



Parenting Stress As A Mediator Between Maternal Parenting Self-Efficacy And Adaptive Behavior Of Children With Intellectual Developmental Disorder

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ABSTRACT

Mothers of children with Intellectual Developmental Disorder (IDD) are particularly vulnerable to parenting stress. Previous studies suggested that mothers who have high parenting self-efficacy and low parenting stress, show better adaptive behavior in children. This study aimed to determine parenting stress as a mediator between maternal parenting self-efficacy and adaptive behavior children with IDD. This quantitative study involved 45 mothers of children with IDD as participants by accidental sampling. The data collection method used three measuring instruments, Vineland Adaptive Behavior Scale (VABS), Parenting Stress Index-Short Form (PSI-SF), and Parenting Self-Efficacy Scale. Correlational analysis, path analysis and Sobel Test were used. The results of this study found that parenting stress acts as a mediator of the effect of maternal parenting self-efficacy on the adaptive behavior of children with IDD as indicated by the Sobel value of 2.02935786; $p = 0.04242185$ ($p < 0.050$). Increasing maternal parenting self-efficacy will reduce parenting stress and ultimately improve the adaptive behavior of children with IDD, but the role of clinicians is also needed to support the improvement of protective factors such as parenting self-efficacy and increase adaptive behavior through behavioral therapy to achieve better adaptive behavior.

Keywords: Adaptive Behavior Children with IDD; Parenting Self-Efficacy; Parenting Stress

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INTRODUCTION

Basically, every parent wants to have children born with normal conditions, but there are parents who have to face the reality of having children with disabilities. One of the disabilities in children is Intellectual Developmental Disorder (IDD). The Diagnostic and Statistics Manual of Mental Disorder-V (DSM-V) explains Intellectual Developmental Disorder (IDD) has an onset during the developmental period and has deficits in intellectual function and adaptive behavior.

Adaptive behaviors are closely related to individuals with IDD. Adaptive behavior is a collection of conceptual, social and practical skills that have been learned and performed daily by individuals (Tasse et al., 2012). Broadly, adaptive behavior in children with developmental disabilities can be measured using the clinical research measurement tool, the Vineland Adaptive Behavior Scale (Farmer et al., 2020; Elshani et al., 2020; Hapcova et al., 2022; Lal & Rajan, 2019). Sparrow et al., (2005), emphasized four domains measured in adaptive behavior which are communication, socialization, daily living and motor skills. Adaptive behavior is a priority for the overall functioning of individuals in daily life and contributes positively to cognitive, academic, social areas and generally affects the well-being of children and their families (Bertollo & Yerys, 2019; Mohamed & Afaf, 2018; Pugliese et al., 2015).

Difficulties in adaptive behavior adversely affect the lives of individuals with IDD, particularly in the ability to write and communicate messages (Farmer et al., 2020; Hill et al., 2015), lack of

comprehension, reasoning, problem solving, planning and abstract thinking (Woodman et al., 2014), difficulty performing daily living skills independently (Green & Baker, 2011), such as dressing, preparing food, following rules and maintaining relationships with others (Picardi et al., 2018; Salomone et al., 2018). The findings of Elshani et al., (2020) added that the lack of adaptive behavior in children with IDD has an impact on increasing children's problems in cognitive function related to academic difficulties at school. The findings further explain that adaptive behavior is related to the level of cognitive function and severity of IDD.

Some factors that influence children's adaptive behavior include intellectual capacity, medical conditions or mental disorders (DSM-V), the child's educational environment and social environment (Selvam et al., 2016) which includes peers and parents. Parents play an important role in influencing children's adaptive behavior related to parenting (Warren et al., 2017).

Parenting children with IDD exposes parents and families to a new reality of challenges and unpredictable difficulties (Golya & McIntyre, 2018; Hahn et al., 2015). Ongoing support from parents is essential for children with IDD to function in many areas of life (Price et al., 2018; Tan et al, 2020; Warren et al., 2017). These conditions can trigger parenting stress. Parenting stress is defined as a state of discomfort caused by demands related to the role of parenthood (Deater-Deckard, 1998). Previous research has found a relationship between parenting children with IDD and parenting stress (Marliana et al., 2021; Miodrag & Hodapp, 2010; Patton et al., 2018).

Parents of children with IDD experience higher parenting stress than parents of children without disabilities (Hidangmayum & Khadi, 2012; Nadeem et al., 2016). Children with IDD may require medical care and even developmental services. These long-term demands may place additional burdens on parents in terms of finances, time constraints and feelings of inadequacy about their ability to adjust to their child's needs (Blacher, 1984). Lal and Rajan (2019), in their study compared the level of parenting stress between parents of IDD children, parents of children with learning disabilities and parents of children with slow learners. The results showed that parents with IDD children had the highest level of parenting stress. Previous research also compared the level of parenting stress between mothers and fathers of children with IDD. The results showed that mothers of children with IDD have higher levels of parenting stress than fathers (Aldosari & Pufpaff, 2014). Aldosari and Pufpaff (2014) explained that mothers are generally the primary caregivers and are responsible for educating, caring for, and raising children with IDD, while father's main focus is financial support in the family. The situation makes mothers aware of the difficulties experienced by their children, especially in learning, behavior and physical. Awareness of their child's needs leads mothers to increase the amount of time and effort required to support and care for their child, resulting in higher levels of stress for the mother.

Previous research found a significant negative relationship between parenting stress and children's adaptive behavior. The findings of Ritzema and Sladeczek (2011), showed that parents who had high levels of parenting stress correlated with less adaptive behavior in children with developmental disorders. In line with the findings of Operto et al., (2021), which show that increased parenting stress is related to the severity of child disorders, low adaptive behavior in children and child behavior problems. The results showed that the more parents have a high level of parenting stress, the lower adaptive behavior in children, and vice versa. This significant negative relationship was also found in the group of children with IDD in mild severity category, the group of children with specific learning disorder and the group of slow learner children (Lal and Rajan, 2019). Meanwhile, different research results were shown by Woodman (2014), that low levels of parenting stress in fathers predicted higher adaptive behavior in children, but not in mothers.

Bandura (1982), emphasizing the cognitive mechanisms important for generating positive coping behaviors, is a concept rooted in self-efficacy theory as a key factor influencing how parents adapt to stress. In the parenting domain, it is called parenting self-efficacy. Coleman and Karraker (2000), define parenting self-efficacy as a parent's assessment of their competence in carrying out their parenting role. For parents (especially mothers) of children with IDD, parenting self-efficacy is important in relation to the mother's commitment to survive the challenges and demands that trigger parenting stress



(Astriamitha, 2012). In line with previous findings, it also shows a negative relationship between parenting self-efficacy and parenting stress in mothers with IDD children, which means that the higher parenting self-efficacy of the mother, the lower parenting stress she has (Asiyadi & Jannah, 2021; Osmanovic et al., 2017; Noor & Aslamawati, 2021).

Research on parenting stress with adaptive behavior in children without disabilities and children with special needs has been conducted by several previous researchers. Research on children with special needs has been conducted on children with developmental disorders such as autism, specific learning disorder, slow learner and IDD (Hall & Graff 2011; Lal & Rajan 2019; Petrocchi et al., 2020; Ritzema & Sladeczek, 2011; Woodman 2014). Meanwhile, other studies have shown that maternal parenting self-efficacy affects the parenting stress they experience (Asiyadi & Jannah, 2021; Noor & Aslamawati, 2021; Osmanovic et al., 2017). Different from several previous studies, this study aims to determine the relationship between maternal parenting self-efficacy on adaptive behavior of children IDD with parenting stress as a mediator.

METHOD

The purpose of this study was to determine the relationship between maternal parenting self-efficacy and adaptive behavior in children with Intellectual Developmental Disorder (IDD) mediated by parenting stress. The research design used quantitative correlation. This study involved 45 mothers who have children with IDD. Criteria for child age 6-12 years, IQ range 40-69, who attended SLB-C Yayasan Widya Bakti Semarang and SLB-C Swadaya Semarang, using accidental sampling.

Adaptive behavior was measured using the Vineland Adaptive Behavior Scale (VABS) which is grouped into three domains, communication, socialization, and daily living skills (Sparrow et al., 2005). This study did not include motor skills as this domain is specific to children under 6 years old. The VABS is completed through an interview method with parents or significant others who know the child's abilities and behavior every day. There are three alternative answers, score 2 (yes, usually), 1 (sometimes), 0 (never). The results of filling out the VABS will obtain a raw score which is then converted into a standard score adjusted to the chronological age of the child. The higher standard score obtained indicates a higher level of adaptive behavior of the child, and vice versa. The Alpha Cronbach value of VABS is 0.781.

Maternal parenting self-efficacy was measured using the parenting self-efficacy scale based on Coleman and Karraker's (2000) parenting self-efficacy aspects, which include achievement, recreation, discipline, nurturance and health. The scale consists of 27 valid items, one example item is "I make time to play with my child". Response categories range from strongly disagree to strongly agree with a score range of 1-4. Through the test results, the Cronbach's Alpha value is 0.862.

Maternal parenting stress was measured using the Parenting Stress Index-Short Form (PSI-SF) scale by Richard Abidin (1995) based on aspects of the parent distress, the difficult child and the parent-child dysfunctional interaction which the researcher adapted into Indonesian. Response categories range from strongly agree to strongly disagree with a score range of 0-5. One example of an item is "I feel overwhelmed by my responsibilities as a parent". Through the test results, 35 items were valid with Cronbach's Alpha of 0.948.

The data analysis techniques used are correlation analysis, path analysis and sobel test to determine the mediation effect. Research data testing uses the SPSS series 22.0 for windows program. When implementing data collection, all participants involved first filled out and agreed to voluntary informed consent. This research has been approved by the Research Ethics Commission of Psychology Faculty Soegijapranata Catholic University.

RESULT

Based on table 1, it can be seen that the mothers who participated in this study were aged 31 to 55 years. The highest percentage of participants was in the age range of 36 to 40 years. Participants in this study had one to four children, with the highest percentage being mothers who had two children. The children involved in this study were between 7 to 12 years old and more boys than girls.

Table 1.
General Characteristics of Participants

Characteristics of Participants	Overall sample	
	N	%
Mother's age		
Young adult (20-40 years)	29	64.44
Middle adulthood (41-65 years)	16	35.56
Mother's last education		
Elementary	2	4.44
Junior High School	3	6.67
Senior High School/ Vocational High School	31	68.89
Diploma 1	1	2.22
Diploma 3	1	2.22
Bachelor's degree	7	15.56
Number of children		
1 children	8	17.77
2 children	22	48.89
3 children	12	26.67
4 children	3	6.67
Child's age		
7 years	6	13.33
8 years	6	13.33
9 years	10	22.22
10 years	6	13.33
11 years	12	26.67
12 years	5	11.12
Child's gender		
Girls	20	44.44
Boys	25	55.56

Note. N = 45

Correlation analysis was conducted to assess the possible relationship between mother's age, number of children, mother's education level, child's age, and child's gender with the three main variables (parenting self-efficacy, parenting stress and adaptive behavior). The results of the correlation analysis showed that only maternal age was positively correlated with parenting self-efficacy ($r = 0.306$; $p = 0.041$).

Before conducting hypothesis testing, researchers first conducted an assumption test on the research data. The assumption test carried out is the normality test with Kolmogorov-Smirnov and linearity test. The normality test results showed that the research data on three variables were normally distributed ($p > 0.050$). The results of linearity test on each variable show linear data, (1) a linear relationship between children's adaptive behavior and parenting stress ($p = 0.613$); (2) a linear relationship between parenting stress and parenting self-efficacy ($p = 0.811$); (3) a linear relationship between children's adaptive behavior and parenting self-efficacy ($p = 0.422$).



Table 2.

Results of Correlation Analysis between Variables

Exogenous Variables	Endogenous Variable	r	p
Parenting Self-efficacy	Parenting Stress	-0.678	0.000
Parenting Self Efficacy	Adaptive Behavior	0.226	0.135
Parenting Stress	Adaptive Behavior	-0.483	0.001

Based on the results of Pearson correlation analysis in Table 2, it can be seen that parenting self-efficacy has a highly significant negative relationship with maternal parenting stress ($r = -0.678$; $p = 0.000$). This shows that the higher mother's parenting self-efficacy, the lower mother's parenting stress, and vice versa. Meanwhile, parenting self-efficacy in mothers does not have a significant relationship with the adaptive behavior of children IDD ($r = 0.226$; $p = 0.135$). These results indicate that high or low parenting self-efficacy of mothers is not associated with adaptive behavior in children with IDD. In addition, maternal parenting stress has a significant negative relationship with adaptive behavior in children with IDD ($r = -0.483$; $p = 0.001$). The results showed that the higher parenting stress of mother, the lower level adaptive behavior of IDD children.

Table 3.

Path Analysis Results

Exogenous Variables	Endogenous Variable	R ²	β	Std. Error	p	Coefficient
Parenting Self-efficacy	Parenting Stress	0.460	-0.678	0.330	0.000	α
Parenting Stress	Adaptive Behavior	0.253	-0.611	0.047	0.002	b
Parenting Self-efficacy	Adaptive Behavior	0.253	-0.188	0.139	0.307	c

Based on the results of path analysis in Table 3, it was found that maternal parenting self-efficacy significantly influenced parenting stress experienced by mothers -0.678 ($p = 0.000$) with a contribution 46%. Maternal parenting stress also significantly influenced adaptive behavior of IDD children -0.611 ($p = 0.002$), with a contribution of 23.4%. Meanwhile, maternal parenting self-efficacy did not significantly affect the adaptive behavior of IDD children ($p = 0.307$). Figure 1, illustrates the path analysis scheme in this study.

Figure 1.

Path Analysis

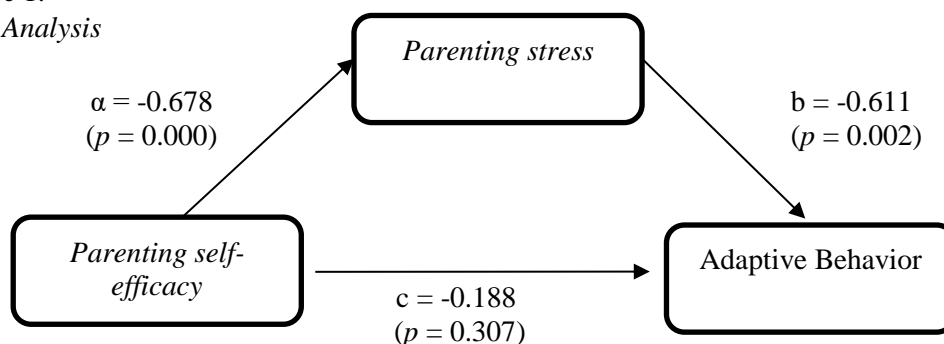


Table 4.

Sobel Test Results

Test Statistic	Std. Error	p-value
2.02935786	0.20413255	0.04242185

The mediating effect of parenting stress on the relationship between parenting self-efficacy and adaptive behavior of children with IDD was conducted through the Sobel Test, as proposed by Preacher and Leonardelli (2019). The Sobel Test calculation program was conducted online on the Preacher and Leonardelli (2019) website. Table 4, shows the results Sobel Test value of $2.02935786 > (1.96)$ and $p = 0.04242185$ ($p < 0.050$). Thus, parenting stress plays a full mediating role in the relationship between parenting self-efficacy and adaptive behavior of children with IDD.

DISCUSSION

The results of this study indicate that there is an effect of maternal parenting self-efficacy on the adaptive behavior of children with IDD, mediated by parenting stress. This is shown in the Sobel Test results of 2.029 and $p = 0.042$ ($p < 0.050$). In investigating the relationship between parenting self-efficacy and adaptive behavior of children with IDD through parenting stress, it is clear that parenting self-efficacy is a key factor in predicting parenting stress (Asiyadi & Jannah, 2021; Astriamitha, 2012; Jandric & Kurtovic, 2021; Noor & Aslamawati, 2021). For mothers of children with IDD, parenting self-efficacy naturally becomes a protective factor to reduce the negative impact of parenting stress. Generally, mothers with high parenting self-efficacy show positive parenting behaviors, have a better role as a parent, have better attachment with their children (Coleman & Karraker, 2000), have better psychological well-being (Vance et al., 2020) and experience lower levels of anxiety and depression (Kohlhoff & Barnett, 2013). This correlation between variables also applies to mothers of children with and without developmental disabilities (Osmancevic et al., 2017; Rani & Singh, 2022; Sugiana & Sasmiami et al., 2020). This finding supports Bandura's (1982) social cognitive theory, which suggests that self-efficacy is an internal cognitive resource for parents to cope with parenting stress. The findings also add to the rationale underlying the importance of increasing parents' parenting self-efficacy as part of psychological interventions to maximize the development of children with disabilities and their family functioning (Purbasafir, 2018).

The findings of this study also showed a significant negative correlation between maternal parenting stress and adaptive behavior of children with IDD. The parent-child dysfunctional interaction is described by the interaction between parents and children that does not function properly, causing parenting stress (Abidin, 1995), it affects the cognitive abilities and adaptive behavior of children which include daily living skills, communication (Giovagnoli et al., 2015) and socialization (Fenning & Baker, 2012). Through interactions, mothers may directly teach skills related to adaptive functioning, such as how to bathe, prepare food, give simple directions, etc. For example, mothers may also model positive communication behaviors, and provide opportunities to practice these behaviors during meal routines (Heyman & Hauser-Cram, 2019). Socialization theory also suggests that the quality of parent-child interactions during periods of teaching, modeling and practicing is likely to influence the effectiveness of children's adaptive functioning (Grusec et al., 2000). In addition to correlating with children's adaptive behavior, poor interaction relationships between mothers and children also increase children's behavioral problems (Feldman, 2007). The effect of maternal parenting stress on children's adaptive behavior has been proven in many studies (Hall & Graff, 2011; Lal & Rajan, 2019; Operto et al., 2021; Petrocchi et al., 2020; Plant & Sanders, 2007; Ritzema & Sladeczek, 2011; Woodman, 2014).

In this study, maternal parenting self-efficacy did not significantly affect the adaptive behavior of children with IDD ($p = 0.307$). These results are in line with previous findings (Jandric & Kurtovic, 2021), that high or low maternal parenting self-efficacy is not related to the characteristics of children with IDD. Parents who have children with IDD often face situations where they feel helpless, frustrated and feel incompetent (Barak-Levy & Atzaba-Poria, 2020; Walden & Pistrang et al., 2000). In child development related to adaptive behavior, parents expect children to be able to acquire new skills and competencies. Unfortunately, these expectations usually need to be changed and adapted, especially when it comes to parents of children with IDD who often still have difficulty accepting their child's limitations (Marsh et al., 2020). Constant feelings of frustration and disappointment can cause parents to feel less satisfied with themselves as parents. On the other hand, parenting self-efficacy is more



related to parental skills than child characteristics (adaptive behavior, severity of impairment, behavioral problems). Parents who feel they can solve problems related to their children will influence their parenting behavior. It is more correlated with self-expectations, therefore it is understandable that parenting self-efficacy is not correlated with impairment and child characteristics (Jones & Prinz, 2005; Kohlhoff & Barnett, 2013; Vance & Brandon, 2017).

Based on demographic data, there is a positive correlation between one of the demographic variables and one of the main variables, that is, maternal age with maternal parenting self-efficacy ($p = 0.041$). These findings are in line with previous research by Vance et al. (2020), that the older mother's age, the higher mother's parenting self-efficacy. Vance et al., (2020), explained that experience and opportunities in parenting tend to increase with age, this is in line with Bandura's theory that mastery of experience contributes to overall self-efficacy. Meanwhile, different findings were revealed by Noor and Aslamawati (2021), that mothers in middle adulthood (around 40-60 years old) showed low parenting self-efficacy and were followed by high parenting stress experienced related to developmental stages.

This study has several limitations, which are in the relatively small number of samples for regression analysis, where this relatively small number will affect the generalization of the research results, so researchers need to be careful in interpreting the research results. It is expected that future research will expand the scope of sampling and increase the sample size. Similarly, future research related to adaptive behavior should also be conducted on children with other special needs (e.g. autistic children) and their relationship with family mechanisms.

Reducing parenting stress may be an appropriate way to improve children's adaptive behavior, the findings in this study also emphasize the importance of the role of professionals in improving intervention strategies for parents and children with IDD. For parents, interventions can be aimed at stress management, such as coping skills, relaxation techniques, support groups or assisting parents in creating a family environment that supports the enhancement of protective factors such as parenting self-efficacy. In addition, for children with IDD, parents can discuss with professionals regarding children's adaptive behaviors that parents think are underdeveloped to formulate appropriate intervention plans, for example through behavioral therapy. This needs to be done to maximize the development of children with IDD and family functioning.

ACKNOWLEDGE

The authors sincerely thank all the mothers and children who participated in this study. Prior to data collection, ethical clearance was obtained from the Research Ethics Commission of Psychology Faculty Soegijapranata Catholic University. With the help of this institution, mothers as potential participants were informed to read the informed consent form explaining the purpose of the study that they could withdraw from the study at any time. They were required to give consent to participate before being guided to fill out the questionnaire on the first page. Only after the mothers gave consent could they proceed to the next page. This study is also free from any particular interest of the funder.

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