Effects of a Father-Based In-Home Intervention on Perceived Stress and Family Dynamics in Parents of Children With Autism


KEY WORDS
- autistic disorder
- child rearing
- family relations
- father-child relations
- stress, psychological

Parents of children with autism report high rates of stress. Parental differences in stress are inconsistent, with most research indicating that mothers report higher levels of stress than fathers. We explored parental differences before and after an in-home training program. Fathers were taught an intervention designed to improve their child's social reciprocity and communication; they then trained mothers. Stress was assessed with the Parenting Stress Index—Short Form, and family dynamics was assessed with the Family Adaptability and Cohesion Evaluation Scales II. Both mothers and fathers reported high preintervention levels of stress. After intervention, fathers' stress was reduced, but not significantly, possibly because of the variability in fathers' scores; mothers' stress scores were significantly reduced. Parenting styles were significantly different before and after intervention. Interdisciplinary teams, including occupational therapists, nurses, and special educators, can work together to have a positive impact on the lives of families of children with autism.


Autism spectrum disorder (ASD), including classic autism, is a complex, lifelong neurodevelopmental disorder that begins in early childhood and persists into adulthood. People with ASD exhibit varying levels of deficits in social interactions, verbal and nonverbal communication, and repetitive behaviors and interests (National Institute of Mental Health, 2007). The prevalence of ASD has continued to increase significantly; the reported occurrence among children in the United States is estimated to be as many as 1 in 90 births (Ganz, 2007). This increase in autism has fueled the demand for services and assistance. Annually, costs associated with this disorder, including health care and rehabilitation, education, transportation, and caregiver expenses, are estimated at nearly $90 billion per year (Autism Society of America, 2008), with each person with ASD accruing approximately $3.2 million in costs to society over his or her lifetime (Ganz, 2007).

ASD varies widely in severity and symptoms. Typically, children with classic autism demonstrate impairments in the ability to make friends with peers and initiate or sustain a conversation with another person. They often show a lack of imaginative or social play, a preoccupation with certain objects, and inflexible adherence to specific routines or rituals (McConachie & Diggle, 2007; National Institute of Neurological Disorder and Stroke, 2009). Many of these behaviors interfere with daily functional tasks and require additional caregiving to manage and facilitate functional performance. The many behavioral characteristics associated with autism have been shown to increase demands on parents, increase parental stress (Phetrasuwan, Miles, Mesibov, & Robinson, 2009), and predict
parental psychological distress (Abbeduto et al., 2004; Lecavalier, Leone, & Wiltz, 2006). Only a few decades ago, most children diagnosed with autism were institutionalized. Today, most live with their families, who must deal with the considerable challenges of raising a child with autism.

The challenges of raising a child with autism have been well documented over the past several decades. Research has demonstrated that parents of children with autism experience greater stress than parents with typically developing children and, in fact, experience greater stress than parents of children with other disabilities, including intellectual disabilities and Down syndrome (Dabrowska & Pisula, 2010; Davis & Carter, 2008; Hastings et al., 2005; Herring et al., 2006; Jones & Passey, 2005; Rao & Beidel, 2009). Early stress studies (Sharpley & Bitsika, 1997) led to subsequent research comparing stress and coping among mothers of children with autism and mothers of typically developing children without autism (Montes, Halterman, & Magyar, 2009; Schieve, Blumberg, Rice, Visser, & Boyle, 2007). Montes et al. (2009) studied >60,000 parents and demonstrated that mothers of children with autism have significantly higher ratings of parental stress and negative psychological functioning than mothers of children without autism.

Although caring for a child with ASD has an impact on quality of life for both parents (Giarelli, Souders, Pinto-Martin, Bloch, & Levy, 2005), most research has focused on mothers (Phetrasawan et al., 2009; Tomanik, Harris, & Hawkins, 2004), who report higher stress levels than fathers (Beckman, 1991; Davis & Carter, 2008; Herring et al., 2006; Sharpel & Bitsika, 1997). Two studies spanning a decade found no parental differences in stress levels (Hastings et al., 2005; Trute, 1995).

Evidence has linked troublesome behaviors of children with autism to high levels of maternal and paternal stress (Hastings et al., 2005; Herring et al., 2006; Lecavalier et al., 2006; Rao & Beidel, 2009; Schieve, Boulet, Boyle, Rasmussen, & Schendel, 2009; Tomanik et al., 2004). In a recent qualitative study, Larson (2010) presented findings from mothers of children with autism who defined their caregiving as more like “vigilance” than “burden” (p. 19). For these mothers, caregiving, which focuses on managing behaviors and providing oversight during participation in self-care and social activities, was perceived as intense, fatiguing, and stressful. Davis and Carter (2008) reported that although mothers had higher rates of stress and higher rates of depression, fathers reported more difficulty interacting with their children with autism. Mothers were more likely to be involved with everyday activities and were more often affected by their child’s inability to eat, sleep, and self-regulate emotions. In contrast, fathers were more affected by externalized behaviors, such as tantrums, and loud or peculiar vocalizations or mannerisms, which may be more difficult to manage and uncomfortable for fathers in public settings (Davis & Carter, 2008). Moreover, the core disability associated with autism is a social one. Parents can find it stressful to deal with a child who does not like to be touched or held, will not respond to their affectionate displays, or will not look them in the eye.

Only a few studies have explored the effects of an in-home intervention on changes in parental stress levels (McConachie & Diggle, 2007). Hastings and Johnson (2001) surveyed parents of children with autism who had participated in a variety of intensive home-based behavioral interventions developed under the direction of Lovaas (1987). Reportedly, both the child’s age at the initiation of the intervention and the length of the intervention correlated with stress. Mothers reported less stress when the intervention was initiated at a younger age and extended for a longer period of time. In contrast, Wong and Kwan (2010) designed a 2-week early intervention program for parents of children with autism that focused on simple, home-based techniques to increase communication skills and social interaction. After this limited intervention, improvements in the children’s behaviors appeared to significantly reduce perceived parental stress.

The literature has clearly indicated that parents of children with autism experience high levels of stress and that interventions designed to improve parent–child interactions and difficult child behaviors may reduce stress in both mothers and fathers. Yet, to date, little is known about fathers of children with autism relative to mothers. Fathers have long been thought to have a significant influence on their child’s development (Lamb, 1987), and healthy father–child interactions have been shown to positively affect child development (Tiedje & Darling-Fisher, 1996). However, literature regarding fathers of children with autism remains sparse, and because mothers are the more common intervening parent, few parent-training methods have been tested with fathers.

Parent training has been empirically validated as a cost-effective treatment technique for teaching parents to modify problematic child behaviors and facilitate child learning (Graham, Rodger, & Ziviani, 2010; Stahmer & Gist, 2001). Historically, the development of more family-focused interventions has shifted from didactic teaching and family therapy models to a more interactive approach in which parents are active participants in the training process (Gross, Fogg, & Tucker, 1995; Webster-Stratton & Herbert, 1993).
Although parents can play key roles in ongoing child training and skills generalization over time (Elder, Valcante, Yarandi, White, & Elder, 2005; Elder et al., 2010; Rogers & Vismara, 2008), clinicians have also long understood not to expect parents to perform actual intensive therapy (Hinojosa & Anderson, 1991). Evidence has suggested that interventions in which parents are taught to relate, play, and synchronize with their child’s attentional focus may be more effective than directive approaches for children with autism, who have difficulty establishing joint attention and learning from the intervention (Wetherby, Watt, Morgan, & Shumway, 2007).

Method

Research Design

We used a quasi-experimental research design to examine perceived paternal and maternal stress and family functioning before and after an in-home father-based parent training intervention. This study received institutional review board approval from the University of Florida–Gainesville, and all participating parents provided signed informed consent for themselves and their children.

Participants

Children were recruited from the University of Florida’s Center for Autism and Related Disabilities for the purpose of completing a 12-wk, in-home training intervention. Inclusion criteria consisted of (1) a diagnosis of autistic disorder according to the criteria of the Diagnostic and Statistical Manual of Mental Disorders (4th ed., text rev.; DSM–IV–R; American Psychiatric Association [APA], 2000); (2) scores above cutoff on each subscale of the Autism Diagnostic Interview Revised (ADI–R; Lord, Rutter, & Le Couteur, 1994) and Autism Diagnostic Observation Schedule (ADOS; Lord, Rutter, DiLavore, & Risi, 2002); and (3) residence ≤150 mi of the study site. Children were excluded if their medical history, physical examination, or both indicated they had physical or sensory impairments or significant medical problems (e.g., seizure disorders, chronic otitis media). Fathers were included in the study if they were biological fathers residing with their autistic child and agreed to be videotaped with their child during the 12-wk protocol. Exclusion criteria for fathers consisted of any physical, major psychiatric, or sensory problems as noted during the intake evaluation (e.g., speech and language disorders, hearing loss) that might affect their ability to conduct training or interact with their children. We applied identical inclusion and exclusion criteria to mothers who agreed to participate.

Instruments

Before inclusion in the study, each child was screened with the ADI–R, ADOS, and the Vineland Adaptive Behavior Scales (Vineland; Sparrow, Balla, & Cicchetti, 1984). The ADI–R is a standardized parent interview used to assess the presence and severity of autistic symptoms. A diagnosis of autism is established if a person scores at or above the cutoff score in the three International Classification of Diseases and Related Health Problems (10th rev.; ICD–10; World Health Organization, 2007) symptom domains (social interaction, communication, repetitive behaviors). The ADOS is a semistructured observational assessment administered directly to the child. Like the ADI–R, instrument validity is based on DSM–IV–TR diagnostic criteria for autism (APA, 2000) and ICD–10 symptom domains. The Vineland is a widely used measure of adaptive behaviors from birth to age 18. This semistructured interview with a parent or a caregiver assesses adaptive (real-life) skills in communication, daily living, maladaptive behavior, and socialization. It is commonly used in autism research because it describes overall areas of deficits in people with autism and measures such hallmark deficits as socialization or social competence (Volkmar, Klin, & Cohen, 1997). All of these instruments have well-established psychometric properties. We also identified communication deficits from parental reports and observations of the evaluative team during the initial outpatient assessment.

Parenting Stress Index–Short Form. The Parenting Stress Index–Short Form (PSI; Abidin, 1995) is a self-report questionnaire that evaluates stress in parents of children the age of our sample. The PSI evaluates perceptions of the parent regarding both self and child. Total PSI scores ≥90 indicate clinically significant levels of stress. Scores on subscales have been reported to range from 0.70 to 0.83 for the child domains and from 0.70 to 0.84 for the parent domains. Test–retest reliability coefficients have ranged from .63 to .82 for child domains and from .71 to .91 for parent domains (Abidin, 1995).

Family Adaptability and Cohesion Evaluation Scales II. The Family Adaptability and Cohesion Evaluation Scales II (FACES–II; Olson, Portner, & Bell, 1982) is a 20-item, 5-point Likert scale instrument that measures family cohesion and adaptability as well as perceived and ideal family functioning. Scores provide information on family cohesion (very connected to disengaged), adaptability (very flexible to rigid), and family type (balanced to extreme). Although a newer and shorter version of the
scale (the FACES–III) is available, FACES–II has higher α reliability and correlation between subscales (cohesion, $r = .93$; adaptability, $r = .79$) than the FACES–III (cohesion, $r = .84$; adaptability, $r = .45$; Olson, 1985).

**Intervention**

We report findings of perceived maternal and paternal stress and family functioning before and after the in-home parent training intervention. Jennifer H. Elder, who developed the model and has been researching and refining this method for >20 yr, taught this father-based in-home intervention to the fathers. Training was standardized and consistent across all participants. Only the father and child were present during the intervention training. After training, fathers were instructed to use the strategies in everyday interactions with their children with autism and to train mothers.

This intervention was unique in that fathers were directly trained to use four strategies designed to promote social interaction and parent–child reciprocity in children with autism. These strategies are linked to social interaction theory (Dawson & Galpert, 1990; Stahmer, 1995) and designed to promote social reciprocity between parents and children with autism. The father-training intervention contained the following components:

1. Following the child’s lead in play rather than sitting passively or directing the child
2. Imitating the child’s vocalizations and movements in an exaggerated, lively, and animated manner to enhance basic turn-taking play interactions
3. Providing clear signals (i.e., facial expressions, verbal requests, labeling) and waiting expectantly for the child to respond in lieu of continuous directive questioning; during this time, eager attention is focused on the child, ending with the desired child response or a parental prompt if the response does not occur after a ≥3-s lapse in time
4. Commenting on the child’s actions, responses, or verbalizations instead of asking questions (a more common parental behavior).

**Data Collection**

Training and data collection occurred in the participants’ homes in a room in which the child was most often exposed to informal family interactions (e.g., family room, den). A research team member administered the PSI and the FACES–II independently to intervention group fathers and mothers at baseline and after the last in-home session before the maintenance condition. Research assistants, who successfully completed extensive training in the study protocol, independently videotaped father–child and mother–child in-home play sessions 2 times/wk for the 12-wk study. Data collectors were not blinded to the study purposes. A more complete description of this intervention and the child behavioral results has been published (Elder et al., 2010), as have prior studies (Elder, Valcante, Won, & Zylis, 2003; Elder et al., 2005).

**Data Analyses**

We used SAS Version 9.1.3 (SAS Institute, Cary, NC) for data analyses. The primary analysis involved a pretest–posttest design to examine changes over the course of the study in PSI total, FACES–II compatibility, and FACES–II adaptability scores. We used paired $t$ tests to test for significant groupwise changes between pretest and posttest for both mothers and fathers of children with autism. As a secondary analysis, we also analyzed the individual components of the PSI for change during the study. These components include Defensive Response, Parental Distress, Parent–Child Dysfunctional Interaction, and Difficult Child. Further secondary analysis compared father and mother values for PSI total, FACES–II compatibility, and FACES–II adaptability at pretest and posttest timepoints.

**Results**

Nineteen children with autism (ages 3–8) and their respective parents participated in this study. The sample of children included 18 boys and 1 girl and four ethnicities. Table 1 provides demographic characteristics of the sample. The analysis involved grouped data across the 19 children and their parents. Note that no significant

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Father ($n = 19$)</th>
<th>Mother ($n = 19$)</th>
<th>Child ($n = 19$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, $M$ (SD)</td>
<td>33.33 (7.16)</td>
<td>36.17 (6.11)</td>
<td>4.41 (1.36)</td>
</tr>
<tr>
<td>Gender, $n$ (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>18 (95)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1 (5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity, $n$ (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>15 (78.9)</td>
<td>13 (68.5)</td>
<td>14 (73.7)</td>
</tr>
<tr>
<td>African-American</td>
<td>2 (10.5)</td>
<td>2 (10.5)</td>
<td>2 (10.5)</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>1 (5.3)</td>
<td>2 (10.5)</td>
<td>1 (5.3)</td>
</tr>
<tr>
<td>Asian</td>
<td>1 (5.3)</td>
<td>2 (10.5)</td>
<td>2 (10.5)</td>
</tr>
<tr>
<td>Education, $n$ (%)</td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>&lt; High school</td>
<td>2 (10.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>1 (5.3)</td>
<td>2 (10.5)</td>
<td></td>
</tr>
<tr>
<td>Some college</td>
<td>8 (42.0)</td>
<td>4 (21.1)</td>
<td></td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>4 (21.1)</td>
<td>5 (26.3)</td>
<td></td>
</tr>
<tr>
<td>Master’s degree</td>
<td>2 (10.5)</td>
<td>5 (26.3)</td>
<td></td>
</tr>
<tr>
<td>Doctorate</td>
<td>4 (21.1)</td>
<td>1 (5.3)</td>
<td></td>
</tr>
</tbody>
</table>

*Note. M = mean; N/A = not applicable; SD = standard deviation.*
relationships existed before intervention with children’s scores on the ADI–R, ADOS, or Vineland and mother–father report of stress (PSI) or family adaptability and cohesion (FACES–II). Total scores (n = 19) were mean (M) = 44.32 and standard deviation (SD) = 6.0 for the ADI–R; M (SD) = 24.68 (5.8) for ADOS; and M (SD) = 60.58 (11.1) for the Vineland.

Fathers

The primary analysis involved pretest–posttest examination of PSI Total, FACES–II Compatibility, and FACES–II Adaptability. Paired t-test results for father sessions are provided in Table 2. The largest observed effect was in PSI total, with M decrease from 90.5 to 83.7 (p = .095). We found that none of the secondary analysis changes (PSI component scores) were statistically significant, although each of them showed an estimated decrease during the study. The largest effect of the PSI components for fathers was the Difficult Child component, with a decrease from 36.2 to 32.8 (p = .066). No statistically significant changes were found for fathers’ FACES–II scores over time. Fathers’ M FACES–II Compatibility change score at pretest was 66.1, with no significant difference at posttest (M = 65.7). Mean FACES–II Adaptability change scores for fathers also failed to show a significant difference from pretest to posttest.

Mothers

The primary analysis involved pretest–posttest examination of PSI Total, FACES–II Compatibility, and FACES–II Adaptability; paired t-test results for mother sessions are provided in Table 3. We observed a significant decrease in PSI Total for mothers (M decrease = 6.5, p = .013). Interestingly, this estimated difference is less than that observed for fathers, but with reduced variability (the SD of change was 16.8 for fathers and 10.3 for mothers). Secondary analysis of PSI components revealed significant decreases for Parental Distress (M decrease = 2.0, p = .041) and Difficult Child (M decrease = 2.5, p = .003) and nonsignificant decreases for Defensive Response (p = .156) and Parent–Child Dysfunctional Interaction (p = .160). At pretest, mothers’ FACES–II Adaptability scores were significantly higher than fathers’ scores. We found no significant changes in mothers’ scores at posttest, and significant differences

### Table 2. Two-Sided Tests of Change From Baseline: Fathers (N = 19)

<table>
<thead>
<tr>
<th>Response</th>
<th>Baseline</th>
<th>Posttest</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSI Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>90.5</td>
<td>83.7</td>
<td>-1.76</td>
<td>.095</td>
</tr>
<tr>
<td>SD</td>
<td>23.5</td>
<td>17.5</td>
<td>-1.63</td>
<td>.120</td>
</tr>
<tr>
<td>DR</td>
<td>15.4</td>
<td>13.8</td>
<td>-1.35</td>
<td>.194</td>
</tr>
<tr>
<td>PD</td>
<td>26.5</td>
<td>24.8</td>
<td>-1.09</td>
<td>.292</td>
</tr>
<tr>
<td>PCD</td>
<td>9.1</td>
<td>7.3</td>
<td>-1.96</td>
<td>.066</td>
</tr>
<tr>
<td>M</td>
<td>27.8</td>
<td>26.0</td>
<td>-0.30</td>
<td>.273</td>
</tr>
<tr>
<td>SD</td>
<td>7.8</td>
<td>5.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC</td>
<td>36.2</td>
<td>32.8</td>
<td>-0.13</td>
<td>.281</td>
</tr>
<tr>
<td>M</td>
<td>45.8</td>
<td>45.6</td>
<td>-0.13</td>
<td>.281</td>
</tr>
<tr>
<td>SD</td>
<td>4.8</td>
<td>4.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. df = 18 for all T scores. A = Adaptability; C = Compatibility; DC = Difficult Child; DR = Defensive Response; FACES–II = Family Adaptability and Cohesion Evaluation Scales II; PCD = Parent–Child Dysfunctional Interaction; PD = Parental Distress; PSI = Parenting Stress Index—Short Form.

### Table 3. Two-Sided Tests of Change From Baseline: Mothers (N = 19)

<table>
<thead>
<tr>
<th>Response</th>
<th>Baseline</th>
<th>Posttest</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSI Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>96.4</td>
<td>89.9</td>
<td>-2.75</td>
<td>.013</td>
</tr>
<tr>
<td>SD</td>
<td>20.4</td>
<td>16.8</td>
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</tr>
<tr>
<td>DR</td>
<td>17.0</td>
<td>15.9</td>
<td>-1.48</td>
<td>.156</td>
</tr>
<tr>
<td>PD</td>
<td>29.1</td>
<td>27.1</td>
<td>-2.20</td>
<td>.041</td>
</tr>
<tr>
<td>SD</td>
<td>8.0</td>
<td>7.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCD</td>
<td>28.8</td>
<td>26.8</td>
<td>-1.47</td>
<td>.160</td>
</tr>
<tr>
<td>M</td>
<td>38.5</td>
<td>36.4</td>
<td>-3.37</td>
<td>.003</td>
</tr>
<tr>
<td>SD</td>
<td>9.0</td>
<td>9.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FACES–II C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>66.1</td>
<td>65.7</td>
<td>-0.30</td>
<td>.273</td>
</tr>
<tr>
<td>SD</td>
<td>6.1</td>
<td>5.8</td>
<td></td>
<td></td>
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<tr>
<td>FACES–II A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>45.8</td>
<td>45.6</td>
<td>-0.13</td>
<td>.281</td>
</tr>
<tr>
<td>SD</td>
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<td>4.9</td>
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</table>

Note. df = 18 for all T scores. A = Adaptability; C = Compatibility; DC = Difficult Child; DR = Defensive Response; FACES–II = Family Adaptability and Cohesion Evaluation Scales II; PCD = Parent–Child Dysfunctional Interaction; PD = Parental Distress; PSI = Parenting Stress Index—Short Form.

*p < .05.
between fathers’ and mothers’ Adaptability scores remained. We found no differences or changes for the FACES–II Cohesion variables.

**Fathers and Mothers**

As a secondary analysis, we compared father and mother values for PSI Total, FACES–II Compatibility, and FACES–II Adaptability at pretest and posttest. We found no statistically significant differences for PSI Total, although observed effects showed fathers having a PSI Total 5.4 points ($p = .334$) lower at pretest and 6.3 points ($p = .168$) lower at posttest. Similarly, we found no statistically significant differences in FACES–II Compatibility, with observed effects showing fathers having FACES–II Compatibility of 3.2 points ($p = .075$) lower at pretest and 1.8 points ($p = .202$) lower at posttest. Significant differences were found, however, between FACES–II Adaptability scores for fathers and mothers at both pretest and posttest, with fathers reporting FACES–II Adaptability scores an average of 5.4 points ($p < .001$) lower at pretest and 5.6 points ($p = .0019$) lower at posttest.

**Discussion**

As previously noted, much research has focused on the complex lives and daily challenges faced by families of children with autism. Our findings were consistent with this view in that both mothers and fathers reported extremely high and comparable stress levels on the PSI before the intervention.

On the basis of PSI normative data, scores within the 15th–80th percentiles are considered normal. High scores are $\geq 85$th percentile, and scores $\geq 90$th percentile are considered clinically significant. Scores for fathers in the PSI component areas of Parent–Child Dysfunctional Interaction and Difficult Child, as well as PSI Total, demonstrated that fathers were experiencing clinically significant levels of stress before the intervention. Although comparisons of preintervention and postintervention scores were not statistically different, each score fell below the clinically significant range after the intervention. Clinically significant scores on the Parent–Child Dysfunctional Interaction subscale imply that fathers do not feel their child is meeting their expectations and personal interactions are disappointing. Past research has demonstrated that the needs of fathers are related to the degree of enjoyment experienced while spending time with the family (Wang et al., 2006). We propose, after years of working with these families, that fathers may also feel isolated and unable to form a secure bond with their child.

Clinically significant scores on the Difficult Child subscale imply the father thinks that his child is difficult to manage, defiant, and demanding. Because the intervention’s focus was to provide the father with tools to enhance his ability to manage his child and increase father–child reciprocity, decreased scores on these subscales after intervention are important outcomes of this study. Additionally, despite significant decreases in mean PSI scores (e.g., a 6.8-point average decrease in PSI Total), large variability in fathers’ change scores and a small sample size may have made it more difficult to obtain statistical significance.

Mothers’ PSI scores in the areas of Parental Distress, Difficult Child, and PSI Total were in the clinically significant range before intervention. Scores for PSI Total and Parental Distress fell below this critical point after the 12-wk intervention, whereas scores for Difficult Child remained at the cutoff point for clinical significance. These three areas were those in which mothers’ scores were statistically lower after the intervention. Two of these areas, Difficult Child and PSI Total, were observed in fathers, but Parental Distress (which focuses on sense of parenting competence, stressors associated with restrictions placed on other life roles, conflict within the family, lack of social support, and possible presence of depression) was observed only in mothers. This finding is consistent with other literature in that mothers often report higher rates of depression, especially when emotional and social support is lacking (Davis & Carter, 2008; Lin, Tsai, & Chang, 2008; Pottie, Cohen, & Ingram, 2009).

We found significant differences between mothers’ and fathers’ FACES–II Adaptability scores at pretest; these differences remained at posttest, although their individual scores did not change over the course of the intervention. The FACES–II Adaptability dimension explores the extent to which the family system and established family roles are flexible and able to change. Within established adaptability levels of very flexible, flexible, structured, and rigid, mothers scored within the flexible level, implying that they were more easily able to adapt and change in response to situational and developmental stressors. In contrast, fathers scored within the structured level both before and after intervention, indicating that they preferred to maintain family-based relationships and established rules and were less willing to negotiate or adapt to change. The FACES–II Cohesion dimension measures the degree to which family members are separated from or connected to their family. Within Cohesion levels of very connected, connected, separated, and disengaged, both mothers’ and fathers’ scores were in the...
demonstrate that fathers can be the primary targets of parental gender and roles. Our preliminary findings also suggest that training strategies may need to be tailored to reflect differences in stress and adaptability exist, a finding suggesting that mother–father differences in stress and reduce its negative consequences. We have also provided evidence that mother–father differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect differences in stress and adaptability exist.

Both parent groups appear to have been positively affected by the 12-wk intervention, as evidenced by observed decreases on average in postintervention PSI Total and Component scores. It is interesting that although fathers were the primary training recipients instead of mothers, father’s reactions to the intervention appeared to vary more than did mothers’. This variation may be the reason that although fathers’ average PSI Total scores decreased slightly more than mothers’ scores at posttest, the fathers’ change was not statistically significant. Less variability in mothers’ PSI scores may indicate that because of their more traditional caregiving roles and frequent child contact, they were more accustomed to the challenges of raising a child with autism (Hastings et al., 2005) and were more accepting of daily changes and intervention effects than fathers. On the basis of results from the FACES–II Adaptability measure, mothers’ high adaptability scores also demonstrated their flexibility within the family system.

The small sample size and lack of a control group may limit our ability to deduce that the intervention alone directly affected perceived levels of stress and family dynamics. Additionally, because the main focus of the study was to evaluate the effects of the in-home training program on acquisition of skills by fathers and social reciprocity and precommunication skills by the children themselves, care must be used in drawing conclusions. Limitations notwithstanding, in-home parent training interventions, such as the one referred to in this study, have shown much promise for families of children with autism.

Despite the limited research conducted thus far on fathers of children with autism, the provision of family-centered services, often by occupational therapists, has been associated with decreased parental stress and positive child outcomes (Law et al., 2003). Our study has shown that teaching parents strategies for relating, communicating, and managing their children may also positively affect family dynamics. It follows from the results of this study that parents of children with autism should be supported in developing methods that will protect them from stress and reduce its negative consequences. We have also provided evidence that mother–father differences in stress and adaptability exist, a finding suggesting that training strategies may need to be tailored to reflect parental gender and roles. Our preliminary findings also demonstrate that fathers can be the primary targets of home-based programs and can effectively learn important interventions for interacting and with promoting social reciprocity skills in their children with autism. Fathers can effectively train mothers to use these strategies. Clearly, more research is urgently needed as occupational therapists endeavor to develop and implement the most effective treatment options for these deserving families.

The complexity of care required by many children with autism and their families often requires an interdisciplinary team of interventionists. This project partnered occupational therapy with nursing and special education. Together, we have shown the value of expanding individual roles to work as a team to provide comprehensive home-based interventions. More important, nurses are often the first to meet with parents of children with autism and assist families with understanding and adjusting to the diagnosis (Elder & D’Alessandro, 2009), and they may refer families to occupational therapists to address daily living skills, participation, and social engagement. Working together, occupational therapists can establish family-based interventions and assist families of children with autism with meeting their present needs and planning for their futures. ▲

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References

Beckman, P. J. (1991). Comparison of mothers’ and fathers’ perceptions of the effect of young children with and

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services for US children with ASD. *Pediatrics, 124*(Suppl. 4), S407–S413. doi: 10.1542/peds.2009-1255L


