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Fathers of children with or without ID: Understanding long-term psychological symptoms

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Abstract

Background—Researchers have primarily relied on mother report to understand the parenting contexts of rearing children with intellectual disabilities. Fathers are increasingly being considered as equally important reporters of their child's behaviours, as they have unique and independent relationships with their children. The purpose of this study was to understand how one source of stress – reports of child behaviour problems—along with spousal support related to parenting tasks, associated with fathers' reports of psychological symptoms over time.

Method—One hundred eighty two father participants completed measures of child behaviour problems, spousal support and psychological symptoms. Growth curve modeling was employed to examine paternal psychological symptoms over the child's developmental trajectory.

Results—Fathers' reports of child behaviour problems predicted initial levels of paternal psychological symptoms, but did not predict change in paternal psychological symptoms over time. Spousal support further reduced initial levels of paternal psychological symptoms.

Conclusions—Child behaviour problems are more important than disability status in predicting father's psychological symptoms. Spousal support predicts paternal psychological symptoms and can be viewed as an additional resource for fathers. Implications for research and practice are discussed.

Keywords

Father's Psychological Symptoms; Intellectual and Developmental Disabilities; Growth Modeling; Child Behaviour Problems; Spousal Support

Ever since Ainsworth's analysis of sensitive parenting in her theories of attachment (1969, 1979), researchers have relied on mothers' reports to understand the relationship between child behaviour problems and parent well-being (Eisenhower, Baker, & Blacher, 2005; Hauser-Cram, Warfield, Shonkoff, and Krauss, 2001), despite research showing that fathers are not immune to the challenges of rearing a child with disabilities (Hartley, Seltzer, Head, & Abbedutto, 2012). In addition to supplying 50% of the child's genetic material, responsive

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fathers may uniquely enhance children's developmental outcomes separately from responsive mothers (Hartley et al., 2012).

But unresponsive fathers, including psychologically unstable fathers, have been shown to rear maladjusted children (Jacob & Johnson, 1997). In fact, Jacob and Johnson studied child outcomes among families with depressed mothers and depressed fathers. They found that these mother-child interactions did not predict poor child outcomes but the father-child interactions predicted child depression, behaviour problems, and internalizing and externalizing behaviours (Jacob & Johnson, 1997). Depressed fathers can have a deleterious effect on their children's outcomes. In an effort to better understand fathers' psychological stability within the family system, this study examines fathers' psychological symptoms over the child's development, as predicted by spousal support and child behaviour problems.

Child Behaviour Problems and Paternal Psychological Symptoms

Previous research has shown that children with intellectual disabilities (ID) exhibit heightened levels of challenging behaviours as compared to typically developing (TD) children (Baker, Blacher, Crnic, & Edelbrook, 2002; Einfeld & Tonge, 1996; Gray & Mohr, 2004; Stromme & Diseth, 2000), and these behavioural problems are closely linked to a parent's psychological well-being (Abbeduto, Seltzer, Shattuck, Krauss, Orsmond, & Murphy, 2004; Baker, et al.,; Donenberg & Baker, 1993; Eisenhower, et al., 2005). A cross-sectional study by Hastings (2003) compared mother and father well-being (e.g., stress levels, anxiety, self-efficacy) in relation to child behaviour problems. Although child behaviour problems predicted feelings of stress and anxiety for mothers, child behaviour problems were not associated with fathers' stress or anxiety. Given that fathers are less involved in the caregiving duties, in this study they may have reported less impact of their child's problems (Hastings, 2003).

More rigorous longitudinal studies examining the relationship between child behaviour problems and paternal psychological symptoms over the child's developmental trajectory showed that child behaviour problems at 36 months were predictive of mothers' stress at 48 months, defined as negative impact on parenting, depression and marital adjustment. On the other hand, child behaviour problems were not predictive of well-being over time for fathers (Baker, Blacher, & Olsson, 2005). However, in this study dispositional optimism did moderate the impact of the child's behaviour problems on perceived well-being, although more so for mothers than for fathers (Baker et al., 2005), suggesting that factors beyond child behaviour problems may influence parental psychological symptoms. Further, empirical evidence utilizing the present dataset has also shown that there is a bidirectional relationship between child maladaptive behaviours and parenting stress over time (Neece, Green, & Baker, 2012).

Relatedly, studies examining the relationship between child behaviour problems and caregiver well-being have commonly compared child behaviour problems with a child's disability status to understand which was the stronger predictor of parent well-being. These studies have clearly shown that children with significant levels of behaviour problems, independent of the presence of a developmental disability, increased mothers' reported stress

and decreased their sense of well-being (e.g., Baker, MacIntyre, Blacher, Crnic, Edelbrock, & Low, 2003; Floyd & Gallagher, 1997). Our understanding of how disability status and child behaviour problems differentially predict *paternal psychological symptoms* is less clear. Some studies have found child's disability status (by age 3) related to fathers' depression (Baker et al., 2005). For example, an association was found between child disability status and depression among fathers rearing 3-year-old children; however, looking longitudinally, disability status (by child age 4) did not predict paternal psychological symptoms, but child behaviour problems did (Baker et al., 2005). Other studies found similar results—child behaviour problems, not disability status, predicted paternal psychological symptoms (e.g., Hauser-Cram et al., 2001).

Studies examining paternal psychological symptoms over the child's development have shown contradictory findings. In one study, Neece and colleagues (2012)[1] followed 237 children with and without ID from ages three to nine. They found that as the child got older, fathers reported significantly less child-related parenting stress. Less paternal stress may have been related to fathers becoming less involved in the caregiving duties and decisions as their children grew and became more independent. Yet, in another study, Hauser-Cram and colleagues (2001) followed 183 children with ID and found that fathers exhibited more child-related stress over the child's developmental trajectory. This was primarily due to increased child behaviour problems as children developed. The current study will further examine these relationships by utilizing both disability status and child behaviour problems in predicting paternal psychological symptoms across the child's development (age 3 through age 9) in a sample of children with and without ID. Furthermore, rather than using child-related parenting stress as the outcome variable, this study utilizes a measure of psychological symptoms.

Spousal Support and Parent Well-being

Previous research has established that social support, particularly spousal support, can reduce child-rearing stress for mothers of TD children (Erel & Burman, 1995; Holloway, Suzuki, Yamamoto, & Behrens, 2005; Sheppard, 1994; Suzuki, Holloway, Yamamoto, & Mindnich, 2009). Spousal emotional support (e.g., encouragement and social companionship) is also valuable to mothers who care for children with ID (Dunst, Trivette, & Cross, 1986; Glidden & Schoolcraft, 2007). Despite the move towards "family-centered" service models, mothers have historically played a larger role than fathers in the day-to-day needs of children with ID. Mothers are often expected to take on the dual roles of caregiver and service provider, often resulting in low levels of mother well-being (e.g., high stress) (Tehee, Honan, & Hevey, 2009). Even fathers' levels of mental health (depression) can affect maternal well-being (Hastings, Kovshoff, Ward, degli Espinoza, Brown, & Remington, 2005) and similarly, father's psychological symptoms has been related to mothers' mental health symptoms (Hastings, 2003). While spousal support has been shown to alleviate stress, and increase a mother's sense of well-being (Boyd, 2002), there is limited research

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[1]Neece and colleagues (2012) used a similar dataset to the current study but utilized a measure of child-related parenting stress as the outcome. The current study used a measure of parental mental health symptoms that has not previously been analyzed or reported on. In addition the role of spousal support was not examined by Neece et al. (2012).

addressing spousal support and paternal psychological symptoms. In one study examining 75 families rearing young children at risk for behaviour disorders, Suárez and Baker (1997) found that spousal support was the most useful resource in predicting paternal psychological symptoms. Moreover, spousal support moderated the relationship between the child's externalizing behaviours and paternal psychological symptoms. Thus, given the increasingly active role of fathers in the family, and the unique benefit of father involvement on children's social-emotional development (Clarke-Stewart, 1980; de Falco, Esposito, Venuti, & Bornstein, 2008; Gottman, Katz, & Hooven, 1997; Pancsofar & Vernon-Feagans, 2006), it is valuable to study how spousal support relates to paternal psychological symptoms when controlling for child behaviour problems.

Research Questions and Hypotheses

In a sample of typically developing (TD) children and children with ID, the proposed study aimed to address fathers' perceptions of their child's behavioural challenges and the trajectory of their own psychological symptoms, with three primary research questions:

Research Question One: How do fathers' reports of psychological symptoms change over time?

It has been widely documented that strong emotional reactions arise from the initial diagnosis of a child, yet these feelings have been shown to wane when the child is still young (e.g., 18 months old) (Rentinck, Ketelaar, Jongmans, Lindeman, & Gorter, 2009). More recent studies have attributed the decrease in child behaviour problems as children grow and develop to the decrease in parents' levels of distress (Neece et al., 2012). However, others found that paternal psychological symptoms increased over time (Hauser-Cram, et al., 2001). In our sample we examined paternal psychological symptoms over seven time points. We expected paternal psychological symptoms to decrease or remain stable over time, as previous research showed father's parenting stress to decrease with time (i.e., Neece et al., 2012).

Research Question Two: To what extent do disability status and reports of child behaviour problems predict paternal psychological symptoms over time?

Considering children's behaviour challenges have been shown to directly impact mothers' feelings of stress and depression (Baker, et al., 2002; Donenberg & Baker, 1993; Eisenhower, et al., 2005), we expected child behaviour problems to similarly predict paternal psychological symptoms over the child's developmental trajectory. Given previous empirical evidence, we expected: (1) fathers who reported more challenging behaviour problems in their children to report higher levels of psychological symptoms as compared to fathers who reported that their children exhibited less challenging behaviours; and (2) child behaviour problems would predict paternal psychological symptoms above and beyond child disability status, as has been the case in previous studies involving mothers (e.g., Baker et al., 2005).

Research Question Three: Does spousal support predict paternal psychological symptoms above and beyond child behaviour problems and disability status?

We expected that fathers who care for children with behavioural challenges may have reduced psychological symptoms (e.g., distress) when they reported having higher levels of spousal support (Suaréz & Baker, 1997). Given similar findings showing the benefits of spousal support for mothers caring for children with disabilities (Cohen Holloway, Dominguez-Pareto, & Kupperman, 2013), and recent findings from longitudinal studies showing spousal support as protective in reducing stress and depression among mothers caring for TD children (Manuel, Martinson, Bledsoe-Mansori, & Bellamy, 2012; Skipstein Janson, Kjeldsen, Nilsen, & Mathiesen, 2012), we expected fathers to exhibit reduced psychological symptoms when they reported increased spousal support.

Method

Participants

Participants for the current study were drawn from a multisite longitudinal investigation of the relationship of family, school, and child factors to the emergence of behaviour problems and mental health disorders in both typically developing (TD) children and those with intellectual disabilities (ID). Families of children with ID were primarily recruited through service providers and agencies such as regional centers, and families of TD children were recruited from preschools in the respective areas. Enrollment visits took place when the child was between 30 and 39 months of age.

Child participants for the original study were included in the group identified as having ID if, at age 5, they had both an IQ below 85 on the Stanford-Binet Intelligence Scale- 4th edition (Thorndike, Hagen, & Sattler, 1986) and a standard score below 85 on the Vineland Scales of Adaptive Behaviour-II (VABS; Sparrow, Cicchetti, & Balla, 2005). Children categorized as having ID (IQ < 70) or borderline ID (IQ = 71–84) were combined in the present analyses because prior research has demonstrated that children with borderline intellectual functioning have similar characteristics (e.g., challenging behaviours) as children with intellectual disabilities (ID), i.e., deficits in both intelligence and adaptive skills (DSM-IV-IR, APA, 2000; Fenning, Baker, Baker, & Crnic, 2007). Exclusionary criteria for participants included being non-ambulatory, having a diagnosis of autism, or having another disability that would prohibit their full participation in the procedures described later.[2] At age 3, children who met criteria for ID included an estimated percentage of students with Down Syndrome (27.8%), Cerebral Palsy (16.7%), autism spectrum disorder (19.4%), and undifferentiated DD (36.1%).

The final sample for the current study included 66 fathers of children with ID and 116 fathers of children with TD (mean age: 36.5 years). We included as "fathers" male caregivers with at least two time points (in order to assess a linear relationship). Table 1 displays the demographic characteristics by status group at child age 5. The percentage of

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[2]When children entered the study at mean age 36 months, they were determined to have a developmental disability (DD) if they scored below 85 on the Bayley Scales of Infant Development (Baker, Blacher, Crnic, & Edelbrock, 2002). Final ID determination was made at age 5 when a standardized IQ test could be administered.

children that lived in two parent families across the seven time points ranged from 68.6% to 83.8%. To be included in the study, both parents had to have custody and participate in the completion of the assessment measures. We chose not to include a demographics table for each time point because almost all of the demographic characteristics are stable/time invariant. We included income, which may have fluctuated year-to-year, as a time-varying covariate in our final model, and descriptive information for this variable can be found in Table 2.

Procedures

Procedures were approved by the Institutional Review Boards of the participating universities. Parents completed an initial interview by phone, which included a description of the study and informed consent. Research assistants conducted the enrollment visit in person with the families, when informed consent was obtained. On the day of the visit, fathers who were present completed measures about the child's behaviour and social skills. Fathers who were not present on the day of the visit were either mailed or delivered packets (by the mother). They completed their measures and informed consent independently and returned them to our lab via U.S. mail. Data for the current study were obtained via parent questionnaires for fathers at ages 3, 4, 5, 6, 7, 8, and 9.

Measures

Stanford-Binet IV (SB-IV; Thorndike, Hagen, & Sattler, 1986)—The Stanford-Binet is an individually administered intelligence test used to determine developmental disabilities in young children. This measure is particularly useful in the evaluation of children with delays because the examiner adapts starting points according to the child's developmental level. Child cognitive status grouping (ID versus TD) was based on the SB-IV scores at child age 5. The composite IQ has a normative mean of 100 and a standard deviation of 15.

Vineland Adaptive Behaviour Scales (VABS; Sparrow, Balla & Cicchetti, 1984)—The VABS is a semi-structured interview that assesses the adaptive (or daily living) skills of individuals with or without a disability. Mothers served as the primary respondent on this instrument. The three subscales used were Communication, Daily Living, and Socialization. These were combined to form an Adaptive Behaviour Composite score. Adaptive behaviour was measured to determine status groups at age 5. The VABS parent report has an internal consistency from .75 to .80 and Cronbach's alpha of .93 (Sparrow et al., 1984).

Achenbach Child Behaviour Checklist (CBCL; Achenbach & Rescorla, 2001)—The CBCL is a norm-referenced questionnaire that assesses behaviour problems in children with or without intellectual disabilities. The appropriate aged version of the CBCL (1–5.11 or 6–18) was completed by parents; both versions contain items that describe specific behavioural and emotional problems, depending on the age of the child at assessment. The CBCL parent report form (across both versions) has adequate alpha coefficients from .69 to .97. The present study used fathers' and mothers' CBCL total problem behaviour T score, which has a mean = 50 and SD = 10. (See Table 5).

Symptom Checklist - 35 (SCL; Derogatis, 1993)—The SCL is a well-established measure that assesses psychological symptomatology across dimensions of anxiety, depression, hostility, and interpersonal relatedness. We used the short-form of this measure, SCL-35. Higher scores on the SCL-35 reflect a greater number of psychological symptoms. A T-score above 60 represents above-average counts of symptoms on the full-scale measure. This measure has demonstrated adequate reliability, with an alpha of .84 (Cicirelli, 2000). For the purpose of this paper, the total score on the SCL-35 was utilized to measure the psychological symptoms fathers endorsed with the one item asking about suicidal thoughts removed. To correct for skewness, this measure was transformed by taking the natural logarithm before being used in the analyses. This transformation resulted in a more normal distribution for this measure. Table 3 shows the skewness and kurtosis for this variable before and after the transformation.

Spousal Agreement and Support Scale *(SASS*; Baker & Heller, 1996)—The SASS is a 13-item rating scale that measures spouses' agreement about child problems and how much they support each other in raising their children. Fathers rated items on a 6-point Likert scale that ranged from "definitely agree" to "definitely disagree." The first set of six items asked fathers to report on the spouses' agreement about child problems such as whether (1) the child has problems, (2) they are concerned about the problem, and (3) they think the child needs help. Then, seven items asked fathers to report levels of spousal support in child rearing (e.g., My spouse and I respond to our child's problem in the same way; My spouse shares a lot of the responsibility for raising our child). This measure includes three subscales and three total scores of agreement. The subscales are Problems, Concerns, and Needs Help, and the total scores are Total Agreement, Total Support, and Total. We used the total score on the SASS to assess spousal support which has an alpha level = .84. The SASS total score ranged from 4–35 across the multiple time points.

Results

Descriptive Statistics

Table 1 provides means and standard deviations of key demographic characteristics related to the child and the father, separated by disability status at child age 5. By design, child IQ and adaptive skills were significantly lower for children with ID. Fathers of children in the ID group had significantly fewer years of formal education than fathers in the TD group. Annual household income (a bivariate covariate: 0 = <$50,000, 1 = ≥ 50,000) was measured across all seven time points (see Table 2). Significantly fewer fathers in the ID group reported income levels at or above $50,000 when compared with fathers in the TD group at four out of the seven time points.

With regard to the outcome variable of interest, paternal psychological symptoms were measured across all seven time points. Table 3 illustrates the descriptive statistics of paternal psychological symptoms. The number of fathers participating in the study fluctuated across the seven time points. Fathers' mean scores on the SCL fluctuated slightly over time and there were no significant differences between groups (see Table 4).

There were fewer male children than female children in the ID group as compared to the TD group, but child gender was not correlated with paternal psychological symptoms; thus, it was not included in the final model. Annual household income and paternal education were highly correlated with each other. Thus, we included household income as a control variable to serve as a proxy for socioeconomic status.

With regard to the predictor variables of interest, fathers' reports of their spouses' levels of support did not significantly differ between groups across the seven time points (See Table 6). However, fathers' reports of the child's behaviour problems were significantly different. Fathers who cared for children with ID reported significantly more child behaviour challenges than fathers who cared for TD children across all seven time points ($p<.001$).

Model Building

Multilevel/growth modeling was employed to examine whether there was significant within and between person variance in fathers' reported psychological symptoms or levels of distress over the seven time points, and whether specific child characteristics (e.g., behavioural challenges and disability status) and spousal support were associated with changes in fathers' reported psychological symptoms. SAS mixed procedure ("proc mixed") was used for the growth model building process through SAS® version 9.4 (SAS Institute Inc., 2013). Continuous predictors (i.e., child behaviour problems and spousal support) were centered at the grand mean. Maximum likelihood (ML) estimation was utilized in the growth model analysis. ML estimates are values of population parameters that maximize the probability of observing the sample data. ML estimation can account for missing/incomplete data and provide unbiased population estimates under the assumption that the data are "missing at random" (MAR Raudenbush & Bryk, 2002; Singer & Willet, 2003). Data in the present study were considered MAR; therefore, the fluctuation in participation among the fathers across time should not have influenced the pattern of changes in paternal psychological symptoms.

Research Question One: How do fathers' reports of psychological symptoms change over time?—Results of the unconditional model for paternal psychological symptoms, with no independent predictors, revealed that as a group, fathers had non-zero levels of distress (M = 2.47; SE = 0.06). Linear, quadratic and cubic terms were then added in a stepwise hierarchical fashion to examine whether the addition of each predictor significantly improved model fit. The linear model resulted in the best fitting model for the paternal psychological symptoms data. That is, when a linear term was added, fathers evidenced significant initial levels, but non-significant change in distress over the child's developmental trajectory (i.e., intercept $g_{00} = 2.49$ $p<0.001$ and slope $g_{10} = -0.01$, ns, χ^2 from the unconditional means model to the linear model = 13.3, $p<0.001$). The non-significant slope, though negative, suggested that fathers' psychological symptoms of distress were flat or did not change as their children grew. The addition of a quadratic term resulted in a non-significant change in deviance statistic.

Research Question Two: To what extent do disability status and reports of child behaviour problems predict paternal psychological symptoms over

time?—Next, the following covariate and predictor variables of interest were added (one at a time in a hierarchical fashion) to determine which related to the initial levels and change in paternal psychological symptoms: (1) correlated father demographic characteristics (i.e., annual household income); (2) child disability status and child behaviour problems total score; and (3) spousal agreement and support (see Table 6). In the final model ID status did not predict initial levels of paternal psychological symptoms ($g_{01} = -0.16$, ns) or the slope ($g_{11} = .03$, ns). When disability status alone was entered, the change in the deviance statistic between the linear model and the model in which disability status was entered was 1 (df=2), which did not exceed the .05 critical value of a chi-square distribution. This indicates that the addition of disability status to the model did not significantly improve model fit, further confirming that having a child with ID did not contribute to the initial levels or change in paternal psychological symptoms over time.

In the final model, the time-varying predictor, child behaviour problems[3], predicted initial levels of paternal psychological symptoms ($g_{02} = 0.02$, $p < 0.001$) but not the slope ($g_{12} = -.00$, ns). The change in the deviance statistics between earlier models and the model in which this predictor was added was 42.5 (df=2, $p < 0.001$). That is, child behaviour problems significantly predicted initial levels of paternal psychological symptoms, and the inclusion of this variable produced a better fitting model.

Research Question Three: Does spousal support predict paternal psychological symptoms above and beyond child behaviour problems and disability status?—In the final model, the time-varying predictor, spousal support, also predicted initial levels of paternal psychological symptoms ($g_{03} = -0.01$, $p < 0.001$), but not the slope ($g_{13} = -.00$, ns) (See Table 7). The change in the deviance statistics between earlier models and the final model in which this variable was entered was 5.4 (df=2, $p < 0.001$). That is, spousal support significantly predicted initial levels of paternal psychological symptoms, and the inclusion of this variable significantly improved the model fit. This indicated partial support for our original hypothesis. Spousal support did reduce the initial levels of paternal psychological symptoms; however, its inclusion did not explain change over time, nor did it reduce the negative effects of child behaviour problems, which remained statistically significant at $p < .001$.

Discussion

Previous research on paternal psychological symptoms focused on understanding father and mother psychological symptoms when rearing children with and without disabilities. Our work builds on this base and extends it in several ways. First, we focused on fathers only, and clarified inconsistencies related to whether paternal psychological symptoms were more or less pronounced as children grew older. Second, as in some studies of maternal psychological well-being, we compared child behaviour problems with child disability status

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[3]To assess whether there was shared method variance due to fathers' reports of both child behaviour problems and their mental health symptoms, we ran the model using mothers' reports of child behaviour problems (i.e., CBCL total scores). The results remained unchanged. Similar to fathers, mother-reported child behaviour problems were a significant predictor of the initial levels of paternal psychological symptoms, but not the change in paternal psychological symptoms over time. The final model included father reported child behaviour problems.

(here, ID vs. TD) to understand how each predicted paternal psychological symptoms. We expected fathers' psychological symptoms to decrease as children grew older because we expected children to exhibit fewer behavioural challenges over time. Third, we examined the role of spousal support in the relationship between child behaviour problems and paternal psychological symptoms.

Our first research objective was to examine how fathers' reports of their psychological symptoms (e.g., anxiety, depression) changed over time. We found that paternal psychological symptoms remained flat as children got older, which is inconsistent with Neece and colleagues (2012) who found that paternal child-related distress decreased as children got older. Our findings were also inconsistent with Hauser-Cram and colleagues (2001) who found that paternal psychological symptoms increased as children developed. One reason for these discrepancies may be that the measures used to assess paternal stress differed across studies. Neece and colleagues used the Family Impact Questionnaire (Donenberg & Baker, 1993), which measures the child's impact on the caregiver, independent of disability status. Hauser-Cram and colleagues used child-related stress measures from the Parenting Stress Index (PSI; Abidin, 1995). One study that examined the psychometric validity of the PSI, albeit for families of young children with autism spectrum disorder, found that this measure was a poor indicator of parenting stress as it did not discriminate adequately across parents with varying levels of stress severity. This could also be true for parents who care for children with different disabilities (Zaidman-Zait, Mirenda, Zumbo, Wellington, Dua & Kalynchuk, 2010). Our study utilized the Symptom Checklist (SCL; Derogatis, 1993), which assessed psychological symptoms (e.g., anxiety, depression) to understand fathers' general sense of distress, not necessarily stress emanating from the child or child-rearing. Furthermore, Hauser-Cram and colleagues assessed paternal stress across five time-points. The current study examined paternal psychological symptoms across seven time-points. It is possible that the time points in which paternal psychological symptoms were measured may have contributed to the different results.

Our second research objective was to determine whether father reports of child behaviour problems or disability status predicted paternal psychological symptoms. We found that father-report of child behaviour problems, but not the child's disability status per se, was significantly related to paternal psychological symptoms. We expected behaviour problems to predict above and beyond disability status but were surprised to find that disability status was non-significant even before behaviour problems were entered into the model. This finding is consistent with work comparing child behaviour problems and child diagnostic status in predicting maternal stress and depression (Baker, et al., 2002; Donenberg & Baker, 1993; Eisenhower, et al., 2005). Findings from earlier studies along with the current findings support the move towards identifying and diagnosing children with developmental delays not by their general diagnostic label, (e.g., ID, autism), but by their unique characteristics (e.g., behaviour problems, social skills, academic strengths). Understanding the effect of specific child characteristics on parents should allow service providers and teachers to develop more nuanced interventions that address specific challenges unique to that particular child and family. Further, our finding that ID status was not related to paternal psychological symptoms is promising, in that child behaviour problems can be addressed through intervention, whereas ID status cannot.

Our third objective was to determine whether spousal support predicted paternal psychological symptoms above and beyond child behaviour problems. We found that the presence of spousal support further reduced paternal psychological symptoms when controlling for child behaviour problems. This is consistent with earlier work showing that spousal emotional support predicted maternal well-being in mothers of children with developmental delays (Cohen, Holloway, Dominguez-Pareto, & Kupperman, 2013). Understanding how spouses support each other when it comes to parenting their children may be important for parents learning to adapt to the challenges of rearing children with disabilities. This type of spousal support may also be an important avenue for intervention that could ameliorate distress among parents.

Although limited research has examined fathers' perceptions of spousal support and its effect on father psychological symptoms, Suárez and Baker (1997) found that spousal support served as a significant moderator in buffering the negative effects of child behaviour problems on paternal stress. However, that study did not utilize longitudinal data. Our findings extend this work by examining spousal support as a predictor of paternal psychological symptoms over the span of early and middle childhood. While our study did not assess moderation, spousal support appeared to reduce initial reports of paternal psychological symptoms when controlling for child behaviour problems, though it was not related to the change in psychological symptoms over time. Given that the measure of spousal support considers support more directly related to childrearing, and the outcome variable measures general psychological symptoms not necessarily related to childrearing, the lack of a longitudinal relationship is not surprising as the measures do not assess similar constructs. A more global measure of emotional or instrumental spousal support may be more likely to predict change in paternal psychological symptoms over time, similar to what has been reported in cross-sectional studies with mothers (Cohen et al., 2013). Regardless, the findings from this study demonstrated the importance and value of spousal support, particularly for fathers, in rearing children with and without behaviour problems.

Study Limitations

As with any research study, this study has limitations that must be considered in evaluating its impact on the growing body of research with families of children with ID. One limitation is the nature of the longitudinal sample and the significant differences between the ID and the TD groups in paternal education and family income. Given the amount of time that families were enrolled in the study, some family factors certainly changed over time. However, certain structural factors (e.g., lower paternal education) were more prevalent in the ID group, consistent with other studies that highlighted economic disadvantage in families with ID (Emerson, 2007, 2003). Furthermore, annual family income fluctuated slightly, and there may have been changes in caregivers or family resources that were not accounted for based on the data that we collected. Finally, this study did not examine positive factors that may moderate psychological symptoms, such as optimism or positive perceptions (Baker et al., 2005; Hastings et al., 2005).

Implications for Family Interventions and Future Research

Our results point to several implications for service providers who work with fathers and families of children with disabilities. Rather than focusing on the primary caregivers only (usually the mother), service providers can broaden their perspective to understand how to mitigate distress in fathers rearing young children with behavioural challenges. It is also possible to capitalize on the resources of the spousal relationship in order to help reduce paternal psychological symptoms, which might include involvement in counseling as well as support groups. Also, service providers can empower fathers to interact effectively with their child and with the special education service system by working with them to improve their sense of confidence and their efficacy with regards to childrearing. Finally, while we investigated child disability status and behaviour problems as predictors of paternal psychological symptoms over the child's development, future research should consider the reverse pattern: how paternal psychological problems may exacerbate child behaviour problems over the child's development.

Acknowledgments

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Table 1

Descriptive Statistics by Disability Status – Time Invariant Variables

Variable	ID Mean/Frequency	TD Mean/Frequency	t or χ^2
Stanford-Binet	60.07 (15.31)	104.6 (11.70)	$t = 22.00$ ***
VABS	65.49 (14.03)	104.1 (16.36)	$t = 16.11$ ***
Child Gender (% male)	39.17%	69.84%	$\chi^2 = 0.003$
Father Age (at intake)	36.91 (7.10)	36.85 (6.18)	$t = -0.05$
Father Number of Years of Schooling (at intake)	14.51 (2.43)	15.88 (2.95)	$t = 3.00$ **

Note.

**
$p < .01$,

***
$p < .001$;

ID = Intellectual Disability; *TD* = Typically Developing; Child *IQ:* Stanford-Binet Intelligence Scale—Fourth Edition (Thorndike, et al., 1986); *VABS*: Vineland Adaptive Behaviour Scales (Sparrow, et al., 1984). Disability status was determined at age 5; therefore, the demographics for age 5 are reported.

Table 2

Descriptive Statistics by Disability Status – Family Household Income across Seven Time Points

Child Age	% above $50,000		
	ID	TD	χ^2
3	32.03%	66.97%	0.37
4	36.02%	73.98%	2.92
5	42.79%	75.21%	2.39
6	40.49%	70.51%	7.23[**]
7	36.04%	65.96%	4.89[*]
8	34.30%	63.70%	5.93[**]
9	35.00%	70.00%	4.82[*]

Note.

[*]
p<.05,

[**]
p<.01

Table 3

Descriptive Statistics at each Time Point – Paternal Psychological Symptoms Scores

| | | | | | | SCL-35 Scores | | | |
| | | | | Log Transformed | | | | Non-Transformed | |
Child Age	N	M	SD	Min	Max	Skewness	Kurtosis	Skewness	Kurtosis
3	169	16.86	14.84	2.00	80.00	1.58	2.83	–0.43	0.01
4	169	17.05	15.39	1.00	86.00	1.74	3.61	–0.50	0.30
5	178	17.12	15.87	1.00	82.00	1.45	1.70	–0.34	–0.30
6	154	16.26	15.98	1.00	88.00	2.12	5.62	–0.40	0.24
7	146	15.21	13.62	2.00	61.00	1.38	1.59	–0.62	0.30
8	91	18.37	16.52	2.00	92.00	1.81	4.09	0.01	–0.72
9	128	16.51	14.39	2.00	64.00	1.16	.88	–0.60	–0.16

Note. SCL-35: Symptom Checklist-35 (Derogatis, 1992)

Table 4

Descriptive Statistics by Disability Status – Paternal Psychological Symptom Mean Scores

Child Age	SCL Score Means		
	ID	TD	t
3	17.28	16.72	−0.23
4	17.73	16.61	−0.44
5	16.62	17.48	0.34
6	17.13	15.44	−0.63
7	15.30	14.99	−0.13
8	23.80	15.93	−1.96
9	19.43	14.93	−1.66

Note.

*
p<.05,

**
p<.01;

ID: Intellectual Disability; TD: Typical Development; *SCL*: Symptom Checklist - 35 (Derogatis, 1992)

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Table 5

Child Behaviour Problems by Disability Status –M (SD)

Age	Mothers Total T Score, CBCL						Fathers Total T Score, CBCL					
	ID	TD	min	max	t		ID	TD	min	max	t
3	56.75 (9.66)	50.21 (9.68)	28	81	−4.13 ***		56.94 (11.15)	49.48 (9.65)	29	81	−4.43 ***
4	57.70 (11.0)	48.76 (10.16)	29	83	−5.23 ***		56.24 (11.05)	48.06 (10.68)	28	77	−4.60 ***
5	56.26 (12.50)	46.13 (9.94)	28	92	−5.98 ***		56.40 (11.97)	46.43 (11.20)	28	92	−5.53 ***
6	57.33 (9.67)	52.01 (9.15)	34	77	−3.42 ***		57.29 (8.93)	48.82 (9.80)	29	80	−5.27 ***
7	56.78 (9.24)	52.02 (10.27)	26	76	−2.81 **		56.02 (8.94)	48.86 (11.64)	24	78	−3.78 ***
8	57.49 (9.9)	49.70 (10.83)	25	79	−4.03 ***		56.82 (9.56)	47.81 (9.29)	26	77	−4.91 ***
9	57.22 (9.92)	50.36 (10.61)	25	79	−3.65 ***		55.33 (9.72)	46.42 (11.51)	24	76	−4.29 ***

Note.

*
$p < .05$,

**
$p < .01$,

***
$p < .001$;

CBCL: Child Behaviour Checklist (Achenbach, 2000; Achenbach & Rescorla, 2001); *ID*: Intellectual Disability; *TD*: Typical Development

Table 6

Descriptive Statistics by Disability Status Spousal Support - M (SD)

Age	Spousal Support Scale (SASS)				
	ID	TD	min	max	t
3	41.63 (6.13)	40.89 (5.43)	15	50	0.27
4	39.20 (6.10)	40.60 (5.80)	16	50	1.44
5	39.49 (6.48)	40.57 (4.93)	23	50	1.24
6	38.71 (7.25)	40.44 (6.01)	15	50	1.58
7	39.50 (7.22)	40.32 (6.20)	15	50	0.71
8	39.49 (5.80)	40.89 (5.32)	28	50	1.32
9	39.76 (5.88)	39.76 (6.68)	14	50	0.00

Note. Spousal Agreement and Support Scale *(SASS;* Baker & Heller, 1996);

Table 7

Growth Model - Individual Predictors of Paternal Psychological Symptoms

Predictor	γ Coefficient Intercept	Standard Error	γ Coefficient Slope	Standard Error	χ^2 (df)
Intercept with Child Age	2.54 ***	0.08	−0.01	0.02	n/a
Demographic Factors					
Annual Family Income	−0.02	0.06	−0.04	0.02	154.1 (2) ***
Predictors					
ID Status	−0.16	0.12	0.03	0.03	1.2 (2)
Child Behaviour Problems	0.02 ***	0.00	−0.00	0.00	42.5 (2) ***
Spousal Support	−0.01 *	0.00	0.00	0.00	5.4 (2) *

Note.

*
p<.05,

**
p<.01,

***
p<.001;

Outcome: SCL-35 (natural log transformed). Predictors were added in a hierarchical fashion in three steps as indicated in #1–3. The final model equation was:

$$Yij = [2.54 - .01\,(Child\ Age - 3) - 0.2(Income) - .04((Income) \times (Child\ Age - 3)) - .16\,(ID\ status) + 0.3((ID\ status) \times (Child\ Age - 3)) + 0.2(CBCL - \overline{CBCL}) - .00(.4$$

$$(CBCL - \overline{CBCL}) \times (Child\ Age - 3)) - .01(SASS - \overline{SASS}) - .00((SASS - \overline{SASS}) \times (Child\ Age - 3)) + [\zeta_{0i} + \zeta_{1i}(Child\ Age - 3) + \varepsilon_{ij}]$$