response hypothesis' (Patterson et al., 2004). In contrast to our hypothesis, and in contrast to the 'demand-response hypothesis,' the child or adolescent with ASD's ID status and degree of behavior problems were not related to role specialization. In the present sample, the child or adolescent with ASD's ID status was not associated with *time spent in childcare* by parents. Thus, the presence of ID may not translate into differences in childcare demand. However,

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

the frequency/severity of behavior problems was significantly associated with *time spent in childcare* in the present sample. It is not clear why frequency/severity of behavior problems was not associated with role specialization given its influence on *time spent in caregiving*. It may be that the 'demand-response hypothesis' depends on parents' subjective views of what increases childcare demand. Perhaps behavior problems are not perceived as adding to childcare demand, when decisions of labor are discussed. Future studies should examine the decision-making process through which parents of children and adolescents with ASD make decisions about the division of labor.

In the present study, the division of labor was related to parenting stress in mothers and fathers of children and adolescents with ASD. However, this relation was often in unpredicted directions. In contrast to our hypothesis, *time spent in childcare* was not related to parenting stress in mothers or fathers of children and adolescents with ASD. Moreover, in contrast to our hypothesis, mothers' *time spent in paid employment* was unrelated to her level of parenting stress. This may be because the majority of mothers (89%) in the present sample were involved in paid employment to some degree. Involvement in paid employment may provide an alternative role identity that buffers the negative effect of dealing with challenging childcare (Barnet & Hyde, 2001). However, working full-time as opposed to part-time may not provide additional buffering effects. In contrast to our hypothesis, *time spent in paid employment* was positively related to parenting stress in fathers. Future qualitative studies are needed to understand why fathers who work longer hours experience high levels of parenting stress. One hypothesis is that fathers who work longer hours experience high levels of work-related stress and are prone to spillover of work-related stress into their parenting experiences.

In line with our hypothesis and previous studies (Goldberg & Perry-Jenkins, 2004), an unequal division of childcare was not related to parenting stress in mothers or fathers of children and adolescents with ASD. However, satisfaction with the time that one's spouse spent in childcare was related to parenting stress in both mothers and fathers of children and adolescents with ASD. Thus, an unequal of division of childcare related to the child or adolescent with ASD is only problematic if parents are not satisfied with this arrangement.

In the present sample, the division of labor was also related to marital adjustment. In line with our hypothesis, role specialization was not related to marital adjustment in parents of children and adolescent with ASD. However, as predicted, parents who were more satisfied with the time that their spouse spent in childcare reported a higher level of marital adjustment. There was not a difference in this effect between mothers and fathers. These findings are in line with studies of parents of infants in the general population (Ehrenberg et al., 2001; Lavee et al., 1996).

There are strengths to the present study. Childcare and paid employment were reported on every day for 7 consecutive days through an online daily diary. Having parents report on events as they happen can reduce memory errors associated with retrospective global reports. In addition, a multilevel modeling approach was used, making it possible to evaluate and control for between- and within-couple variance in variables of interest. There are also several limitations to the present study. The present study did not include a comparison

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

group; it is not clear whether the degree of role specialization or the relation between role specialization and parenting stress and marital adjustment seen in the present sample differs from that of couples of children and adolescents without disabilities or couples of children and adolescents with other types of disabilities. The present sample was also largely limited to well-educated White, non-Hispanic families. Further research should examine other ethnic and socio-demographic groups. It is also important to note that the present study focused on *time spent in childcare* related to the child or adolescent with ASD. However, we did re-run analyses using *time spent in childcare* related to all children or adolescents living in the home and the pattern of findings remained the same. Further qualitative studies of parents' views on the division of labor and the relation between time spent in paid employment and parenting stress are required; this may clarify the mechanisms driving the associations found in the present study. Finally, future studies should assess time spent in household chores, as this may capture further meaningful mother-father differences in the division of labor within families of children and adolescents with ASD.

Acknowledgments

This research was supported by grants from the National Institute on Mental Health (R01MH099190 to S. Hartley), National Institute of Child Health and Human Development (P30 HD03352 to Waisman Center) and University of Wisconsin Graduate School.

References

Abbeduto L, Seltzer MM, Shattuck P, Krauss MW, Orsmond G, Murphey M. Psychological well-being and coping in mothers of youth with Down syndrome, autism, and Fragile X syndrome. American Journal on Mental Retardation. 2004; 109:237–254. doi: 10.1352/0895-8017(2004)109<237:PWACIM>2.0CO;2. [PubMed: 15072518]

American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. American Psychiatric Publishing; Arlington, VA: 2013.

Barnett RC, Hyde JS. Women, men, work, and family an expansionist theory. American Psychologist. 2001; 56:781–796. [PubMed: 11675985]

Brandon PD. Child care utilization among working mothers raising children with disabilities. Journal of Family and Economic Issues. 2000; 21:343–364.

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

Centers for Disease Control and Prevention. Prevalence of autism spectrum disorders-Autism and Developmental Disabilities Monitoring Network, United States 2006. Morbidity and Mortality Weekly Report Surveillance Summary. 2012; 61

Coltrane S. Research on household labor: Modeling and measuring the social embeddedness of routine family work. Journal of Marriage and Family. 2000; 62:1208–1233.

Cowan, CP.; Cowan, PA. When partners become parents: The big life change for couples. Basic Books; New York: 1992.

Dyer JW, McBride BA, Santos RM, Jeans LM. A longitudinal examination of father involvement with children with developmental delays: Does timing of diagnosis matter. Journal of Early Intervention. 2009; 31:265–281. doi: 10.1177/0192513X09340386.

Ehrenberg MF, Gearing-Small M, Hunter MA, Small BJ. Childcare task division and shared parenting attitudes in dual-earner families of young children. Family Relations. 2001; 50:143–153.

Freeston MH, Plechaty M. Reconsiderations of the Locke-Wallace Marital Adjustment Test: Is it still relevant for the 1990s? Psychological Reports. 1997; 81(2):419–434. [PubMed: 9354091]

NIH-PA Author Manuscript NIH-PA Author Manuscript NIH-PA Author Manuscript

Gadow KD, DeVincent CJ, Pomeroy J, Azizian A. Psychiatric symptoms in preschool children with PDD and clinic and comparison samples. Journal of Autism and Developmental Disorders. 2004; 34:379–393. [PubMed: 15449514]

Goldberg AE, Perry-Jenkins M. Division of labor and working-class women's well-being across the transition to parenthood. Journal of Family Psychology. 2004; 18:225–236. [PubMed: 14992623]

Hartley SL, Barker ET, Seltzer MM, Floyd F, Greenberg J, Orsmond GI, et al. The relative risk and timing of divorce in families of children with an autism spectrum disorder. Journal of Family Psychology. 2010; 24:449–457. doi:10.1037/a0019847. [PubMed: 20731491]

Hartley SL, Seltzer MM, Head L, Abbeduto L. Psychological well-being in fathers of adolescents and adults with Down syndrome, Fragile X syndrome, and Autism. Family Relations. 2012; 61:327–342. doi: 10.1111/j.1741-3729.2011.00693.x. [PubMed: 22611299]

Hartley SL, Sikora DS, McCoy R. Prevalence and risk factors of maladaptive behaviors in children with Autistic Disorder. Journal of Intellectual Disability Research. 2008; 52:819–829. [PubMed: 18444989]

Lavee Y, Sharlin S, Katz R. The effect of parenting stress on marital quality. Journal of Family Issues. 1996; 17:114–135.

Leiter V, Krauss MW, Anderson B, Wells N. The consequences of caring: Effects of mothering a child with special needs. Journal of Family Issues. 2004; 25:379–403.

Liptak GS, Stuart T, Auinger T. Health care utilization and expenditures for children with autism: Data from U. S. national samples. Journal of Autism and Developmental Disorders. 2006; 36:871–879. doi: 10.1007/s10803-006-0119-9.

Locke HJ, Wallace KM. Short marital adjustment and prediction tests: Their reliability and validity. Marriage and Family Living. 1959; 21:251–255.

Lord C, Risi S, Lambrecht L, Cook EH, Leventhal BL, DiLavore P, et al. The Autism Diagnostic Observation Schedule-Generic: A standard measure of social and communication deficits associated with the spectrum of autism. Journal of Autism and Developmental Disorders. 2000; 30:205–223. doi: 10.023/A:1005592401947. [PubMed: 11055457]

Olsson MB, Hwang CP. Well-being, involvement in paid work and division of child-care in parents of children with intellectual disabilities in Sweden. Journal of Intellectual Disability Research. 2006; 50:963–969. doi: 10.1111/j.1365-2788.2006.00903.x. [PubMed: 17100956]

Parette HP, Meadan H, Doubet S. Fathers of young children with disabilities in the United States: Current status and implications. Child Education. 2010; 86

Patterson CJ, Sutfin EL, Flucher M. Division of labor among lesbian and heterosexual parenting couples: Correlates of specialized versus shared patterns. Journal of Adult Development. 2004; 11:179–189.

Raudenbush, SW.; Bryk, AS.; Cheong, YK.; Congdon, R. HLM 6: Hierarchical linear and nonlinear modeling. Scientific Software International, Inc.; Lincolnwood, IL: 2004.

Rutter, M.; Bailey, A.; Lord, C. Social Communication Questionnaire. Western Psychological Services; Torrance, CA: 2006.

Seltzer MM, Greenberg JS, Hong J, Smith LS, Almeida DM, Coe C, et al. Maternal cortisol levels and behavior problems in adolescents and adults with ASDs. Journal of Autism and Developmental Disorders. 2010; 40:456–469. doi: 10.1007/s10803-009-0887-0.

Shearn J, Todd S. Maternal employment and family responsibilities: The perspective of mothers of children with intellectual disabilities. Journal of Applied Research in Intellectual Disabilities. 2000; 13:109–131.

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.

Steil, JM. Marital equality: Its relationship to the wellbeing of husbands and wives. Sage Publications; Thousand Oaks, CA: 1997.

Vitaliano PP, Young HM, Russo J. Burden: A review of measures used among caregivers of individuals with dementia. Gerontologist. 1991; 31:65–75.

Warfield ME. Family and work predictors of parenting role stress among two-earner families of children with disabilities. Infant and Child Development. 2005; 14:155–176. doi: 10.1002/icd.386.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Zarit SH, Reever KE, Bach-Peterosn J. Relatives of the impaired elderly: Correlates of feelings of burden. The Gerontologist. 1980; 20:649–655. doi: 10.1093/geront/20.6.649. [PubMed: 7203086]

Woodman AC. Trajectories of stress among parents of children with disabilities: A Dyadic analysis. Family Relations. 2014; 63:39–54.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Practice Implications

Findings from the present study have important implications for practitioners working with families of children and adolescents with ASD. Findings suggest that partial role specialization often occurs in families of children and adolescents with ASD. However, both mothers and fathers play a key role in childcare. Therefore, services and interventions for families should not focus exclusively on mothers, as has often been the case in the past (Parette et al., 2010), but attend to the needs of both mothers and fathers. Role specialization in and of itself is not problematic; however, an unequal division of labor is problematic in terms of level of parenting stress and marital adjustment if parents are dissatisfied with this arrangement. Finally, future studies should explore why fathers who spend more time in paid employment are at risk for experiencing high levels of parenting stress. Overall, findings from the present study suggest that interventions should guide parents of children and adolescents with ASD in discussing their division of labor and encourage them to problem-solve areas of dissatisfaction as this may lead to decreases in parenting stress and increases in their marital adjustment.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

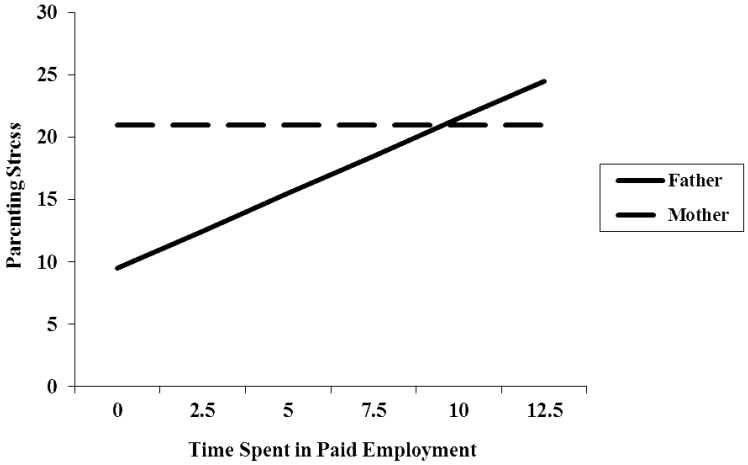

Figure 1.
Interaction of time spent in paid employment and parent gender on parenting stress.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Table 1

Mean and Standard Deviation for the Time spend in Childcare and Time spent in Paid Employment and Global Level of Parenting Stress and Marital Adjustment

	Mothers M (SD)	Fathers M (SD)	Paired Sample T-test
Time spent in Childcare	9.16 (2.43)	7.35 (2.53)	t (72) = 5.18, p <.001
Time Spent in Paid Employment	9.50 (3.15)	12.02 (2.46)	t (72) = -5.29, p <.001
Satisfaction with Time that one's			
Spouse Spent in Childcare	4.71 (0.90)	4.65 (0.97)	t (72) = 0.60, p = .55
Parenting Stress	21.35 (9.66)	21.11 (10.19)	t (72) = 0.21, p = .84
Marital Adjustment	74.88 (22.45)	73.92 (19.51)	t (72) = 0.43, p =.67

Note. ASD = Autism spectrum disorder.

NIH-PA Author Manuscript
NIH-PA Author Manuscript
NIH-PA Author Manuscript

Fam Relat. Author manuscript; available in PMC 2015 December 01.

Table 2

Correlations among child/adolescent, family, and parent variables

	1	2	3	4	5	6	7	8	9	10	11	12
Child/Adolescent with ASD												
1. Age	---											
2. Intellectual disability	−.08	---										
3. Autism symptoms	−.08	−.09	---									
4. Behavior problems	−.28*	−.07	.35**	----								
Family												
5. Household income	.07	.03	−.05	.14	---							
Parent												
6. Education	.02	−.05	.09	.07	.23**	---						
7. Time spent in paid employment	.18*	−.11	.02	.07	.07	.21*	----					
8. Time spent in childcare	−.37**	.05	.01	.20*	−.11	−.10	−.39**	----				
9. Satisfaction with time spouse spent in childcare	.01	−.15	.02	−.09	−.04	.03	.09	−.06	---			
10. Mother-father difference in childcare	−.04	.08	.31**	.11	−.12	.10	−.03	.03	−.02	----		
11. Mother-father difference in paid employment	−.40**	.11	.21	.06	−.07	−.09	−.35**	.15	.06	.16	---	
12. Parenting stress	−.05	.10	.23**	.43**	.06	−.01	.13	−.11	−.17*	.15	.08	---
13. Marital adjustment	.21**	−.16	−.12	−.21**	−.02	.16	.07	−.14	.28**	−.20*	−.02	−.28**

Note. ASD = Autism spectrum disorder.

* $p < .05$,

** $p < .01$.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Table 3

Regression results for Mother-Father Difference in Time Spent in Childcare and Time Spent in Paid Employment

	Difference in Childcare	Difference in Paid Employment
	β	β
Step 1		
Household Income	−.12	−.05
Step 2		
Child's Intellectual disability	.12	.07
Child's age	.01	−.42**
Child's Autism symptoms	.31**	.23*
Child's behavior problems	.03	−.14
Adjusted R^2, F value (Step 1)	0.01; 0.98	0.01; 0.17
Adjusted R^2, F value (Step 2)	0.05; 1.63	0.15; 3.25**

Note: Change in R2 significant at $p < .05$.

* $p \leq .05$,

** $p \leq .01$.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Table 4

Multilevel Models Results for Parenting Stress and Marital Adjustment

	Parenting Stress			Marital Adjustment		
	Coefficient	**SE**	**t ratio**	**Coefficient**	**SE**	**t-ratio**
Intercept	19.77	1.23	16.06*	77.11	2.67	28.91**
Within-Couple Variables						
Parent Gender (PG)	−1.80	0.43	4.16**	0.28	1.47	0.19
Parent Education	−0.48	−0.41	−1.19	1.42	0.97	1.46
Paid Employment	0.66	0.27	2.41*	−0.06	0.54	0.12
Childcare	−0.67	0.39	−1.72	−0.19	0.75	−0.56
Satisfaction w/ Spousal						
Childcare	−1.54	0.76	−2.04*	3.99	1.99	−2.08*
Between-Couple Variables						
Child Age	0.09	0.20	0.44	0.59	0.47	1.25
Child Intellectual disability	2.20	1.73	1.27	−3.98	3.56	−1.12
Child Autism symptoms	0.11	0.16	0.70	−0.14	0.40	−0.34
Child Behavior Problem	1.34	0.39	3.41**	−0.57	0.63	−0.91
Household Income	−0.08	0.23	−0.34	−0.32	0.56	−0.57
Mother-Father Difference in Childcare	0.35	0.43	0.80	0.66	1.01	0.51
PG X Paid Employment	−0.76	0.25	−3.07**	---	---	---
Variance components (SD)						
Intercept	10.70 (3.27)**			17.48 (4.18)		
Level 1 effect	178.82 (13.37)**			208.52 (14.44)		

Note. The pseudo R^2 statistics were .56 for parenting burden and .37 for marital adjustment.

* $p \leq .05$.

** $p \leq .01$.