ORIGINAL ARTICLE

Parental Stress and Parenting Styles in Managing Autistic Children With Behaviour Problems

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ABSTRACT

Introduction: Problems in the behaviour of a child suffering from autism spectrum disorder (ASD) can influence the mental health of parents and their parenting style. This research was aimed in identifying the relationship between behaviour problems in ASD children with parental stress and parenting styles. **Methods:** 79 parents with ASD children aged 4 to 12 years were recruited based on convenience sampling from various organisations. The instruments used in this study included a Strengths and Difficulties Questionnaire, Parenting Stress Index, and Parenting Styles and Dimensions Questionnaire. Data were then analysed by Pearson's chi-squared and Pearson's product-moment correlation coefficient using SPSS software. **Results:** Overall, most of the children with ASD in this study had abnormal peer problems. Parents of children with ASD used mostly authoritative parenting style. Prosocial behaviour was strongly correlated to parental stress. Child gender, Parent-Child Dysfunctional Interaction (P-CDI) and prosocial behaviour impacted the use of an authoritative parenting style, the parent's age impacted the authoritarian parenting style, and the parent's ethnicity, marital status, additional caregivers, parental distress and difficult children influenced a permissive parenting style. **Conclusion:** Understanding the relationship of the behaviour of ASD children with parental stress and parenting styles can enhance the provision of effective services by health care professionals.

Keywords: Autism spectrum disorder; Behavior; Parental stress; Parenting styles

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INTRODUCTION

The duties of a parent towards a child with disabilities become even more demanding when the child manifests challenging behaviours or behavioural problems. Problems in the behaviour of a child diagnosed with autism spectrum disorder (ASD) or autistic children can have an effect on the parents' mental health (1), and also influence their style of parenting (2). Parents with autistic children are consistently reported to experience great parental stress, and are known to have higher levels of stress than parents of typically developing children (3) and children with other disabilities such as Down syndrome (4). The functionality of a parent may also be affected and may lead to depression and deprived well-being (5). In Malaysia, 4 out of 5 parents of children with ASD in Malaysia reported significantly high levels of stress (6), which has given rise to an alarming concern for the mental health of the parent population in the country.

Challenging behaviour is often associated with ASD, in addition to its typical autistic features. Among the problematic behaviours and symptoms associated with ASD are poor communication skills, impaired social relations, repetitive or stereotypical patterns of behaviour, hyper- or hypo-sensitivities to stimuli, aggressiveness, self-injuring behaviour, and sleep disturbances (7). The challenging nature of the behaviour and characteristics of children with ASD is often one of the main causes of distress among their parents and families. In some circumstances, such difficult behaviour may expose other people to the risk of injury (8). It also limiting the child access to community services, and thus interferes with possible social integration (8, 9).

Parenting children with ASD is a complex and highly stressful task, particularly when there are challenging behaviours to be tackled. A child's inability to adjust to changes in the social environmental and behavioural problems such as disobedience attention-seeking, acceptability and demandingness can affect parenting styles (10). As parents are commonly the primary caregivers of a child, their level of stress and parenting abilities, which are affected by the child's behaviour problems, are important areas of concern In addition,

such parental stress can interfere with the parent-child relationship and hinder the child's development (11).

It has been found that stressed parents tend to resort to over-protectiveness or a no-response style of parenting (12). Despite there being a wide range of studies on parental stress and the demands on caregivers of children with ASD and other disabilities, little research has been done on specific parenting styles among the caregivers of children with ASD and their association with child behaviour problems and parental stress. Therefore, there is a need to collect data on behaviour problems in ASD children, the levels of parental stress and types of parenting styles, and to investigate the relationship between child behaviour problems, and parental stress and styles. It is essential to understand these issues prior to developing an effective intervention in order to fully support both the child and the parent. The overall purpose of this study was to identify the relationship between child behaviour problems and parental stress and parenting styles among parents of children with ASD.

MATERIALS AND METHODS

Study design

This was a quantitative study that employed a cross-sectional research design. A cross-sectional study allows data to be collected on a certain population at a single point in time (13). The target population for this study were those who met the following criteria; i) parents above the age of 18 years; ii) biological parents with ASD child aged between 4 to 12 years; and iii) the child with ASD must not have any other co-morbid illness. The participants were selected from schools, autism intervention centres and autism organisations in the Federal Territory and Selangor, Malaysia. They were identified through these organisations, which had children diagnosed with ASD and who were undergoing therapy or treatment and were following an early intervention program or special education class. A total of 79 parents with ASD children participated in this study. Ethical approval for this study was gained from Research Ethics Committee, Universiti Teknologi MARA (REC/163/18).

Instruments

The instruments used for this study were the Strengths and Difficulties Questionnaire (SDQ) (14), Parental Stress Index (PSI) – short form (15), and Parenting Styles and Dimensions Questionnaire (PSDQ) – short version (16).

Strengths and Difficulties Questionnaire (SDQ)

This is a brief behavioural screening questionnaire to screen children aged 4 to 17 years. There are several versions of this questionnaire for researchers, clinicians and teachers. It is a 25-item questionnaire that focuses on psychological attributes, some of which are positive and others negative. The 25 items are divided into 5 scales, which are; i) emotional symptoms; ii) conduct problems; iii) hyperactivity/inattention; iv) peer relationship; v) prosocial behaviour.

Each item is rated from 0 (not true) to 2 (certainly true), except for items 7, 11, 14, 21, and 25, which are rated as 2 (not true) to 0 (certainly true). A total difficulties score is generated by adding up all the scores from all the scales, except for the prosocial scale, leading to a maximum score of 40. Cut-off points are used in each subscale to categorise the children into three severity classifications, namely 'normal', 'borderline' and 'severe'. The Cronbach's alpha for the reliability correlations were 0.62 (emotional symptoms), 0.63 (conduct problems), 0.77 (hyperactivity/inattention), 0.57 (peer relationship), 0.65 (prosocial behaviour), and 0.83 (total difficulties score) (14).

Parental Stress Index (PSI)

The PSI is used as a screening and triage measure for testing a parenting system and identifying issues that can lead to problems in the child's or parent's behaviour. The focus of this tool is on three major domains of stress, namely child characteristics, parent characteristics, and situational/demographic life stress. The PSI has been revised to be more culturally sensitive to other languages and to include fathers in the standardisation sample. It is a reliable and valid tool (17,18), and is often used by primary care clinicians targeting families in need of follow-up services. The Cronbach's alpha for test-retest reliability of primary factors was 0.84 (total stress), 0.85 (parental distress), 0.78 (difficult child), and 0.68 (parent-child dysfunctional interaction) (17). The PSI is designed to be a self-administered questionnaire, and is used with parents of children aged 12 years and below. The short form has 36 items and 3 domains, which are; i) Parental Distress; ii) Parent-Child Dysfunctional Interaction, and iii) Difficult Child.

Parenting Styles and Dimensions Questionnaire (PSDQ) – short version

The Questionnaire on Parenting Types and Measurements (PSDQ) is used to test parenting
styles and unique parenting behaviors within the framework of these typologies (16). The self-reporting questionnaire was created primarily for parents of pre-school and school-age children. The PSDQ was developed in accordance with Baumrind's parenting style typologies and definitions. The PDSQ - short version contains 32 items under three general parenting styles; authoritative, authoritarian and permissive. The parenting behaviors are reflected in each item with a 5-point likert scale, from 1(never) to 5(always). The Cronbach's alpha for primary factors was 0.91 (authoritative), 0.86 (authoritarian) and 0.75 (permissive) (16).

Data Collection Procedures

A total of seven organizations comprising of special

schools, private centers and Non- Government Organizations that offer programs for children, adolescents and adults with ASD were included in this study. A total of 107 of parents were approached and screened for their eligibility to participate in this study. The questionnaires were then distributed using in-person method to those who met the inclusion criteria. A briefing by the authors were conducted and respondents were given the option to fill in the questionnaire immediately or return it to the designated person-in-charge or manager within two weeks. A follow- up call was made to the person-in-charge to request for reminders for the respondents. The data collection took six months to be completed.

Data Analysis

The analysis of the data was done by using the Statistical Package for the Social Sciences (SPSS) Version 25.0. The demographic data for this study were presented in the form of a descriptive analysis. Pearson's chi-squared test was applied to the two sets of categorical variables, which were the gender of the parents and parenting styles. The correlation between two variables, either child behaviour problems with parenting stress or child behaviour problems with parenting styles, were then analysed using Pearson's product-moment correlation coefficient.

RESULTS

Demographic Profiles of Parents and ASD Children

Table I shows the demographic profile of the 79 parents and their ASD children. Most of the parents or 27 (34.2%) of them fell into the age group of 35-39 years, and 26 (32.9%) fell into the age group of 30-34 years. 10 (25.3%) parents were from the age group of 40-44 years, 5 (6.3%) were from the age group of 45-49 years, and only 1 (1.3%) was from the age group of 50-54 years. Participants who were mothers slightly outnumbered the fathers, accounting for 49 (62%) mothers versus 38 (30%) fathers. In terms of marital status, the majority or 78 parents (98.7%) were still married, and only 1 (1.3%) was divorced. Out of the 79 parents, 40 (50.6%) of them were holders of a Bachelor's degree, which was the highest educational qualification achieved by them, 15 (19%) were diploma holders, and 9 (11.4%) had secondary school qualifications. At postgraduate level, 8 (10.1%) parents were holders of a Master's degree, while only 3 (3.8%) had a doctorate degree. The remaining 4 (5.1%) parents had other qualifications.

With regard to the ASD children, most of them or 23 (29.1%) were aged 7 years, followed by 14 (17.7%) who were aged 6 years, 13 (16.5%) who were aged 4 years, and 11 (13.9%) who were aged 5 years. Of the ASD children, 6 (7.6%) were aged 8 and 9 years, respectively and 5 (6.3%) were aged 10 years. Only 1 ASD child (1.3%) was 12 years old. In terms of gender, the vast majority or 49 (62%) of the respondents' children were boys, while the remaining 30 (38%) were girls. The majority of the children or 69 (87%) of them had a history of medical illness. This included 36 children (45.6%) who were having epilepsy, 21 (26.6%) asthma, 9 (11.4%) G6PD, and 3 (3.8%) who were having other medical illnesses. The remaining 10 children (12.7%) had no medical illness.

Table I: Demographic Profile of Parents and their ASD children (n=79)

Demographic Profile of Parents with ASD Children			
Variables		Frequency (*n*)	Percentage (%)
Age (Years)	30-34	26	32.9
	35-39	27	34.2
	40-44	10	25.3
	45-49	5	6.3
	50-54	1	1.3
Gender	Male	30	38
	Female	49	62
Marital Status	Married	78	98.7
	Divorced	1	1.3
Highest Qualifications	Doctorate	3	3.8
	Master	8	10.1
	Degree	40	50.6
	Diploma	15	19
	Secondary School	9	11.4
	Other qualifications	4	5.1
Number of children	1	10	12.7
	2	36	45.6
	3	21	26.6
	4	9	11.4
	5	3	3.8
Demographic Profile of ASD Children			
Age (years)	4	13	16.5
	5	11	13.9
	6	14	17.7
	7	23	29.1
	8	6	7.6
	9	6	7.6
	10	5	6.3
	12	1	1.3
Gender	Male	49	62
	Female	30	38
Medical Illness	None	10	12.7
	Epilepsy	36	45.6
	Asthma	21	26.6
	G6PD	9	11.4
	Other	3	3.8

Child Behaviour Problems

Figure I shows the children with ASD behaviours problems as measured by the SDQ. A comparison of the mean scores among the five domains for assessing difficulties in the SDQ showed higher mean scores in the domains of hyperactivity and peer problems at 5.78 (SD = 1.71) and 5.32 (SD = 1.75), respectively. On the other hand, conduct problems had the lowest mean score of 2.58 (SD = 1.37) followed by emotional problems with

2.73 (1.99). Furthermore, most of the children were categorized as abnormal for peer problems (83.5%) and prosocial behaviour (54.4%) based on the SDQ.

Parental Stress

Table II displays the mean scores and the proportion of parents perceiving parental stress in three domains of the PSI-SF. Among the three domains, the mean scores

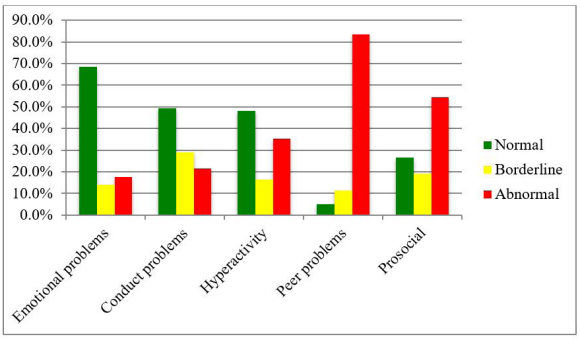

Figure I: Categories of Child Behavior Problems based on SDQ (n=79)

were higher in the Difficult Child (DC) and Parent-Child Dysfunctional Interaction (P-CDI) domains at 33.35 (SD = 7.45) and 30.63 (SD = 6.80), respectively. In addition, the highest rate of parental stress was in P-CDI, where 89.9% of the parents scored above the cut-off point. This was followed by DC coming in at 44.3%. Overall, 70.9% of the parents scored above the cut-off point in their total stress.

Child Behaviour Problems and Parental Stress

Table 3 shows the correlation between child behaviour problems and parental stress. For the domain of

Table II: Parental Stress among Parents with ASD Children

Domain	Mean (SD)	Above cut off points, n (%)
Parental Distress (PD)	28.62 (8.22)	26 (32.9)
Parent-Child Dysfunction Interaction (P-CDI)	30.63 (6.80)	71 (89.9)
Difficult Child (DC)	33.35 (7.45)	35 (44.3)
Total Stress Score	92.61 (19.28)	56 (70.9)

Emotional Problems, all the dimensions of parental stress had a significant correlation. The DC dimension had the highest correlation coefficient and medium correlation (r = .341, p =.002), followed by the P-CDI dimension (r = .279, p = .013) and PD dimension (r = .258, p= .022) with weak correlations. As for problems with conduct, only the Difficult Child domain had a significant but weak correlation (r = .245, p = .029). The hyperactive domain had two dimensions from parental stress with weak and significant correlations, which were Parental Distress (r= .290, p= .010) and P-CDI (r = .239, p = .034). As for peer problems, only the Parental Distress dimension (r = .276, p = .014) was found to have a weak and significant correlation. All the parental stress dimensions were found to have a moderate and significant correlation with the Prosocial domain. The Parental Distress (r = -.357, p = .001) and Difficult Child (r= -.357, p= .001) domains both had a similar strength in correlation with the negative direction. The P-CDI dimension had a little lower but still a moderate significant correlation coefficient of -.0.347 and a p-value of 0.002.

Child Behaviour Problems and Parenting Styles

The association between children's behaviour issues and parenting styles is shown in Table IV. For the domain of Emotional Problems, only the authoritarian parenting style was found to have a weak but significant correlation (r = .261, p = .020). There were two domains of child behaviour problems that had no significant correlation

Table III: Correlation Between Behaviour Problems and Parental Stress

Domains		Parental Stress		
Child Behaviour		Parental Distress	Parent-Child Dysfunction Interaction	Difficult Child
Emotional problems	Correlation coefficient	0.258	0.279	0.341
	Sig	0.022*	0.013*	0.002**
Conduct problems	Correlation coefficient	0.207	0.095	0.245
	Sig	0.067	0.407	0.029*
Hyperactive	Correlation coefficient	0.290	0.239	0.210
	Sig	0.010**	0.034*	0.063
Peer problems	Correlation coefficient	0.276	0.020	0.110
	p	0.014*	0.864	0.333
Prosocial	Correlation coefficient	-0.357	-0.347	-0.357
	p	0.001**	0.002**	0.001**

*correlations significant at the 0.05 level (p<0.05)
**correlations significant at the 0.01 level (p<0.01)

with any parenting style, which were conduct problems and peer problems. The Hyperactive domain had a moderately significant correlation with the authoritarian parenting style (r = .355, p = .001). All the parenting styles had weak but significant correlations with the prosocial domain. The authoritative parenting style had the highest correlation of 0.283 (p= .011), followed by the authoritarian (r = -.227, p = .044) and permissive (r = -.258, p = .022) parenting styles with negative correlations.

DISCUSSION

This study identified the child behaviour problems being encountered by parents of children with ASD. The results revealed that most of the children were

having abnormal peer problems, followed by abnormal prosocial behaviour and hyperactivity. A similar pattern

Table IV: Relationships between Child Behaviour Problems and Parenting Styles

Domains		Parenting styles		
Child Behaviour		Authoritative	Authoritarian	Permissive
Emotional problems	Correlation coefficient	-0.065	0.261	0.131
	Sig	0.566	0.020*	0.248
Conduct problems	Correlation coefficient	-0.023	0.120	0.117
	Sig	0.840	0.293	0.305
Hyperactive	Correlation coefficient	-0.044	0.355	0.329
	Sig	0.699	0.001*	0.003
Peer problems	Correlation coefficient	0.090	0.048	0.167
	Sig	0.432	0.677	0.140
Prosocial	Correlation coefficient	0.283	-0.227	-0.258
	Sig	0.011*	0.044*	0.022*

**p<0.05*

of results was obtained by Huang (20), who found that children with ASD were perceived by their caregivers to have problems due to hyperactivity/inattention, peer problems and prosocial behaviour that were at a high-risk level. The only difference was that the present study found that most of the children with ASD were having abnormal peer problems whereas the study by Huang (20) found that most of the children with ASD had great problems with hyperactivity/inattention. In terms of peer problems in ASD children, a popular explanation is that children with ASD do not possess an intrinsic motivation to interact with others as they do not gain neurological "rewards" from social interactions, unlike typically developing children, as suggested by the social motivation theory (21). Furthermore, reduced prosocial behaviour is also commonly linked with ASD children, whereby those with higher autistic traits seem to be less prosocial than those with lower autistic traits (22, 23). As empathy plays a role in the engagement of prosocial behaviour, individuals with ASD might encounter such behaviour problems as they may have difficulties in perspective-taking skills that would be required to sufficiently identify the needs of others (23). With intervention planning, the identification of these behaviour problems among children with ASD from both the perspectives of the parent and child would help to better address ways to promote such behaviours in the long run.

This study found that overall, the parents of ASD children had a clinically high level of stress based on the total stress score. P-CDI had the highest percentage of stress, having exceeded the cut-off point, thereby indicating that P-CDI was the most stressful area for parents of children with ASD. This was related to their feelings of disappointment, rejection or alienation from the child or a lack of proper bonding with their child. In line with previous studies, it was also found that DC had the highest mean score among all the three domains of the PSI-SF (24, 25). It was speculated that the child factor may be an important contributor to the stress experienced by parents of ASD children. Previous literature revealed that child factors can impact the stress levels in parents of children with ASD, such as the child's behaviour and emotional problems, and the demands and severity of their ASD symptoms (20, 26). Furthermore, it pinpoints the importance of identifying stress in parents as it is known to have an effect on parenting, management of the child, the quality of life, family functioning and marital relationships (27, 28). Therefore, parents may need to be educated on the effects of stress on their lives and, in some cases, they may need the attention of healthcare professionals to help them manage their stress to impede its further development.

This study also identified the parenting styles used by parents of children with ASD. The three types of parenting styles: authoritative parenting, authoritarian parenting and permissive parenting, were measured by the PSDQ. Among the three styles of parenting, the authoritative parenting style was found to have the highest mean score and highest percentage in usage, indicating a possible preference of most parents of ASD children. This contradicted the finding of previous studies that parents of ASD children prefer an authoritarian parenting style over authoritative and permissive parenting styles (29) due to the high demands and responsiveness of the children (30). In addition, one study in Asia found that most parents are more authoritarian with ASD children but are more authoritative with typically developing children (30). This reflects the evidence on the differences in parenting styles in various cultures. Although the authoritative parenting style has been found to be associated with ideal outcomes of the child in Western countries, Asian cultures are mostly associated with authoritarian parenting styles. Nevertheless, the parents in the current study might have rated highly on the authoritative parenting style compared to the other parenting styles as they might have felt that they were more effective in their parenting when they used a warmer approach with their ASD child, thereby reflecting that a greater use of authoritative parenting is associated with an increase in parental efficacy (31). Children with authoritative parenting have been known to be more socially and instrumentally competent than children with authoritarian parenting (32). Similarly, it was found in a population of children with developmental disabilities that a positive approach in parenting, including authoritative parenting, is moderately associated with child outcomes (33). Thus, opting for an authoritative approach in parenting may help to produce positive outcomes, even in ASD children, with the right practice and knowledge with regard to its effectiveness. This supports the idea of encouraging efforts to assess and

promote effective parenting skills as part of the services that are provided for children with ASD or other similar disabilities.

This study demonstrated that there was a significant correlation between parental distress with emotional problems, hyperactivity, peer problems and prosocial behaviour, while P-CDI was correlated with emotional problems, hyperactivity, and prosocial behaviour. Difficult children were correlated with conduct problems, emotional problems and prosocial behaviour, while there were moderate correlations between emotional problems in the Difficult Child domain, and prosocial behaviour with all Parental Stress domains. All the other child behaviour problems were weakly correlated to parental stress. Overall, prosocial behaviour had the strongest correlation with parental stress among other child behaviour problems. In terms of the directionality of the relationships, the findings indicated that all child behaviour problems, except for prosocial behaviour, were associated with an increase in various areas of parental stress. On the other hand, greater prosocial behaviour was linked with lower parental stress. Hence, the findings accepted the hypothesis that there is a relationship between child behaviour problems and parental stress.

These results tied well with previous studies, wherein a link between parental stress and child behaviour problems among children with ASD was confirmed (2,20). Conduct problems and prosocial behaviour, in particular, contributed to the amount of stress perceived by the parents (34). On the contrary, other scientific literature found that the severity of ASD has a greater association with parental stress than the severity of child behaviour problems (35). It was interesting to discover that an increase in prosocial behaviour in children with ASD was related to reduced parental stress. This could be due to the fact that prosocial behaviour in children in relation to their ability to share, help and cooperate (36) allow for better interactions between the children and adults (37).

An inverse association exists between prosocial skills and symptoms of ASD (22). In other words, the higher the ASD traits, the lesser the prosocial behaviour in the child. Therefore, parents of ASD children who are lacking in prosocial behaviour may experience greater parental distress than those of ASD children with more prosocial behaviour due to existing challenges in the parent-child interactions and from the ASD child himself. The findings of this study suggest that intervention programs focusing on promoting prosocial behaviour in the child may alleviate the stress in the parent-child relationship.

Only prosocial behaviour had a significant but weak correlation with all three parenting styles, with the authoritative parenting style being the most correlated to prosocial behaviour. There was a weak association between emotional problems and authoritarian parenting, whereas hyperactivity was moderately linked to authoritarian parenting. Direction-wise, an increase in prosocial behaviour resulted from an increase in authoritative parenting and a decrease in authoritarian and permissive parenting. Conversely, greater emotional problems and hyperactivity were linked to the greater use of an authoritarian parenting style. This supported the hypothesis of this study confirming that there is a relationship between behaviour problems in ASD children with parenting styles. Likewise, previous scientific literature found that ASD children with a greater severity of behavioural problems have parents who are overprotective and more authoritarian in their parenting (38). A possible explanation for this would be related to the atypical relationship and reduced affectionate interactions between the parent and ASD child. This occurs due to the child's lack of or decreased response to social stimulation and communication impairments (39). ASD children may also require greater care due to ASD-specific symptoms. Thus, overprotectiveness or authoritarian parenting styles are increased in parents. The findings of this study were also consistent with Baumrind's theory that authoritative parents are linked to higher prosocial behaviour in children. Warm parent-child relationships are related to high emotional sensitivity levels, perspective-taking and prosocial behaviour (39). This relationship has been considered as a good resource for children and one that contributes to good development outcomes (40).

Although literature on these links is well-established, evidence is still scarce among the ASD population, and further research is necessary for a better understanding of the relationship between parenting styles and prosocial behaviour in ASD children. In turn, this will help provide insights to healthcare professionals in aiming to promote pro-sociality in children with ASD through intervention.

CONCLUSION

The results of this study redound in improving child behaviour, parents' mental health and well-being, and parenting in general, in addition to other related studies on the behaviour and parenting of children with ASD. This study not only helps to identify the current behavioural challenges among preschool-aged and school-aged children with ASD in Malaysia, but also identifies the current level of parental stress among parents of ASD children and the most common parenting styles that are being used by parents to manage children with ASD and their presented behaviour problems. The findings from this study also contribute to the enhancement of health services, provision of better insights to healthcare practitioners on current behavioural problems in children with ASD and the mental health issues of their parents in order to develop targets for effective treatment planning. In addition, it contributes to the development of interventions catered to tackle the challenging behaviour of the ASD child and to equip parents with

the necessary mental health and educational support. Understanding the relationship of behaviour problems with parental stress and parenting styles will build a pathway to empathy from professionals to their clients. In turn, this will be an effort towards promoting the parent-child relationship.

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