

**Child behaviour problems moderate effectiveness of coping strategies  
except for reframing for mothers of children with ASD**

Phil Reed

Swansea University

Correspondence address: Phil Reed,

Department of Psychology,

Swansea University,

Singleton Park,

Swansea, SA2 8PP, UK.

e-mail: [p.reed@swansea.ac.uk](mailto:p.reed@swansea.ac.uk)

Short title: Coping of mothers.

Cite as: Reed, P. (2020). Child behaviour problems moderate effectiveness of coping strategies except for reframing for mothers of children with ASD *Research in Autism Spectrum Disorders*. Doi: [10.1016/j.rasd.2020.101589](https://doi.org/10.1016/j.rasd.2020.101589)

## **Abstract**

The current study examined the relationship between coping strategies and parenting stress, and explored whether child behaviour problems moderated any relationships. 311 mothers of children with Autism Spectrum Disorder (ASD), whose child had been diagnosed within the last three years, completed a set of questionnaires relating to coping strategies, parenting stress, their child's behaviour problems, and their child's autism severity. Use of reframing, passive appraisal, and seeking social support, coping strategies were all associated with lower parenting stress. There was no effect of seeking spiritual support, or mobilising the family to acquire or accept help. In addition, it was found that the severity of the child behaviour problems (itself associated with parenting stress) served to moderate the effectiveness of passive reappraisal and seeking social support. However, reframing was more successful in reducing parenting stress when the child behaviour problems were not severe.

**Keywords:** coping strategies; parenting stress; child behaviour problems; moderation; ASD.

Parenting stress is the perceived state arising from the behaviours and cognitions associated with parenting. For parents of children with Autism Spectrum Disorder (ASD), parenting stress is often very high (Barroso, Mendez, Graziano, & Bagner, 2018; Bonis, 2016; Dabrowska & Pisula, 2010; Hayes & Watson, 2013), and higher than for parents of children with almost any other disorder or health condition (Hayes & Watson, 2013; Pastor-Cerezuela, Fernández-Andrés, Pérez-Molina, & Tijeras-Iborra, 2020; Osborne & Reed, 2009b; Spratt, Saylor, & Macias, 2007). Despite high levels of stress, this does not impact the 'closeness of the mother-child relationship (Hoffman, Sweeney, Hodge, Lopez-Wagner, & Looney, 2009).

Parenting stress is associated with a range of characteristics of the child; most notably the child's behavioural problems (Tomanik, Harris, & Hawkins, 2004), certainly in older children (Postorino, Gillespie, Lecavalier et al., 2019; Osborne & Reed, 2009a), and also to the severity of the symptoms of the ASD (Eisenhower, Baker, & Blacher, 2005; Hall & Graff, 2011; Pastor-Cerezuela, Fernández-Andrés, Tárraga-Mínguez, & Navarro-Peña, 2016). It can also be made worse by some interactions with professionals, especially during the diagnostic process (Reed, Picton, Grainger, & Osborne, 2016). Whatever the source of the parenting stress, this has been found to relate negatively to the health of the parents (Reed, Sejunaite, & Osborne, 2016), and to the prognosis for the child (Osborne, McHugh, Saunders, & Reed, 2008). Thus, finding factors that help parents to reduce their levels of parenting stress would be of great benefit.

One factor, that has long been suggested as key to the levels of stress experienced as a result of an event (stressor), is the coping strategy adopted (Vernhet, Dellapiazza, Blanc et al., 2018). Although many factors influencing parenting stress are not easily changed by the parent themselves, their coping strategies are, at least in part, under their control. It may be that some strategies are more effective than others in dealing with stressors, and/or that the

most effective forms of coping will depend on many situational variables; that is, the best coping strategy in one context, may not be the best strategy in another context (Lazarus, 1966).

A number of studies have attempted to investigate the types of coping strategy commonly employed by parents of children with ASD. Benson (2010) identified four strategies that are commonly employed by parents of children with ASD: 'engagement' (strategies aimed directly at stressors); 'disengagement' (strategies that avoid or deny stressors); 'distraction' (strategies directing thoughts away from stressors); and 'cognitive reframing' (strategies appraising stressors as less negative). Benson (2014) noted that 'disengagement', 'distraction', and 'engagement' were related to greater parenting stress, and that 'cognitive reframing' lowered parenting stress. Obeid and Daou (2015) found parents of children with ASD tended to use 'disengagement' and/or 'engagement' more than controls, but disengagement was harmful for psychological health. However, the range of strategies that were used was very wide (Benson, 2014; Dabrowska & Pisula, 2010). Moreover, the use of such coping strategies tends to alter over time, moving from problem-focused to emotion-focused strategies (Grey, 2006). This latter finding is common for individuals exposed to situations over which they have limited control (Reed, Alenazi, & Potterton, 2009), such as the presence of a life-long condition in their child.

Problem-focused coping has been suggested to improve parental adjustment, while emotion-focused coping has been linked to poorer mental health outcomes (Abbeduto, Seltzer, Shattuck, et al., 2004; Dabrowska & Pisula, 2010). However, these findings are not universally noted, as several reports have found that some emotion-based strategies, like positive reframing and reappraisal, are helpful for parents of children with ASD (Dardas & Ahmad, 2015; Hastings, Kovshoff, Brown, et al., 2005). A lack of positive reappraisal is associated with poorer quality of life (Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001).

Moreover, some reports have found that problem-focused strategies are negatively related to parenting stress (Pottie & Ingram, 2008; Shepherd, Landon, Taylor, & Goedeke, 2018), especially those with high levels of behaviour problems and severe ASD (Shepherd et al., 2018). Seeking social support has also been noted to produce some benefits (Zablotsky, Bradshaw, & Stuart, 2013), but use of this strategy recedes over time (Grey, 2006). One aim of the current study is to assess the effect of different coping strategies of parenting stress for a relatively large sample of mothers.

Given this mixed set of findings regarding the nature and effects of different coping strategies, situational factors will almost certainly play a role in altering the relationship between coping strategies and parenting stress (Lazarus, 1966). However, there have been few studies into which factors moderate the effectiveness of coping strategies for parents of children with ASD (Dunn et al., 2001; Shepherd et al., 2018). This makes advising parents on the best methods of coping perilous unless other factors are taken into account. What these other factors should be is currently a major gap in the literature. The present study aimed to address some of this gap by exploring whether the relationship between coping strategies and parenting stress are influenced by child behaviour problems, which is a key predictors of parenting stress (Pastor-Cerezuela et al., 2016; Osborne & Reed, 2009b; Tomanik et al., 2004). It could be, for example, that a particular coping strategy would have less of an impact on parenting stress when child behaviour problems were high. In order to assess this, the impact of any of these variables that exerts an influence on parental stress and coping strategies was examined.

## **Method**

### **Participants**

The sample was recruited from biological mothers of children diagnosed as having

ASD. The diagnosis was made by Consultant Pediatricians, who were independent to this study, and was made according to the DSM-5 criteria and their clinical judgment. The diagnosis had to have been made no sooner than one year, and no longer than 3 years, before this study (i.e. 1-3 years post diagnosis). The age range of the mothers was required to be between 30 to 39 years, and the children were required to be between 4 and 10 years old. A battery of questionnaires was given to consecutively identified participants. Of the 421 participants identified, 387 (92%) agreed to participate, and, of those that agreed, 311 (80%) returned the questionnaires. Of those mothers who returned the questionnaires, the autism severity score (SCQ) for their children was above the cut off for ASD (15) for 248 participants, and only these participants were included in the data analyses. The estimated required sample size for multiple regression analyses, using a rejection criterion of  $p < .05$ , an anticipated medium effect size ( $f^2 = .15$ ), with a 90% power, for 7 predictors was 129 participants.

The mean age of the participating mothers was 35.83 (SD  $\pm$  2.72, range = 31–39) years. In terms of education, 3% had a doctoral degree, 20% had master's level degree, 53% had a first degree, and 20% had finished high school. Of the mothers, 76% were married or in a civil partnership, 6% were in another form of relationship, and 18% were single, divorced, or widowed. In terms of occupation: 5% were classed as laborers, 8% as skilled workers, 44% as managerial/professional, and 43% as unemployed or home-makers. The ethnic backgrounds of the mothers were: 83% White, 2% Mixed/Multiple, 8% Asian; 3% Black/African/Caribbean, and 4% Other. The mean age of the children was 8.77 (SD  $\pm$  1.10, range = 4-10) years, and 87% of these children were male.

Ethical approval was given by the Psychology Department Ethics Committee of the University.

## Materials

*Family Crises Oriented Personal Evaluation Scales* (F-COPES; McCubbin, Olson, & Laresen, 1981) is a 30-item scale identifies problem-solving attitudes and strategies employed by families to problematic situations. There are five sub-scales of different coping strategies: reframing (cognitively making events more manageable; “Knowing we have the power to solve major problems”, “Knowing we have the strength within our own family to solve our problems”); passive appraisal (minimisation of responses to events; “Watching television”; “Knowing luck plays a big part in how ell we are able to solve family problems”), acquiring social support (“Seeking information and advice from persons in other families who have faced the same or similar problems”; “Seeking assistance from community agencies and programmes designed to help families in our situation”), seeking spiritual support (“Attending religious services”; “Participating in church activities”), and mobilising family to acquire help (“Sharing our difficulties with relatives”; “Seeking encouragement and support from friends”). Each item is scored from 1 (strongly disagree) to 5 (strongly agree). The internal reliability (Cronbach  $\alpha$ ) for the total scale is .86, and the sub-scales range from .63 to .86 (McCubbin et al., 1981). The instrument has been used successfully in the relation to coping and stress of parents of children with ASD (Honey, Hastings, & Mcconachie, 2005; Twoy, Connolly, & Novak, 2007).

*Questionnaire on Resources and Stress*: The Friedrich Short-Form of the QRS (Friedrich, Greenberg, & Crnic, 1983) is a 52-item, self-administered, true/false tool, designed to measure parental perceptions of the impact of a developmentally delayed, or chronically ill, child on other family members. The QRS-F consists of four sub-scales, which assess parental perceptions about: *Parent and Family Problems* – dealing with the impact that the disability has on family activities or relationships; *Pessimism* – related to parent depression; *Child Characteristics* – dealing with the impact of the child’s problems on the

family; and *Physical Incapacity* – which examines the family problems produced by the child not being able to perform certain activities for themselves. These scores summate to produce a *Total Stress Score* (0-52). Higher scores are indicative of greater perceived stress within the family, as perceived and indicated by the parents (but not, it should be noted, of a greater degree or number of actual stressors, see Dyson, Edgar, & Crnic, 1989). The internal reliability of the sub-scales ranges from: 0.77 (*Physical Incapacity*) to 0.85 (*Child Characteristics*), with the internal reliability of the *Total Stress Score* being 0.89. This tool has previously been employed for samples with ASD in assessing stress in parents (Hastings & Johnson, 2001), and so allows comparison with previous studies.

***Social Communication Questionnaire*** (SCQ; Rutter, Bailey, & Lord, 2003) contains 40 questions, scored yes or no, and screen for children with ASD. The scale sums to measure overall problems (maximum = 39; > 15 indicating ASD). The overall score has a Cronbach  $\alpha$  of .81.

***Strengths and Difficulties Questionnaire***: The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is a brief behavioural screening questionnaire concerning 3 to 16 year olds. It exists in several versions to meet the needs of researchers, clinicians, and educationalists. The parent version includes 25 items, divided between 5 scales, all score ranges 0 to 10: emotional symptoms (norm = 1.9), conduct problems (norm = 1.6), hyperactivity/inattention (norm = 3.5), peer relationship problems (norm = 1.5), and pro-social behaviour. The first four sub-scales, when added together, generate a Total Difficulties Score (norm = 8.4; score range 0 – 40). The parent version of the SDQ correlates highly ( $r = .88$ ) with the Rutter Child Questionnaires (Goodman, 1997).

## **Procedure**

After the ethical approval, the lead Psychiatrist of the participating centres, asked each



mother who fulfilled the criteria of being between 30 and 39 years old, and having a child diagnosed between 1 and 3 years ago, if they wished to participate in the study. If the mother agreed, they were sent a battery of questionnaires (as above) to complete, and return in the mail to the researchers. They were provided with a stamped and addressed envelope for these purposes, and with the telephone number of the researcher if they wished to ask questions about the forms.

### Results

The mean level of parenting stress for the sample, as measured by the QRS-F, was 29.72 ( $\pm$  9.36), the sample mean level of ASD, as measured by the SCQ, was 19.78 ( $\pm$  3.13), and the sample mean child behaviour problems, as measured by the total SDQ score, was 23.82 ( $\pm$  6.23). There was a statistically significant, and moderately-sized, positive correlation between parenting stress and child behaviour problems,  $r = .395$ ,  $p < .001$ , a significant, but small-sized, positive correlation between parenting stress and autism severity,  $r = .143$ ,  $p = .024$ , but no significant relationship between autism severity and child behaviour problems,  $r = .033$ ,  $p = .608$ .

-----  
 Table 1 about here  
 -----

Table 1 shows the mean (standard deviation) for the five coping strategies, measured by the F-COPES, adopted by the parents. Inspection of these data shows that parents were equally likely to adopt all, but the seeking spiritual support, coping strategies. Table 1 also shows the Pearson correlations between these coping strategies, and between the coping strategies and parenting stress (QRS), autism severity (SCQ), and child behaviour problems (SDQ). Using a Bonferroni correction to guard against spurious positive results ( $.005/15 =$

.003), there were significant negative relationships between reframing and parenting stress, reframing and child behaviour problems, between acquiring social support and parenting stress, and between acquiring social support and autism severity.

To examine whether coping strategies predicted parenting stress, a multiple regression was conducted using the five coping strategies as predictors, and parenting stress as the target, which revealed a significant model,  $R^2 = .234$ ,  $F(5,240) = 14.69$ ,  $p < .001$ , with significant individual negative relationships with parenting stress for: reframing ( $\beta = -5.770$ ,  $p < .001$ ), passive appraisal ( $\beta = -1.698$ ,  $p = .029$ ) and acquiring social support ( $\beta = -1.539$ ,  $p = .007$ ), but not for seeking spiritual support ( $\beta = .138$ ,  $p > .70$ ), or mobilising the family to acquire/accept help ( $\beta = -.864$ ,  $p = .215$ ).

To test the hypothesis that parenting stress is a function of multiple factors, a series of moderation analyses were conducted between each of the coping strategies that showed a significant relationship to parenting stress (reframing, passive appraisal, and seeking social support) and parenting stress, using child behaviour problems as the potential moderator.

To test the hypothesis that child behaviour problems moderate the relationship between reframing and parenting stress, a moderation analysis was conducted using the PROCESS macro in SPSS (version 3.3). The outcome variable for the analysis was parenting stress (QRS). The predictor variable was reframing (F-COPES). The moderator variable was child behaviour problems (SDQ). These model accounted for a significant amount of variance in parenting stress,  $R^2 = .270$ ,  $F(3,244) = 30.15$ ,  $p < .001$ . The interaction term between reframing and child behaviour problems was not statistically significant ( $\beta = .0178$ ,  $SE = .015$ ,  $95\%CI = -.011:.048$ ,  $p = .234$ ), which did not account for a significant proportion of the variance in parenting stress,  $\Delta R^2 = .004$ ,  $\Delta F(1,244) = 1.42$ ,  $p = .234$ . Examination of the interaction plot showed that for all levels of child behaviour problems, as the use of reframing increased, parenting stress decreased.

To test the hypothesis that child behaviour problems moderate the relationship between passive appraisal and parenting stress using the PROCESS macro in SPSS (version 3.3); the outcome variable was parenting stress (QRS); the predictor was passive appraisal (F-COPES); and the moderator was child behaviour problems (SDQ). These model accounted for a significant amount of variance in parenting stress,  $R^2 = .193$ ,  $F(3,244) = 19.46$ ,  $p < .001$ . The interaction term between passive appraisal and child behaviour problems was statistically significant ( $\beta = .090$ ,  $SE = .030$ ,  $95\%CI = .029:.150$ ,  $p = .004$ ), which accounted for a significant proportion of the variance in parenting stress,  $\Delta R^2 = .028$ ,  $\Delta F(1,244) = 8.57$ ,  $p = .003$ . Examination of the interaction plot showed that as child behaviour problems increased, passive appraisal had less of a decreasing effect on stress. At low child behaviour problems, passive appraisal decreased parenting stress,  $\beta = -5.974$ ,  $SE = .265$ ,  $95\%CI = -1.369:-.322$ ,  $p = .001$ ; but at medium child behaviour problems,  $\beta = -.814$ ,  $SE = .194$ ,  $95\%CI = -.763:.004$ ,  $p = .051$ , and high levels of child behaviour problems,  $\beta = 7.185$ ,  $SE = .293$ ,  $95\%CI = -.239:.917$ ,  $p = .249$ , passive appraisal was not significantly related to parenting stress.

To test the hypothesis that child behaviour problems moderate the relationship between social support and parenting stress using the PROCESS macro in SPSS (version 3.3); the outcome variable was parenting stress (QRS); the predictor was social support (F-COPES); and the moderator was child behaviour problems (SDQ). These model accounted for a significant amount of variance in parenting stress,  $R^2 = .200$ ,  $F(3,243) = 20.29$ ,  $p < .001$ . The interaction term between passive appraisal and child behaviour problems was statistically significant ( $\beta = .023$ ,  $SE = .010$ ,  $95\%CI = .003:.043$ ,  $p = .020$ ), which accounted for a significant proportion of the variance in parenting stress,  $\Delta R^2 = .018$ ,  $\Delta F(1,243) = 5.40$ ,  $p = .020$ . Examination of the interaction plot showed that as child behaviour problems increased, passive appraisal had less of a decreasing effect on stress. At low child behaviour problems, social support decreased parenting stress,  $\beta = -5.846$ ,  $SE = .088$ ,  $95\%CI = -.467:-.119$ ,  $p =$

.001; but at medium child behaviour problems,  $\beta = -.846$ ,  $SE = .068$ ,  $95\%CI = -.311:-.042$ ,  $p = .010$ , and high levels of child behaviour problems,  $\beta = 7.153$ ,  $SE = .100$ ,  $95\%CI = -.189:-.206$ ,  $p = .249$ , seeking social support was associated with higher parenting stress.

Representations of the effects of the moderation of child behaviour problems on the effects of the passive appraisal and the social support coping strategies on parenting stress are shown in Figure 1.

-----  
 Figure 1 about here  
 -----

## Discussion

The current study noted that several coping strategies were associated with reductions in parenting stress in a sample of mothers of children with ASD. In particular, use of reframing, passive appraisal, and seeking social support, coping strategies were all associated with lower parenting stress. There was no effect of seeking spiritual support, or mobilising the family to acquire or accept help. In addition, it was found that the severity of the child behaviour problems (itself associated with parenting stress) served to moderate the effectiveness of some of these coping strategies. Reframing was more successful in reducing parenting stress when the child behaviour problems were not severe, and this was also true of seeking social support. Child behaviour problems did not moderate the effectiveness of reframing strategies.

The primary findings relating to the usefulness of various coping strategies support several previous studies in relation to the usefulness of some of these strategies. In particular, seeking social support was linked to lower levels of parenting stress, overall, in the current sample, and has been found to be an effective strategy by a number of previous reports

(Zablotsky et al., 2013). Reframing also was found to be associated with lower levels of parenting stress, as also found by Hastings et al. (2005; see also Benson, 2014). However, the current data and the previous reports stand in contrast to findings reported by Abbeduto et al. (2004; Dabrowska & Pisula, 2010), that suggest such emotion-focused strategies can be detrimental to parental functioning. There are, of course, numerous differences between the ways in which these studies assess coping strategies and parental outcomes, but a consensus appears to be emerging that such emotion focused coping can be beneficial.

While the present results both replicate and extend the literature on the effectiveness of coping strategies in terms of reducing parenting stress, they also highlight that coping strategies may be differentially effective depending on the situational context. In particular, passive appraisal, and seeking social support, were less effective at reducing parenting stress when the child behaviour problems were higher, compared to when they were lower. Some previous reports have found that the use of some coping strategies became negatively related to parenting stress (Benson, 2014), especially for those with high levels of behaviour problems (Shepperd et al., 2018). However, the usefulness of reframing was not affected by increases in child behaviour problems. Band and Weisz (1990) differentiate primary coping strategies (changing the situation), which tend to be more effective in controllable situations, and secondary coping strategies (changing the self), which tend to be more effective in uncontrollable situations. In the current situation, which may involve a high degree of uncontrollability (i.e. in relation to the child having ASD), strategies that focus on the self (reframing) appear to be more impactful, than those focusing on the situation (seeking social support, mobilising the family), especially as the child behaviour problems become more severe and less controllable.

The utility of reframing across a range of behaviour problems might suggest that Cognitive Behavioural Therapies (CBT) focusing on this aspect of situations may offer some

help in developing effective coping strategies for mothers of children with ASD. Cognitive reframing strategies are widely used with CBT, and such strategies can be implemented and taught through a range of techniques (Robson & Troutman-Jordan, 2014). However, they have been effective for the families and carers of people with dementia (Vernooij-Dassen, Draskovic, McCleery, & Downs, 2011). Indeed, recent reports have suggested that reframing may be beneficially placed within a systems (family) based view of a person's problems (MacGill, 2018). Given this, and the current results, such strategies may be highly beneficial to the parents of children with ASD, and may not only help the parents, but through reducing parental stress, may aid the child's progress (Osborne et al., 2008).

The current findings replicated the association between child behaviour problems and parenting stress noted by many previous studies (see Postorino et al., 2019, for a review). It also found little relationship between the severity of the ASD and parenting stress, which has also been noted previously (Osborne & Reed, 2009a). However, this may be related to the age of the child, and the period between the diagnosis and the test (Osborne & Reed, 2009a). As with all studies, there are a number of limitations that should be pointed out concerning the current work. The data was obtained from a cross-sectional design, meaning that extreme caution should be used in inferring causality from these data. A longitudinal design would be helpful to see the subsequent effects of different coping strategies on parenting stress (and vice versa). Additionally, the current sample was deliberately chosen to minimise the variation of the ages of the participants, and the times since diagnosis. Although this reduced some variance in the data, as these variables have been shown to impact coping (Hastings et al., 2005), it may limit the generality of the findings. A factor that may be associated with parental stress in ASD is the age of the child at diagnosis, while this age range was quite narrow, this was uncontrolled in this study, and that may have affected parental stress differentially. In fact, a wider range of information regarding the children (IQ, language

ability) and mothers (education level, number of other children) might be beneficial in further assessing the impact of child behaviour problems on coping and stress. The sample was composed exclusively of mothers, which limits the reach of the results, and does not allow analyses of possible differences between mothers' and fathers' reports. Finally, it would be useful to replicate such work using a different set of measures, to ensure that the current findings are not dependant on the manner in which these constructs are measured. All the evaluation instruments used were self-report measures, and some objective measures would be important to take in the future. Mothers who are stressed, for any reason, can perceive their child's behaviour as more problematic (Reed, Howse, Ho, & Osborne, 2017).

In summary, reframing, passive appraisal, and seeking social support, were all associated with lower parenting stress. Passive appraisal was more successful in reducing parenting stress when the child behaviour problems were not severe, and this was also true of seeking social support, but reframing was not affected by child behaviour problems. As parenting stress can be very high for this population, information regarding the effectiveness of various coping strategies in different situations could be of potential clinical usefulness.

## References

- Abbeduto, L., Seltzer, M.M., Shattuck, P., Krauss, M.W., Orsmond, G., & Murphy, M.M. (2004). Psychological well-being and coping in mothers of youths with autism, down syndrome, or fragile X syndrome. *American Journal on Mental Retardation*, *109*(3), 237-254.
- Barroso, N. E., Mendez, L., Graziano, P. A., & Bagner, D. M. (2018). Parenting stress through the lens of different clinical groups: A systematic review & meta-analysis. *Journal of Abnormal Child Psychology*, *46*(3), 449-461.
- Benson, P.R. (2010). Coping, distress, and well-being in mothers of children with autism. *Research in Autism Spectrum Disorders*, *4*(2), 217-228.
- Benson, P.R. (2014). Coping and psychological adjustment among mothers of children with ASD: An accelerated longitudinal study. *Journal of Autism and Developmental Disorders*, *44*(8), 1793-1807.
- Bonis, S. (2016). Stress and parents of children with autism: A review of literature. *Issues in Mental Health Nursing*, *37*(3), 153-163.
- Band, E. B., & Weisz, J. R. (1990). Developmental differences in primary and secondary control coping and adjustment to juvenile diabetes. *Journal of Clinical Child Psychology*, *19*(2), 150-158.
- Dabrowska, A., & Pisula, E. (2010). Parenting stress and coping styles in mothers and fathers of pre-school children with autism and Down syndrome. *Journal of Intellectual Disability Research*, *54*(3), 266-280.
- Dardas, L.A., & Ahmad, M.M. (2015). Coping strategies as mediators and moderators between stress and quality of life among parents of children with autistic disorder. *Stress and Health*, *31*(1), 5-12.
- Dunn, M.E., Burbine, T., Bowers, C.A., & Tantleff-Dunn, S. (2001). Moderators of stress in



- parents of children with autism. *Community Mental Health Journal*, 37(1), 39-52.
- Dyson, L., Edgar, E., & Crnic, K. (1989). Psychological predictors of adjustment of siblings of developmentally disabled children. *American Journal of Mental Retardation*, 94, 292–302
- Eisenhower, A.S., Baker, B.L., & Blacher, J. (2005). Preschool children with intellectual disability: Syndrome specificity, behaviour problems, and maternal well-being. *Journal of Intellectual Disability Research*, 49, 657–671
- Friedrich, W.N., Greenberg, M.T., & Crnic, K. (1983). A short-form of the Questionnaire on Resources and Stress. *American Journal of Mental Deficiency*.
- Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, 38, 581–586.
- Gray, D.E. (2006). Coping over time: The parents of children with autism. *Journal of Intellectual Disability Research*, 50(12), 970-976.
- Hall, H.R., & Graff, J.C. (2011). The relationships among adaptive behaviors of children with autism, family support, parenting stress, and coping. *Issues in Comprehensive Pediatric Nursing*, 34(1), 4-25.
- Hastings, R.P., Kovshoff, H., Brown, T., Ward, N.J., Espinosa, F.D., & Remington, B. (2005). Coping strategies in mothers and fathers of preschool and school-age children with autism. *Autism*, 9(4), 377-391.
- Hastings, R.P., & Johnson, E. (2001). Stress in UK families conducting intensive home based behavioral intervention for their young child with autism. *Journal of Autism and Developmental Disorders*, 31, 327–336
- Hayes, S. A., & Watson, S. L. (2013). The impact of parenting stress: A meta-analysis of studies comparing the experience of parenting stress in parents of children with and without autism spectrum disorder. *Journal of Autism and Developmental Disorders*,

43(3), 629-642.

- Hoffman, C. D., Sweeney, D. P., Hodge, D., Lopez-Wagner, M. C., & Looney, L. (2009). Parenting stress and closeness: Mothers of typically developing children and mothers of children with autism. *Focus on Autism and Other Developmental Disabilities*, 24(3), 178-187.
- Honey, E., Hastings, R. P., & McConachie, H. (2005). Use of the questionnaire on resources and stress (QRS-F) with parents of young children with autism. *Autism*, 9(3), 246-255.
- Lazarus, R.S. (1966). *Psychological stress and the coping process*. New York, NY, US: McGraw-Hill.
- MacGill, V. (2018). Reframing Cognitive Behaviour Theory from a Systems Perspective. *Systemic Practice and Action Research*, 31(5), 495-507.
- McCubbin, H.I., Olson, D.H., & Larsen, A. (1987). *Family Crisis-Oriented Personal Evaluation Scales (F-COPES)*.
- Obeid, R., & Daou, N. (2015). The effects of coping style, social support, and behavioural problems on the well-being of mothers of children with autism spectrum disorders in Lebanon. *Research in Autism Spectrum Disorders*, 10, 59-70.
- Osborne, L.A., McHugh, L., Saunders, J., & Reed, P. (2008). Parenting stress reduces the effectiveness of early teaching interventions for autistic spectrum disorders. *Journal of Autism and Developmental Disorders*, 38(6), 1092.
- Osborne, L.A., & Reed, P. (2009a). The relationship between parenting stress and behaviour problems of children with autistic spectrum disorders. *Exceptional Children*, 76(1), 54-73.
- Osborne, L.A., & Reed, P. (2009b). The role of the family in Autistic Spectrum Conditions: Theory and practical implications. In P.H. Krause, & T.M. Dailey (Eds.), *Handbook*

- of Parenting: Styles, Stresses, and Strategies*. New York: Nova Science Publishers.
- Pastor-Cerezuela, G., Fernández-Andrés, M. I., Tárraga-Mínguez, R., & Navarro-Peña, J. M. (2016). Parental stress and ASD: Relationship with autism symptom severity, IQ, and resilience. *Focus on Autism and Other Developmental Disabilities, 31*(4), 300-311.
- Pastor-Cerezuela, G., Fernández-Andrés, M. I., Pérez-Molina, D., & Tijeras-Iborra, A. (2020). Parental stress and resilience in autism spectrum disorder and Down syndrome. *Journal of Family Issues, 0192513X20910192*.
- Postorino, V., Gillespie, S., Lecavalier, L., Smith, T., Johnson, C., Swiezy, N., ... & Vitiello, B. (2019). Clinical correlates of parenting stress in children with Autism Spectrum Disorder and serious behavioral problems. *Journal of Child and Family Studies, 1-9*.
- Pottie, C.G., & Ingram, K.M. (2008). Daily stress, coping, and well-being in parents of children with autism: A multilevel modeling approach. *Journal of Family Psychology, 22*(6), 855.
- Predescu, E., Dobrean, A., Cristina, P. O. P., Miclutia, I., & Sipos, R. (2013). Cognitive coping strategies and emotional distress in mothers of children with Autism Spectrum Disorder. *Applied Medical Informatics, 32*(2), 14-21.
- Reed, P., Alenazi, Y., & Potterton, F. (2009). Effect of time in prison on prisoners' use of coping strategies. *International Journal of Prisoner Health, 5*(1), 16-24.
- Reed, P., Howse, J., Ho, B., & Osborne, L. A. (2017). Relationship between perceived limit setting abilities, autism spectrum disorder severity, behaviour problems and parenting stress in mothers of children with autism spectrum disorder. *Autism, 21*(8), 952-959.
- Reed, P., Picton, L., Grainger, N., & Osborne, L.A. (2016). Impact of diagnostic practices on the self-reported health of mothers of recently diagnosed children with ASD. *International Journal of Environmental Research and Public Health, 13*(9), 888.
- Reed, P., Sejunaite, K., & Osborne, L.A. (2016). Relationship between self-reported health

- and stress in mothers of children with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 46(3), 934-941.
- Robson Jr, J. P., & Troutman-Jordan, M. (2014). A Concept Analysis of Cognitive Reframing. *Journal of Theory Construction & Testing*, 18(2).
- Rutter, M., Bailey, A., & Lord, C. (2003). SCQ. *The Social Communication Questionnaire*. Torrance, CA: Western Psychological Services.
- Shepherd, D., Landon, J., Taylor, S., & Goedeke, S. (2018). Coping and care-related stress in parents of a child with autism spectrum disorder. *Anxiety, Stress, & Coping*, 31(3), 277-290.
- Spratt, E.G., Saylor, C.F., & Macias, M.M. (2007). Assessing parenting stress in multiple samples of children with special needs (CSN). *Families, Systems, & Health*, 25(4), 435.
- Tomanik, S., Harris, G. E., & Hawkins, J. (2004). The relationship between behaviours exhibited by children with autism and maternal stress. *Journal of Intellectual and Developmental Disability*, 29(1), 16-26.
- Twoy, R., Connolly, P. M., & Novak, J. M. (2007). Coping strategies used by parents of children with autism. *Journal of the American Academy of Nurse Practitioners*, 19(5), 251-260.
- Vernhet, C., Dellapiazza, F., Blanc, N., Cousson-Gélie, F., Miot, S., Roeyers, H., & Baghdadli, A. (2018). Coping strategies of parents of children with autism spectrum disorder: a systematic review. *European Child & Adolescent Psychiatry*, 1-12.
- Vernooij-Dassen, M., Draskovic, I., McCleery, J., & Downs, M. (2011). Cognitive reframing for carers of people with dementia. *Cochrane Database of Systematic Reviews*, (11).
- Zablotsky, B., Bradshaw, C.P., & Stuart, E.A. (2013). The association between mental health, stress, and coping supports in mothers of children with autism spectrum

disorders. *Journal of Autism and Developmental Disorders*, 43(6), 1380-1393.

### **Acknowledgments**

Thanks are due to Lisa A. Osborne for her support and comments for this research.

Correspondence concerning this paper should be addressed to: Phil Reed, Department of Psychology, Swansea University, Singleton Park, Swansea, SA2 8PP, UK; e-mail:

[p.reed@swansea.ac.uk](mailto:p.reed@swansea.ac.uk).

**Table 1: Mean (standard deviations) for the coping strategies adopted by the parents and Pearson correlations between these coping strategies and parenting stress (QRS), autism severity (SCQ), and child behaviour problems (SDQ).**

	Reframing	Passive	Social	Spiritual	Mobilising
	3.58 (.67)	3.57 (.70)	3.27 (.99)	1.96 (1.19)	3.49 (.83)
Stress (QRS)	-.423***	-.122	-.188**	-.100	-.171**
Autism (SCQ)	-.010	-.005	-.202***	-.080	-.104
Behaviour (SDQ)	-.259***	-.075	-.128*	-.092	.025
Reframing		.007	.001	.175**	.095
Passive			-.040	-.220**	-.045
Social				.275***	.359***
Spiritual					.295**

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

**Figure 1: Moderation relationships for child behaviour problems moderating the relationship between passive appraisal (top panel), and social support (bottom panel), and parenting stress.**

