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Parental Stress and Autism: Are There Useful Coping Strategies?

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Abstract: According to previous researchers, parents of children diagnosed with Autism Spectrum Disorders (ASD) consistently report more stress than parents of typically developing children or children with other developmental disorders (e.g., Down syndrome). This has peaked interest in the field in a related area, that being, identifying the coping strategies parents use to deal with the stressors of rearing a child on the autism spectrum. The available literature on coping strategies primarily has focused on interviewing parents to find out what strategies they currently use and if these are effective, which has resulted in mixed findings. A selected synthesis of the stress literature pertaining to coping strategies is provided to highlight the high levels of reported stress already experienced by families of children with ASD and what strategies the parents report aid them in coping with the stress. This literature review is presented for two purposes: (a) highlight relevant findings and methodological issues with current research, and (b) discuss implications for researchers and practitioners working with children with ASD and their families who exhibit increased levels of stress.

According to previous researchers, parents of children diagnosed with Autism Spectrum Disorders (ASD) consistently report more stress than parents of typically developing children (Dyson, 1993; Wolf, Noh, Fisman, & Speechley, 1989) and children with other developmental disorders (e.g., Down syndrome) (Boyd, 2002; Sanders & Morgan, 1997). Further, parents of children with ASD report more symptoms of anxiety and marital dissatisfaction than parents of children with other types of disabilities (Dunn, Burbine, Boers, & Dunn, 2001; Holroyd & McArthur, 1976; Konstantareas & Homatidis, 1989). Researchers purport that the treatment of children with ASD may be compromised when parents are experiencing overwhelming levels of stress, exhibiting symptoms of psychopathology (e.g., anxiety, depression), or having difficulty living with and rearing their child with ASD (Robbins, Dunlap, & Plienis, 1991). Thus, effective treatments for this population must provide support to parents as well as their children. However, little is known about coping strategies parents employ to effectively deal with these various stressors or how to design effective parental education programs to combat perceived stressors.

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The available literature on coping strategies for parents of children with autism primarily has focused on interviewing parents to find out what strategies they currently use and if these are effective. Previous researchers have found that parents used a variety of strategies to cope with stressors related to having a child with autism. Parents noted that professional services (Donovan, 1988) and spousal support (Higgins, Bailey, & Pearce, 2005) are effective coping strategies. Others have reported that planning appropriate responses to challenging behavior (e.g., if the child tantrums, I will ignore the behavior) and keeping children with ASD and comorbid behavior challenges separated from siblings also helps (Gray, 2003). Still others have noted that extended family support and social withdrawal decrease

stress (1994). The parents explained it was easier to keep to themselves and avoid embarrassing incidents (e.g., tantrum) that results in stares and comments from others. Given the variety of coping strategies reported by parents, it is not surprising that conflicting research findings exist. For example, Erguner-Tekinalp and Akkok (2004) found social support was not an effective coping strategy for parents of children with autism. In contrast, the sample of parents in the study by Dunn et al. (2001) reported that social supports were effective coping mechanisms for dealing with the daily stress of rearing a child with autism. These discrepancies may be related to the differences between studies, which included socio-economic status, parent occupation, parent education, age of child, and severity of the child. However, the researchers did not provide any data explaining possible reasons for differences. In addition to conflicting findings, some of the strategies parents report as effective may only be providing short term solutions and although temporarily effective may have unanticipated long-term outcomes. For example, the parents who keep children separated from siblings and use social withdrawal as a means to cope may experience decreased levels of stress at first; however, this approach only temporarily displaces the problem, resulting in stress later that may be much worse in severity (Beck, 1995). In addition, the separation from siblings and social withdrawal may inhibit improvement in the social communicative behaviors of their children with ASD (Quill, 1995).

Although the aforementioned researchers have questioned parents regarding what coping strategies they find effective for dealing with stressors related to rearing a child with ASD, there is sparse research on designing educational or counseling programs to help parents cope with these various stressors. Some research has examined the correlation between child, parent, and environmental characteristics and that of parent stress (Bishop, Richler, Cain, & Lord, 2007; Mash & Johnston, 1990). Mash and Johnston's findings suggest that child characteristics are the primary contributor to parent-child stress in families of hyperactive children. In addition, they found that parental cognitions influence parent behavior, which then can effect the parents' relationships with their children. However, this has not been connected to educational or counseling services for parents of children on the autism spectrum.

In summary, researchers have noted elevated stress levels in parents of children with ASD since the 1970s (Lilly, 1977) and the need to address the problem, but much less information is known about effective copings strategies. Therefore, the purpose of this paper is to (a) review the literature on coping strategies parents of children with ASD use to deal with various stressors, and (b) discuss implications for researchers and practitioners working with children with ASD and their families who exhibit increased levels of stress.

Method

The literature review conducted on coping strategies for parents of children with ASD began with a search of electronic databases (ERIC, Education, PsycINFO, and Academic Search Premier) using various combinations of the following keywords: autism, autism spectrum disorders, aspergers syndrome, pervasive developmental disabilities, children, coping strategies, family, mothers, fathers, parents, siblings, and stress. Following the electronic data base search, a hand search was conducted of the following journals: American Journal of Mental Retardation, Journal of Autism and Developmental Disorders, Family Process, Journal of Abnormal Child Psychology, American Journal of Mental Deficiency, Community Mental Health Journal, and Focus on Autism and Other Developmental Disabilities. Finally, after reviewing the retrieved articles, an ancestral search was conducted. These searches produced in excess of 50 articles, 19 of which met the following predetermined inclusion criteria: (a) reported empirical findings or a summary of those findings on familial stress and coping strategies to help reduce stress, (b) focus of study was families with children who have a diagnosis of ASD, and (c) published in a peer-reviewed journal.

The 19 articles that met the criteria were reviewed to determine what coping strategies were effective for parents of children with ASD. Particularly, the studies were analyzed to

determine the characteristics of parents, children, and major findings across studies.

Results

Characteristics of Study Participants

Parent characteristics. As outlined in Table 1, there were 594 parents across studies. The majority of researchers reported the mean chronological age of parents by gender. In addition, most studies included the education level of parents, with only a few including additional information on the number of children in the household. The reported ages of mothers across studies ranged from 25 to 67 years, with the mean ages ranging from 32.46 to 42.4 years (see Table 1). Similarly, the reported ages of fathers across studies ranged 25 to 67 years, with the mean ages ranging from 35.12 to 43.44 years.

Parents' education levels differed within and across studies. The education levels of parents ranged from the completion of some high school to the attainment of a doctoral degree (both mothers and fathers). For example, the study by Dunn et al. (2001) contained participants with partial high school, high school, partial college, college, and graduate school, with the majority having partial college or greater. In contrast, 22 out of 33 (66.7%) of the participants in Gray's (1994) study had a high school education or less. As shown in Table 1, the majority of mothers in each of the 11 (out of 19) studies with reported education levels completed high school and/or attended college. Similarly, the majority of the reported fathers' education levels indicated the completion of high school and the attendance and/or completion of a college degree.

In contrast to the reports of chronological ages and education level of parents, only 7 of the 19 studies reported the number of children in the household. Of the few studies that reported number of children, the number of children in the household ranged from one to eight. Future researchers may want to include data on the number of people, both children and adults, in the household as it may be related to parental stress levels.

Child characteristics. Similar to parent characteristics, child characteristics varied within and across studies (see Table 2). The chronological age of children ranged from 13 months to 26 years, with the mean ages across studies ranging from 28.35 months to 15.2 years. The study samples of children ranged in size from 3 to 141. Only two of the articles included the mental age or I.Q. of the children. Donovan (1988) reported an I.Q. range of eight to 83, and these data were collected from independent agencies that had previously served the children. Rodrigue, Morgan, and Geffken (1990) reported a mean mental age of 2.82 years, with a mean chronological age of 10.71 years, according to the Vineland Adaptive Behavior Scale. All children included in the literature review were diagnosed with an autism spectrum disorder; however, some articles did include only children with other disabilities (these articles were not included in the table or the overall literature review). The researchers did not describe the instruments that were used to confirm the child's diagnosis. The majority of diagnoses were recorded from cumulative folders of the children. No studies reported the grade level or academic measures on the children. Further, only six of the 18 studies reported severity of symptoms or level of symptomology of the children. The researchers noted that the more severe the symptoms and challenging behaviors were in the children, the more stress parents reported (Baker-Ericzen, Brookman-Frazee, & Stahmer, 2005; Feldman & Werner, 2002; Hastings & Johnson, 2001; Higgins et al., 2005; Pakenham, Sohronoff, & Samios, 2004; Tunali & Power, 2002).

Major Findings

Researchers have used different instruments to measure parental stress levels across the studies. They also noted several types of stress affected parents. Further, researchers noted that parents used various strategies to cope with the stress, some more effective than others.

Instruments. Researchers used a variety of instruments to measure stress. Several researchers utilized stress measures previously developed, studied, and psychometrically validated for reliability. For example, Pakenham et al. (2004) used several tested instruments such as the COPE (Carver, Scheier, & Weintraub, 1989) and the Parental Self-Efficacy

TABLE 1

Characteristics of the Parents

Study	*N*	*Age of Mother**	*Age of Father**	*Mother's Education*	*Father's Education*	*Siblings*
Baker-Ericzen, Brookman-Frazee, & Stahmer 2005	64	M = 32.46 (SD = 3.36)	M = 35.12 (SD = 5.41)	HS (7%) Some College (56%) College (22%) Graduate (14%)	HS (7%) Some College (48%) College (19%) Graduate (30%)	NR
Donovan 1988	36	M = 41.7	N/A	N/R	N/R	M = 1.81
Dunn, Burbine, Bowers, & Tantleff-Dunn 2001	58	M = 36.84 (SD = 9.21) - both		Partial HS (3%) High School Graduate (21%) Partial College (30%) College Graduate (33%) Partial or Completed Graduate School (13%)		N/R
Erguner-Tekinalp, & Akkok 2004	10	M = 42.40 (SD = 7.02) - both		N/R		N/R
Feldman & Werner 2002	18 (EG) 18 (CG)	M = 39.05 (SD = 10.36) (EG) M = 39.5 (SD = 10.36) (CG)	M = 42.17 (SD = 7.58) (EG) M = 42.13 (SD = 12.45) (CG)	HS Graduate (n = 8) Community College Diploma (n = 4) University Graduate (n = 0) (EG) HS Graduate (n = 6) CC Diploma (n = 5) University Graduate (n = 2) (CG)	HS Graduate (n = 6) Community College Diploma (n = 0) University Graduate (n = 2) (EG) HS Graduate (n = 7) CC Diploma (n = 3) University Graduate (n = 2) (CG)	N/R
Gray 1994	33	N/R	N/R	HS Education or Less (66.7%)		N/R
Gray 2003	53	N/R	N/R	N/R	N/R	N/R
Hastings & Brown 2002	46	M = 41.04 (SD = 5.00)	M= 43.50 (SD = 5.06)	College (15.3%)	College (25%)	N/R
Hastings & Johnson 2001	141	M = 37.41 (SD = 4.87) - both		College (45.4%)		M=1.22% (SD=0.80)
Hastings et al. 2005	135	M = 37.75 (SD = 5.00)	M = 40.76 (SD = 5.14)	College (27%)	College (37%)	N/R
Higgins, Bailey & Pearce 2005	52	N/R	N/R	N/R	N/R	N/R

Table 1—(*Continued*)

Study	*N*	*Age of Mother**	*Age of Father**	*Mother's Education*	*Father's Education*	*Siblings*
Hutton & Caron 2005	21	N/R	N/R	N/R	N/R	N/R
Leyser & Dekel 1991	82	M = 34.16 (SD = 6.72)	M = 36.46 (SD = 7.88)	N/R	Bible School Graduate (84%)	M = 5.74 (SD = 2.82)
Luther, Canham, & Cureton 2005	18	N/R	N/R	N/R	N/R	M = 2.3
Pakenham, Sofronoff, & Samios 2004	59	M = 40.99 (SD = 5.03)	M = 43.44 (SD = 3.79)	HS (47%) College (53%)	HS (50%) College (50%)	M = 2.51 (SD = .97) (Mother) M = 2.25 (SD = .71) (Father)
Rodrigue, Morgan, & Geffken 1990	20	M = 38.75	N/R	N/R	N/R	Most had two
Stoneman & Gavidia-Payne 2006	67	M = 33 (SD = 6.01)	M = 36 (SD = 7.26)	Some HS (9%) HS Graduate (30%) Some College (27%) College Graduate (27%) Masters/Doctoral Degree (7%)	Some HS (15%) HS Graduate (24%) Some College (24%) College Graduate (22%) Masters/Doctoral Degree (13%)	M = 2.3
Tarakeshwar & Pargament 2001	45	N/R	N/R	HS Graduate (15.6%) Some College (37.8%) BS Degree (24.4%) Some Graduate School (8.9%) Graduate Degree (13.3%)		N/R
Tunali & Power 2002	58	N/R	N/R	Some College (n = 48)	N/R	Most had two (n = 30)

Note. M = mean; SD = standard deviation; N/R = not reported; N/A = not applicable; EG = experimental group; CG = control group; HS = high school; BS = bachelors degree; CC = community college; *Age is in years unless otherwise notated.

TABLE 2

Characteristics of Children

Study	*N*	*Chronological Age**	*MA**	*Diagnosis*
Baker-Ericzen, Brookman-Frazee, & Stahmer 2005	37	M = 28.35 months	N/R	Autism
Donovan 1988	22	M = 14.3	8–83	Autism
Dunn, Burbine, Bowers, & Tantleff-Dunn 2001	N/R	M = 7.47 (SD = 3.31)	N/R	Autism
Erguner-Tekinalp, & Akkok 2004	10	M = 15.2 (SD = 1.93)	N/R	Autism
Feldman & Werner 2002	5 (EG) 6 (CG)	M = 11.33 (SD = 3.56) (EG) M = 10.76 (SD = 5.38) (CG)	N/R	Autism
Gray 1994	N/R	Range = 6-12	N/R	Autism
Gray 2003	32	Median = 12 (5-26)	N/R	Autism
Hastings & Brown 2002	46	M = 12.15 (SD = 2.49)	N/R	Autism
Hastings & Johnson 2001	141	M = 4.98 (SD = 1.50)	N/R	Autism
Hastings, Kovshoff, Brown, Ward, Espinosa, & Remington 2005	51	M = 24.5 (SD = 4.40)	N/R	Autism
Higgins, Bailey & Pearce 2005	58	M = 10.8	N/R	ASD
Hutton & Caron 2005	21	Range = 3-16	N/R	Autism
Leyser & Dekel 1991	3	M = 6.84 (SD = 2.36)	N/R	Autism
Luther, Canham, & Cureton 2005	21	Range = 5-13	N/R	Autism
Pakenham, Sofronoff, & Samios 2004	59	M = 10.77 (SD = .98) (Mother) M = 10.67 (SD = 1.15) (Father)	N/R	AS
Rodrigue, Morgan, & Geffken 1990	20	M = 10.71	M = 2.82	Autism
Stoneman & Gavidia-Payne 2006	3	M = 45 months (13-72 months)	N/R	Autism
Tarakeshwar & Pargament 2001	45	Range = 4-24	N/R	Autism
Tunali & Power 2002	29	M = 9.7 (SD = 2.4)	N/R	Autism

Note. M = mean; SD = standard deviation; N/R = not reported; N/A = not applicable; EG = experimental group; CG = control group; MA = mental age; ASD = autism spectrum disorder; AS = asperger syndrome; *Age is in years unless otherwise notated.

Scale (Sofronoff & Farbotko, 2002). In contrast, a few researchers solely relied on interviews developed for their particular studies. (see Gray 1994, 2003 as an example). As shown in Table 3, four research teams used a combination of formal and informal stress measures (Hastings & Brown, 2002; Luther, Canham, & Curekon, 2005; Tarakeshwar & Pargament, 2001; Tunali & Power, 2002).

The instrument types included scales, questionnaires, interviews, inventories, checklists, and stress indexes. As shown in Table 3, the most common of these instruments used across the identified studies were the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983; 2 out of 19) and versions of the COPE (6 out of 19). These were the only commonalities in instruments across studies other than several researchers who used interviews developed for their respective studies.

Stress and other psychological factors. Research teams discovered numerous types of stress reported by parents of children with ASD. The types of stress (and other psychological factors) commonly identified by the researchers were child related stress (e.g., acceptability, hyperactivity), depression, anxiety, frustration, social isolation, and spousal relationship problems (see Table 3). Although the researchers listed these stresses within separate categories, they are not necessarily mutually exclusive. For example, one parent noted that the social isolation she felt made her more anxious and frustrated (Feldman & Werner, 2002).

Stress reduction strategies. Across studies, there was no one strategy found to be successful for reducing parental stress. While some studies found similar results, others contrasted their findings. Donovan (1988) found

TABLE 3

Major Findings

Study	*Instrument(s)*	*Types of Stress*	*Stress Reduction Strategies*	
			Effective	*Ineffective*
Baker-Ericzen, Brookman-Frazee, & Stahmer 2005	The Parenting Stress Index (PSI), Child Domain subscales, Parent Domain subscales	Child-related stress (adaptability, acceptability, demandingness, mood, distractiblitiy/hyperactivity, reinforces parent) Parent-related stress (depression, attachment, restriction of role, sense of competence, social isolation, relationship with spouse, parent health)	Children with autism were enrolled in an inclusion childcare program. Mothers showed significant reductions in child-related stress only. There were no significant reductions for fathers.	N/R
Donovan 1988	The Questionnaire on Resources and Stress-Revised (QRS), The Locke-Wallace Marital Adjustment Scale-Short Form, The Coping Health Inventory for Parents, Form D	General (e.g., finances)	Reliance upon professional resources and programs outside the family.	Optimistic definition of the situation. Mobilization of family resources. Maintenance and improvement of their own psychological well-being.
Dunn, Burbine, Bowers, & Tantleff-Dunn 2001	The Inventory of Socially Supportive Behaviors, Ways of Coping Questionnaire-Revised, PSI, Internal-External Locus of Control Scale, Life Experiences Survey	Depression Social Isolation Spousal Relationship Problems	Positive reappraisal Confrontive coping Seek social support	Escape-avoidance Distancing External locus of control
Erguner-Tekinalp, & Akkok 2004	QRS, Coping Strategy Indicator, Beck Hopelessness Scale Interviews	Child related stress	N/R	Coping Skills Training Program: - Understanding stress and coping - General coping strategies - Problem solving - Relaxation training - Positive thinking - Social support

TABLE 3—(*Continued*)

Study	*Instrument(s)*	*Types of Stress*	*Stress Reduction Strategies*	
			Effective	*Ineffective*
Feldman & Werner 2002	Child Behavior Management Survey (CBMS), QRS-SF, Beck Depression Inventory (BDI), Interpersonal Support Evaluation List (ISEL), Family Quality of Life Questionnaire	Child related stress	Behavior Parent Training (BPT) is a full service, which included a comprehensive functional assessment, a treatment plan, parent training, and weekly home visits. The experimental group consisted of families that graduated from BPT within the last 5 years.	N/R
Gray 1994	Interviews (Researcher Developed)	General	Use of treatment services Family support Religion Social withdrawal Individualism Other	N/R
Gray 2003	Semi-Structured Interviews (Researcher Developed)	Frustration	Planning appropriate responses Taking things one day at a time Working with their child as a participant in their therapeutic regimen Keeping their autistic child separated from their siblings Talking to friends and family Spousal support Religious coping	N/R
Hastings & Brown 2002	Teacher Report version of the Developmental Behavior Checklist Parent Questionnaire (Researcher Developed), Hospital Anxiety and Depression Scale	Anxiety Depression	Self-efficacy was a mediating variable in mother's anxiety and depression	Self-efficacy was not a mediating variable in father's anxiety or depression

TABLE 3—(*Continued*)

Study	*Instrument(s)*	*Types of Stress*	*Stress Reduction Strategies*	
			Effective	*Ineffective*
Hastings & Johnson 2001	Autism Behavior Checklist, QRS, Family Support Scale, Family Coping Strategies	Depression Parent and Family Problems Pessimism	Adaptive coping strategies Informal social support sources Beliefs about the efficacy of the interventions	N/R
Hastings et al. 2005	Brief-Coping Orientations to Problems Experienced Scale (COPE), Hospital Anxiety and Depression Scale	Depression Mental Health Problems	Positive reframing Religious coping	Avoidance coping
Higgins, Bailey & Pearce 2005	Demographic questionnaire, Family Adaptability and Cohesion Evaluation Scales (FACES II), Quality Marriage Index (QMI), Rosenberg Self-Esteem Scale, Coping Health Inventory for Patients (CHIP)	Physical Emotional Financial Marital relationship stress	Spousal support Optimism Positive self-esteem	N/R
Hutton & Caron 2005	Parent Interview (Researcher Developed)	Stress on marriage Safety concerns Fear of children with autism hurting themselves or others	Adapting family schedules Structure in the home	N/R
Leyser & Dekel 1991	Parent Interview (Researcher Developed)	Financial status Lack of community support	Close contact with family members Seeking advice and information from health care professionals Spiritual guidance	N/R
Luther, Canham, & Cureton 2005	Full-COPES, Demographic questionnaire (Researcher Developed)	General	Parent support groups Reframing (perception of stressful experience) Social support Avoidance	Spiritual support

TABLE 3—(*Continued*)

Study	*Instrument(s)*	*Types of Stress*	*Stress Reduction Strategies*	
			Effective	*Ineffective*
Pakenham, Sofronoff, & Samios 2004	Demographic questionnaire (Researcher Developed), The Childhood Asperger Syndrome Test (CAST), ABCX, Eyberg Child Behaviour Inventory (ECBI), Modified version of the Social Readjustment Rating Scale (SRRS), Brief Social support Questionnaire, Parental Stress in the Management of Asperger Syndrome Scale, Parental Self-Efficacy Scale, COPE, Short Version of the Depression Anxiety Stress Scale (DASS21), Social Adjustment Self-report Questionnaire (SAS-SR),	Depression Anxiety Emotional stress	Benefit finding strategy (positive personality change) Sense making strategy (understanding ASD)	N/R
Rodrigue, Morgan, & Geffken 1990	Parenting Sense of Competence Scale, Ways of Coping Scale, Marital Adjustment Scale, FACES, Impact-on-Family Scale, Mother-child interaction (videotaped session), Social Support Questionnaire	Frustration Anxiety Tenseness	Information seeking Wish-fulfilling fantasy	Self-blame
Stoneman & Gavidia 2006	32-item Dyadic Adjustment Scale, Hassles and Uplifts Scale, COPE	Family adjustment Daily Hassles	Problem-focused strategies were related to better family adjustment for fathers.	Problem-focused strategies were not related to better family adjustments for mothers. Problem-focused strategies were not effective for mothers or fathers with daily hassles.

TABLE 3—(*Continued*)

Study	*Instrument(s)*	*Types of Stress*	*Stress Reduction Strategies*	
			Effective	*Ineffective*
Tarakeshwar & Pargament 2001	Center for Epidemiological Research-Depressed Mood Scale, State-Trait Anxiety Inventory, Stress-Related Growth Scale, Brief COPE Semi structured Interviews (Researcher Developed)	Depression Anxiety	N/R	Negative Religious Coping Strategies (God as unhelpful in parenting their child, perception of religious experiences as aversive to the coping process, and feelings of punishment or having doubts about the benevolence of God) Positive Religious Coping Strategies (being part of God's plan, an opportunity for spiritual growth)
Tunali & Power 2002	Semi structured Interviews (Researcher Developed), Home/ Career Questionnaire Revised Scale for Ambiguity Tolerance (AT-20), Self-Rating Depression Scale, Short-Marital Adjustment Test (SMAT)	N/R	Placed less emphasis on their careers and more on their parental role Engaged in more leisure activities with extended family members Placed less emphasis on others' opinions about their child's behavior Placed more emphasis on spousal support and the parental role in their discussions of marriage Experienced more ambiguity in their child's behavior Showed a tendency toward a greater overall tolerance of ambiguity	N/R

Note. M = mean; SD = standard deviation; N/R = not reported; N/A = not applicable.

that parents who relied on professional resources and programs outside the family experienced decreased levels of stress. They further discovered that having an optimistic definition of the situation, mobilization of family, and maintenance and improvement of their own psychological well-being were not identified as effective for decreasing stress. Families in a study conducted by Luther et al. (2005) effectively coped with stress through parent support groups and social support. However, those researchers did not find spiritual support to be effective, which is in contrast to families in the studies by Leyser and Dekel (1991) and Gray (1994). Further, several parents across studies noted that spousal support helped them cope with stress (Gray, 2003; Higgins et al., 2005); yet, spousal relationship problems was a common type of stress experienced by some parents (Baker-Ericzen et al., 2005; Dunn et al., 2001; Hutton & Caron, 2005).

Discussion

Researchers who study familial stress find that parents of children with ASD are at an increased risk for high stress levels in comparison to parents of children with other developmental disorders or typically developing children. The exact source of their stress is undetermined, but may be attributed to difficulty finding an accurate diagnosis, dealing with characteristics of the child, and accessing social support (Dunn et al., 2001). Further, the anxiety related to raising aging children with disabilities increases over time as does the vulnerability to disruption in informal supports (White & Hastings, 2004). Thus, professionals need to provide education and support services early and longitudinally.

The perceived parental stress associated with rearing a child with ASD is a consistent finding (Feldman & Werner, 2002; Gray, 2003; Hutton & Caron, 2005). If a parent is concurrently experiencing high levels of stress because of the recent diagnosis of the child, then the service provider may be inadvertently adding an additional stressor. Access to formal (e.g., parent support groups) and informal sources (e.g., family, friends) of social support can provide a coping mechanism for families of children with autism (Boyd, 2002). In a review of the literature on the social support needs of mothers of children with autism, Boyd found that contact with supportive family members and parents of other children with autism decreased parental stress. It is important to note that high levels of parental stress are associated with an increased likelihood that the child with autism will be placed out-of-home (Raif & Rimmerman, 1993). Unfortunately for parents, as the age of their child increases, their number of support options often decreases. In a follow-up study of 31 Australian parents conducted ten years after the original, Gray (2002) found that as children with autism aged, the number of treatment and support options for them reduced. In addition, Minnes and Woodford (2005) found that 65% of parents reported age-related change adversely affected their life. For example, as parents aged, they worried more about lack of services for an older child with ASD and future guardianship of their child with ASD. Although levels of parental stress related to such areas as diagnosis and early intervention tend to subside overtime (Gray, 2002), parents' feelings of anxiety about their children's future come to the forefront. Obviously, parents need continued access to treatment services and residential placement options for their aging children. Hopefully, this will help to avoid the feelings of "pessimism about their child's future" Sanders and Morgan (1997) found among parents of children with ASD and Down syndrome. Parents of children with ASD also report less involvement in recreational and sporting activities, which may contribute to social isolation and subsequently higher stress levels. Providing parents respite care services for their children or information on programs that provide modifications and accommodations for individuals with disabilities may allow parents to participate in more leisure-type activities to help them cope, which has been reported to be an effective coping strategy for several parents (Dunn et al., 2001; Luther et al., 2005). Minnes and Woodford (2005) found that the two greatest concerns of parents with children with ASD were limited access to parent support groups and parent education.

Implications for Practitioners and Researchers

In the field of education, our roles as service providers are sometimes blurred as we offer counseling, friendship, and support to the family who has a child with disabilities. Although these services typically are performed in an effort to provide family-centered support, practitioners can cross the line into unfamiliar territory, which may lead to ill-conceived advice being given and or to the estrangement of the parent-provider relationship. One mother's brief account of her child's diagnostic evaluation provides such an example: "Well, the speech therapist came out of the room and just flat out told me that Matthew had autism, and I was floored by that, but then she proceeded to say that there was a 50/50 chance that the baby I was carrying would have autism too" (personal communication, 1999). Thus, coinciding with interventions for children with ASD, it is imperative for practitioners and researchers to (a) help parents cope with stress, and (b) examine options for aging individuals with ASD.

Address Parental Stress

Researchers need to examine the various coping strategies identified in this review and other literature and determine what strategies work best for various types of parents. The research also should match the appropriate strategies to parents with similar characteristics and determine the effects on parental stress. For example, researchers may examine the impact of parental education level or socioeconomic status on the reported parental stress and/or strategies that are effective. In addition, future research may examine how cultural or linguistic diversity affect parental stress and/or coping strategies that are effective. For example, are parents for whom English is not their first language more stressed because of limited access to support groups or information provided in their first (or native) language? However, to do this research, researchers may need more uniformity in measures used to measure stress in parents. When the coping strategies are identified and matched to particular stressors and parental characteristics in the research, practitioners may then teach parents to use the strategies that best align to their particular situation and characteristics.

Practitioners also could help strengthen informal and formal sources of support for parents. For example, practitioners could provide information on counseling services for the family or marriage counseling. However, practitioners should be careful about immediately assuming couples need intensive marriage counseling. In addition, practitioners could identify programs such as 'parent night out' where organizations provide care for children with ASD so couples can focus on strengthening their relationships.

Options

Another area under researched that is related to stress of parents of children with ASD, particularly to those of aging children, is treatment and options for older individuals on the autism spectrum. For example, what do parents do who have aging children with lower functioning autism? Currently, there is little to no research with this sub-population. Also, parents need to know service options that may help them plan for transitions to work or post-secondary placements. These options may include such services as vocational rehab, private organizations that provide training, a university that has support programs for individuals with ASD. Providing parents with these supports and options may help alleviate some stress.

Conclusion

In summary, the reported parental stress associated with rearing a child with autism is a consistent finding (Feldman & Werner, 2002; Gray, 2003; Hutton & Caron, 2005). As a result of this finding, a number of researchers have begun to identify coping strategies parents employ to cope with the stressors of rearing a child with ASD. The research in this area has not been consistent. Across studies identified in the current literature review, there was no one strategy found to be successful for reducing and/or coping with parental stress. Future research teams should examine the various coping strategies identified in this review and other literature and determine what strategies work best for various types of par-

ents. Research also should match the appropriate strategies to parents with similar characteristics and determine the effects on parental stress.

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