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# Research in Developmental Disabilities

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## Positive parenting and its mediating role in the relationship between parental resilience and quality of life in children with developmental disabilities in Java Island, Indonesia

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### ABSTRACT

**Backgrounds:** Developmental disabilities exert severe physical, cognitive and social-emotional consequences, such as low quality of life, not only on children but also on their families. However, the extent of the effect of such consequences on quality of life is partially dependent on how parents address the situation.

**Aims:** The study aimed to examine whether positive parenting mediates the link between parental resilience and quality of life of children with a developmental disability in Indonesia.

**Methods and procedures:** Data were derived from a three-wave longitudinal study on 497, 224 and 209 families in waves one, two and three, respectively. The study determined parental resilience by assessing the knowledge of parents about the characteristics of their child, perceived social support and positive perception of parenting. Quality of life consisted of five aspects: material well-being, communication and influence, socio-emotional well-being, development and activity. Positive parenting was assessed through observed levels of support, encouragement and praise.

**Conclusions and implications:** The results demonstrated that positive parenting mediated the impact of positive perception of parenting on quality of life. This finding implies that positive perception and positive parenting should be encouraged when families with children with developmental disabilities receive care or support.

### What does this paper add?

The findings of the study contribute to the literature by illustrating the manner in which the quality of life of children with developmental disabilities in Indonesia is related to the positive perception of parenting and positive parenting, which are determined by cultural context. The study is one of the first prospective studies that focus on the family system of children with developmental disabilities in Indonesia, which is a vulnerable population and of substantial size. The study enhances the understanding of the crucial role of a positive perception of parenting (an aspect of parental resilience). In this population, positive perception of parenting

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influences the children's quality of life through positive parenting.

## 1. Introduction

Monitored data from 2010 demonstrated that approximately 2 % of children aged 0–14 years in Indonesia (i.e., 1.5 million children) have a developmental disability (Kasim, Fransiska, Lusli, & Okta, 2010). Children with developmental disabilities and their families frequently experience severe physical, cognitive and social-emotional consequences (Kuper et al., 2014; Mulya, Yani, & Ropi, 2019; Townsend-White, Pham, & Vassos, 2012). Moreover, children with developmental disabilities have specific psychological and physical needs. As such, parents of children with developmental disabilities are required to cope with stress, use adequate resources and deliver high-quality parenting at the same time (Bekhet, Johnson, & Zauszniewski, 2012; Gavidia-Payne, Denny, Davis, Francis, & Jackson, 2015; Jones & Passey, 2004). However, previous research pointed out that parents of children with developmental disabilities experience more stress and more difficulties in coping with adverse situations compared with parents of typically developing children (Gupta, 2007; Mukhtar, Kumara, Hastjarjo, & Adiyanti, 2018; Suzuki, Kobayashi, Moriyama, Kaga, & Inagaki, 2013). Such a situation, in turn, impacts the children's quality of life. These consequences have also been observed among parents and children with developmental disabilities in Indonesia (Desriyani, Nurhidayah, & Adistie, 2019; Kusumastuti, Pradanasari, & Ratnawati, 2014).

Quality of life consists of five interrelated constructs, namely, physical well-being, material well-being, social well-being, development and activity, and emotional well-being (Felce & Perry, 1995). One of the most significant factors that can help improve quality of life for children with developmental disabilities is parental resilience (Migerode, Maes, Buysse, & Brondeel, 2012; Openshaw, 2011; Orbuch, Parry, Chesler, Fritz, & Repetto, 2005). By definition, resilience is the process of the parents' adaptation and adjustment to difficult family situations and the manner in which they become strengthened, resourceful and confident in handling difficult situations (Suzuki et al., 2013). Resilient parents are better able to manage stress and to cope with problems, which exerts a positive impact on their relationship with their children (Gavidia-Payne et al., 2015; Harper Browne, 2014; Hess, Papas, & Black, 2002). This may be especially true for families with children with developmental disabilities (Hendriani, 2017; Olson & DeFrain, 2003).

The following aspects of parental resilience should be considered (Suzuki et al., 2015). *Knowledge of the child's characteristics* pertains to the perception of having the knowledge and skills required for rearing children with developmental disabilities. Such knowledge enables parents to gain a sense of control over the behaviour of their children (Harrison & Sofronoff, 2002; Zwi, Jones, Thorgaard, York, & Dennis, 2012). Furthermore, exhibiting a sense of control could reduce the behaviour problem of children and decrease parental stress (Jones & Passey, 2004; Singer, Ethridge, & Aldana, 2007). In other words, when parents understand their children's behaviour, parents may be more motivated, less angry and more resilient in dealing with challenges and behaviour problems of children (Harrison & Sofronoff, 2002).

Next to the enhanced understanding of their children's disability, the second aspect of parental resilience is *perceived social support* (Suzuki et al., 2015). The amount of social support given to parents of children with developmental disabilities provides opportunities for the discussion of their worries with others and reception of advice in dealing with challenging behaviour from their children (Boyd, 2002). Indeed, Ekas and colleagues (2010) demonstrated that high levels of social support were positively associated with increased optimism and decreased maternal stress.

Third, the manner in which parents perceive their parenting behaviours (i.e., positive perception of parenting) can be considered a relevant aspect of resilience. Positive perception of parenting refers to pleasure and happiness in rearing the children and acceptance of the parental role, which serves as one of the coping resources of parents (Hastings & Taunt, 2002; Suzuki et al., 2015). Previous research illustrated that parents with a better perception of their parenting skills were better able to reframe the challenging situation of having a child with a disability into a more acceptable situation (Suzuki et al., 2015). Specifically, they were able to accept their children's condition and the consequences of the developmental disability and positively reframe the challenges that accompany the rearing of a child with such a disability (Hastings & Taunt, 2002; Plumb, 2011; Suzuki et al., 2015). Previous studies provided evidence that such processes are associated with high levels of acceptance and better coping mechanisms on the part of the parents.

Moreover, although previous studies proposed that parental resilience exerted an impact on children's quality of life, other scholars demonstrated that parenting may play a potential mediating role in this relationship (Guralnick, 2004; Orbuch et al., 2005). Parenting consists of the attitudes of parents towards their role and behaviour in child-rearing (Ozturk, Riccadonna, & Venuti, 2014). Substantial research consistently indicated that positive parenting (e.g., encouraging the child and giving praise and compliments; (Elgar, Waschbusch, Dadds, & Sigvaldason, 2006; Raya, Ruiz-Olivares, Pino, & Herruzo, 2013) has a positive effect on children's quality of life (Ellis & Nigg, 2009; Gavidia-Payne et al., 2015; Harper Browne, 2014; Raya et al., 2013; Sangawi, Adams, & Reissland, 2018). Previous research showed that resilient parents responded more positively to difficult situations (Olson & DeFrain, 2003) and that resilient parents were better able to manage stress and cope with the challenging behaviour of their children (Harrison & Sofronoff, 2002). In addition, such parents were able to reframe the situation of having children with disabilities and exhibit acceptance of their condition (Hastings & Taunt, 2002; Plumb, 2011; Suzuki et al., 2015). This ability resulted in better parenting skills and influenced the children's quality of life (Ellis & Nigg, 2009; Piquart, 2017; Shin, Yoo, & Oh, 2010). To the best of our knowledge, studies thus far that investigated the indirect effect of resilience on quality of life through positive parenting skills are limited. Orbuch et al. (2005) argued that parental resilience could influence the quality of life of children, which is potentially mediated by parenting. Against this background, Guralnick (2004) concluded that resilience in parents of children with developmental disabilities is highly important for improving parenting skills, which, in turn, may improve children's quality of life.

## 2. The present study

In summary, previous research demonstrated that parental resilience (i.e., knowledge of child's characteristics, perceived social support and positive perception of parenting) exerts an impact on children's quality of life. Furthermore, scholars argued that parenting skills may play a potential mediating role in this relationship (Guralnick, 2004; Openshaw, 2011; Orbuch et al., 2005). However, studies on these aspects are scarce. Only a relative few empirical studies tapped into the specific aspects of parental resilience in families of children with developmental disabilities and the quality of life of children through positive parenting. As such, the need to investigate these variables emerged.

Notably, the majority of studies in this regard have mainly considered western cultures, whereas less is known about the role of the links between parental resilience, parenting and quality of life of children with developmental disabilities in non-western cultures. Thus, the present study is important because parents in non-western cultures significantly differ from those in western cultures. Belsky (1984) and Bornstein (2012) mentioned the importance of culture and social context in understanding parenting and the parent-child relationship (Belsky, 1984; Bornstein, 2012). Belsky (1984) highlighted the context of support as one of the determinants of parenting. In addition, differences between cultures are evident in the manner parents perceive adverse situations and how external factors

**Table 1**  
Demographic data.

	Frequency	Percentage
Father education level		
Elementary and below	12	4.2
Junior HS	36	12.7
Senior HS	123	43.3
Everything above that	79	27.8
No response	34	12.0
Mother education level		
Elementary and below	19	6.7
Junior HS	33	11.6
Senior HS	123	43.3
Everything above that	78	27.5
No response	31	10.9
Monthly family income		
<Rp 2M equal <\$126	57	20.1
Rp 2M+1 - Rp3M equal \$127 - \$189	53	18.7
Rp 3M+1 - Rp4.5 M equal \$190 - \$284	53	18.7
Rp 4,5M+1 - Rp6M equal \$285 - \$379	39	13.7
>Rp 6M+1 equal >\$380	48	16.9
No response	34	12.0
Number of children in the family		
1	49	17.3
2	132	46.5
3	66	23.2
More than 4	32	11.3
No response	5	1.8
Age of the child with Developmental Disability		
Infant and Toddler	1	0.4
Early Childhood	6	2.1
Middle Childhood	61	21.5
Late Childhood	81	28.5
Adolescent	101	35.6
No response	34	12.0
Birth order		
First	128	45.1
Second	90	31.7
Third	37	13.0
Fourth and more	14	4.2
No response	15	5.3
Gender of the child with a developmental disability		
Boy	170	59.9
Girl	99	34.9
No response	15	5.3
Types of Disability		
ADHD	22	7.7
ASD	82	28.9
Cerebral Palsy	17	6.0
Down Syndrome	23	8.1
Speech Disorder	5	1.8
Intellectual Disorder	77	27.1
Learning Disorder	10	3.5
Other	48	16.9

influence such resilience (Garcia-Dia, DiNapoli, Garcia-Ona, Jakubowski, & O'Flaherty, 2013; Ungar, 2006, 2011), which, in turn, may differentially influence the children's quality of life. Therefore, the present longitudinal study aimed to analyse the links between parental resilience, positive parenting and quality of life in a representative sample of families of children with developmental disabilities in Java Island, Indonesia. We hypothesised that parenting skills would play a mediating role in the relationship between aspects of parental resilience and children's quality of life.

### 3. Method

#### 3.1. Participants

Families with at least one child diagnosed with a developmental disability were recruited from inclusive schools, special schools for disabled children, therapy centres or personal referral. The study was conducted in three waves, and questionnaires were sent to 822 families. A total of 322 invitees refused to participate, whereas 500 families returned the questionnaires and signed a written informed consent, resulting in a participation rate of 61 %. Three families were excluded because their children were older than 22 years. Thus, wave one was composed of 497 families, out of which 224 and 209 families participated in waves two (1-year follow-up) and three (2-year follow-up), respectively. Specifically, 29 % ( $n = 82$ ) of the children were diagnosed with autism spectrum disorder, 27 % ( $n = 77$ ) with intellectual disability, 8% ( $n = 22$ ) with ADHD (Attention Deficit Hyperactivity Disorder); 8% ( $n = 23$ ) with Down's syndrome and 22 % ( $n = 64$ ) with learning disability, speech/ hearing disorder and physical and visual impairments. The parents of 6% ( $n=16$ ) of children did not disclose their children's diagnoses. Unfortunately, the researchers were unable to obtain information regarding the degree of the children's disabilities. The average levels of education of the parents were between senior high school and undergraduate, whereas average family incomes were under the regional minimum wage (Indonesian Central Agency on Statistics). The average levels of education and incomes suggested an over-representation of families with a relatively low socio-economic status. Table 1 presents the demographic data.

#### 3.2. Measures

Two Indonesian experts in linguistics and psychology translated the scales used to measure parental resilience, children's quality of life and positive perception of parenting into the Indonesian language. Three other experts completed the translation process by rating the Indonesian version compared with the original English version. All professionals involved in the translation discussed any disagreement in the translation until a consensus on the final content was reached.

##### 3.2.1. Parental resilience

Suzuki et al. (2015) developed the Parenting Resilience Elements Questionnaire (PREQ), which the study used to measure parental resilience. The scale consists of 13 items, which were divided over three subscales with satisfactory reliability coefficients for each subscale: *knowledge of the child's characteristics* (5 items; e.g., "I have better knowledge of children's behaviour and traits than others"; Cronbach's alpha = .81), *perceived social support* (4 items; e.g., "There is someone who helps my child when he/she is in trouble"; Cronbach's alpha = .69) and *positive perception of parenting* (4 items; e.g., "I can do anything for my child that he needs"; Cronbach's alpha = .75). The items were assessed on a seven-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = undecided, 5 = somewhat agree, 6 = agree and 7 = strongly agree).

##### 3.2.2. Children's quality of life

Children's quality of life was measured using the Quality of Life Questionnaire developed by Petry, Maes and Vlaskamp (2009). The scale consists of 54 items, which are divided into six subscales with sufficient reliability coefficients: *material well-being* (9 items; e.g., "The person stays in rooms that are accessible"; Cronbach's alpha = .78), *communication and influence* (9 items; e.g., "The person understands what the people in his environment want to make clear"; Cronbach's alpha = .80), *socio-emotional well-being* (6 items; e.g., "The person lives in a community"; Cronbach's alpha = .74), *development* (9 items; e.g., "The person optimally uses his/her adaptive behaviour skills"; Cronbach's alpha = .82) and *activity* (9 items; e.g., "The person participates in activities that are offered in leisure and cultural facilities in the community"; Cronbach's alpha = .82). The response options are 1 = *strongly disagree*, 2 = *disagree*, 3 = *agree* and 4 = *strongly agree*.

##### 3.2.3. Positive parenting

The Alabama Parenting Questionnaire (short form) developed by Elgar et al. (2006) was used to measure positive parenting, which is defined as high levels of support, encouragement and praise (Elgar et al., 2006). The scale for positive parenting consists of three items (e.g., "You compliment your child if he/she has done something well"; Cronbach's alpha = .77). The participants rated each item in terms of the frequency of occurrence in their homes using a five-point Likert-type scale (1 = *never*, 2 = *almost never*, 3 = *sometimes*, 4 = *often* and 5 = *always*).

#### 3.3. Statistical analyses

Attrition analysis was conducted to evaluate the possible differences between participants with complete data (three waves) and those with missing data on either wave two or three using independent *t*-test and Chi-square. Participants with data from only one

wave were excluded. No significant differences were noted between parents who participated in the three- and two-time measurements in terms of outcome and demographic data. The main reason for missing data was unrelated to the topic of the study. However, missing data were instigated by the failure to locate the research unit, loss of contact and failure to obtain cooperation. Analysis of Little's Missing Completely At Random (MCAR) test was conducted prior to further analysis to understand the pattern of missing data. The result of the test was non-significant; therefore, data were missing at random ( $\chi^2(41457; N = 284) = 34305.797, p = 1.000$ ). Families who participated in all waves and in waves one and two or waves one and three were included in the analysis.

Multiple linear regression analyses using SPSS 25 were used to test the hypotheses. Children's age, gender and family income were included in the model as covariates (Azad, Blacher, & Marcoulides, 2014; Dyches, Smith, Korth, Roper, & Mandelco, 2012; Harrison & Sofronoff, 2002). To verify the mediating role of positive parenting in the link between parental resilience and quality of life, the PROCESS macro add-on in SPSS was used.

#### 4. Results

Pearson's correlations between resilience, positive parenting skills and quality of life was first computed. The results demonstrated that the aspects of parental resilience were significantly correlated ( $p < .05$ ) with positive parenting and aspects of quality life. Perceived social support did not correlate significantly with positive parenting. Table 2 displays the results.

A series of multiple regression analyses were conducted to determine the extent to which the aspects of parental resilience (T1) and parenting skills (T2) would predict the aspects of children's quality of life (T3). The result indicated that positive parenting was a significant predictor of communication and influence ( $\beta = .152, p = .014$ ) and socio-emotional well-being ( $\beta = .155, p = .011$ ) and activity ( $\beta = .228, p < .001$ ). Finally, positive perception of parenting was found to significantly predict socio-emotional well-being ( $\beta = .164, p = .007$ ). Furthermore, none of the other variables was a significant predictor of material well-being or development.

To verify whether the aspects of resilience were directly and indirectly related to the aspects of children's quality of life via parenting skills, mediation analyses were conducted using the PROCESS add-on in SPSS with a default bootstrapping at 5,000 cycles (Hayes, 2013). The total effect (c) consists of the sum of the direct (c') and indirect (ab) effects in the mediation models. The indirect effect (ab) consists of the product of the effect of the independent variable on the mediator (a) and the effect of the mediator on the dependent variable (b) (Hayes, 2013).

In the first mediation analysis, the three predictor measures of parental resilience (i.e., knowledge of the child's characteristic, perceived social support and positive perception of parenting) functioned as independent variables. Positive parenting was the mediator, whereas material well-being was the dependent variable. To estimate the direct and indirect effects of each independent variable, the model was run three times with the other variable as covariates. In the second, third, fourth and fifth mediation analyses, the same procedure was followed but with other aspects of quality of life (i.e., communication and influence, socio-emotional well-being, development, and activity) as the dependent variables. In addition, these variables were included as covariates in all mediation analyses to control for the possible influence of the children's gender, age and family's income.

The results indicated that the three aspects of parental resilience had no significant direct effects on material well-being. However, significant effects were found for age ( $B = .0230, 95\% \text{ CI } [0.0046, 0.0414], p = .0150$ ) and family income ( $B = .0538, 95\% \text{ CI } [0.0185, 0.0891], p = .0033$ ) but not gender. Furthermore, an indirect effect of positive perception of parenting ( $ab = .0528, 95\% \text{ CI } [0.0042, 0.143]$ ) on material well-being via positive parenting was observed (Fig. 1A).

For communication and influence, we found that positive perception of parenting exerted significant indirect effects via positive parenting ( $ab = .0522, 95\% \text{ CI } [0.0062, 0.1266]$ ) (Fig. 1B). In addition, no significant effects were noted for children's gender, age and family income.

In terms of socio-emotional well-being, the results indicated that positive perception of parenting had significant direct effects. In addition, no significant effects were found for children's gender, age and family income. Furthermore, the total indirect effect of positive perception of parenting ( $ab = .0528, 95\% \text{ CI } [0.0042, 0.143]$ ) via positive parenting was significant (Fig. 1C).

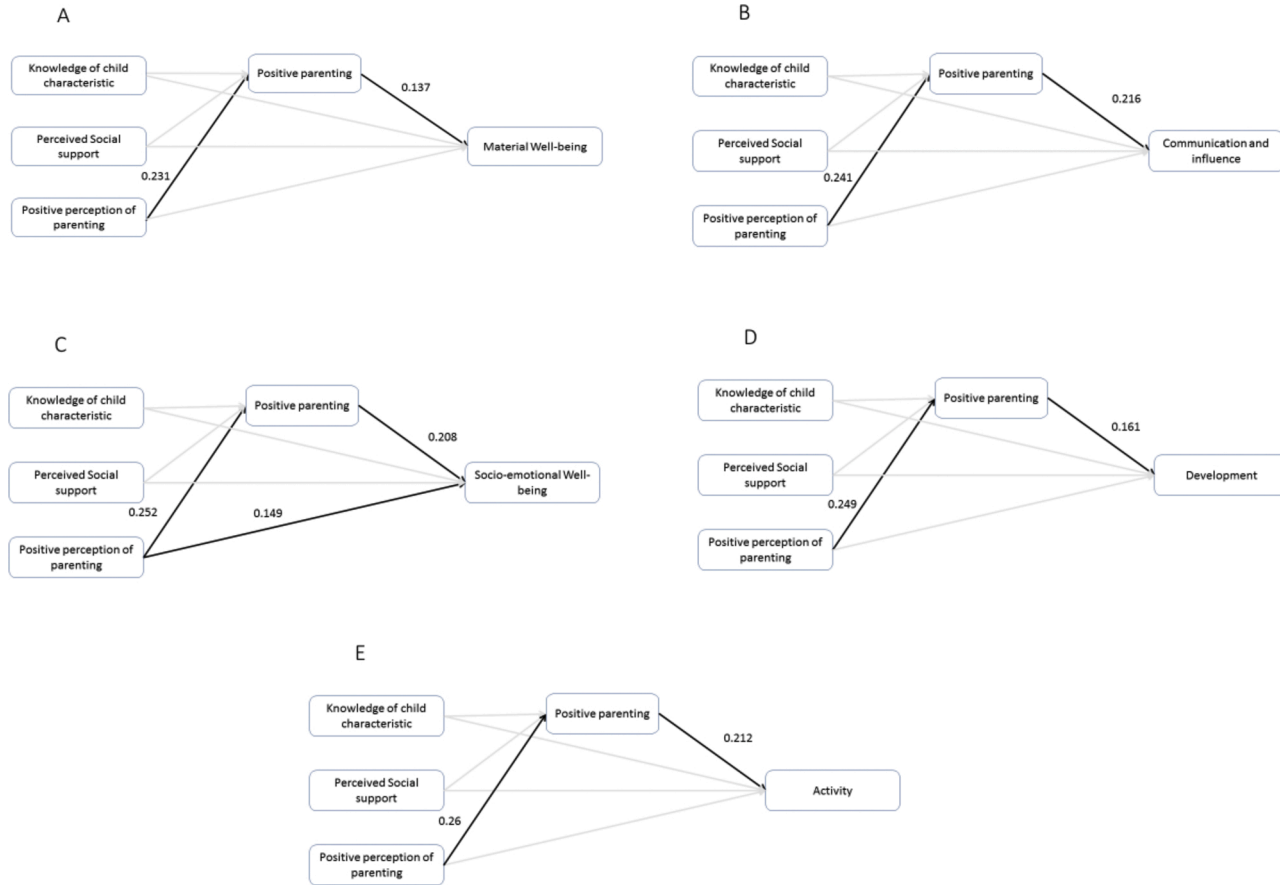
A positive perception of parenting exerted significant indirect effects on development via positive parenting ( $ab = .0403, 95\% \text{ CI } [0.0015, 0.0985]$ ) (Fig. 1D). In addition, significant effects were found for children's age ( $B = .0257, 95\% \text{ CI } [0.0034, 0.480], p = .0243$ ) but not for gender and family income.

Finally, the results indicated that positive perception of parenting had significant indirect effects on activity via positive parenting

**Table 2**  
Pearson correlation among measures.

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Knowledge of child characteristics Time 1	–								
2. Perceived social support Time 1	.29**	–							
3. Positive perception of parenting Time 1	.69**	.28**	–						
4. Positive parenting Time 2	.19**	.12	.25**	–					
5. Material Well-Being Time 3	.04	.21**	.03	.22*	–				
6. Communication and Influence Time 3	.13	.03	.20**	.28**	.51**	–			
7. Socio emotional Time 3	.17*	.15*	.25**	.34**	.49**	.71**	–		
8. Development Time 3	.19**	.09	.14	.24**	.49**	.72**	.66**	–	
9. Activity Time 3	.13	.13	.17*	.32**	.54**	.72**	.73**	.72**	–

Note. \* $p < .05$ , two-tailed. \*\* $p < .01$  two-tailed.



**Fig. 1.** Model of Relation between Aspects of Parental Resilience, Positive Parenting, and Quality of Life.

A. Model of Relation between Aspects of Parental Resilience, Positive Parenting, and Material Well-Being.

B. Model of Relation between Aspects of Parental Resilience, Positive Parenting, and Communication and Influence.

C. Model of Relation between Aspects of Parental Resilience, Positive Parenting, and Socio-Emotional Well-Being.

D. Model of Relation between Aspects of Parental Resilience, Positive Parenting, and Development.

E. Model of Relation between Aspects of Parental Resilience, Positive Parenting, and Activity.

( $ab = .0552$ , 95 % CI [0.0064, 0.1304]) (Fig. 1E). In addition, significant effects were found for children's age ( $B = .0205$ , 95 % (CI) [0.007, 0.0404],  $p = .0429$ ) but not for gender and family income.

## 5. Discussion

The present study aimed to establish whether positive parenting played a mediating role in the link between parental resilience and children's quality of life. Furthermore, the study hypothesised that parenting skills will mediate the relationship between the three aspects of parental resilience and children's quality of life.

The findings showed that the positive perception of parenting, as an aspect of parental resilience, was indirectly related to children's quality of life via parenting skills. From the theoretical point of view, the indirect effects of positive perception of parenting can be explained as follows. A positive perception of parenting enables parents to reframe and accept their children's condition, which results in positive parenting (Cappe, Wolff, Bobet, & Adrien, 2011; Gupta, 2007; Hastings et al., 2005; Lickenbrock, Ekas, & Whitman, 2011; Manning, Wainwright, & Bennett, 2011; Suzuki et al., 2015). As a result, this condition leads to increased encouragement, praise and compliments towards the children, which positively influences quality of life (Aran, Shalev, Biran, & Gross-Tsur, 2007; Dyches et al., 2012; Ellis & Nigg, 2009; Raya et al., 2013; Sangawi et al., 2018). The manner in which the positive perception of parenting is related to positive parenting may be relatively unique to the Indonesian culture and context.

Studies conducted in Indonesia found that the philosophy of life in the Java society influences how parents accept and nurture children with disabilities, which is related to the perception of parenting (Daulay, 2018; Riany, Cuskelly, & Meredith, 2016; Riany, Meredith, & Cuskelly, 2017). For instance, an important philosophy in Javanese culture is that everything that happens in life comes from God the Almighty; thus, people should accept their life as part of their destiny (Murtisari, 2013). Such a belief could be a possible explanation for how mothers adhere to the positive perception of their children's condition as a gift from God (Daulay, 2018). Such a positive perception could support parents in the delivery of positive parenting, such as encouraging children, accepting limitations, nurturing the development of their children's ability and adjusting the living areas to be safe and accessible. In this manner, positive parenting improves the children's quality of life (Ellis & Nigg, 2009; Guralnick, 2004; Kandel & Merrick, 2007; Raya et al., 2013). Thus, the results of the present study specifically add to the current literature in explaining how such mechanisms work within the Indonesian culture.

Notably, the results pointed to the direct effects of the positive perception of parenting on socio-emotional well-being. This finding can be explained by the fact that the positive perception of parenting enables parents to positively reframe difficulties and problems related to their children (Suzuki et al., 2013). The positive perception of parents towards children with severe disabilities may also serve an adaptive function (Hastings & Taunt, 2002; Walsh, 2002). Cappe et al. (2011) demonstrated that children in families that can adapt well to such adverse situations experienced a better quality of life than those in less adaptable families. In addition, the positive perception can enhance the quality of the mother and child relationship (Ekas, Lickenbrock, & Whitman, 2010; Greenberg, Seltzer, Krauss, Chou, & Hong, 2004), which could stimulate the socio-emotional well-being of children (Mahoney & Perales, 2016; Orbuch et al., 2005; Siller & Sigman, 2002).

Contrary to our expectations, the study did not show a significant link between knowledge of child's characteristics and perceived social support on the one hand and aspects of quality of life, such as communication and influence, socio-emotional well-being, development and activity on the other hand. These findings are in contrast with scholars who suggested that parents' knowledge about their children's characteristics influences their perception and decision about the children's treatment and future (McStay, Disanayake, Scheeren, Koot, & Begeer, 2014). The demographic data of the present study indicated that the majority of participants belonged to the low socio-economic status. Yuwanto and Wahyuningsih (2017) conducted a study in Java and found that parents belonging to the low socio-economic status frequently lack knowledge about their children's disabilities. Therefore, such parents tend to be dependent on teachers or therapists (Yuwanto & Wahyuningsih, 2017), which may explain why parents' knowledge about their children's characteristic was non-significantly related to the aspects of quality of life. Other studies revealed that knowledge should be enhanced in terms of structure, for instance, through parental training, to be applicable to child-rearing (Matson, Mahan, & LoVullo, 2009; Susman, 2012). Parents in Indonesia have limited access to parenting education programmes or other structured information, especially about rearing children with developmental disabilities (Intan, 2019; Sumargi, Sofronoff, & Morawska, 2014; Tomlinson & Andina, 2015). However, even if such programmes were available, parents may perceive them as inaccessible (Killing, Due, Li, & Turnbull, 2018).

In addition, the present study found that perceived social support (an aspect of parental resilience) was not directly or indirectly related to quality of life via positive parenting skills. It may be that perceived support from society may differ in the Indonesian context compared to western countries. Specifically, in Indonesia, a supportive environment and institutionalised formal support may be considered rare (Berman, 2011; Desriyani et al., 2019; Hermansyah, Saleh, & Permatasari, 2017; Riany, Cuskelly, & Meredith, 2017; Riany, Cuskelly, & Meredith, 2019). Furthermore, availability and accessibility of support are dependent on parents' income and area because the majority of support centres are based in big cities in Java Island (Kusumastuti et al., 2014; Riany, Cuskelly et al., 2017; Sidjaja, Newcombe, Irwanto, & Sofronoff, 2017). Basic services for people with disabilities in Indonesia are provided in general hospitals. However, although specialists, such as physiotherapists, are well distributed, this case is untrue for occupational and speech therapists, social workers and psychologists (Kusumastuti et al., 2014). Furthermore, in Indonesia, children with developmental disabilities and their families face stigmatisation and discrimination from their environment (Hendriani, 2017). The lack of social support and low access to parenting education programmes may serve as causes of the differences in social context between Indonesia and western countries (Ilias, Cornish, Kummar, Park, & Golden, 2018). Therefore, this notion may explain why the present study was unable to find any significant direct or indirect effects between perceived social support, positive parenting and children's quality of



life.

## 6. Conclusion and implications

Our findings suggest that positive parenting plays an important mediating role in the link between parental resilience and children's quality of life with developmental disabilities. Positive parenting was related to material well-being, communication and influence, socio-emotional well-being, development and activity. In Java, Indonesia, the positive perception of parenting is an essential aspect of parental resilience that precedes positive parenting. Accordingly, the practical contribution of the present study is the importance of enhancing the positive perception of parents through a positive outlook in life.

### 6.1. Strengths, weaknesses and directions for future research

The study is one of the first prospective studies that focuses on the family system of children with developmental disabilities in Indonesia, which is a vulnerable population and of substantial size (i.e., 1.5 million children). The study enhances the understanding of the crucial role of the positive perception of parenting (an aspect of parental resilience), which influences children's quality of life through positive parenting in this population. However, the study has its limitations, which should be acknowledged. First, not all parents of children with developmental disabilities in all regions in Indonesia were included in the sample. Second, the study only included families who brought their children to school or therapy centres. Thus, the study was unable to reach children whose parents did not enrol them to school or therapy centres.

As a consequence, the findings cannot be generalised to all Indonesian parents of children with developmental disabilities. Thus, future studies should include other participants from different regions in Indonesia and parents whose children with disabilities stay at home. Given the fact that most parents of children with developmental disabilities in the present study belong to a relatively low socio-economic status, future research should include more variation in the parents' demographics. Third, the study was unable to obtain information on the degrees of disabilities. In a low, middle-income and developing country, diagnostic tools, well-trained health practitioners and cultural measurement tools were found to be limited (Marlow, Servili, & Tomlinson, 2019). This situation also holds for Indonesia (Sidjaja et al., 2017). Thus, including diagnostic tools is an interesting avenue for further research in examining the degrees of disabilities among children.

Furthermore, a potential limitation should be acknowledged in terms of conceptualisation and measurement of several key study variables, such as parenting stress and other aspects of positive parenting. Previous research indicated that resilient parents were better able to manage stress and cope with problems. This ability, in turn, exerted a positive impact on the parents' relationship with their children. In other words, positive parenting styles were associated with increased positive self-perception and social competence among children (Gavidia-Payne et al., 2015; Harper Browne, 2014; Hess et al., 2002). Therefore, follow-up studies are recommended to consider parental stress as a relevant factor and to include parents of children with other forms of disabilities.

Finally, additional research is required to obtain a complete picture of parental resilience and to determine the aspects that contribute to the parent's ability to adapt to this adverse situation, such as risk and protective factors.

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