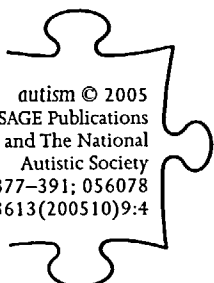


Coping strategies in mothers and fathers of preschool and school-age children with autism



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ABSTRACT Despite the theoretical and demonstrated empirical significance of parental coping strategies for the wellbeing of families of children with disabilities, relatively little research has focused explicitly on coping in mothers and fathers of children with autism. In the present study, 89 parents of preschool children and 46 parents of school-age children completed a measure of the strategies they used to cope with the stresses of raising their child with autism. Factor analysis revealed four reliable coping dimensions: active avoidance coping, problem-focused coping, positive coping, and religious/denial coping. Further data analysis suggested gender differences on the first two of these dimensions but no reliable evidence that parental coping varied with the age of the child with autism. Associations were also found between coping strategies and parental stress and mental health. Practical implications are considered including reducing reliance on avoidance coping and increasing the use of positive coping strategies.

KEYWORDS

coping;
fathers;
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Introduction

Parents of children with autism often report more parenting stress than either parents of children without disabilities or parents of children with

other disabilities such as Down's syndrome (e.g. Dumas et al., 1991; Rodrigue et al., 1990; Sanders and Morgan, 1997). It is clear, however, that many families adapt successfully to the demands of raising a child with autism. According to general stress and coping theory (e.g. Lazarus and Folkman, 1984) and theories more specific to families of children with disabilities (e.g. Crnic et al., 1983; McCubbin and Patterson, 1983), families adapt successfully at least partly through the development of individual and/or family coping strategies. In support of this general observation, parents who adopt escape-avoidance strategies to cope with the stresses of raising children with autism have been found to report more stress and mental health problems; in contrast, those using positive reframing strategies report less stress (e.g. Dunn et al., 2001; Hastings and Johnson, 2001).

Despite the potential theoretical and practical significance of the study of parental coping in families of children with autism, there have been surprisingly few studies of the types of coping strategies used and how these might change over time. There is good reason to suspect that coping in parents of children with autism may well be different to that of parents of children with other conditions. In particular, broader theory suggests that coping is context-dependent (Carver et al., 1989). Therefore, both the nature of the stress and the interaction between stressors and the environment (e.g. limitations imposed on the availability of certain coping strategies owing to smaller social support networks for parents of children with disabilities) should affect the development of coping efforts. After extensive literature searches, we were unable to locate any published papers describing the structure of coping strategies adopted by parents of children with autism. A useful methodological approach to address this question is to adopt a broadly based coping measure and to use factor analysis to identify the underlying structure of coping (cf. Carver et al., 1989; see Mitchell and Hastings, 2001 for an application of this approach).

In addition to a likely difference between parents of children with and without autism, the discussion above would suggest that coping strategies vary within families, because family circumstances are not homogeneous. In the present research, we focus on two variables that one would expect to have a powerful effect on the nature of coping strategies identified by parents of children with autism. First, we examine possible differences between the coping strategies of mothers and fathers of children with autism. In most families, including those of children with autism, mothers report more stress than fathers (Beckman, 1991; Bristol et al., 1988; Goldberg et al., 1986; Gray and Holden, 1992; Hastings, 2003; Heller et al., 1997; Rousey et al., 1992; Sloper et al., 1991; Trute, 1995). It seems likely that mothers and fathers will report different ways of coping with parenting stress or perhaps just different frequencies or intensities of using

certain coping strategies. There is some direct evidence that mothers' and fathers' coping strategies differ. In a study of 133 married parents of adult children with intellectual disabilities, Essex et al. (1999) found that mothers used problem-focused coping strategies (e.g. problem-solving, seeking advice and support) more frequently than fathers but no difference was found for emotion-focused strategies (e.g. avoiding stressful situations, denial). A similar pattern was also found in Gavidia-Payne and Stoneman's (1997) research where mothers of 0- to 5-year-old children with developmental disabilities were more likely than fathers to seek social support as a coping strategy.

A second variable that may well affect parental coping relates to the cycle of caring and thus to the age of the child with a disability (cf. Essex et al., 1999). Stress, and family adaptation, appear to vary considerably as the child develops through infancy, childhood, adolescence and into adulthood. It is unlikely that parenting stress changes linearly as the child ages, but parents' experience of stress changes over time. If we accept a model that suggests that families readjust to changing circumstances in order to maintain an adaptive balance (Patterson, 1988), we would predict that the nature or the frequency of parental coping will change over time, perhaps in a manner associated with caring events linked to a child's age. Support for this general prediction has been found in a number of studies. In longitudinal qualitative research with parents of children with autism Gray (2002) found that both the stressful situations experienced and the reported coping responses changed over the course of a 10 year study of over 30 families. In cross-sectional research, Orr et al. (1993) found that parental stress was higher during middle childhood than during the preschool and adolescent years.

The purpose of the present study was to explore the two broad issues identified in the preceding discussion. First, we sought to explore the structure of coping strategies used by parents of children with autism. This would have implications for future research that could identify autism-specific coping, but would also allow exploration of our secondary questions. These included addressing two key variables that might affect parental coping: parent gender (both mothers and fathers were recruited for the research) and the age of the child with autism in the family (samples of families with preschool and school-age children were recruited). Finally, we explored associations between parental coping strategies and parental stress and mental health. Given the lack of previous research on coping in families of children with autism, we made no particular predictions about the structure of coping expected and formulated no strong directional hypotheses relating to the effects of parent gender and child age. However, we did expect to find that coping strategies, including avoidance, would be

related to increased stress and more mental health problems, and those reflecting positive reframing to be related to decreased stress.

Method

Participants

Two samples of parents were recruited into the study. Sample 1 included 26 mothers and 20 fathers who were the biological parents of school-age children with autism (one mother was a foster mother). The mothers' mean age was 41.04 years ($SD = 5.00$) and, although 15 per cent had a university education, their modal educational level was a high school certificate. The fathers' mean age was 43.50 years ($SD = 5.06$), 25 per cent had a university education, and their modal level of education was also a high school certificate. Within the sample, there were 20 couples and six mothers who were separated or divorced. All the parents in the sample had children who attended the same local school for children with autism. Their children were 12.15 years of age on average ($SD = 2.49$, range 8–17 years), 18 were male and eight were female. Thirteen of these 26 children resided at home on a permanent basis (apart from occasional respite) and the remainder either lived in full-time residential provision or were weekly boarders at the school.

Sample 2 were parents (48 mothers and 41 fathers) of preschool children with autism enrolled in research associated with the Southampton Childhood Autism Programme (SCAmP). SCAmP is a project evaluating the effects of intensive behavioural intervention for young children with autism. Data from participating families provided during the baseline phase of SCAmP have been included in the present analysis. Twenty-five children were to be enrolled in an Applied Behaviour Analysis (ABA) home programme (run either by SCAmP, or by another ABA provider in the UK), and the remaining 23 were a control sample. The mothers' mean age was 34.46 years ($SD = 4.07$) and, although 33 per cent had a university education, their modal educational level was a high school certificate. The fathers' mean age was 38.02 years ($SD = 5.14$), and 44 per cent had a university education (also their modal level of education). Within the sample, there were 45 couples. Four families had a father at home, but he had declined to participate in the research. In three families, fathers who were not living in the same home as the mother and the child with autism did not participate in the research. The children with autism were 37 months of age on average ($SD = 4.40$, range 28–45 months), 41 were male and seven were female. All lived in the family home.

Coping measure

Parents' strategies for coping with stresses associated with raising a child with autism were measured using Carver's (1997) brief situational format of the COPE inventory (Carver et al., 1989). Carver and colleagues developed the COPE as a flexible multidimensional coping inventory for a broad range of applications in applied psychology. In the Brief COPE, 28 items are presented in the form of a coping statement and respondents are asked to rate whether they have or have not been using each way of coping on a fully anchored four-point scale ranging from 'I haven't been doing this at all' to 'I've been doing this a lot'. Parents were asked to consider the extent to which they used each coping strategy to deal with the difficulties associated with raising their child with autism.

The Brief COPE has 14 subscales representing a broad range of coping strategies (see Table 1 for abbreviated items). The Brief COPE was chosen in preference to other coping questionnaires for three main reasons: (1) it encompasses a broad range of coping strategies; (2) it can be presented in a situational rather than a trait format and thus we could explore coping specifically associated with the demands of a child with autism; and (3) it is shorter and therefore quicker to administer than the full version of the COPE.

Parental wellbeing measures

Parents' mental health was measured using the Hospital Anxiety and Depression Scale (HADS; Zigmond and Snaith, 1983). Although originally developed for residential populations, this measure has been used extensively in community research. The HADS contains 14 four-point items, with seven assessing depression (e.g. 'I feel as if I am slowed down') and seven assessing anxiety (e.g. 'I get sudden feelings of panic'). A dimensional approach was taken for the analysis in the present study with total scores on the two subscales being used. Previous research with parents of children with autism has shown that the HADS maintains good reliability (internal consistency) within these populations for both mothers and fathers (Hastings, 2003; Hastings and Brown, 2002).

As a general measure of parental stress, the parent and family problems subscale of the Questionnaire on Resources and Stress-Friedrich short form (QRS-F; Friedrich et al., 1983) was chosen. This scale contains 20 items assessing impact on the parent and family (e.g. 'Other members of the family have to do without things because of N', and 'N is able to fit into the family social group'). Parents are asked to indicate whether the items are true or false as far as they and their family are concerned. A total stress score is derived by summing the number of negatively endorsed items (i.e. positively worded items are reverse scored). Five items that have been

Table 1 Factor loadings for analysis of Brief COPE items

	Factor			
	Active avoidance coping	Problem- focused coping	Positive coping	Religious/ denial coping
% total variance	14.76	13.84	10.10	9.57
Cronbach's alpha	0.78	0.82	0.68	0.73
Item and number				
11 Use alcohol/drugs to get through	0.774	-0.032	-0.083	-0.056
4 Use alcohol/drugs to feel better	0.723	-0.059	-0.104	-0.068
16 Give up attempt to cope	0.645	-0.133	-0.055	0.248
26 Blame myself for things that happen	0.617	0.187	-0.085	0.112
13 Criticize myself	0.615	0.136	0.027	0.004
6 Give up trying to deal with it	0.582	-0.365	0.014	-0.023
19 Do something to think about it less	0.496	-0.017	0.267	-0.351
9 Say things to let feelings escape	0.465	-0.014	0.101	0.197
21 Express negative feelings	0.451	0.077	0.382	0.082
20 <i>Accept reality that it has happened</i>	-0.438	0.195	0.390	-0.347
25 Think about what steps to take	-0.113	0.768	0.165	0.058
7 Take action to make situation better	-0.187	0.749	0.060	0.027
14 Come up with strategy about what to do	-0.037	0.730	0.339	-0.142
2 Concentrate on doing something about situation	-0.037	0.729	0.106	0.131
10 Help and advice from others	0.059	0.698	-0.123	0.010
23 Advice/help from others about what to do	0.181	0.601	-0.126	0.016
5 Get emotional support from others	0.095	0.468	0.282	-0.046
18 Make jokes about situation	0.119	-0.064	0.774	-0.171
17 Look for something good in situation	-0.159	0.183	0.641	0.003
28 Make fun of situation	0.176	-0.166	0.546	-0.118
12 See in a different light to make seem more positive	-0.013	0.202	0.529	0.344
24 Learn to live with situation	-0.170	0.315	0.473	-0.274
15 Get comfort and understanding from someone	-0.102	0.340	0.461	0.082
22 Find comfort in religious beliefs	0.022	-0.025	0.048	0.745
27 Pray or meditate	-0.023	0.047	0.086	0.734
3 Say to myself: 'This isn't real'	0.379	0.049	-0.162	0.596
8 Refuse to believe what has happened	0.337	-0.015	-0.284	0.590
1 <i>Turn to work or other activities to distract</i>	0.420	-0.109	0.104	-0.473

Significant loadings are shown in bold type.
Excluded items are shown in italic type.

shown to constitute a robust measure of depression in parents of children with disabilities (Glidden and Floyd, 1997) were removed from the scale. This ensured that there was no overlap between the measures of stress and of mental health used in the present research.

Procedure

The data collection procedure varied slightly for the two samples involved in the study. For sample 1, parent questionnaires that included the Brief COPE and the wellbeing measures were mailed to each child's home address and then returned in a prepaid envelope to the researchers. For sample 2, parent questionnaires that included the Brief COPE and parental wellbeing measures were also mailed to the home but parents returned them in a sealed envelope to a team member when they were visited for other assessments in their home.

Results

Factor structure of coping strategies

Factor analysis was used to identify the structure of parental coping in families of children with autism. For this analysis, data for all parents across both samples were used giving a total sample size of 135. There are a number of guidelines about the minimum items:cases ratio for factor analysis. These can range from 1:2 to 1:10. However, there is general agreement that a minimum ratio of 1:5 is required (Floyd and Widaman, 1995; Gorsuch, 1983; Tabachnick and Fidell, 1989) with a total sample size of at least 100 (Gorsuch, 1983). The sample in the present analysis (ratio of items:cases of 1:4.8, sample > 100) met these basic criteria. A principal components factor analysis with varimax rotation was used. Using the Scree Test (Cattell, 1978), generally considered to be the most suitable technique for deciding the number of factors to extract (Kline, 1994), four factors were extracted. There was an unambiguous change in slope on the scree plot at four factors. The results of the factor analysis are displayed in Table 1.

Brief COPE items were included as part of four new coping scales if they met two basic criteria: (1) they loaded > 0.40 on one of the factors and < 0.40 on the other three factors, and (2) their loading on the main factor was positive. The application of these criteria led to the exclusion of item numbers 1 and 20. Factor 1 (active avoidance coping) included all of the items from the original Brief COPE subscales for substance use, behavioural disengagement, self-blame, and venting of emotions, and one item from the distraction scale. These coping strategies seemed to reflect active attempts to avoid the stressor or escape from its effects. Factor 2 (problem-focused

coping) included all of the items from the original Brief COPE scales for planning, active coping, and seeking instrumental social support, and one item from the seeking emotional social support scale. Thus, this factor most clearly represented problem-focused coping strategies. Factor 3 (positive coping) included the Brief COPE items for the use of humour and positive reframing, and one item each from the acceptance and emotional social support scales. This factor seemed to be best characterized by attempts to adopt positive coping strategies. Factor 4 (religious/denial coping) was a mixed factor that included all the Brief COPE items for religious coping and denial.

Table 1 also shows the value of Cronbach's alpha for the items included in each of the four new coping scales across the total sample. These values were at least acceptable and generally good, indicating internal consistency in these new scales.

Effects of child age group and parent sex on coping

For each respondent, a score on the four coping dimensions was obtained by summing his/her scores on the constituent items. These measures were then used to assess the putative effects of parent gender and the child's age on coping strategies. A 2 (child age group: preschool v. school-age) \times 2 (parent gender) split plot analysis of variance was carried out for each of the coping scales. Parent gender was identified as a repeated measures factor because coping strategies were being reported in relation to the same child with autism within the family. Thus, these analyses focus only on the 20 couples from sample 1 and the 41 couples from sample 2.

The analysis of active avoidance coping revealed a main effect of parent gender ($F(1, 59) = 13.36, p < 0.001$) but no effect of child age group and no interaction effect. Mothers reported more frequent use of active avoidance coping strategies than fathers. The analysis of problem-focused coping also revealed a main effect of parent gender ($F(1, 59) = 31.28, p < 0.001$) and a main effect of child age group ($F(1, 59) = 7.64, p < 0.01$) but no interaction effect. These effects were due to mothers reporting using problem-focused coping strategies more frequently than fathers, and parents with preschool children reporting more frequent use of these coping strategies than parents of school-age children. There were no main effects or interaction effects for the positive coping and religious/denial coping scales.

There were two other factors in the present research that may have had a bearing on these results. First, in sample 1, the children of one half of the families resided at the school either as weekly boarders or during the school term period. Exploratory analyses revealed that mothers whose school-age children were living at home reported more frequent use of positive coping

strategies ($t(24) = 3.03, p < 0.01$) and less frequent use of active avoidance coping strategies ($t(24) = 2.93, p < 0.01$) than mothers whose children were school boarders. No such differences were found for fathers. Because this variable may well have influenced the result relating active avoidance coping to parent gender, maternal and paternal scores on this scale were again compared after the boarding children's parents were removed from the sample. The gender difference described in the main analysis above was still found to be significant ($t(49) = 2.46, p < 0.05$).

A second factor that requires some supplementary analysis concerns whether the children in sample 2 were to be engaged in ABA programmes or in a control condition. Because there was no random assignment of families to these groups, it was possible that they showed some pre-existing differences in coping strategies. Again, exploratory analyses revealed that this was indeed the case: mothers in the ABA subgroup reported more frequent use of problem-focused coping strategies ($t(46) = 2.77, p < 0.01$). No other differences for mothers and no differences for fathers were found. The child age group effect identified in the main analysis for problem-focused coping may well have arisen because of the scores of the ABA subgroup mothers. There was no difference between mothers of preschool children in the control subgroup and mothers of school-age children on this scale, but the difference between the ABA mothers and the mothers of school-age sample was significant ($t(49) = 3.22, p < 0.01$).

To explore the relationships between parental wellbeing and coping strategies, correlations were computed separately for mothers and fathers between the four coping scales and the stress and mental health measures. The results of these analyses are summarized in Tables 2 and 3. These correlations show that active avoidance coping for both mothers and fathers is associated with more stress and more anxiety and depression symptoms. Religious/denial coping was also associated with depression in mothers and both depression and anxiety in fathers. Finally, positive coping was negatively associated with depression in both mothers and fathers: those parents adopting more positive coping strategies reported lower levels of depression.

Table 2 Correlations between maternal coping and maternal wellbeing

<i>Coping dimension</i>	<i>Anxiety</i>	<i>Depression</i>	<i>Stress</i>
Active avoidance	0.477***	0.427***	0.562***
Problem-focused	0.012	-0.105	-0.139
Positive	-0.151	-0.333**	-0.086
Religious/denial	0.123	0.246*	0.002

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 3 Correlations between paternal coping and paternal wellbeing

Coping dimension	Anxiety	Depression	Stress
Active avoidance	0.530***	0.497***	0.364**
Problem-focused	-0.032	-0.187	-0.051
Positive	-0.129	-0.259*	0.056
Religious/denial	0.257*	0.280*	-0.051

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Discussion

The factor analysis presented in this study suggests that four key coping dimensions are relevant to parents raising a child with autism. Active avoidance coping and problem-focused coping appear to map quite clearly onto a typical emotion-focused versus problem-focused categorization prevalent in much stress and coping research (e.g. Folkman and Lazarus, 1980). Problem-focused coping in this study was not associated with parental stress or mental health. However, active avoidance coping was related to more stress and mental health problems in both mothers and fathers. These data replicate findings from previous research suggesting that active avoidance coping is an unhelpful approach to coping with the demands of raising children with autism.

The other two coping dimensions identified in the factor analysis may be more specific to coping with the demands of a child with a disability or a child with autism. Regarding positive coping, there is gathering evidence that the use of positive reframing of potentially traumatic and stressful events may be one of the only effective coping strategies under extreme conditions where it is very difficult to act directly to reduce the impact of the stressor. For example, thinking positively may help carers of HIV/AIDS patients to adapt (Folkman, 1997; Folkman and Moskowitz, 2000) and has been found to be a strong predictor of recovery from serious heart surgery (Affleck and Tennen, 1996). Hastings and Taunt (2002) suggested that parental positive perceptions about children with severe disabilities such as autism might also serve an adaptive function by helping parents to cope with relatively high levels of stress. In the present study, and consistent with findings in previous research, positive coping was associated with lower levels of depression in mothers and fathers of children with autism. Further empirical research is needed to explore how this positive coping dimension may help parents, and potentially other family members, adapt to the stresses of raising children with autism.

The final coping dimension identified included religious strategies that may also have a particular role in the adaptation of families of children with

autism. To date there has been very little research on this topic, although Tarakeshwar and Pargament (2001) presented data to suggest that religious coping may help to reduce stress and depression in parents of children with autism. In the present research, we did not find support for this finding. The mixed religious coping and denial factor was in fact related to more mental health problems in mothers and fathers of children with autism. The relationship between religious coping and parental adaptation clearly requires more research attention in future.

These initial data on the structure of parental coping in families of children with autism are useful because they map onto existing constructs and suggest areas where coping may be different than in families of children with other disabilities or without disabilities. Whether any such differences exist, however, is an empirical question yet to be tested. Furthermore, constructive replication of the factor structure obtained here is required in additional, more representative samples of parents of children with autism. Nevertheless, in the absence of other relevant data, the present analysis is encouragingly reliable and is thus likely to be useful in future research with parents of children with autism.

The remainder of the findings in the present research supported the notion that mothers and fathers may adopt different coping strategies and reinforce the position that separate analyses of maternal and paternal data are needed in autism family research (cf. Hastings, 2003; Hastings and Brown, 2002). The observation that mothers may more frequently use problem-focused coping replicates the Essex et al. (1999) data with mothers of adults with intellectual disability, and their tendency to use active avoidance coping more frequently resonates with general data suggesting that women are more likely than men to engage in emotion-focused coping in caregiving and other situations (e.g. Lutzky and Knight, 1994; Ptacek et al., 1994). These results may simply be due to the stressors experienced by mothers of children with autism (see Introduction) and thus an increased need to engage in a range of coping efforts when compared with fathers. However, it may also be important to consider whether mothers and fathers interpret the child's disability differently, and the extent to which their experience of stress is differentially affected by factors outside the family, in an effort to explain differences in approaches to coping (Gray, 2003).

There was no reliable evidence that the child's age and thus the stage in the family life-cycle was influential in parents' approaches to coping. However, it is important to remember that a cross-sectional design is not ideal for answering questions related to time courses of events. Longitudinal data from the SCAMP research may well help to address this question more clearly over a defined period (preschool to early school years). The fact that mothers whose children were to receive ABA intervention reported

significantly more frequent use of problem-focused coping strategies is intriguing and probably reflects the fact that resourceful parents are likely to seek out ABA treatments. Such motivational variables are important to consider alongside the plethora of other design and measurement issues in the evaluation of interventions for children with autism.

There was some support for the general argument that various contextual variables may well have an impact on the approaches parents adopt to cope with raising a child with autism. Exploratory analyses suggested that mothers of school-age children living away from home adopted different coping strategies than those whose children resided primarily at home. As this was a small subsample, the particular nature of the differences observed may not be reliable but we believe that the general point that such context effects are worthy of further research attention is supported. However, perhaps the most salient question for future research is whether putative context effects and the gender differences found here have implications for the differential adaptation of parents of children with autism over time. More prospective research of this nature will help to inform support interventions for families of children with autism and other disabilities.

Implications for practice

Turning explicitly to the practical implications of this research, these can be considered at two levels. The first is that practitioners who work with families of children with autism need to be aware of the coping strategies that parents use to deal with the demands of parenting. Thus, there is a need for a practical measure of coping that is robust and reliable across preschool and school-age children with autism. The present data suggest that the Brief COPE, with scoring following the four scales identified in the factor analysis, is a good candidate. This scale contains 26 applicable items and is quick to administer and score. The Brief COPE scored according to the scales identified here may be a useful tool both in identifying parents at risk of poor coping outcomes and evaluating the impact of coping interventions for parents.

The second level of practical implications is related to the associations between coping and parental stress and mental health. Our data are consistent with other studies of families of children with autism in that active avoidance coping appears to be maladaptive (associated with more stress and mental health problems), and positive approaches to coping may be adaptive (associated with less stress and fewer mental health problems). Intervention with parents might, on the basis of these findings, focus on reducing parents' use of avoidant coping strategies and increasing their use of positive coping, perhaps by enhancing their positive perceptions of raising a child with autism. Interestingly, one would predict that increasing the use of

problem-focused coping strategies by parents of children with autism would not impact on their wellbeing. Although some differences were found in the extent of use of different coping strategies between mothers and fathers in the same family, the present data suggest that coping strategies function similarly for mothers and fathers. This issue requires further exploration in research and practice, but the data indicate that both parents might benefit from the same intervention strategies designed to support their adaptation to the demands of raising children with autism.

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