Early childhood predictors of mothers’ and fathers’ relationships with adolescents with developmental disabilities

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Abstract

Background The importance of positive parent–adolescent relationships is stressed in research on adolescents, although very little is known about this relationship when a teen has developmental disabilities (DD). We investigated the relationships of adolescents with disabilities with their mothers and their fathers in order to answer a number of questions regarding these relationships. In particular, we asked: are there differences in the relationships of mothers and fathers with their adolescent with DD? Are there early childhood predictors of the parent–teen relationship and are those based on variables that are amenable to intervention? Finally, do these predictors differ for mothers and fathers?

Methods This study focused on the relationships of 72 mothers and 53 fathers with their 15-year-old teens with DD and their predictors from the early childhood years. Data were collected from parents through interviews and self-administered questionnaires, and from their children with disabilities through structured assessment when children were age 3 years and again at age 15 years.

Results Analyses indicated that both mother–teen and father–teen relationships were predicted by earlier parenting stress. The father–teen relationship was also predicted by early behaviour problems, but this relation was mediated by parenting stress. Socio-economic status, type of disability and the child’s level of functioning were not predictive of later relationships between parents and teens. Mothers and fathers did not differ significantly in their reports of perceived positive relationships with their teens.

Conclusions The findings from this study suggest two important points of potential intervention during the early intervention years. First, parenting assistance and support to reduce stress during the early childhood years can benefit both mothers and fathers. Second, helping families and children cope with and diminish problem behaviours is likely to yield multiple advantages for parents and children and deserves emphasis in early intervention and pre-school programmes.

Keywords developmental disabilities, parent-child relationship, parent-adolescent relationship, parenting stress, behaviour problems, early intervention

Introduction

Contemporary research on adolescent development consistently emphasises the importance of connected and positive parent–adolescent relationships...
although adolescence is a time when children gain independence and increase in competence, the need for supportive relationships with parents remains high during this life phase of transition, transformation and realignment (Connell & Wellborn 1991; Lerner 2002). Indeed, parental connectedness has been found to be among the most important factors in the emotional well-being of adolescents (Resnick et al. 1997).

The role of mothers has long been known to be of importance in the lives of their teenaged children. Positive relationships between mothers and their teens have been shown to relate to fewer externalising and internalising behaviours (Corona et al. 2005; Bynum & Kotchick 2006) and higher self-esteem (Bynum & Kotchick 2006; Milevsky et al. 2007) in typically developing adolescents. The role of fathers also is receiving increased attention in the literature on typically developing adolescents. Fathers who are involved in their adolescents’ lives have teens who are better adjusted and who are more satisfied in their relationships as adults (Lamb & Lewis 2004). Positive teen relationships with fathers relate to less alcohol and drug use (Ledoux et al. 2002; Jordan & Lewis 2005), fewer suicide attempts (Ackard et al. 2006) and fewer behaviour problems at school (Williams & Kelly 2005).

In contrast to this increased focus on the parent–adolescent relationship in families with typically developing adolescents, little is known about these parental relationships with their teens with disabilities. Orsmond et al. (2006) investigated the predictors of positive relationships of mothers and their teenaged children with autism, and found that characteristics of children, such as better health, and of mothers, such as low levels of pessimism, predicted better relationships. A qualitative study of adolescents with disabilities and their parents, largely mothers, found that parents felt that relationships with their teens had become more challenged at this time (Schneider et al. 2006), possibly as a result of the length of time that they had been bearing the burden of caregiving. Studies have not focused specifically on the quality of relationships between adolescents with disabilities and their parents.

From a family systems perspective of development (Minuchin 2002), critical relationships and their initial trajectories are often established during the early years of life (Shonkoff & Phillips 2000). The climate in the family when children are young sets a tone that allows children to gain a positive sense of self and a sense of belonging that contributes to their ability to maintain later relations (Minuchin 2002). Attachment theory (Ainsworth & Bell 1970) suggests that the emotional relationship that children develop with parents early in life creates working models that establish a pattern for later relationships. The stress experienced by parents, including daily family hassles, and its reflection in parental behaviours, is related to the ways mothers think about their young children (Aber et al. 1999). As early intervention (EI) programmes work with young children with disabilities and their families, the factors in children’s lives at this juncture provide a key point of intervention. Indeed, Guralnick’s (2005) developmental systems approach to EI places family patterns of relationships at its core. EI services are an important part of the lives of young children with developmental disabilities (DD) and their families, and research suggests the importance of EI in supporting families of children with disabilities (NEILS 2008). No research, however, has investigated the role of early factors in the lives of children with disabilities and their families as they relate to later relationships between parents and adolescents with DD. Such information would be valuable to those who provide services to children and families in EI and preschool programmes as well as to parents themselves, especially if findings relate to constructs that are amenable to intervention. Therefore, the focus of the current investigation is on the following questions: do mothers and fathers differ in their relationships with their adolescent with DD? Are early childhood predictors of the parent–teen relationship and if so, are those predictors based on relatively intransigent variables, such as socioeconomic status or child gender, or are they based on variables that are amenable to intervention, such as psychological processes? Finally, do these predictors differ for mothers and fathers?

In a review of parenting science, Bornstein (2006) maintained that three types of factors are of critical importance in relation to parenting competence: (1) the characteristics of the child; (2) the parenting context; and (3) the intrapersonal or intrapsychic processes of the parents. It is likely that
Indeed, it is likely that early behaviour problems in parents, both contemporaneously and in later years, may interfere with positive relationships with their children. Therefore, early behaviour problems, if not addressed, may interfere with positive relationships with parents, both contemporaneously and in later years. Indeed, it is likely that early behaviour problems and parental responses to them develop a transactional cycle that directs, if not determines, the parent–child relationship.

Parenting naturally takes place within the context of the family. The socio-economic assets of families, including income and parental levels of education, have been explored in many studies and found to relate to parent–child relationships (Bradley & Corwyn 2002) as well as parent–adolescent relationships (Chen & Berdan 2006), with families with greater resources reporting more positive relationships. Parents’ psychological functioning is a valuable part of family relationships. Although parenting any child is associated with some level of stress, high levels of parenting stress may affect parental functioning and prevent the development of a positive parent–child relationship (Cnric & Greenberg 1990; Peterson & Hawley 1998; Östberg & Hagekull 2000; Mckelvey et al. 2002). Consistent with a transactional model of development (Sameroff & Fiese 2000), early parenting stress is likely to relate to the parent–child relationship in an iterative fashion over the years so that early parenting stress may result in less positive parent–teen relationships.

As little research has been conducted with respect to fathers of adolescents with disabilities, it is difficult to predict what factors will influence their relationships with their children. Studies comparing fathers and mothers of children with disabilities have tended to focus on parental stress, depression or adaptation to having a child with special needs and typically have focused on the early childhood years. These studies have shown that predictors of parental stress and depression differ between mothers and fathers (e.g. Keller & Honig 2004; Hastings et al. 2005; Davis & Carter 2008; Mitchell et al. 2009; Òhee et al. 2009), but a clear pattern has not emerged in these findings.

Understanding key predictors of positive parent–adolescent relationships is critical to furthering sources of support for individuals with DD. In this study, we are focusing on parents’ perceptions of their relationships with their teens with DD and the early childhood factors in families and children that predict the quality of those relationships. We expected that the parent–adolescent relationship would be more positive if: (1) parents had greater socio-economic resources through family income and parental education; (2) children were diagnosed...
with Down syndrome rather than other developmental delays; (3) children had higher levels of functioning; (4) children had fewer behaviour problems; and (5) parents experienced less stress associated with parenting when children were exiting EI programmes at the age of 3 years. We expected that each set of constructs would add significant prediction in turn (i.e. above and beyond the others in the equation). Finally, we posited that the factors predicting parent relationships with adolescents would be different for fathers and mothers.

**Methods**

**Participants**

The children and families represented in this study were enrolled in the Early Intervention Collaborative Study, a longitudinal investigation of 190 children with disabilities and their mothers, with 120 fathers participating (Shonkoff et al. 1992; Hauser-Cram et al. 2001). These families were originally recruited in 1985–1987 when they entered EI services in Massachusetts or New Hampshire because of the special needs of their infant or toddler. The current investigation focused on data collected when the children were 3 years old and again at 15 years. At the 15-year data collection time point, 139 families continued to participate in the study, and 112 of the adolescents continued to need educational services and were on Individualized Education Plans. Of these, 72 mothers and 53 fathers, representing 82 families, completed all of the measures utilised in the present analysis in relation to their child at age 3 years and also completed a measure of the parent–teen relationship at age 15 years. These families do not differ significantly from the larger group of parents who participated at the age 15 years data collection point in relation to years of education, family income, race/ethnicity of children or parents, and child’s gender, adaptive score or cognitive score. They also did not differ significantly from the original families in the study on those background variables, nor on the predictor variables of child behaviour problems or parenting stress for either mothers or fathers.

The sample of children with DD included 34 children with diagnoses of Down syndrome, and 48 children with a range of other DD (e.g. cerebral palsy, Rett syndrome, non-specific IDs). The average cognitive performance as measured by a test composite score on the McCarthy Scales of Children’s Abilities (McCarthy 1972) or the Bayley Scales of Infant Development (Bayley 1969), of the sample at age 3 years was 59.4 (SD = 21.4) and the Vineland Adaptive Standard Score (Sparrow et al. 1984) was 63.2 (SD = 11.3). Children’s cognitive scores at age 3 years ranged from 27 to 124, with 72% of children scoring below a score of 70. Adaptive scores ranged from 42 to 106, with 80% scoring below 70. Just over half (54%) of the children were male. The sample was predominantly European American (93%).

**Procedure**

Data were collected through home visits by field staff members who were blind to the study’s hypotheses. These visits included interviews with both fathers and mothers separately and a multidimensional structured assessment with the child. Fathers and mothers also separately completed self-administered questionnaires.

**Measures**

**Parent–adolescent relationship**

Parents completed the Positive Affect Index (Bengtson & Schrader 1990), which is a measure of parent perception of the extent of positive feelings between a parent and a particular child. Parents respond to a 10-item Likert questionnaire consisting of two sub-scales. The first sub-scale, Parent Feelings Toward Teen, asks parents about their feelings of positive affect towards their children, and the second sub-scale, Teen Feelings Toward Parent, asks parents their beliefs about their children’s feelings towards them. Questions in the Parent Feelings Toward Teen sub-scale of this measure includes, ‘How well do you trust your son/daughter?’ and ‘how fair do you feel you are to your son/daughter?’ The Teen Feelings Toward Parent sub-scale includes, ‘How well do you feel your son/daughter understands you?’ and ‘how well do you feel your son/daughter trusts you?’ Responses range from 1 (not well) to 6 (extremely well). As the scales were highly correlated ($r = 0.70$ for mothers and $r = 0.77$ for fathers), these two sub-scales were summed to
create the Positive Affect Index, which has a possible range of 10–60. Moreover, prior investigations of the discriminate validity of the Positive Affect Index reported that the items from both sub-scales load on a single factor, with relatively uniform loadings (Bengtson & Schrader 1990; Bengtson & Allen 1993). Cronbach’s alpha on the Positive Affect Index for this sample was 0.90 for mothers and 0.91 for fathers.

Child disability

Type of disability was drawn from the initial data files at the time of the children’s enrolment in the study and again assessed at age 3 years. The children were categorised into two disability groups: Down syndrome and other DD. Down syndrome was confirmed by medical record review.

Child gender

Child gender was drawn from initial data files.

Socio-economic status

As family income at child age 3 years and parent’s education were correlated ($r = 0.50$), they were combined by averaging standardised scores from the two scales to form a composite measure of socio-economic status.

Child functioning

Child functioning incorporated measures of child cognitive and adaptive skill. Cognitive scores were based on standard scores from the McCarthy Scales of Children’s Abilities (McCarthy 1972) or for those functioning below the limits of the McCarthy Scales, the Bayley Scales of Infant Development (Bayley 1969). Children were individually assessed by trained field staff during home visits when children were age 3 years. Adaptive skills were measured by the Vineland Adaptive Behaviour Score (Sparrow et al. 1984), completed by mothers via interview by trained field staff during a home visit. Cronbach’s alpha for the Vineland Adaptive Behaviour Score was 0.97. As cognitive and adaptive skills scores were highly correlated in this sample ($r = 0.73$), they were combined by averaging standardised scores from the two scales to form a composite measure of child skills.

Child behaviour problems

The Child Behavior Checklist for Ages 2–3 years (CBCL/2–3) (Achenbach & Edelbrock 1983) was completed by mothers and was used to measure the extent of children’s problem behaviours at age 3 years.

The CBCL/2–3 (Achenbach & Edelbrock 1983) is a 100-item measure that assesses a child’s behavioural problems and social competencies. Items are scored 0–2, depending on the degree to which each statement about children’s behaviour characterises the child. The CBCL consists of six sub-scales, which are combined to create two groupings: Externalising (aggressive and destructive behaviour) and internalising (withdrawn, somatic complaints and anxious/depressed) behaviour problems. A ‘total problems’ T-score was used for this investigation. The Cronbach’s alpha for Child Behavior Problems for this sample was 0.93.

Parenting stress

The Parenting Stress Index (PSI) (Abidin 1995) was completed by fathers and mothers when children were age 3 years. The PSI is a 101-item self-administered Likert scale. It is comprised of two sub-scales, child-related stress and parent-related stress, and also yields a total parenting stress score, which was used in this investigation. Responses range from strongly agree to strongly disagree, with higher scores indicating greater stress in the parent–child system. Cronbach’s alpha on the PSI for this sample was 0.94 for mothers and 0.95 for fathers.

Statistical analyses

Descriptive statistics were calculated for all variables (see Table 1). For families in which both parents completed measures, paired sample t-tests were used to compare scores on the mother–teen and father–teen relationships as well as parenting stress. Because of the limited sample size and resulting power considerations concerning the number of variables in equations, initial analyses were conducted to determine if gender related to the outcome variables.

Hierarchical multiple regression analysis was used to test hypothesised relations with family variables (socio-economic status) entered first followed by
child variables (type of disability, functioning and behaviour problems). Parenting stress when the child was age 3 years was entered last to see if this added significantly over and above other variables to contribute to the parent’s later relationship with his or her adolescent. The general order of variables was created so that constructs less amenable to intervention were entered first (such as family socioeconomic status, child type of disability and child functional skills) followed by those more amenable to intervention (child behaviour problems and parenting stress).

Results

The father–teen and mother–teen relationships were first analysed with respect to one another (Table 1). The mothers’ relationships were similar to those of fathers ($r = 0.33$, $P = 0.02$), as was the level of parenting stress ($r = 0.43$, $P < 0.001$). Individual items from the parent–adolescent relationship measure (Bengtson & Schrader 1990) were analysed to determine if parents differed in their reports of these questions; no significant differences were found (Table 2). $T$-tests conducted to test whether the child’s gender was related to either the parent–teen relationship also demonstrated no difference for mothers or for fathers [$t(70) = 0.37$, $P = 0.71$ and $t(51) = -0.80$, $P = 0.43$, respectively].

Initial correlational analyses examined the associations among the outcome variables, mother–teen and father–teen relationships, and the predictor variables (Table 3). As expected, parenting stress was negatively correlated with both father–teen and mother–teen relationships. Disability status and child behaviour problems were correlated with father–teen, but not mother–teen relationships, with fathers reporting more positive relationships with teens with Down syndrome over those with other developmental delays and with teens having fewer behaviour problems.

Regression analyses were conducted to assess the extent to which the mother–teen and father–teen relationships at age 15 years were each predicted by the following age 3 years variables in turn: socioeconomic status, type of disability, child’s functioning, child’s behaviour problems and parenting stress. As indicated in Tables 4 and 5, socioeconomic status was not found to relate to the mother–teen relationship ($F_{1,70} = 1.31$, $P = 0.26$) or the father–teen relationship ($F_{1,51} = 0.09$, $P = 0.77$). Disability status and child functioning at age 3 years also were not found to be related to the mother–teen relationship ($F_{1,69} = 0.15$, $P = 0.70$; $F_{1,68} = 0.02$, $P = 0.89$) or the father–teen relationship ($F_{1,30} = 3.99$ $P = 0.051$; $F_{1,40} = 0.11$, $P = 0.74$) after socio-economic status was included in the equation. Child problem behaviours at age 3 years ($\beta = -0.17$) were unrelated to the mother–teen relationship at age 15 years ($F_{1,65} = 1.75$, $P = 0.19$) (Table 4). In contrast, for fathers, early problem behaviours ($\beta = -0.36$) were related to the father–teen relationship ($F_{1,48} = 6.69$, $P = 0.01$) when entered into the regression model (Table 5). Fathers

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mothers</th>
<th>Fathers</th>
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<tr>
<td>Age 15 years Criterion Variables</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Parent–teen relationship</td>
<td>49.9</td>
<td>7.1</td>
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<tr>
<td>Age 3 years family characteristics</td>
<td></td>
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<tr>
<td>Parenting stress</td>
<td>223.0</td>
<td>43.5</td>
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<tr>
<td>Years of education</td>
<td>14.3</td>
<td>2.3</td>
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<tr>
<td>Family income at child Age 3 years (Age 15 years income)</td>
<td>$25–35K$</td>
<td>$5–7.5K$</td>
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<tr>
<td>Age 3 years child characteristics</td>
<td></td>
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<tr>
<td>Child cognitive score</td>
<td>59.4</td>
<td>21.4</td>
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<td>Child adaptive score</td>
<td>63.2</td>
<td>11.3</td>
</tr>
<tr>
<td>Child behaviour problems</td>
<td>50.1</td>
<td>10.0</td>
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of children experiencing more behaviour problems at age 3 years reported experiencing poorer later relationships with their teens. However, when father’s parenting stress was included in the model, this relation was eliminated, $\beta = -0.07$, $P = 0.64$. Finally, both the mother–teen and the father–teen relationship were predicted by parenting stress ($\beta = -0.54$, $-0.55$, respectively) when the child was age 3 years, over and above that predicted by socio-economic status, type of disability, child functioning and behaviour problems ($F_{1,66} = 14.12$, $P < 0.001$ for mothers and $F_{1,47} = 14.62$, $P < 0.001$ for fathers).

Parents who reported less parenting stress when children were age 3 years reported more positive relationships with their teens at age 15 years (Tables 4 and 5). Further analyses were conducted.
to determine if the sub-scales of child behaviour problems (internalising and externalising), parenting stress (child-related or parent-related) or child functioning (cognitive and adaptive score) contributed uniquely to the parent–teen relationship. Results for each sub-scale were found to contribute similarly to their respective total scales.

Procedures described by Frazier et al. (2004) were used to test the possible mediation of the effects of early behaviour problems and the father–adolescent relationship by father stress. Although a range of options exist for analysing mediation models (MacKinnon 2008), one recommended approach involves testing to see if several conditions are met (Frazier et al. 2004). First, a significant relation must be found between the criterion measure, the parent–adolescent relationship, and the predictor variable, behaviour problems. Second, significant relations must be found between the criterion variable and the mediating variable, father stress, and between the mediating variable and the predictor variable, child behaviour problems. Finally, the relation between the predictor and criterion variables must be completely or significantly reduced when the mediating variable is introduced into the regression equation.

All conditions were met to test father parenting stress as a potential mediator of early behaviour problems and the father–child relationship (Fig. 1). The regression coefficient for child behaviour problems as a predictor of father–teen relationship was reduced from $b = -0.36$, $P < 0.05$ in the penultimate step to $b = -0.07$, $P = 0.64$, in the final model when parenting stress was included. This full mediation was further tested using bias-adjusted bootstrapping with 1000 bootstrap re-samples ($95\%$ CI $= -0.207$, $-0.007$) and found to be significant (Preacher & Hayes 2008).
Discussion

Mother–teen and father–teen relationships were generally positive and not significantly different. The mean scores on this measure (49.8, SD = 7.1 for mothers and 48.4, SD = 7.2 for fathers) were consistent with those reported in other studies of parents’ relationships with adolescents and adults with disabilities using the same measure of relationships (Bengtson & Schrader 1990), such as Essex (2002) (51.2, SD = 5.9 for mothers; 48.7, SD = 6.4 for fathers) and Kring and others, 2008 (47.9, SD = 7.2 for mothers). The results of this investigation, however, point to two critical factors from the early childhood years, at a time when children with disabilities are often enrolled in EI programmes, which have an important relation to the parent–adolescent relationship in later years: the extent of the child’s behaviour problems and the stress that the parents experience in their parenting roles.

Socio-economic status

Socio-economic status, as measured by both family income when the child was age 3 years and parental education, was not found to be related to the quality of the later parent–child relationship for either mothers or fathers in this study. A study of parents of adults with ID similarly found that paternal education was unrelated to fathers’ feelings about their adult children but did find an association between the mother’s level of education and her relationship with her adult child with disabilities (Essex 2002). We note, however, that the sample studied here was primarily middle income; studies with a larger array of low-income families may yield a different set of findings.

Child characteristics

Characteristics of children can create differential responses from parents, leading to variation in the quality of the parent–child relationship (Rubin & Burgess 2002), and this pattern is believed to be true for children and adolescents with disabilities as well as their typically developing peers (Hodapp 2002; Hauser-cram et al. 2009).

In this study, type of disability was found to relate to the father–child, but not mother–child, relationship, and this relation disappeared after including socio-economic status in the model. These findings are consistent with recent studies of the Down syndrome advantage (Stoneman 2007; Corrice & Glidden 2009), which suggest that additional factors, such as income and age, may reduce or eliminate this advantage.

Child level of functioning was not found to relate to the relationships of either mothers or fathers with their teens in this study. This finding is contrary to our prediction and also differs somewhat from that found in a study of parents and their adult children with mild to profound ID, in which both fathers and mothers reported feeling closer to adult children with greater functional skills (Essex 2002). This lack of relation, however, is consistent with the findings from a study of adolescents and adults with autism, in which a diagnosis of ID was not predictive of the mother–child relationship (Orsmond et al. 2006). We speculate that parents may have adapted well to their child’s pattern of functional skills in developing their relationships with their teens. As adolescents move into adulthood, however, when even greater levels of autonomy are expected, the individual’s level of...
functional skills may become more salient to the parent–adult child relationship.

In contrast to early functional skills, we found that children’s early behaviour problems are indicators of potentially deleterious father–teen relationships. Importantly, these results suggest that the stress that fathers feel with respect to parenting their teens may be the process by which the father relates child behaviour problems to the relationship with his teen. This result suggests that early behaviour problems, mediated by the stress they engender in fathers, may stimulate or be the result of difficulty in the father–child relationships. This investigation suggests a link between those early problem behaviours, parenting stress, and the much later relationships of fathers with their teens with disabilities.

Clear relations between the behaviour problems of typically developing adolescents and the parent–teen relationship have been documented in the literature (Marcus & Betzer 1996; Allen et al. 1998; Buist et al. 2004), and for adolescents and adults with disabilities, teen behaviour problems have been found to be a factor in the mother–child relationship (Kring et al. 2008). We did not find a relation between early child behaviour problems and later mother–teen relationships. In a study of parents of adults with disabilities, Essex (2002) also found that behaviour problems predicted the quality of father–child, but not mother–child, relationships. Predictions from the early years were not included in these prior studies.

Although most studies suggest that mother and father ratings of behaviour problems are correlated (Essex 2002; Baker et al. 2003), it is also believed that mothers witness more behaviour problems in children (Baker & Heller 1996). Perhaps because of the frequency with which mothers view such behaviours, they display more adaptation to children’s problem behaviours over time, but this speculation requires testing in future studies.

Parenting stress

Consistent with the relations hypothesised in this investigation, perceived parenting stress when children were age 3 years was a characteristic of both fathers and mothers that acted as a significant factor in the quality of the relationships that parents later reported having with their adolescents. Greater early stress levels were related to poorer relationships between both mothers and fathers and their adolescents with disabilities. We speculate that parenting stress during the early childhood years sets a tone for the dynamic relationships within the family, and that tone in turn, affects parent–child relationships. Parents who are highly stressed in their parenting role have more difficulty being sensitive to their child’s needs and are more likely to respond with over- or under-involvement (Crnic et al. 2005), setting in motion a series of transactions that result in poor parent–child relationships. We additionally speculate that high levels of parenting stress during the early childhood years may affect the internal working models of both children and parents during the attachment process, as has been reported in other studies (e.g. Hadadian & Merbler 1996), and that such models may continue to affect parent–child relationships.

Limitations

This study has several limitations related to the sample and the measures. The families in this sample are largely European American and have moderate incomes. Therefore, the extent to which these findings apply to more diverse families is not known. Also, given the reliance on self-report from parents for some measures, potential biases due to shared variance exist. In addition, concurrent measures of the predictor variables might add valuable perspectives to our understandings of these relations. Many changes and events occur within families over the long period of time investigated here, and further investigations might produce a distinct picture of why early predictors result in such long-term effects. Finally, the view of the parent–adolescent relationship reported here is from the perspective of the parent. The perspectives of other family members, such as siblings, deserve study as does, importantly, the view of the adolescent him or herself.

Other important considerations include the attrition in the sample from age 3 years to age 15 years and questions regarding the direction of the mediating effect of stress on child behaviour problems. Although overall attrition in the sample was not excessive, some parents found the parent–child rela-
tionship measure to be difficult to complete with respect to their adolescent children. Questions about the adolescents’ feelings towards the parents were particularly challenging, as parents did not feel qualified to assess adolescent feelings. As we only utilised data from those individuals who had completed all of the measures needed here, our sample was somewhat restricted. In terms of the mediating effects of paternal stress, there is clearly a possibility here for alternative explanations for this relation as there appears to be a complex relation among early child behaviour problems, parenting stress and later father–adolescent relationships.

Implications

Despite the limitations, we hope that this study will stimulate more research on both mother–adolescent and father–adolescent relationship in families where an adolescent has DD and to the early factors in children and families that can be protective of these relationships in later years. The findings from this study suggest the potential importance of intervention during the early childhood years to help both mothers and fathers reduce their experience of parenting stress. Fathers in particular are often overlooked by service providers, yet many fathers have expressed a desire to have greater involvement with their child with DD (Hadadian & Merbler et al. 2004). Programmes that include families through parent support groups and provision of respite care and that can refer parents to professional therapies, are likely to be able to reduce parental stress (Hastings & Beck 2004). Practices that focus on families have been shown to both reduce child behaviour problems and to improve parent well-being (Dunst et al. 2007). The results of the investigation presented here suggest that this focus is likely to serve children’s social-emotional development and may result in improved relationships with their parents during their adolescent years.

Acknowledgments

This research was supported by Grants R40MC 08956 and R40MC 00333 from the Maternal and Child Health Bureau (Title V, Social Security Act), Health Resources and Services Administration, Department of Health and Human Services. We wish to thank the many children and families who have participated in this investigation.

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Accepted 22 February 2010