

RUNNING HEAD: PSYCHOLOGICAL ACCEPTANCE

The impact of child problem behaviours of children with ASD on parent mental health:
The mediating role of acceptance and empowerment

Jonathan A. Weiss¹, M. Catherine Cappadocia¹, Jennifer Anne MacMullin¹, Michelle
Viecili¹, and Yona Lunsky²

¹York University, Address: Department of Psychology, Behavioural Science Building,
4700 Keele Street, Toronto, ON, M3J 1P3. Telephone: 416-736-2100, ext. 22987 (J. A.
Weiss). Emails: jonweiss@yorku.ca (J. A. Weiss), catcap@yorku.ca (M. C.
Cappadocia), jenmacm@yorku.ca (J. A. MacMullin), & mviecili@yorku.ca (M. Viecili).

²Centre for Addiction and Mental Health, Dual Diagnosis Program, 501 Queen St. West,
Toronto, ON. Telephone: 416-535-8501, ext. 7813. Email: Yona_Lunsky@camh.net

Psychological Acceptance and Empowerment

Abstract

Raising a child with an autism spectrum disorder (ASD) has often been associated with higher levels of parenting stress and psychological distress, and a number of studies have examined the role of psychological processes as mediators of the impact of child problem behaviour on parent mental health. The current study examined the relations among child problem behaviour, parent mental health, psychological acceptance, and parent empowerment. Participants included 228 parents of children diagnosed with ASD, 6-21 years of age. As expected, psychological acceptance and empowerment were negatively related to the severity of parent mental health problems. When acceptance and empowerment were compared with each other through a test of multiple mediation, only psychological acceptance emerged as a significant partial mediator of the path between child problem behaviour and parent mental health problems. As child problem behaviour increased, parent psychological acceptance decreased, resulting in an increase in parent mental health problems. These findings suggest that for problems that are chronic and difficult to address, psychological acceptance may be an important factor in coping for parents of young people with ASD, in line with the growing literature on positive coping as compared with problem-focused coping.

Keywords: Autism spectrum disorder, challenging behaviour, mental health, parenting, childhood, coping, acceptance, empowerment

Psychological Acceptance and Empowerment

Psychological acceptance and empowerment as mediators of the impact of problem behaviour in children with autism spectrum disorders on parent mental health

Considerable attention has been paid to the psychological well-being of parents of individuals with autism spectrum disorders (ASD; Crnic et al., 1983; Hastings et al., 2005a; McCubbin & Patterson, 1983; Patterson, 1988; Seligman & Darling, 1997). Raising children with ASD is associated with higher levels of parenting stress and psychological distress compared with parenting typically developing children (Baker-Ericzén, Brookman-Frazee, & Stahmer, 2005; Davis & Carter, 2008; Hastings, 2003; Hastings et al., 2005a), children with a physical disability (Bouma & Schweitzer, 1990), or children with developmental delays without ASD (Estes et al., 2009; Rodrigue, Morgan, & Geffken, 1990). At the same time, researchers have noted that the experience of having a child with a disability is not always negative (Hassall & Rose, 2005; Hastings et al., 2005b; Saloviita, Itälä, & Leinonen, 2003). It is important that researchers identify the multiple factors that explain how stressors influence parent psychological well-being so that effective supports and services are made available to help parents of individuals with ASD.

Many studies have attempted to understand the process by which parents cope (or fail to cope) with the stressors associated with raising a child with disability using variants of the ABCX Model (Hill, 1958; McCubbin and Patterson, 1983; Perry, 2004). These models propose that the impact of stressors, such as the level of a child's disability, severity of behaviour problems, or negative life events, are mediated and moderated by parent coping strategies and informal and formal supports. We conceptualize a mediator as a variable that accounts for the relations between the stressor and the outcome(s) and a

Psychological Acceptance and Empowerment

moderator as a variable that influences the strength and/or direction of the relationship between two variables (Baron & Kenny, 1986). Previous research on psychological outcomes for parents of children with developmental disabilities has identified the nature and severity of a child's disability (Bristol, 1987; Ricci and Hodapp, 2003), the child's caretaking demands (Minnes, 1988), and the child's maladaptive behaviours (internalizing and externalizing problem behaviours; Hastings, 2002; Hodapp et al., 1997) as potential stressors. Among these stressors, the child's maladaptive behaviour profile is most reliably linked to parent stress. Child problem behaviour predicts parental stress even after controlling for critical parent and family factors (e.g., Quine and Pahl, 1991; Sloper et al., 1991). The current cross-sectional study examines how behaviour problems in children with ASD are related to their parent's mental health problems, and the psychological coping strategies that mediate this relation.

The extant literature has identified a number of psychological processes that create the link between child problem behaviour and poor parent mental health or associated parental adjustment difficulties (e.g., parent stress, marital discord, poor quality of life, etc.). An increase in problem behaviours can decrease helpful psychological processes that assist with coping, which in turn may lead to poorer psychological adjustment, functioning as a mediator. For example, if problem behaviours led parents to passively or actively avoid problems, this could result in poor parent outcomes. Avoidance has been associated with stress and mental health problems in mothers and fathers of preschool and school-age children with autism (Hastings Kovshoff, Brown, et al., 2005a), and poor overall adjustment (i.e., more psychological

Psychological Acceptance and Empowerment

distress and less life satisfaction and marital satisfaction) for mothers of children with autism (Sivberg, 2002).

Parent empowerment is a psychological process concerned with how an individual actively attempts to change or eliminate potentially stressful events through the application of knowledge and skill (Gutiérrez, 1994), which leads to problem-focused coping (as compared with avoidance). Families high in levels of empowerment have been suggested to be more resilient to stressors and have lower feelings of stress, depression, and helplessness than families who are not empowered (Simon et al., 2005). Parent empowerment may be impacted by stressors and other psychological processes, and has been correlated with parent advocacy, an internal locus of control, and self-efficacy (Brookman-Frazee, 2004; Nachshen, 2005).

Given the often chronic nature of behaviour problems in youth with ASD (Brereton et al., 2006) and the increasing role that parents play in caring for individuals with ASD across the lifespan (Seltzer et al., 2004), it is important to look beyond the processes that lead to traditional coping dimensions of avoidant- vs. problem-focused. Because many of these children's problem behaviours are unlikely to disappear in the short term, even with clinical support, chronic stressors may have an impact on a parents' ability to accept the unpleasant emotions that arise when confronted with these stressors. Being able to accept the challenges that one is unable to change may be as helpful or more helpful than advocating for services (i.e., empowerment) (Blackledge and Hayes, 2006). For example, although Hastings and colleagues (2005a) found that avoidant coping was harmful to parents of young people with ASD, they did not find that problem-focused coping was helpful. Instead, results suggested that the act of positively reframing

Psychological Acceptance and Empowerment

a potentially stressful event (deemed 'positive coping') was the most effective coping strategy.

Psychological acceptance is a process that refers to “the active and aware embrace of those private events occasioned by one’s history without unnecessary attempts to change their frequency or form, especially when doing so would cause psychological harm” (Hayes et al., 2006, p. 7). This construct is likely relevant to parents of children with ASD, particularly when problematic situations cannot be immediately resolved or addressed. Although not yet studied with parents of children with ASD, psychological acceptance has been examined in parents of children with intellectual disabilities (Lloyd and Hastings, 2008; MacDonald et al., 2010). Lloyd and Hastings (2008) examined adjustment among 91 mothers of children with intellectual disabilities and found that psychological acceptance was negatively correlated with maternal anxiety, stress, and depression. Most recently, MacDonald et al. (2010) found that psychological acceptance functioned as a partial mediator of the relation between child problem behaviour and fathers’ stress, depression, and anxiety in a sample of 99 fathers of children with intellectual disabilities. Increases in problem behaviours were associated with a decrease in psychological acceptance, which was correlated with an increase in paternal maladjustment.

Although a similar mediator study of psychological acceptance in parents of young people with ASD has yet to be conducted, there is some initial evidence that it has particular relevance to these families because of the unique challenges they experience. Blackledge and Hayes (2006) used a repeated measures design to examine the effectiveness of a 2-day (14-hour) acceptance and commitment therapy (ACT; Hayes et

Psychological Acceptance and Empowerment

al., 1999) training workshop with 20 parents of children with autism. The ACT training taught participants skills to facilitate the “acceptance of unpleasant emotions, diffusion from difficult thoughts, clarification of the client’s personally held values and corresponding goals, and enhancement of the client’s effectiveness in moving toward those values and goals” (Blackledge and Hayes, 2006, p. 3), and found that general distress, depression, and maternal acceptance significantly improved after treatment and at 3-month follow-up.

Given the importance that empowerment and acceptance may have as mediators of the impact of child problem behaviour on parental adjustment, the current study tested two hypotheses. First, child problem behaviour would predict parent mental health problems after controlling for characteristics of the child (age, ASD symptoms, and gender), parent gender, socioeconomic status, and negative life events experienced in the past year. Second, internal psychological processes (specifically, parent acceptance and family empowerment) would mediate the effect of child problem behaviour on parent mental health. The current study conducted a test of multiple mediators to help explain by what means stressors exerted their influence on parent outcome (see Baron and Kenny, 1986, and Preacher et al., 2007, for discussion of mediators).

Methods

Participants

Participants included 228 parents of children diagnosed with ASD aged 6-21 years old (81.5% boys; mean age = 11.80, $SD = 3.58$). Children’s diagnoses, as reported by parents, included Asperger Syndrome (54%), high functioning autism (14%), PDD-NOS (13%), and autism (19%). Only children who met the clinical cut-off total score of

Psychological Acceptance and Empowerment

over 76 based on the Autism Spectrum Quotient were included in the study, to ensure that they had sufficient symptoms of ASD (Auyeung et al., 2008). Roughly 77% of these children were placed in full-inclusion classrooms. Most parents were female (93%) and the child's biological parent (93%). Participants also included adoptive parents (4%), stepparents (1%), grandparents (2%). Only one caregiver per family was able to participate in the survey. Seventy-five percent of respondents were married. Highest education levels among participants were as follows: 17% obtained a post graduate degree, 24% graduated university, 34% graduated college, 22% graduated high school, and 3% completed some high school. Household income levels among participants were as follows: 29% earned \$100,000 or higher, 18% earned \$81,000 to \$99,000, 12% earned \$61,000 to \$80,000, 17% earned \$41,000 to \$60,000, 12% earned 26,000 to \$40,000, and 12% earned \$20,000 or less. Most of the participants were from Canada (91%), with many living in Ontario (62%), British Columbia (10%), Alberta (10%), and Newfoundland/Labrador (6%), as well as Manitoba, Quebec, Saskatchewan, and New Brunswick (each less than 1%). The remaining 9% of participants were from the United States. With respect to ethnicity, 91% of participants identified as European Canadian or American, 4% identified as Native Canadian, 4% identified as Asian, 2% identified as Latin/South American, 1% identified as Middle Eastern, 1% identified as African/West-Indian, and 1% as South Asian. Approximately 7% of participants identified as more than one ethnicity.

Procedure

Parents were recruited through convenience sampling from July 2009 to January 2010. An invitation to participate in an online survey was posted on several Canadian

Psychological Acceptance and Empowerment

Asperger and autism advocacy websites (e.g., Autism Ontario, Asperger Society of Ontario) and circulated through email lists associated with these organizations. Parents could access the survey by clicking on a link in the body of the invitation. Parents could also send the invitation to other parents of children with ASD. Parents were asked to complete the survey thinking about only one of their children. Duplicate IP addresses and names were examined to verify only one participant per family. If they wished to fill out a hardcopy questionnaire, a mailing address was provided. The York University Research Ethics Board approved this research. Informed consent was obtained online by all participants before they were able to access the survey. The survey took approximately 30 minutes to complete. As a token of appreciation for participation, parents were given the choice to enter into a draw for \$300 by providing an email address for correspondence.

Measures

Demographic questionnaire. Parents were asked to indicate their gender and household income, as well as their child's age, gender, grade, and specific ASD diagnosis.

Nisonger Child Behavior Rating Form - Parent Form (NCBRF-P; Aman et al., 1996). The NCBRF-P is a parent-report scale that assesses social competence and problem behaviours among children. Parents are instructed to respond using a four-point Likert scale ranging from not true (0) to completely or always true (3) over the last month. Problem behaviours are measured across 66 items and six subscales: conduct problem, insecure/anxious, hyperactive, self-injury/stereotypic, self-isolated/ritualistic, and overly sensitive. Parents are instructed to indicate the occurrence rate and severity of

Psychological Acceptance and Empowerment

the problem behaviours over the last month. The psychometric properties of this scale have been examined within a sample of children and young people with ASD (Lecavalier et al., 2004). Lecavalier et al. (2004) replicated the factor structure originally found by Aman et al. (1996) within this sample using confirmatory factor analyses and indicated acceptable internal consistency for problem behaviours subscales (alpha coefficients range from .71 to .92). An overall problem behaviour score was used as the predictor variable for the current study (alpha coefficient = .96).

Autism Spectrum Quotient - Children's Version (AQ-C; Auyeung et al., 2008).

The AQ-C is a parent-report scale that assesses the severity of autistic traits among children. This scale consists of 47 items and five subscales: social skills, attention switching, attention to detail, imagination, and communication. Each subscale includes ten behaviour statements (with the exception of attention to detail, which includes seven) that parents are asked to rate using a 4-point Likert scale ranging from definitely agree (0) to definitely disagree (3). Total AQ-C scores reflect the sum of all items; the lowest possible score (i.e., 0) suggests no autistic traits and the highest possible score (150) indicates high levels of severity for all traits. As a screening tool, the AQ-C has high sensitivity (95%) and specificity (95%) using a cut-off score of 76 (Auyeung et al., 2008). The AQ-C has strong test-retest reliability ($r = .85, p < .001$) and high internal consistency for the overall measure (alpha coefficient = .97) and subscales (alpha coefficients range from .83 to .93; Auyeung et al., 2008). In the current study, internal consistency for the overall scale was adequate, but lower than in previous studies (alpha coefficient = .79).

Psychological Acceptance and Empowerment

List of negative life events. Parents were provided with a list of negative life events that they experienced in the past year. The events provided were as follows: death of a first degree relative, death of a close family friend or relative, serious illness or injury, serious illness of a close friend or relative, problems with police or other authority, loss of a good educational assistant, loss of a good caregiver, loss of a close friend, child suspended or expelled from school, and difficult transitions. Parents received one point for each life event experienced.

Acceptance and action questionnaire – II (AAQ-II; Bond et. al., in press). The AAQ-II was used to measure psychological acceptance among parents with respect to caring for their child, also used by MacDonald and colleagues (2010) to measure psychological acceptance in fathers of young people with intellectual disability. The original AAQ-II included ten items, and similar to MacDonald et al. (2010), two items were removed that could not be adapted for parents of children with disabilities. The remaining eight items were re-worded to refer specifically to children with ASD (e.g., “It’s OK if I remember some of the difficult times I’ve had parenting my child with ASD”, “I worry about not being able to control my worries and feelings about my child with ASD”, “It seems like most people who have children with ASD are handling their lives better than I am”). Responses were indicated on a seven-point Likert scale, ranging from never true (1) to sometimes true (4) to always true (7), with higher scores representing more acceptance. The adapted eight-item scale has yielded high internal consistency in the past (alpha coefficient = .80; MacDonald et al., 2010), and in the current study (alpha coefficient = .86). The focus of the AAQ-II is on acceptance of

Psychological Acceptance and Empowerment

difficult emotions and thoughts regarding the relationship with the child with ASD, not as a general measure of acceptance of overall difficulties (Lloyd and Hastings, 2008).

Family Empowerment Scale (FES; Koren et al., 1992). The FES is a parent-report scale that assesses empowerment in relation to parenting a child with disabilities. This measure includes three subscales: family, service system and community/political; however, this study only included the family subscale. The subscale measures a parent's feelings of personal control and self-efficacy in relation to their child with disability, as expressed through their personal attitudes as a parent (sense of self), knowledge of their child's disability, and empowering behaviours (ability to act to obtain goals for their family and child). Four items are included for each form of expression, for a total of 12 items. Responses are indicated on a five-point Likert scale ranging from "very untrue" (1) to "very true" (5), with higher scores representing more empowerment. Internal reliability is high for the family subscale (alpha coefficient = .88), and test-retest reliability is strong ($r=.83$). This scale also exhibited high internal consistency in the current study (alpha coefficient = .90). The FES family subscale has been correlated with parent depression in parents of children with behaviour problems (Gerkenmeyer et al., 2008).

Kessler 6-Item Psychological Distress Scale (K6; Kessler et al., 2003). The K6 is a six-item screening tool for non-specific psychological distress, which asks about the frequency of symptoms (e.g. nervousness, hopelessness, etc.) on a five-point Likert scale ranging from "none of the time" (0) to "all of the time" (4), and is a now core measure in the annual US National Health Interview Survey, the US National Household Survey of Drug Abuse, and the Canadian National Health Interview Survey. Respondents are also given the option of responding "I don't know". The K6 has high internal consistency

Psychological Acceptance and Empowerment

(alpha coefficient = .89) and construct validity when compared with other mental health screening tools (Furukawa et al., 2003; Kessler et al., 2002), and shows good agreement with widely used epidemiological diagnostic interviews (Kessler and Ustun, 2004; Wittchen, 1994). The scale also exhibited high internal consistency in the current study (alpha coefficient = .86). A cut-off of 8-12 has been suggested for screening for mild-moderate mental health problems, and a score of 13+ reflective of serious mental illness (Kessler et al., 2003). Fifteen percent of the current sample obtained a score suggestive of mild-moderate mental health problems, and 12% of the current sample met the clinical cut-off for serious mental illness.

Data Analysis Plan

All relations were examined for multicollinearity and homoscedasticity prior to analyses. To test the hypothesis that the established relationship between child problem behaviour and parent mental health problems is mediated by parents' psychological acceptance and empowerment, a test of multiple mediation was conducted using Preacher and Hayes' SPSS macro with bootstrapping (INDIRECT).

Results

Correlation Analysis

Bivariate correlations among study variables and parental mental health problems are shown in Table 1. Pearson product moment correlations indicated that psychological acceptance and empowerment, as well as household income, were negatively related to the severity of parent mental health problems. Child problem behaviour was positively associated with parent mental health problems. Child age and ASD symptoms were not correlated with parent mental health problems. Parents of males with ASD showed a

trend toward significantly lower levels of mental health problems compared with parents of females, $t(60.12) = -1.88, p = .07^1$.

Insert Table 1 here

Child Problem Behaviour and Parent Mental Health Problems

First, a standard multiple regression was conducted to ensure that child problem behaviour (NCBRF) was related to parent mental health problems (K6) after controlling for age, gender, and ASD symptoms (AQ-C Total score), as well as parent gender, household income, and experiences of negative life events within the past year. As shown in Table 2 (Model 1), child problem behaviour was a significant predictor of parent mental health problems, accounting for 12% unique variance.

Insert Table 2 here

STOPPED REVIEWING HERE

Test of Multiple Mediators of Parent Mental Health Problems

Multiple mediation, with parent psychological acceptance and empowerment as potential mediators, was tested using an SPSS supplemental macro script for testing multiple mediator models (see Preacher and Hayes, 2008). Figure 1 shows the unstandardized coefficients of each pathway, and Table 2 (Model 2) shows the unstandardized coefficients for the final regression model including the control variables.

¹ Given the unequal sample sizes between males and female children, a *df* correction for unequal variances was applied.

Psychological Acceptance and Empowerment

The overall model accounted for 29% of the variance in parent mental health problems. As shown in Figure 1 (path c), the total direct effect of child problem behaviour was a significant predictor of parent mental health problems, before entering the mediator variables, $t = 5.59, p < .001$. The multiple mediator test revealed that the total indirect effect for the set of empowerment and acceptance was significant, *point estimate* = .30, 95% *CI* = .16 - .48, indicating that the set of mediators explained the relation between child problem behaviour and parent mental health problems. The direction of estimates in each pathway indicated that having more child problem behaviour was associated with poorer parent psychological acceptance, $t = -6.17, p < .001$, and less parent empowerment, $t = -7.90, p < .001$ (path a), but that only less psychological acceptance was associated with more parent mental health problems, $t = -5.48, p < .001$ (path b), accounting for 10% of the unique variance (empowerment accounted for less than 1% of the variance). The specific indirect effect of each mediator was examined to determine whether any individual variable significantly mediated the effect of child problem behaviour on parent mental health problems while also accounting for the other mediator. Psychological acceptance was the only unique indirect pathway mediating the relationship between child problem behaviour and parent mental health problems, *point estimate* = .38, 95% *CI* = .22 - .59. Parent empowerment did not significantly contribute to the total indirect effect above and beyond psychological acceptance, *point estimate* = -.08, 95% *CI* = -.21 to .02. The relation between child problem behaviour and parent mental health problems remained significant after entering in the mediators and control variables (path c'), $t = 2.79, p = .005$, although only accounted for 3% of the unique variance, suggesting that psychological acceptance functions as a partial mediator. Given

Psychological Acceptance and Empowerment

that the majority of respondents were mothers, a second test of mediation was calculated for only mothers who responded to the survey ($n = 210$), with the same pattern of results as described above.

Discussion

This study is the first to compare parent empowerment and psychological acceptance as mediators to explain the impact of child problem behaviour on parent mental health in parents of individuals with ASD. Similar to what has been found in previous research on parents of children with intellectual disabilities (Lloyd and Hastings, 2008; MacDonald et al., 2010), greater psychological acceptance of difficult emotions and thoughts was associated with fewer parent mental health problems. Consistent with research that examined problem-focused coping in parents of young people with ASD or intellectual disabilities (Hastings et al., 2005a), we found that greater parent empowerment was also associated with fewer parent mental health problems. However, when comparing the processes of empowerment and acceptance, only psychological acceptance emerged as a partial mediator of the impact of child problem behaviour on parent mental health problems, after controlling for ASD symptomatology, negative life events, parent and child gender, and child age. This adds to the growing literature indicating that problems that are chronic, stressful and not easily corrected through active problem solving may negatively impact a person's process of psychological acceptance, which can lead to poorer adjustment.

The current study contributes to what we know about the psychological processes that explain *why* child problem behaviour leads to parent mental health problems, through a test of multiple mediation. Previous research has shown that child problem behaviour

Psychological Acceptance and Empowerment

can serve to reduce parental self-efficacy (a correlate of empowerment), and as a result, increase maternal mental health problems in mothers of children with intellectual disabilities (Hastings and Brown, 2002). Similarly, research has shown that child problem behaviour in children with intellectual disabilities can have a detrimental effect on parent psychological acceptance, and consequently on paternal mental health (MacDonald et al., 2010). The current study suggests that when compared with each other, a decrease in psychological acceptance as a result of behaviour problems is a stronger predictor of parental mental health problems than is a reduction in parent empowerment.

The relatively chronic nature of behaviour problems in children with ASD may explain why acceptance is a more salient psychological construct for explaining parent mental health than is empowerment. As a process linked to problem-focused coping, high levels of empowerment would reflect parents' attempts to reduce problem behaviours through the mobilization of external resources and the application of behaviour-changing strategies. Indeed, improved parent adjustment has been shown in situations where child externalizing behaviours are reduced and do not return, such as in response to parent-training interventions for children with developmental disabilities, including autism (Plant and Sanders, 2007; Roberts et al., 2006; Tonge et al., 2006). If difficulties are manageable and support readily available, then an active, problem-focused coping style to solicit such assistance would be related to improved parent adjustment. For children with autism with more chronic behaviour problems, or for multi-stressed parents, a problem-focused process may not be sufficient to ensure positive parent adjustment. A recent efficacy study of the most widely used parent management training program (Incredible Years; Webster-Stratton, 2007) with children with autism or intellectual

Psychological Acceptance and Empowerment

disabilities found significant reductions in externalizing child behaviours, but no change in maternal rates of depression (McIntyre, 2008). If problems are less manageable and/or support less available, it may be futile for parents to focus exclusively on trying to change the situation. Instead, it may be of utmost importance to understand and evaluate the situation of the family, and offer them both types of coping skills for use across different situations, given that multi-component interventions have been shown to be more effective than either behavioural or cognitive interventions alone (Singer et al., 2007).

The fact that psychological acceptance acts as a mediator supports the exploration of acceptance and mindfulness-based interventions, such as ACT, as effective approaches for parents of children with ASD (Blackledge and Hayes, 2006; Hastings and Beck, 2004). ACT focuses on parent acceptance of negative and difficult emotions, distancing from difficult thoughts, identifying personal values and goals, and developing effective strategies for moving forward with personal values and goals. Researchers have found that ACT improves mental health outcomes among parents of children with ASD by teaching parents to acknowledge and sit with their current difficulty (Blackledge and Hayes, 2006). This may include accepting their child in pain or distress and/or accepting their own negative feelings toward their child at that moment. By doing so, they are better able to manage difficulties that will not change immediately and increase their own capacity to deal with the situation. Singh and colleagues have also explored mindfulness training as a parenting intervention among parents of children with ASD, and have found that parents' mindfulness training leads to greater satisfaction with parenting abilities and more positive social interactions with children (Singh et al., 2006; Singh et al., 2007). Mindful parenting among mothers was also shown to increase social skills exhibited by

Psychological Acceptance and Empowerment

their child, as well as decrease aggression, oppositional behaviours, and self-injury exhibited by their child (Singh et al., 2006). In our qualitative work on this topic, we have found that parents advocate for services but still feel unsupported and frustrated, and their sense of crisis with their child can feel relentless (Weiss and Lunsky, 2010). As one parent participant noted: *“I feel like I’m an Atlas holding up the world ... I am holding the family together and I need a break but I can’t.”* In these situations, parents need a different coping strategy, one that allows them to acknowledge their current experience without trying to change it or avoid it.

Limitations

The method of sampling used (convenience sampling) limits the generalizability of these results. By conducting the participant recruitment and data collection over the internet, we may have excluded families not able to access or use internet. Although families were able to request paper and pencil versions of the surveys to be mailed, only three did. Also, the majority of the sample identified themselves as European Canadian, and highly educated; therefore, these results may not generalize across various cultures in these respects. That being said, household income was comparatively distributed, and controlled for during analyses. The information collected from families included in this study was based entirely on one parent’s report, typically the mother. Consequently, these results may not generalize to other caregivers (e.g., fathers, grandparents, step or foster parents, etc.). In addition, we lack information on child residential or intellectual disability status, which may be associated with parent mental health outcome.

Finally, this research was cross sectional, so causal pathways cannot be isolated. It is unclear whether higher levels of parent acceptance and empowerment lead to fewer

Psychological Acceptance and Empowerment

mental health problems among parents, or if parents with fewer mental health problems tend to utilize these coping strategies. In fact, there is considerable evidence from other studies to suggest that the behaviour problem-parent outcome pathway is bidirectional (Baker et al., 2003; Hastings et al., 2006; Lecavalier et al., 2006; Orsmond et al., 2003).

Conclusions

This paper highlights the importance of considering the parent psychological experience when developing treatments for child problem behaviour. Child-focused therapy should not focus exclusively on the child because the child's experiences and behaviours affect, and are affected by, parents. At the same time that we provide parents with skills and supports to improve their children's experience, we must also invest in helping parents to deal with their own emotions and coping strategies. Focusing on psychological acceptance shows promise in this regard, with preliminary evidence to suggest that acceptance of one's situation can enable parents to push forward and deal with the situation in the moment (Blackledge and Hayes, 2006). Further research is needed to investigate the effectiveness of such interventions, and other parent-focused therapies, with controlled designs and large, diverse samples of parents.

Psychological Acceptance and Empowerment

References

- Aman, M. G., Tassé, M. J., Rojahn, J., & Hammer, D. (1996). The Nisonger CBRF: A child behavior rating form for children with developmental disabilities. Research in Developmental Disabilities, *17*(1), 41–57.
- Auyeung, B., Baron-Cohen, S., Wheelwright, S., & Allison, C. (2008). The autism spectrum quotient: Children's version (AQ-Child). Journal of Autism and Developmental Disorders, *38*(7), 1230–1240.
- Baker, B. L., McIntyre, L. L., Blacher, J., Crnic, K., Edelbrock, C., & Low, C. (2003). Pre-school children with and without developmental delay: Behaviour problems and parenting stress over time. Journal of Intellectual Disability Research, *47*, 217-230.
- Baker-Ericzén, M. J., Brookman-Frazee, L., & Stahmer, A. (2005). Stress levels and adaptability in parents of toddlers with and without autism spectrum disorders. Research and Practice for Persons with Severe Disabilities, *30*(4), 194–204.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, *51*(6), 1173–1182.
- Blackledge, J. T., & Hayes, S. C. (2006). Using acceptance and commitment training in the support of parents of children diagnosed with autism. Child & Family Behavior Therapy, *28*(1), 18.
- Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., Waltz, T., & Zettle, R. D. (in press). Preliminary psychometric properties of the Acceptance and Action Questionnaire - II: A revised measure of psychological flexibility and experiential avoidance. *Behavior Therapy*.

Psychological Acceptance and Empowerment

- Bouma, R., & Schweitzer, R. (1990). The impact of chronic childhood illness on family stress: A comparison between autism and cystic fibrosis. Journal of Clinical Psychology, *46*(6), 722–730.
- Brereton, A. V., Tonge, B. J., & Einfeld, S. L. (2006). Psychopathology in children and adolescents with autism compared to young people with intellectual disability. Journal of Autism and Developmental Disorders, *36*(7), 863–870.
- Bristol, M. M. (1987). Mothers of children with autism or communication disorders: Successful adaptation and the double ABCX model. Journal of Autism and Developmental Disorders, *17*(4), 469–486.
- Brookman-Fraze, L. (2004). Using parent/clinician partnerships in parent education programs for children with autism. Journal of Positive Behavior Interventions, *6*, 195-213.
- Crnic, K. A., Friedrich, W. N., & Greenberg, M. T. (1983). Adaptation of families with mentally retarded children: A model of stress, coping, and family ecology. American Journal of Mental Deficiency, *88*(2), 125-38.
- Davis, N. O., & Carter, A. S. (2008). Parenting stress in mothers and fathers of toddlers with autism spectrum disorders: associations with child characteristics. Journal of Autism and Developmental Disorders, *38*(7), 1278–1291.
- Estes, A., Munson, J., Dawson, G., Koehler, E., Zhou, X., & Abbott, R. (2009). Parenting stress and psychological functioning among mothers of preschool children with autism and developmental delay. Autism, *13*(4), 375-387. doi:[10.1177/1362361309105658](https://doi.org/10.1177/1362361309105658)
- Furukawa, T. A., Kessler, R. C., Slade, T., & Andrews, G. (2003). The performance of the K6 and K10 screening scales for psychological distress in the Australian National Survey of Mental Health and Well-Being. Psychological Medicine, *33*(02), 357–362.

- Gerkenmeyer, J. E., Perkins, S. M., Scott, E. L., & Wu, J. (2008). Depressive Symptoms Among Primary Caregivers of Children With Mental Health Needs: Mediating and Moderating Variables. Archives of Psychiatric Nursing, *22*(3), 135-146.
- Gutierrez, L. M. (1994). Beyond coping: An empowerment perspective on stressful life events. Journal of Sociology & Social Welfare, *21*, 201.
- Hassall, R., & Rose, J. (2005). Parent cognitions and adaptation to the demands of caring for a child with an intellectual disability: A review of the literature and implications for clinical interventions. Behavioural and Cognitive Psychotherapy, *33*, 71–88.
- Hastings, R. P. (2002). Parental stress and behaviour problems of children with developmental disability. Journal of Intellectual and Developmental Disability, *27*, 149-160.
- Hastings, R. P. (2003). Child behaviour problems and partner mental health as correlates of stress in mothers and fathers of children with autism. Journal of Intellectual Disability Research, *47*(4-5), 231–237.
- Hastings, R. P., & Beck, A. (2004). Stress intervention for parents of children with intellectual disabilities. Journal of Child Psychology and Psychiatry, *45*, 1338-1349.
- Hastings, R. P., & Brown, T. (2002). Behavior problems of children with autism, parental self-efficacy and mental health. American Journal on Mental Retardation, *107*, 222-232.
- Hastings, R. P., Daley, D., Burns, C., & Beck, A. (2006). Maternal distress and expressed emotion: cross-sectional and longitudinal relationships with behaviour problems of children with intellectual disabilities. American Journal on Mental Retardation, *111*, 48–61.

- Hastings, R. P., Kovshoff, H., Brown, T., Ward, N. J., Espinosa, F. D., & Remington, B. (2005a). Coping strategies in mothers and fathers of preschool and school-age children with autism. Autism, *9*(4), 377-391. doi:[10.1177/1362361305056078](https://doi.org/10.1177/1362361305056078)
- Hastings, R. P., Kovshoff, H., Ward, N. J., degli Espinosa, F., Brown, T., & Remington, B. (2005b). Systems analysis of stress and positive perceptions in mothers and fathers of pre-school children with Autism. Journal of Autism and Developmental Disorders, *35*, 635-644.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). Acceptance and commitment therapy: An experiential approach to behavior change. New York: Guilford Press.
- Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and Commitment Therapy: Model, processes and outcomes. Behaviour Research and Therapy, *44*(1), 1-25. doi:[10.1016/j.brat.2005.06.006](https://doi.org/10.1016/j.brat.2005.06.006)
- Hill, R. (1958). Generic features of families under stress. Social Casework, *49*(2-3).
- Hodapp, R. M., Dykens, E. M., & Masino, L. L. (1997). Families of children with Prader-Willi syndrome: Stress-support and relations to child characteristics. Journal of Autism and Developmental Disorders, *27*(1), 11-24.
- Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L., Walters, E. E., et al. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. Psychological Medicine, *32*(06), 959-976.
- Kessler, R.C., Barker, P.R., Colpe, L. J., Epstein, J.F., Gfroerer, J.C., Hiripi, E., Howes, M.J, Normand, S-L.T., Manderscheid, R.W., Walters, E.E., Zaslavsky, A.M. (2003). Screening for serious mental illness in the general population. Archives of General Psychiatry, *60*(2), 184-189.

Psychological Acceptance and Empowerment

- Kessler, R. C., & Ustun, T. B. (2004). The world mental health (WMH) survey initiative version of the world health organization (WHO) composite international diagnostic interview (CIDI). International Journal of Methods in Psychiatric Research, *13*(2), 93–121.
- Koren, P. E., DeChillo, N., & Friesen, B. J. (1992). Measuring empowerment in families whose children have emotional disabilities: A brief questionnaire. Rehabilitation Psychology, *37*(4), 305-321.
- Lecavalier, L., Aman, M. G., Hammer, D., Stoica, W., & Mathews, G. L. (2004). Factor analysis of the Nisonger Child Behavior Rating Form in children with autism spectrum disorders. Journal of Autism and Developmental Disorders, *34*(6), 709–721.
- Lecavalier, L., Leone, S., & Wiltz, J. (2006). The impact of behaviour problems on caregiver stress in young people with Autism Spectrum Disorders. Journal of Intellectual Disability Research, *50*, 172-183.
- Lloyd, T., & Hastings R. P. (2008). Psychological variables as correlates of adjustment in mothers of children with intellectual disabilities: cross-sectional and longitudinal relationships. Journal of Intellectual Disability Research, *52*, 37-48.
- MacDonald, E. E., Hastings, R. P., & Fitzsimons, E. (2010). Psychological acceptance mediates the impact of the behaviour problems of children with intellectual disability on fathers' psychological adjustment. Journal of Applied Research in Intellectual Disabilities, *23*(1), 27–37.
- McCubbin, H. I., & Patterson, J. M. (1983). The family stress process: The double ABCX model of adjustment and adaptation. Social Stress and the Family: Advances and Developments in Family Stress Theory and Research, 7–37.

Psychological Acceptance and Empowerment

- McIntyre, L. L. (2008). Adapting Webster-Stratton's incredible years parent training for children with developmental delay: findings from a treatment group only study. Journal of Intellectual Disability Research, *52*(12), 1176.
- Minnes, P. M. (1988). Family resources and stress associated with having a mentally retarded child. American Journal of Mental Retardation, *93*(2), 184–92.
- Nachshen, J. S. (2005). Empowerment and families: Building bridges between parents and professionals, theory and research. Journal on Developmental Disabilities, *11*(1), 67–75.
- Orsmond, G. I., Seltzer, M. M., Krauss, M. W., & Hong, J. (2003). Behavior problems in adults with mental retardation and maternal well-being: Examination of the direction of effects. American Journal of Mental Retardation, *108*, 257–271.
- Patterson, J. M. (1988). Chronic illness in children and the impact on families. Chronic Illness and Disability, *2*, 69–107.
- Perry, A. (2004). A model of stress in families of children with developmental disabilities: Clinical and research applications. Journal on Developmental Disabilities, *11*(1), 1–16.
- Plant, K. M., & Sanders, M. R. (2007). Reducing problem behavior during care-giving in families of preschool-aged children with developmental disabilities. Research in Developmental Disabilities, *28*(4), 362–385.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. Behavior Research Methods, *40*(3), 879–891.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. Multivariate Behavioral Research, *42*(1), 185–227.

Psychological Acceptance and Empowerment

- Quine, L., & Pahl, J. (1991). Stress and coping in mothers caring for a child with severe learning difficulties: a test of Lazarus' transactional model of coping. Journal of Community and Applied Social Psychology, 1, 57-70.
- Ricci, L. A., & Hodapp, R. M. (2003). Fathers of children with Down's syndrome versus other types of intellectual disability: perceptions, stress and involvement. Journal of Intellectual Disability Research, 47(4), 273–284.
- Roberts, C., Mazzucchelli, T., Studman, L., & Sanders, M. R. (2006). Behavioral family intervention for children with developmental disabilities and behavioral problems. Journal of Clinical Child and Adolescent Psychology, 35(2), 180–193.
- Rodrigue, J. R., Morgan, S. B., & Geffken, G. (1990). Families of autistic children: psychological functioning of mothers. Journal of Clinical Child Psychology, 19(4), 371–379.
- Saloviita, T., Italinna, M., & Leinonen, E. (2003). Explaining the parent stress of fathers and mothers caring for a child with intellectual disability: A double ABCX model. Journal of Intellectual Disability Research, 47, 300–312.
- Seligman, M., and Darling, R.B. (1997) Ordinary Families, Special Children: A Systems Approach to Childhood Disability (Second Edition). New York: Guilford PressLink.
- Seltzer, M. M., Shattuck, P., Abbeduto, L., & Greenberg, J. S. (2004). Trajectory of development in adolescents and adults with autism. Mental Retardation and Developmental Disabilities Research Reviews, 10(4), 234.
- Simon, J. B., Murphy, J. J., & Smith, S. M. (2005). Understanding and fostering family resilience. The Family Journal, 13(4), 427-436.

Psychological Acceptance and Empowerment

- Singer, G. H., Ethridge, B. L., & Aldana, S. I. (2007). Primary and secondary effects of parenting and stress management interventions for parents of children with developmental disabilities: A meta-analysis. Mental Retardation and Developmental Disabilities Research Reviews, 13(4), 357.
- Singh, N. N., Lancioni, G.E., Winton, A. S. W., Fisher, B. C., Wahler, R. G., Mcaleavey, K., et al. (2006). Mindful parenting decreases aggression, noncompliance, and self-injury in children with autism. Journal of Emotional and Behavioral Disorders, 14, 169-177
- Singh, N. N., Lancioni, G.E., Winton, A. S. W., Singh, J., Curtis, W. J., Wahler, R. G., et al. (2007). Mindful parenting decreases aggression and increases social behavior in children with developmental disabilities. Behavior Modification, 31, 749-771.
- Sivberg, B. (2002). Family System and Coping Behaviors: A comparison between parents of children with autistic spectrum disorders and parents with non-autistic children. Autism, 6(4), 397-409. doi:[10.1177/1362361302006004006](https://doi.org/10.1177/1362361302006004006)
- Sloper, P., Knussen, C., Turner, S., & Cunningham, C. (1991). Factors related to stress and satisfaction with life in families of children with Down syndrome. Journal of Child Psychology and Psychiatry, 32, 655-676.
- Tonge, B., Brereton, A., Kiomall, M., Mackinnon, A., King, N., & Rinehart, N. (2006). Effects on parental mental health of an education and skills training program for parents of young children with autism. Journal of the American Academy of Child & Adolescent Psychiatry, 45(5), 561-569. doi:[10.1097/01.chi.0000205701.48324.26](https://doi.org/10.1097/01.chi.0000205701.48324.26)
- Webster-Stratton, C. (2007). The Incredible Years Parent Training Manual: BASIC Program.
Umbrella Press: Seattle, WA.

Psychological Acceptance and Empowerment

Weiss, J. A., & Lunsky, Y. (2010). Service utilization patterns in parents of youth and adults with intellectual disability who experienced psychiatric crisis. Journal of Mental Health Research in Intellectual Disabilities, 3, 145-163.

Wittchen, H. U. (1994). Reliability and validity studies of the WHO–Composite International Diagnostic Interview (CIDI): a critical review. Journal of Psychiatric Research, 28(1), 57.

Psychological Acceptance and Empowerment

Table 1

Summary of correlations for scores on K6, AQ-C, child age, SES, life events, NCBRF,

FES, and AAQ-II

Measure	1	2	3	4	5	6	7
1. Parent mental health problems (K6)	-						
2. ASD symptoms (AQ-C)	.04	-					
3. Child age (Age)	.05	.03	-				
4. Household income (SES)	-.20**	-.10	-.002	-			
5. Negative life events	.17**	.09	.09	-.09	-		
6. Child problem behaviour (NCBRF)	.39***	.33**	-.09	-.31***	.25***	-	
7. Parent empowerment (FES)	-.24***	.08	.01	.04	-.02	-.32**	-
8. Psychological acceptance (AAQ-II)	-.47***	.05	-.03	.10	-.02	-.43***	.64***

Note: K6= Kessler 6-Item Psychological Distress Scale; AQ-C= Autism Spectrum Quotient - Children's Version; NCBRF= Nisonger Child Behavior Rating Form - Parent Form; FES= Family Empowerment Scale; AAQ-II= Acceptance and Action Questionnaire – II

*p < .05. ** p < .01. *** p < .001.

Psychological Acceptance and Empowerment

Table 2

Predictors of Parent Mental Health Problems

Variable	Model 1				Model 2			
	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
	1.26	.57	2.24	.03	2.22	.61	3.62	<.001
Child age	.02	.01	1.23	.22	.009	.01	.70	.48
Child gender	.08	.13	.65	.52	.03	.12	.21	.83
ASD symptoms	-.32	.20	-1.65	.10	-.10	.19	-.51	.61
Parent gender	-.15	.19	-.76	.45	-.13	.18	-.69	.49
SES	-.03	.03	-1.17	.24	-.04	.03	-1.43	.15
Negative life events	.03	.04	.88	.38	.06	.04	1.56	.12
Child problem behaviour	.65	.12	5.59	<.001	.34	.12	2.78	.006
Parent Empowerment					.14	.10	1.45	.15
Psychological Acceptance					-.30	.05	-5.48	<.001

Model 1: $R^2 = .18, F(7, 220) = 7.11, p < .001$

Model 2: $R^2 = .29, F(9, 218) = 10.10, p < .001$

Psychological Acceptance and Empowerment

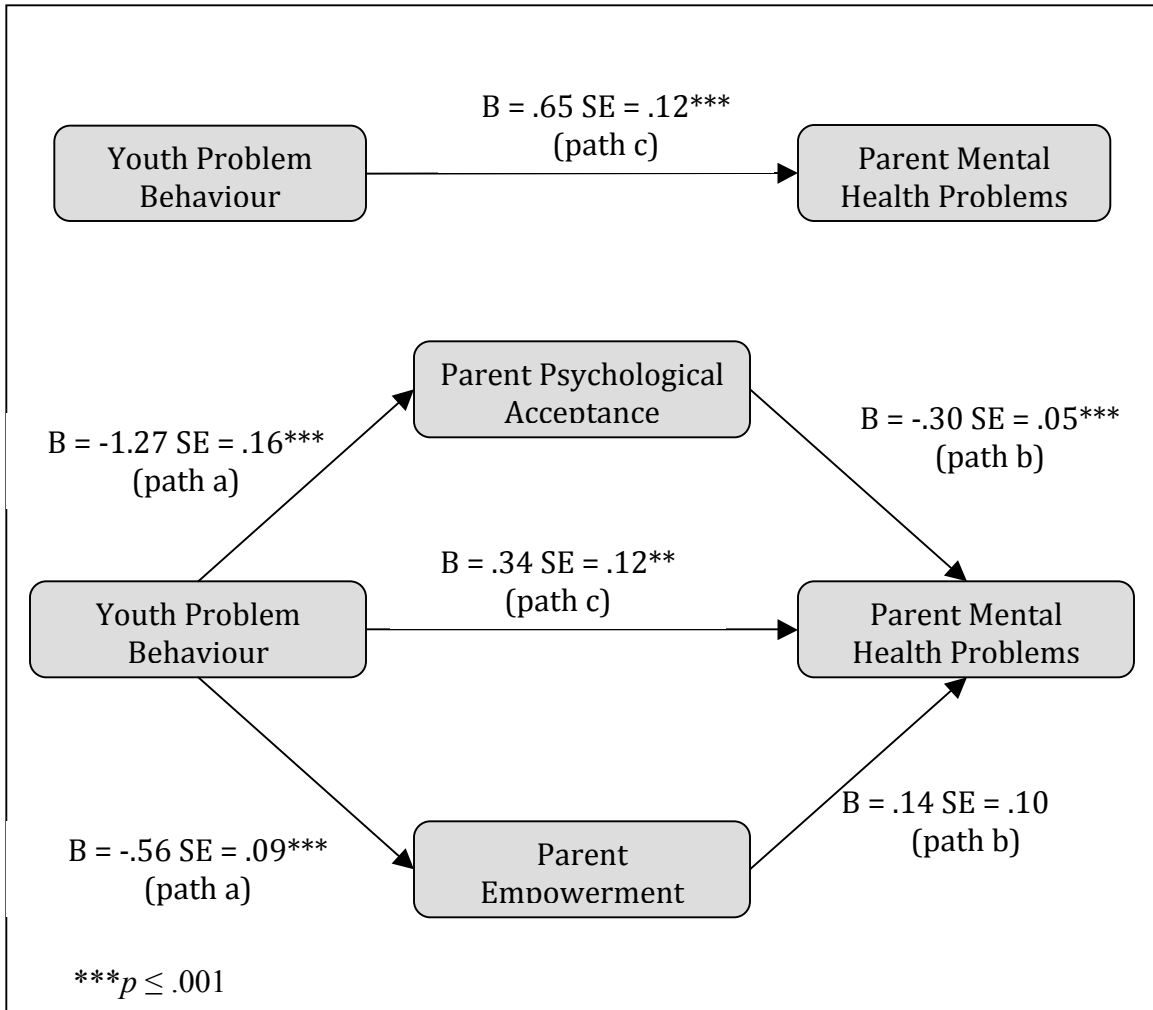


Figure 1. Multiple mediator analysis of parent mental health problems

Psychological Acceptance and Empowerment

Author's Note

This research was supported by a New Investigator Fellowship from the Ontario Mental Health Foundation to the first author. The authors wish to thank the many families who have participated in this research. Correspondence may be directed to Jonathan A. Weiss, Department of Psychology, York University, 219 Behavioural Science Building, 4700 Keele St., Toronto, Ontario, M3J 1P3, Tel (416) 736-2100 ext. 22987, Email: jonweiss@yorku.ca.