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## Emotional competence, family social support and parental stress in mothers of children with autism during the pandemic

#### Abstract

This study was aimed to determine the relationship between emotional competence, family social support and parental stress in mothers of children with autism spectrum disorder (ASD). This research was a quantitative research with correlational method. Purposive sampling technique by distributing questionnaires using Google form resulted in a total of 165 participants who are mothers of children with ASD, as members of therapy centers and schools for children with special needs in Semarang, Solo and Yogyakarta. The data were analyzed using structural equation model (SEM) technique on Lisrel program. This research resulted in two models showing that there are fit model with empirical data. The first model shows that each of emotional competence and family social support had a significant effect on parental stress in mothers of children with ASD. The second model shows the influence of emotional competence on the stress of parenting of children with ASD, with family social support as a moderating variable. The implications of this study are empirical evidence on the importance of family social support and emotional competence for mothers in raising children with ASD to prevent excessive parental stress.

Keywords: emotional, stress, social support, ASD, covid-19

#### Introduction

Autism or autism spectrum disorder (ASD) is a disorder in the areas of cognitive, emotional, behavioral, social, and the inability to interact with the people (Baker & Jeste, 2015). Children with autism will grow and develop in different ways compared to normal children, caused by a gradual decline in cognitive abilities. Commonly, as they grow, children with autism will show lower abilities than the average development of normal children of the same age (Posar & Visconti, 2017). Autism disorder is characterized by limitations in their ability to communicate with the social environment and control their behavior (Mangunsong, 2011).

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The prevalence of autism in several countries in the world is gradually increasing. ASA (Autism Society of America) recorded the prevalence of autism in 2000 was 60 per 1000 births, in a ratio 1:250. Meanwhile, data from the CDC (Centers for Disease Control and Prevention, USA) in 2001 shows that the prevalence was I in 150 residents, and in some areas in the USA / UK it was I among 100 residents. In 2012, CDC data shows that 1:88 children had autism, and in 2014 it increased by 30% to 1.5% or 1:68 children in the USA have autism (www.kemenpppa.go.id, 2018). Other data source states that the estimated number of people with autism is I in 150 children (67 out of 10,000) in the United States (Garrecht & Austin, 2011). From 1980 to 2009, the prevalence of autism in Asia was 14.8 per 10,000 and in China, in 2009, the prevalence of autism was 10.3 per 10,000 children aged 2-6 years (Sun et al., 2014). In 2018, there were 205,200 Australians with autism, an increase of 25.1% from 164,000 in 2015 (ABS, 2019). The prevalence rate of people with autism disorders in Indonesia is also increasing (Desiningrum, 2016). The number of ASD children, aged 5-14 years, was estimated to be approximately 90,000 in 2010. The total population of Indonesia in 2010 reached 237.5 million with 1.14 percent growth rate, referring to data from the Central Statistics Agency. People with autism spectrum disorders in Indonesia in 2015 were estimated to reach 134,000, where according to the Central Statistics Agency in 2015 the population of Indonesia reached around 250 million people (Tamba, 2018). The increasing prevalence of ASD children, including in Indonesia, has created considerable interest for researchers in conducting studies on ASD problems, focusing on parenting children with ASD.

According to several research, parents of children with autism spectrum disorder (ASD) experience high levels of stress (Petrongolo, 2014; Weiss, 2002), anxiety and depression (Etournaud, 2017; Hartley et al., 2010) higher than parents of children with other developmental disorders. Contributing factors to increased stress levels in parents of ASD children are related to the uncertainty of the child's behavior, where parents are unable to predict behavior in ASD children, such as the onset of tantrums in children that might occur at any time (Benson, 2006; Blacher & McIntyre, 2006), and this might continue as they grow (Allik, Larsson, & Smedje, 2006; Saini et al., 2015). Besides, stress and depression in mothers when caring for ASD children can be caused by learning difficulties or limited cognitive abilities) (Bebko, Konstantareas, & Springer, 1987), as well as low communication skills (Moes, 1995).

External factor that affects maternal stress is the lack of understanding from the wider community about ASD, so that parents often get negative reactions from the environment, like scolding children, offending parents and even excluding ASD children (Farrugia, 2009; Gray, 2003). In addition, conflicts in marital relationships can also trigger stress and depression in mothers of ASD children (Hartley et al., 2010; Pottie et al., 2009). All of the factors that contribute to parental stress levels of ASD children, as described above, are the challenges for parents in caring children with ASD.

According to Berry & Jones, (1995) there are two aspects of parental stress, namely (1) positive themes of parenthood, as the aspect stimulating self-development (emotional benefits, self-enrichment, personal development), where this stress causes parents to look for various information related to autism and parenting problems; and (2) negative components (demand in resources, opportunity cost and restrictions), where parents spend a lot of energy and materials for childcare.

The Covid-19 pandemic has contributed to crisis in families depending on how parents construct their perception of stressful events. The impact of the pandemic on parental perceptions is highly heterogeneous (Vinkers, et al, 2020). The Covid-19 pandemic might trigger various levels of parental stress for parents. In addition to economic and health problems, parents will increasingly interact with their ASD children in limited situations and conditions. Children staying indoor for health reasons and limited therapy of ASD children might increases stress and boredom in children, so they can become more sensitive. In addition, there are more stressors related to Covid-19, including physical and mental health problems, economic difficulties, challenges in carrying out home-schooling, conflicts and domestic violence, to the intensification of parent-child relationships (Wu & Xu, 2020).

Dealing with the lockdown put another burden on parents who have to balance their personal, work and child-rearing lives, without the support from others. This situation has the potential to lower their ability to be supportive caregivers and, consequently, affecting the welfare of children (Spinelli et al., 2021).

Parenting and caring are naturally attached to the role of a mother (Santrock, 2018). A study conducted on 99 parents of ASD children suggested that mothers are engaged in more social behavior with their children compared to fathers (Ozturk et al., 2014). Mothers with ASD children should deal with challenges in caring for their children with a lifelong commitment to parenting while they feel worry about the future of their ASD child (Alexander, 2018). Parental stress has the potential to affect mother's mental health (Cachia, Anderson, & Moore, 2016) and affect the quality of taking care children with ASD (Walter & Smith, 2016).

Mothers of children with ASD need the skills to control and manage emotions as well as display appropriate emotional expressions – which are part of emotional competence (Saarni dkk, 2007) – in order to avoid parental stress and improve the quality of caring children with ASD (Volling et al., 2009). Good parenting can stimulate children's physical and psychological well-being (Mann, 2013; Ulofoshio, 2018), and support the development of children with ASD (Etournaud, 2017).

Emotional competence is an adaptability gained from emotional experience (Saarni et al., 2007). A person who has emotional competence in a variety of contexts tends to be able to manage their emotions effectively, be resilient in dealing with stressful situations, and build positive relationships (Denham et al., 2007). Another definition of emotional competence is the ability to manage emotions, which includes aspects of the ability to (1) identify, (2) express, (3) understand, (4) regulate, and (5) use emotions (Brasseur et al., 2013). When individuals cannot manage emotions effectively, it will lead to depression, anger, and a lack of emotional regulation that might trigger difficulties in adjustment, deviant behavior, and domestic violence in the family (Santrock, 2018). In caring for children with autism, mothers need good emotional competence, so as to avoid stress and foster good attitudes in parenting.

Providing more support to parents and improving parental emotional control can be a promising intervention (Brown et al., 2020). Literature study to a research by Volling et.al. (2009) suggested that family environment has a significant influence on the social and emotional development of individuals. One of the components of family environment is the perceived social support of the individual. The results of previous studies suggested that family function in caring for ASD children, which might come from spouses, siblings and extended family, can improve the welfare of mothers (Desiningrum, Suminar, & Surjaningrum, 2019). There are various theories about family, all of which assume that the greater the interaction and support of family members in the care of children, the greater the likelihood of better parenting (Grace & Gleasure, 2017).

Kuntjoro (2002), stated that social support is the presence, willingness, care of people who can be relied on, appreciate and love us. Social support will be meaningful, depending on the acceptance. Social support according to Cohen, Underwood, and Gottlieb (in

Cohen et al., 1985), is the perception that other people are responsive and receptive to one's needs which is helpful in dealing with stress or anxiety.

Dimension of family social support used in the study refers to the theory by Cohen dkk (1985), which consists of (1) Appraisal Support, i.e. individual's perception of a person's availability to talk about problems; (2) Belonging Support, that is individual's perception of a person's availability to do something with together; (3) Tangible Support, that is individual's perception of the availability of material support. Since these three dimensions are appropriate for social supports received by parents, namely physical support (tangible), need for advice (appraisal) and assistance (belonging) (Poblete & Gee, 2018), the study used the dimension suggested by Cohen dkk (1985).

Sarafino & Smith (2011) stated that social support is an action taken by others to someone which can also be defined as received support, while the support referring to a person's perception of comfort, care, and assistance is called perceived support. In this study, social support is received by mothers of children with autism, and is referred to as perceived support. In this context, it must be understood that the needs of parents refer the support of resources in parenting instead of their personal needs. The needs of parents depend on the personal resources of the parents, support from family, characteristics of children, and more importantly, the socio-cultural conditions of the family (Pratiwi et al., 2021).

It can be concluded that perceived family social support of mothers of children with ASD might affect the relationship between emotional competence and parental stress, or in other words, family social support can be a moderator that can strengthen or weaken the relationship. A study discovered that social support can be a moderator in foster parents who are exposed to violence and efforts to overcome their emotional difficulties (Gilbar et al., 2018). The results of another study suggested that social support is a moderator of the relationship between depression and health promoting lifestyle (Lu et al., 2019).

Based on aforementioned description, this study was aimed to determine the relationship between emotional competence and parental stress in mothers of children with autism spectrum disorder (ASD), with the role of family social support as a moderator.

#### Method

#### Figures and tables

This research was a quantitative research with correlational method. The research participants were determined based on the following criteria: mothers of children with autism spectrum disorders, who are members of therapy centers and schools for children with special needs in Semarang, Solo and Yogyakarta, having children aged 5-12 years. Purposive sampling technique resulted in a total of 165 participants. The technique was conducted by distributing questionnaires using google form. The data were analyzed using structural equation model (SEM) technique on Lisrel program.

The research made use of three psychological measurement scales, namely (1) Parental Stress Scale formulated by Berry & Jones, (1995) to measure parental stress. PSS has 18 items ( $\lambda = 0.59 - 0.86$ ; CR = 0.88 - 0.90; VE = 0.51 - 0.57); (2) Interpersonal Support Evaluation List / ISEL 12 (Cohen et al., 1985) to measure family social support. This scale consists of 12 items ( $\lambda = 0.64 - 0.93$ ; CR = 0.83 - 0.86; VE = 0.55 - 0.62); (3) The Profile Of Emotional Competence/PEC (Brasseur et al., 2013) to measure emotional competence, consisting of 20 items ( $\lambda = 0.59 - 0.90$ ; CR = 0.83 - 0.91; VE = 0.55 - 0.72). The result of validity test which shows the score of loading factor  $\lambda > 0.5$ , the result of reliability score showing the value of Composite Reliability/CR > 0.7, and the value of Variance Extracted/VE > 0.5 indicates that all the scale are valid and reliable that can be used in the study. All items in those scales were adapted into statement relating with conditions during the covid-19 pandemic.

#### Moderated SEM Assessment

This study used Moderated Structural Equation Modeling approach which observe the effect of a latent variable on the relationship between the independent latent variable and the dependent latent variable. This study was aimed to determine the effect of emotional competence on parental stress with the role of family social support as a moderating variable, as shown in the following figure:

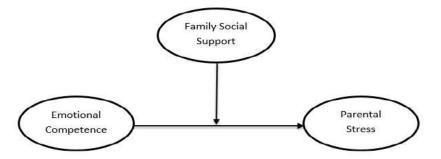
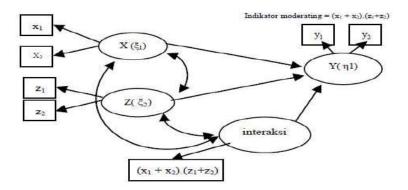
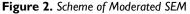


Figure I. Research Diagram

The method used to assess the moderating effect on complex SEM is the Ping method (Ghozali, 2005) which states that a single indicator should be used as an indicator of a moderating latent variable. The single indicator is a multiplication of each indicator of the exogenous latent variable with each indicator of the moderator variable as described in the following figure:



Note. The path analysis shows associations between variables (emotional competence, family social support, and parental stress), controlling for time during covid-19. Coefficients presented are standardized linear regression coefficients.



Structural equation model is presented as follows

$$\eta = \alpha + \gamma_{1}\xi_{1} + \gamma_{1}\xi_{2} + \omega_{1}\xi_{1}\xi_{2} + \zeta,$$

I)

 $\eta$  (Eta) : Endogenous latent variable

- $\alpha$  (Alpha) : Influence coefficients of endogenous latent variables
- $\gamma$  (Gamma) : Influence coefficients of exogenous latent variables

- $\boldsymbol{\xi}$  (Ksi) : Exogenous latent variable
- **ζ** (Zeta) : Error model

Data analysis in the study was conducted as follows:

- Conducting confirmatory factor analysis to assess the unidimensionality of variables.
- 2. Build a structural model to determine whether all indicators of latent variables meet the assumptions of normal multivariate and multicollinearity to measure the possibility of conducting a moderated relationship SEM analysis:
  - a. Model development based on concepts and theories
  - b. Path Diagram
  - c. Evaluation of Goodness of Fit
  - d. Interpretation of the result of modified model
- 3. Procedure when conducting M-SEM:
  - a. Performing estimation by excluding the interaction variables
  - b. Inputting the result into the model using moderated latent variable
  - c. Manually determining the value of interaction loading parameter and error variance of interaction variable

#### Result

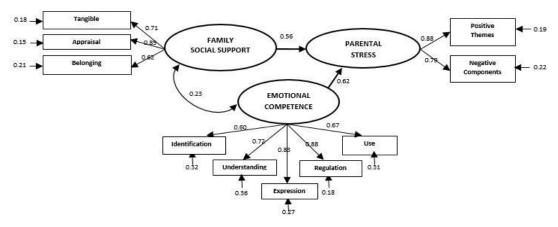
#### **Confirmatory Factor Analysis**

Unidimensionality was carried out on three latent variables in this study using the Confirmatory Factor Analysis method to assess the validity, reliability, and contribution of each indicator variable in creating latent variables. The test statistic used in confirmatory factor analysis was the t distribution. The indicator is significant in measuring the latent variable if the t-value > 1.96. The statistical significance of each indicator is measured from the variables of emotional competence, family social support, and parental stress.

#### Structural Model

#### Model I

The hypothesis that is discussed in the structural modeling is whether Emotional Competence and Family Social Support have a significant effect on Parental Stress in mothers of children with autism spectrum disorder. The causal relationship of these variables are shown by a structural model drawing, as follows:



Chi-square=98.75; df=34; RMSEA=0.08; CFI=0.88; SRMR=0.07; TLI=0.92; AGFI=0.89

### Figure 3. Result of Structural Model Analysis on the Effect of Emotional Competence and Family Social Support on Parental Stress in Mothers of Children with Autism Spectrum Disorder

Structural equation model resulted in the relationship between two exogenous variables (emotional competence and family social support) that affected one endogenous variable (parental stress). In addition, the result of multivariate normality test shows that the values of statistical test were greater than 0,5 which means that all data of latent variable indicators had met the criteria of normal multivariate. From the output, the value of the determinant was 0.04 (<0.05) thus indicating the existence of multicollinearity and there was a slight possibility of a moderated relationship.

After that, significance test was conducted on latent variable to determine whether the latent variables influenced one another. The result of the significant test can be seen in Table 1:

Relationship	Estimated	t-value	P-value	Remarks
Emotional Competence – Parental Stress	0.564	2.112	0.000	Significant
Family Social Support – Parental Stress	0.619	5.022	0.000	Significant

Table 1. Significance Test of SEM Parameters

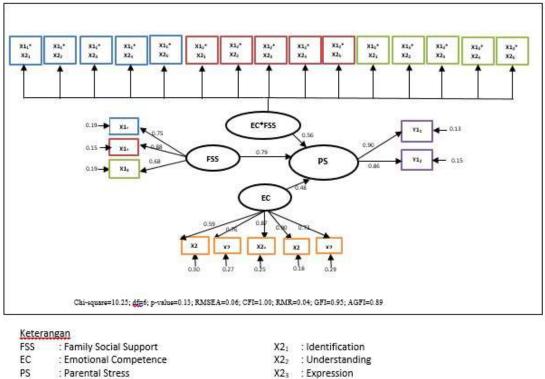
Table I presents that each of two exogenous latent variables (emotional competence and family social support) has a significant effect on the endogenous latent variable (parental stress) because the t-value value is greater than 1.96. From the results, the modeling can be further developed using the moderating effect (MSEM), by testing family social support as a moderator that affects the relationship between emotional competence and parental stress.

#### Moderated Structural Model

Moderation variable used in the study was the latent variable of family social support. The hypotheses of the study were:

- H<sub>0</sub>: Family social support does not affect the correlation between emotional competence and parental stress
- H<sub>1</sub>: Family social support affects the correlation between emotional competence and parental stress





PS	: Parental Stress	X23	: Expression
		X24	: Regulation
X11	: Tangible	X25	: Use
X12	: Appraisal		
X13	: Belonging	Y11	: positive themes
		Y12	: negative component

**Figure 4.** Result of Model Analysis on the Effect of Emotional Competence on Parental Stress in Mothers of Children with Autism Spectrum Disorder, with Family Social Support as Moderating Variable

The results of significance test of the impact between latent variables are presented in table 2 below.

6.1		0		1
Relationship	estimated	t-value	P-value	Remarks
Family Social Support – Parental	0.792	6.125	0.000	Significant
Stress				
Emotional Competence – Parental	0.481	2.176	0.001	Significant
Stress				
Emotional Competence * Family	0.563	4.926	0.001	Significant
Social Support – Parental Stress				

**Table 2.** Significance test of SEM Parameters using linear and non-linear analysis.

From the table, the latent-exogenous variable (emotional competence) had a significant effect on the latent-endogenous variable (parental stress), with a t-value greater than 1.96. Likewise, the latent-exogenous variable (family social support) had been observed for its direct effect on the latent-endogenous variable (parental stress), with a t-value greater than 1.96. Lastly, the moderating variables (emotional competence \* family social support) had a significant effect on the latent-endogenous variable (parental stress), with a t-value greater than 1.96. Lastly, the moderating variables (emotional competence \* family social support) had a significant effect on the latent-endogenous variable (parental stress), with a t-value greater than 1.96. This indicates that family social support was a moderating variable, hypothetical accepted.

#### Discussion

The analysis of the first structural model (figure 3), that is the significant effect of Emotional Competence and Family Social Support on Parental Stress, resulted in the value of RMSEA = 0.10, CFI = 0.88, RMR = 0.05, GFI = 0.89, AGFI = 0.88. The values are categorized as marginal fit, which means that the model is quite suitable with the research data. The results of the significance test (table 1) shows that the each of two exogenous latent variables (emotional competence and family social support) had a significant effect on the endogenous latent variable (parental stress), with a t-value greater than 1.96.

This study concluded that emotional competence affects parental stress in mothers of children with ASD, especially during this pandemic. Emotion is one of the internal aspects of an individual that influences how a person will behave (Denham, Bassett, & Wyatt, 2007). As concluded from the results of preliminary research, mothers need good emotional competence in providing care for children with ASD (Siswati & Desiningrum, 2019) since

ASD children have special characteristics among severe difficulties in emotional regulation (Desiningrum, 2016). Mothers, who cannot manage emotions effectively, are prone to depression, anger, and lack of emotional regulation which can trigger adjustment difficulties, deviant behavior and might trigger domestic violence in the family (Santrock, 2018). It can be concluded that in caring for children with autism, mothers need good emotional competence, so that they can manage stress and are able to be patient and considerate of children. A person who has emotional competence in a variety of contexts tends to be able to manage their emotions effectively, be resilient in dealing with stressful situations, and be determined to build positive relationships (Denham et al., 2007).

According to Volling, Kolak, & Kennedy (2009), interactions in family affect a individual attitude in having interactions with others. It was further explained that the quality of marriage, especially warm relationship between husband and wife, affects parenting attitude in mothers. Social support also affects individuals in dealing with parental stress and attitudes in parenting (Gleeson, Hsieh, & Cryer-Coupet, 2016; Ono & Honda, 2017).

The moderated structural model (MSEM) (figure 4) was developed to assess family social support as a moderating variable that affects the relationship between emotional competence and parental stress. The result of the analysis shows the values of RMSEA = 0.06, CFI = 1.00, RMR = 0.04, GFI = 0.95, AGFI = 0.89. The values are mostly classified as good fit, meaning that the model fits the research data. The results of the analysis of the parameter significance test with MSEM (table 2) using combination of variables (emotional competence \* family social support) showed a significant effect on the variable of parental stress, with a t-value greater than 1.96. This indicates that family social support is a moderating variable.

A research conducted by Volling et al. (2009) suggested that family environment affects individual emotions in social interactions. The presence of family social support strengthens emotional competence in mothers which might reduce stress level in mothers of children with ASD. The statement is in line with a research (Agbaria & Natur, 2018) which suggested that Social support is one of the moderating variables related with individual aggression attitudes.

In the context of parenting children with ASD, who are sensitive and emotional, mothers should be responsive and patient when dealing with the child (Lambrechts, Van Leeuwen, Boonen, Maes, & Noens, 2011; Russell & McCloskey, 2016; Walter & Smith, 2016). When caring for children with ASD, mothers should be equipped with personal approach in accordance with their characteristics and the ability to manage emotions to avoid being showing negative emotions which results in poor parenting behavior. Controlling and managing emotions as well as providing appropriate emotional expressions can have a positive impact on children with ASD, namely stimulating their physical and psychological well-being in order to optimize child development (Etournaud, 2017; Mann, 2013; Ulofoshio, 2018).

Parental stress has provided a theoretical perspective to consider the impact of the COVID-19 pandemic on the increased risk of child abuse. Managing this stress can be started by considering family as a holistic unit, not in a parent-centered nor child-centered perspective, especially during the pandemic (Xu et al., 2020). The results of this study can strengthen the perspective, where family social support is important and needed by mothers in caring for ASD children, because the support can improve the function of emotional competence in managing maternal stress when caring for children with ASD.

Families can have the role as support system in implementing effective measures to protect themselves and their children from Covid-19. Families can use centralized health services for adapting to the pandemic conditions. In many countries, health care providers have provided telehealth or telemental health services via FaceTime, Skype, or other apps, which has increased the availability of healthcare services during the pandemic (Conrad et al., 2020).

Taking care children with ASD needs a lot of efforts, especially when implementing health protocols. Mothers have to maintain attitudes and behaviors with good emotional competence, including understanding children's emotions, expressing appropriate emotions or managing emotions, so that the new normal can be implemented at home and in everyday life. Parents can reassess the impact of the pandemic on family life. Complex and increased level of stress during the Covid-19 pandemic can result in bad attitudes in dealing with children (Lawson et al., 2020). Emotional competence in mothers should be maintained and strengthened by family social support, so that pandemic stress doesn't turn into parental stress.

There are several limitations in this study, including the absence of diagnostic data for the type of categorized autism disorder, because the types of autism disorder affect stress level of mothers when raising children with ASD. In addition, the researcher did not use the detailed demographic data of the research subjects, which could also affect the overall research results. Researchers tried to minimize this limitation by maintaining the homogeneity of the data, namely by carefully choosing the characteristics of the subject and the location of data collection. It is recommended for further studies to pay attention to individual demographic factors, especially the age of mothers and children with ASD, as well as the criteria for autism in children.

#### Conclusion

The study aimed to observe the relationship between emotional competence, family social support and parental stress in mothers of children with autism spectrum disorder results in two models being tested and the results of the analysis show that the model fits the empirical data. From all the significance tests, the result shows that husband's social support is a moderating variable.

The implications this study are empirical evidence regarding the importance of family social support and emotional competence for mothers in caring for children with ASD to avoid parental stress, and these findings can be developed by scientists who are interested in studies related to families with ASD, especially in designing appropriate intervention programs.

#### Acknowledgement

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> We have reached a decision regarding your submission to the Journal of Educational, Health and Community Psychology, "Emotional competence, family social support and parental stress in mothers of children with autism during the pandemic".

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## Emotional competence, family social support and parental stress in mothers of children with autism during the pandemic

#### Abstract

This study was aimed to determine the relationship between emotional competence, family social support and parental stress in mothers of children with autism spectrum disorder (ASD). This research was a quantitative research with correlational method. Purposive sampling technique by distributing questionnaires using Google form resulted in a total of 165 participants who are mothers of children with ASD, as members of therapy centers and schools for children with special needs in Semarang, Solo and Yogyakarta. The data were analyzed using structural equation model (SEM) technique on Lisrel program. This research resulted in two models showing that there are fit model with empirical data. The first model shows that each of emotional competence and family social support had a significant effect on parental stress in mothers of children with ASD. The second model shows the influence of emotional competence on the stress of parenting of children with ASD, with family social support as a moderating variable. The implications of this study are empirical evidence on the importance of family social support and emotional competence for mothers in raising children with ASD to prevent excessive parental stress.

Keywords: emotional, stress, social support, ASD, covid-19

#### Introduction

Autism or autism spectrum disorder (ASD) is a disorder in the areas of cognitive, emotional, behavioral, social, and the inability to interact with the people (Baker & Jeste, 2015). This ASD abbreviation will be used throughout the article. Children with autism will grow and develop in different ways compared to normal children, caused by a gradual decline in cognitive abilities. Commonly, as they grow, children with autism will show lower abilities than the average development of normal children of the same age (Posar & Visconti, 2017). Autism disorder is characterized by limitations in their ability to communicate with the social environment and control their behavior (Mangunsong, 2011).

The prevalence of autism in several countries in the world is gradually increasing. ASA (Autism Society of America) recorded the prevalence of autism in 2000 was 60 per 1000 births, in a ratio 1:250. Meanwhile, data from the CDC (Centers for Disease Control and Prevention, USA) in 2001 shows that the prevalence was I in 150 residents, and in some areas in the USA / UK it was I among 100 residents. In 2012, CDC data shows that 1:88 children had autism, and in 2014 it increased by 30% to 1.5% or 1:68 children in the USA have autism (www.kemenpppa.go.id, 2018). Other data source states that the estimated number of people with autism is I in 150 children (67 out of 10,000) in the United States (Garrecht & Austin, 2011). From 1980 to 2009, the prevalence of autism in Asia was 14.8 per 10,000 and in China, in 2009, the prevalence of autism was 10.3 per 10,000 children aged 2-6 years (Sun et al., 2014). In 2018, there were 205,200 Australians with autism, an increase of 25.1% from 164,000 in 2015 (ABS, 2019). The prevalence rate of people with autism disorders in Indonesia is also increasing (Desiningrum, 2016). The number of ASD children, aged 5-14 years, was estimated to be approximately 90,000 in 2010. The total population of Indonesia in 2010 reached 237.5 million with 1.14 percent growth rate, referring to data from the Central Statistics Agency. People with autism spectrum disorders in Indonesia in 2015 were estimated to reach 134,000, where according to the Central Statistics Agency in 2015 the population of Indonesia reached around 250 million people (Tamba, 2018). The increasing prevalence of ASD children, including in Indonesia, has created considerable interest for researchers in conducting studies on ASD problems, focusing on parenting children with ASD.

According to several research, parents of children with ASD experience high levels of stress (Petrongolo, 2014; Weiss, 2002), anxiety and depression (Etournaud, 2017; Hartley et al., 2010) higher than parents of children with other developmental disorders. Contributing factors to increased stress levels in parents of ASD children are related to the uncertainty of the child's behavior, where parents are unable to predict behavior in ASD children, such as the onset of tantrums in children that might occur at any time (Benson, 2006; Blacher & McIntyre, 2006), and this might continue as they grow (Allik, Larsson, & Smedje, 2006; Saini et al., 2015). Limited cognitive abilities in ASD children, triggering stress and depression in mothers (Davis & Carter, 2008). As well as low communication skills (Mann, 2013).

External factor that affects maternal stress is the lack of understanding from the wider

community about ASD, so that parents often get negative reactions from the environment, like scolding children, offending parents and even excluding ASD children (Farrugia, 2009; Gray, 2003). In addition, conflicts in marital relationships can also trigger stress and depression in mothers of ASD children (Hartley et al., 2010; Pottie et al., 2009). All of the factors that contribute to parental stress levels of ASD children, as described above, are the challenges for parents in caring children with ASD.

There are two aspects of parental stress, namely (1) positive themes of parenthood, as the aspect stimulating self-development (emotional benefits, self-enrichment, personal development), where this stress causes parents to look for various information related to autism and parenting problems; and (2) negative components (demand in resources, opportunity cost and restrictions), where parents spend a lot of energy and materials for childcare (Ozturk et al., 2014).

The Covid-19 pandemic has contributed to crisis in families depending on how parents construct their perception of stressful events. The impact of the pandemic on parental perceptions is highly heterogeneous (Vinkers, et al, 2020). The Covid-19 pandemic might trigger various levels of parental stress for parents. In addition to economic and health problems, parents will increasingly interact with their ASD children in limited situations and conditions. Children staying indoor for health reasons and limited therapy of ASD children might increases stress and boredom in children, so they can become more sensitive. In addition, there are more stressors related to Covid-19, including physical and mental health problems, economic difficulties, challenges in carrying out home-schooling, conflicts and domestic violence, to the intensification of parent-child relationships (Wu & Xu, 2020).

Dealing with the lockdown put another burden on parents who have to balance their personal, work and child-rearing lives, without the support from others. This situation has the potential to lower their ability to be supportive caregivers and, consequently, affecting the welfare of children (Spinelli et al., 2021).

Parenting and caring are naturally attached to the role of a mother (Santrock, 2018). A study conducted on 99 parents of ASD children suggested that mothers are engaged in more social behavior with their children compared to fathers (Ozturk et al., 2014). Mothers with ASD children should deal with challenges in caring for their children with a lifelong commitment to parenting while they feel worry about the future of their ASD child (Alexander, 2018). Parental stress has the potential to affect mother's mental health (Cachia, Anderson, & Moore, 2016) and affect the quality of taking care children with ASD (Walter & Smith, 2016).

Mothers of children with ASD need the skills to control and manage emotions as well as display appropriate emotional expressions – which are part of emotional competence (Saarni dkk, 2007) – in order to avoid parental stress and improve the quality of caring children with ASD (Volling et al., 2009). Good parenting can stimulate children's physical and psychological well-being (Mann, 2013; Ulofoshio, 2018), and support the development of children with ASD (Etournaud, 2017).

Emotional competence is an adaptability gained from emotional experience (Saarni et al., 2007). A person who has emotional competence in a variety of contexts tends to be able to manage their emotions effectively, be resilient in dealing with stressful situations, and build positive relationships (Denham et al., 2007). Another definition of emotional competence is the ability to manage emotions, which includes aspects of the ability to (1) identify, (2) express, (3) understand, (4) regulate, and (5) use emotions (Brasseur et al., 2013). When individuals cannot manage emotions effectively, it will lead to depression, anger, and a lack of emotional regulation that might trigger difficulties in adjustment, deviant behavior, and domestic violence in the family (Santrock, 2018). In caring for children with autism, mothers need good emotional competence, so as to avoid stress and foster good attitudes in parenting.

Providing more support to parents and improving parental emotional control can be a promising intervention (Brown et al., 2020). Literature study to a research by Volling et.al. (2009) suggested that family environment has a significant influence on the social and emotional development of individuals. One of the components of family environment is the perceived social support of the individual. The results of previous studies suggested that family function in caring for ASD children, which might come from spouses, siblings and extended family, can improve the welfare of mothers (Desiningrum, Suminar, & Surjaningrum, 2019). There are various theories about family, all of which assume that the greater the interaction and support of family members in the care of children, the greater the likelihood of better parenting (Grace & Gleasure, 2017).

Kuntjoro (2002), stated that social support is the presence, willingness, care of people who can be relied on, appreciate and love us. Social support will be meaningful, depending on the acceptance. Social support according to Cohen, Underwood, and Gottlieb (in Cohen et al., 1985), is the perception that other people are responsive and receptive to

one's needs which is helpful in dealing with stress or anxiety.

Dimension of family social support used in the study refers to the theory by Merz et al. (2014), which consists of (1) Appraisal Support, i.e. individual's perception of a person's availability to talk about problems; (2) Belonging Support, that is individual's perception of a person's availability to do something with together; (3) Tangible Support, that is individual's perception of the availability of material support. Since these three dimensions are appropriate for social supports received by parents, namely physical support (tangible), need for advice (appraisal) and assistance (belonging) (Poblete & Gee, 2018).

Sarafino & Smith (2011) stated that social support is an action taken by others to someone which can also be defined as received support, while the support referring to a person's perception of comfort, care, and assistance is called perceived support. In this study, social support is received by mothers of children with autism, and is referred to as perceived support. In this context, it must be understood that the needs of parents refer the support of resources in parenting instead of their personal needs. The needs of parents depend on the personal resources of the parents, support from family, characteristics of children, and more importantly, the socio-cultural conditions of the family (Pratiwi et al., 2021). In addition, parental support for the growth and development of ASD children is very much needed, for example for the implementation of ASD therapy (Saptasari, 2017). Meeting the needs related to parenting can foster well-being for ASD children, parents and families (Desiningrum, 2010).

It can be concluded that perceived family social support of mothers of children with ASD might affect the relationship between emotional competence and parental stress, or in other words, family social support can be a moderator that can strengthen or weaken the relationship. A study discovered that social support can be a moderator in foster parents who are exposed to violence and efforts to overcome their emotional difficulties (Gilbar et al., 2018). The results of another study suggested that social support is a moderator of the relationship between depression and health promoting lifestyle (Lu et al., 2019).

Based on aforementioned description, this study was aimed to determine the relationship between emotional competence and parental stress in mothers of children with ASD, with the role of family social support as a moderator.

#### Method

#### Figures and tables

This research was a quantitative research with correlational method. The research participants were determined based on the following criteria: mothers of children with ASD, who are members of therapy centers and schools for children with special needs in Semarang, Solo and Yogyakarta, having children aged 5-12 years. Purposive sampling technique resulted in a total of 165 participants. The technique was conducted by distributing questionnaires using google form. The data were analyzed using structural equation model (SEM) technique on Lisrel program.

The research made use of three psychological measurement scales, namely (1) Parental Stress Scale formulated by Berry & Jones, (1995) to measure parental stress. PSS has 18 items ( $\lambda = 0.59 - 0.86$ ; CR = 0.88 - 0.90; VE = 0.51 - 0.57); (2) Interpersonal Support Evaluation List / ISEL 12 (Cohen et al., 1985) to measure family social support. This scale consists of 12 items ( $\lambda = 0.64 - 0.93$ ; CR = 0.83 - 0.86; VE = 0.55 - 0.62); (3) The Profile Of Emotional Competence/PEC (Brasseur et al., 2013) to measure emotional competence, consisting of 20 items ( $\lambda = 0.59 - 0.90$ ; CR = 0.83 - 0.91; VE = 0.55 - 0.72). The result of validity test which shows the score of loading factor  $\lambda > 0.5$ , the result of reliability score showing the value of Composite Reliability/CR > 0.7, and the value of Variance Extracted/VE > 0.5 indicates that all the scale are valid and reliable that can be used in the study. All items in those scales were adapted into statement relating with conditions during the covid-19 pandemic.

#### Moderated SEM Assessment

This study used Moderated Structural Equation Modeling approach which observe the effect of a latent variable on the relationship between the independent latent variable and the dependent latent variable. This study was aimed to determine the effect of emotional competence on parental stress with the role of family social support as a moderating variable, as shown in the following figure:

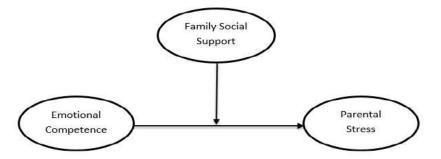
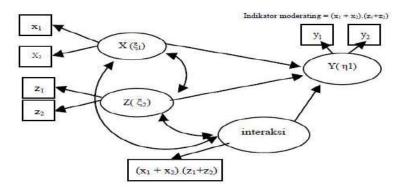
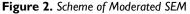


Figure I. Research Diagram

The method used to assess the moderating effect on complex SEM is the Ping method (Ghozali, 2005) which states that a single indicator should be used as an indicator of a moderating latent variable. The single indicator is a multiplication of each indicator of the exogenous latent variable with each indicator of the moderator variable as described in the following figure:



Note. The path analysis shows associations between variables (emotional competence, family social support, and parental stress), controlling for time during covid-19. Coefficients presented are standardized linear regression coefficients.



Structural equation model is presented as follows

 $\eta = \alpha + \gamma_{1}\xi_1 + \gamma_{1}\xi_{21} + \omega_{1}\xi_1\xi_2 + \zeta,$ 

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 $\eta$  (Eta) : Endogenous latent variable

- $\alpha$  (Alpha) : Influence coefficients of endogenous latent variables
- $\gamma$  (Gamma) : Influence coefficients of exogenous latent variables

 $\boldsymbol{\xi}$  (Ksi) : Exogenous latent variable

**ζ** (Zeta) : Error model

Data analysis in the study was conducted as follows:

- Conducting confirmatory factor analysis to assess the unidimensionality of variables.
- 2. Build a structural model to determine whether all indicators of latent variables meet the assumptions of normal multivariate and multicollinearity to measure the possibility of conducting a moderated relationship SEM analysis:
  - a. Model development based on concepts and theories
  - b. Path Diagram
  - c. Evaluation of Goodness of Fit
  - d. Interpretation of the result of modified model
- 3. Procedure when conducting M-SEM:
  - a. Performing estimation by excluding the interaction variables
  - b. Inputting the result into the model using moderated latent variable
  - c. Manually determining the value of interaction loading parameter and error variance of interaction variable

#### Result

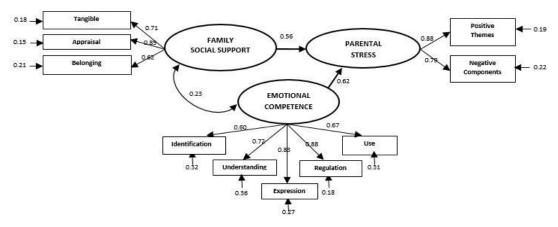
#### **Confirmatory Factor Analysis**

Unidimensionality was carried out on three latent variables in this study using the Confirmatory Factor Analysis method to assess the validity, reliability, and contribution of each indicator variable in creating latent variables. The test statistic used in confirmatory factor analysis was the t distribution. The indicator is significant in measuring the latent variable if the t-value > 1.96. The statistical significance of each indicator is measured from the variables of emotional competence, family social support, and parental stress.

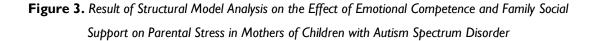
#### Structural Model

#### Model I

The hypothesis that is discussed in the structural modeling is whether Emotional Competence and Family Social Support have a significant effect on Parental Stress in mothers of children with autism spectrum disorder. The causal relationship of these variables are shown by a structural model drawing, as follows:



Chi-square=98.75; df=34; RMSEA=0.08; CFI=0.88; RMR=0.07; TLI=0.92; AGFI=0.89



Structural equation model resulted in the relationship between two exogenous variables (emotional competence and family social support) that affected one endogenous variable (parental stress). In addition, the result of multivariate normality test shows that the values of statistical test were greater **than 0.5** which means that all data of latent variable indicators had met the criteria of normal multivariate. From the output, the value of the determinant was 0.04 (<0.05) thus indicating the existence of multicollinearity and there was a slight possibility of a moderated relationship.

After that, significance test was conducted on latent variable to determine whether the latent variables influenced one another. The result of the significant test can be seen in Table 1:

Relationship	Estimated	t-value	P-value	Remarks
Emotional Competence – Parental Stress	0.564	2.112	0.000	Significant
Family Social Support – Parental Stress	0.619	5.022	0.000	Significant

Table 1. Significance Test of SEM Parameters

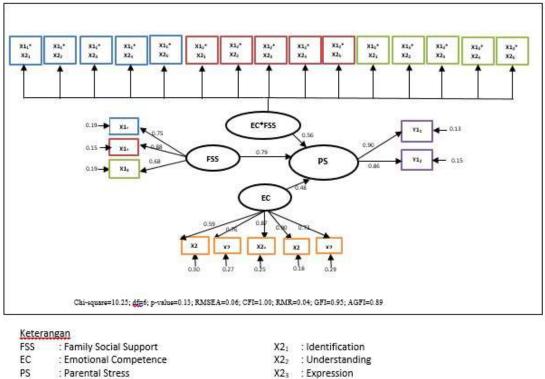
Table I presents that each of two exogenous latent variables (emotional competence and family social support) has a significant effect on the endogenous latent variable (parental stress) because the t-value value is greater than 1.96. From the results, the modeling can be further developed using the moderating effect (MSEM), by testing family social support as a moderator that affects the relationship between emotional competence and parental stress.

#### Moderated Structural Model

Moderation variable used in the study was the latent variable of family social support. The hypotheses of the study were:

- H<sub>0</sub>: Family social support does not affect the correlation between emotional competence and parental stress
- H<sub>1</sub>: Family social support affects the correlation between emotional competence and parental stress





PS	: Parental Stress	X23	: Expression
		X24	: Regulation
X11	: Tangible	X25	: Use
X12	: Appraisal		
X13	: Belonging	Y11	: positive themes
		Y12	: negative component

**Figure 4.** Result of Model Analysis on the Effect of Emotional Competence on Parental Stress in Mothers of Children with Autism Spectrum Disorder, with Family Social Support as Moderating Variable

The results of significance test of the impact between latent variables are presented in table 2 below.

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Relationship	estimated	t-value	P-value	Remarks
Family Social Support – Parental	0.792	6.125	0.000	Significant
Stress				
Emotional Competence – Parental	0.481	2.176	0.001	Significant
Stress				
Emotional Competence * Family	0.563	4.926	0.001	Significant
Social Support – Parental Stress				

**Table 2.** Significance test of SEM Parameters using linear and non-linear analysis.

From the table, the latent-exogenous variable (emotional competence) had a significant effect on the latent-endogenous variable (parental stress), with a t-value greater than 1.96. Likewise, the latent-exogenous variable (family social support) had been observed for its direct effect on the latent-endogenous variable (parental stress), with a t-value greater than 1.96. Lastly, the moderating variables (emotional competence \* family social support) had a significant effect on the latent-endogenous variable (parental stress), with a t-value greater than 1.96. Lastly, the moderating variables (emotional competence \* family social support) had a significant effect on the latent-endogenous variable (parental stress), with a t-value greater than 1.96. This indicates that family social support was a moderating variable, hypothetical accepted.

#### Discussion

The analysis of the first structural model (figure 3), that is the significant effect of Emotional Competence and Family Social Support on Parental Stress, resulted in the value of RMSEA = 0.10, CFI = 0.88, RMR = 0.05, GFI = 0.89, AGFI = 0.88. The values are categorized as marginal fit, which means that the model is quite suitable with the research data. The results of the significance test (table 1) shows that the each of two exogenous latent variables (emotional competence and family social support) had a significant effect on the endogenous latent variable (parental stress), with a t-value greater than 1.96.

This study concluded that emotional competence affects parental stress in mothers of children with ASD, especially during this pandemic. Emotion is one of the internal aspects of an individual that influences how a person will behave (Denham, Bassett, & Wyatt, 2007). As concluded from the results of preliminary research, mothers need good emotional competence in providing care for children with ASD (Siswati & Desiningrum, 2019) since

ASD children have special characteristics among severe difficulties in emotional regulation (Desiningrum, 2016). Mothers, who cannot manage emotions effectively, are prone to depression, anger, and lack of emotional regulation which can trigger adjustment difficulties, deviant behavior and might trigger domestic violence in the family (Santrock, 2018). It can be concluded that in caring for children with autism, mothers need good emotional competence, so that they can manage stress and are able to be patient and considerate of children. A person who has emotional competence in a variety of contexts tends to be able to manage their emotions effectively, be resilient in dealing with stressful situations, and be determined to build positive relationships (Denham et al., 2007).

According to Volling, Kolak, & Kennedy (2009), interactions in family affect a individual attitude in having interactions with others. It was further explained that the quality of marriage, especially warm relationship between husband and wife, affects parenting attitude in mothers. Social support also affects individuals in dealing with parental stress and attitudes in parenting (Gleeson, Hsieh, & Cryer-Coupet, 2016; Ono & Honda, 2017).

The moderated structural model (MSEM) (figure 4) was developed to assess family social support as a moderating variable that affects the relationship between emotional competence and parental stress. The result of the analysis shows the values of RMSEA = 0.06, CFI = 1.00, RMR = 0.04, GFI = 0.95, AGFI = 0.89. The values are mostly classified as good fit, meaning that the model fits the research data. The results of the analysis of the parameter significance test with MSEM (table 2) using combination of variables (emotional competence \* family social support) showed a significant effect on the variable of parental stress, with a t-value greater than 1.96. This indicates that family social support is a moderating variable.

A research conducted by Volling et al. (2009) suggested that family environment affects individual emotions in social interactions. The presence of family social support strengthens emotional competence in mothers which might reduce stress level in mothers of children with ASD. The statement is in line with a research (Agbaria & Natur, 2018) which suggested that Social support is one of the moderating variables related with individual aggression attitudes.

In the context of parenting children with ASD, who are sensitive and emotional, mothers should be responsive and patient when dealing with the child (Lambrechts, Van Leeuwen, Boonen, Maes, & Noens, 2011; Russell & McCloskey, 2016; Walter & Smith, 2016). When caring for children with ASD, mothers should be equipped with personal approach in accordance with their characteristics and the ability to manage emotions to avoid being showing negative emotions which results in poor parenting behavior. Controlling and managing emotions as well as providing appropriate emotional expressions can have a positive impact on children with ASD, namely stimulating their physical and psychological well-being in order to optimize child development (Etournaud, 2017; Mann, 2013; Ulofoshio, 2018).

Parental stress has provided a theoretical perspective to consider the impact of the COVID-19 pandemic on the increased risk of child abuse. Managing this stress can be started by considering family as a holistic unit, not in a parent-centered nor child-centered perspective, especially during the pandemic (Xu et al., 2020). The results of this study can strengthen the perspective, where family social support is important and needed by mothers in caring for ASD children, because the support can improve the function of emotional competence in managing maternal stress when caring for children with ASD.

Families can have the role as support system in implementing effective measures to protect themselves and their children from Covid-19. Families can use centralized health services for adapting to the pandemic conditions. In many countries, health care providers have provided telehealth or telemental health services via FaceTime, Skype, or other apps, which has increased the availability of healthcare services during the pandemic (Conrad et al., 2020).

Taking care children with ASD needs a lot of efforts, especially when implementing health protocols. Mothers have to maintain attitudes and behaviors with good emotional competence, including understanding children's emotions, expressing appropriate emotions or managing emotions, so that the new normal can be implemented at home and in everyday life. Parents can reassess the impact of the pandemic on family life. Complex and increased level of stress during the Covid-19 pandemic can result in bad attitudes in dealing with children (Lawson et al., 2020). Emotional competence in mothers should be maintained and strengthened by family social support, so that pandemic stress doesn't turn into parental stress.

There are several limitations in this study, including the absence of diagnostic data for the type of categorized autism disorder, because the types of autism disorder affect stress level of mothers when raising children with ASD. In addition, the researcher did not use the detailed demographic data of the research subjects, which could also affect the overall research results. Researchers tried to minimize this limitation by maintaining the homogeneity of the data, namely by carefully choosing the characteristics of the subject and the location of data collection. It is recommended for further studies to pay attention to individual demographic factors, especially the age of mothers and children with ASD, as well as the criteria for autism in children.

#### Conclusion

This study examines the relationship between emotional competence, family social support and parental stress in mothers who have children with autism spectrum disorders. Two research models were produced, with the results of the analysis showing that these models are in accordance with the empirical data. From all significance tests, it is known that husband's social support is a moderating variable. The implications this study are empirical evidence regarding the importance of family social support and emotional competence for mothers in caring for children with ASD to avoid parental stress, and these findings can be developed by scientists and practitioners who are interested in studies related to families with ASD, especially in designing appropriate intervention programs.

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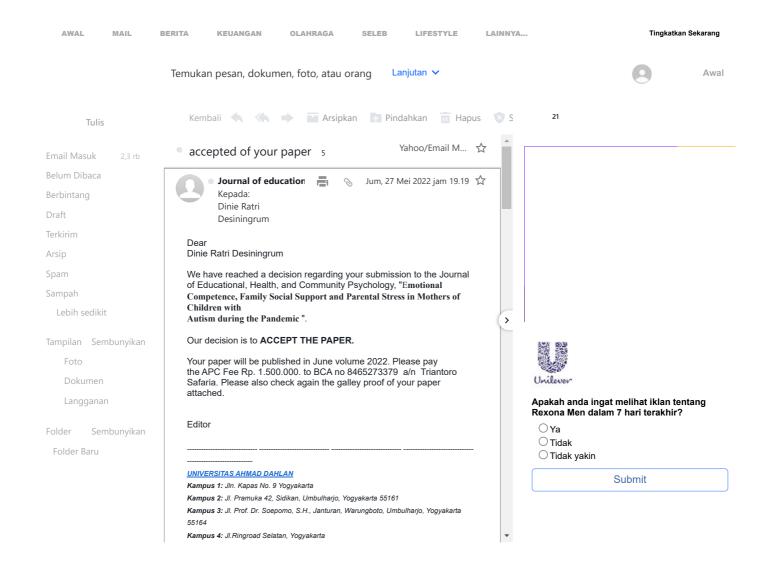
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# Emotional Competence, Family Social Support and Parental Stress in Mothers of Children with Autism during the Pandemic

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#### Abstract

This study aimed to determine the relationship between emotional competence, family social support, and parental stress in mothers of children with autism spectrum disorder (ASD). This research was quantitative research with the correlational method. The purposive sampling technique by distributing questionnaires using Google form resulted in 165 participants who are mothers of children with ASD as members of therapy centers and schools for children with special needs in Semarang, Solo, and Yogyakarta. The data were analyzed using the structural equation model (SEM) technique on the Lisrel program. This research resulted in two models showing a fit model with empirical data. The first model shows that emotional competence and family social support significantly affected parental stress in mothers of children with ASD. The second model shows the influence of emotional competence on the stress of parenting children with ASD, with family social support as a moderating variable. The implications of this study are empirical evidence of the importance of family social support and emotional competence for mothers in raising children with ASD to prevent excessive parental stress.

Keywords: emotional, stress, social support, ASD, covid-19.

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# Introduction

Autism or autism spectrum disorder (ASD) is a disorder in the areas of cognitive, emotional, behavioral, social, and the inability to interact with people (Baker & Jeste, 2015). This ASD abbreviation will be used throughout the article. Children with autism will grow and develop differently compared to normal children, caused by a gradual decline in cognitive abilities. Commonly, as they grow, children with autism will show lower abilities than the average development of normal children of the same age (Posar & Visconti, 2017). Autism disorder is characterized by limitations in their ability to communicate with the social environment and control their behavior (Mangunsong, 2011).



The prevalence of autism in several countries in the world is gradually increasing. ASA (Autism Society of America) recorded that the prevalence of autism in 2000 was 60 per 1000 births, in a ratio of 1:250. Meanwhile, data from the CDC (Centers for Disease Control and Prevention, USA) in 2001 shows that the prevalence was I in 150 residents, and in some areas in the USA / UK, it was one among 100 residents. In 2012, CDC data shows that 1:88 children had autism, and in 2014 it increased by 30% to 1.5% or 1:68 children in the USA have autism (www.kemenpppa.go.id, 2018). Other data source states that the estimated number of people with autism is 1 in 150 children (67 out of 10,000) in the United States (Garrecht & Austin, 2011). From 1980 to 2009, the prevalence of autism in Asia was 14.8 per 10,000, and in China, in 2009, the prevalence of autism was 10.3 per 10,000 children aged 2-6 years (Sun et al., 2014). In 2018, 205,200 Australians with autism, an increase of 25.1% from 164,000 in 2015 (ABS, 2019). The prevalence rate of people with autism disorders in Indonesia is also increasing (Desiningrum, 2016). The number of ASD children aged 5-14 years was estimated to be approximately 90,000 in 2010. The total population of Indonesia in 2010 reached 237.5 million with a 1.14 percent growth rate, referring to data from the Central Statistics Agency. People with autism spectrum disorders in Indonesia in 2015 were estimated to reach 134,000, whereas according to the Central Statistics Agency, in 2015, the population of Indonesia reached around 250 million people (Tamba, 2018). The increasing prevalence of ASD children, including in Indonesia, has created considerable interest for researchers in conducting studies on ASD problems, focusing on parenting children with ASD.

According to several studies, parents of children with ASD experience high levels of stress (Petrongolo, 2014; Weiss, 2002), anxiety, and depression (Etournaud, 2017; Hartley et al., 2010) higher than parents of children with other developmental disorders. Contributing factors to increased stress levels in parents of ASD children are related to the uncertainty of the child's behavior, where parents are unable to predict behavior in ASD children, such as the onset of tantrums in children that might occur at any time (Benson, 2006; Blacher & McIntyre, 2006), and this might continue as they grow (Allik, Larsson, & Smedje, 2006; Saini et al., 2015). Limited cognitive abilities in ASD children, triggering stress and depression in mothers (Davis & Carter, 2008), as well as low communication skills (Mann, 2013).



An external factor that affects maternal stress is the lack of understanding from the broader community about ASD, so parents often get adverse reactions from the environment, like scolding children, offending parents, and even excluding ASD children (Farrugia, 2009; Gray, 2003). In addition, conflicts in marital relationships can also trigger stress and depression in mothers of ASD children (Hartley et al., 2010; Pottie et al., 2009). All of the factors that contribute to parental stress levels of ASD children, as described above, are the challenges for parents in caring for children with ASD.

There are two aspects of parental stress, namely (1) positive themes of parenthood, as the aspect stimulating self-development (emotional benefits, self-enrichment, personal development), where this stress causes parents to look for various information related to autism and parenting problems; and (2) negative components (demand in resources, opportunity cost, and restrictions), where parents spend a lot of energy and materials for childcare (Ozturk et al., 2014).

The Covid-19 pandemic has contributed to the crisis in families depending on how parents construct their perception of stressful events. The impact of the pandemic on parental perceptions is highly heterogeneous (Vinkers et al., 2020). The Covid-19 pandemic might trigger various levels of parental stress parents. In addition to economic and health problems, parents will increasingly interact with their ASD children in limited situations and conditions. Children staying indoors for health reasons and limited therapy for ASD children might increase stress and boredom in children so that they can become more sensitive. In addition, more stressors related to Covid-19 include physical and mental health problems, economic difficulties, challenges in carrying out homeschooling, conflicts and domestic violence, and the intensification of parent-child relationships (Wu & Xu, 2020).

Dealing with the lockdown puts another burden on parents who have to balance their personal, work, and child-rearing lives, without support from others. This situation can potentially lower their ability to be supportive caregivers and, consequently, affect the welfare of children (Spinelli et al., 2021).

Parenting and caring are naturally attached to the role of a mother (Santrock, 2018). A study conducted on 99 parents of ASD children suggested that mothers engage in more social behavior



with their children than fathers (Ozturk et al., 2014). Mothers with ASD children should deal with challenges in caring for their children with a lifelong commitment to parenting while they feel worried about the future of their ASD child (Alexander, 2018). Parental stress has the potential to affect a mother's mental health (Cachia, Anderson, & Moore, 2016) and affect the quality of taking care of children with ASD (Walter & Smith, 2016).

Mothers of children with ASD need the skills to control and manage emotions as well as display appropriate emotional expressions – which are part of emotional Competence (Saarni et al., 2007) – in order to avoid parental stress and improve the quality of caring for children with ASD (Volling et al., 2009). Good parenting can stimulate children's physical and psychological well-being (Mann, 2013; Ulofoshio, 2018) and support the development of children with ASD (Etournaud, 2017).

Emotional competence is adaptability gained from emotional experience (Saarni et al., 2007). A person who has emotional competence in various contexts tends to be able to manage their emotions effectively, be resilient in dealing with stressful situations, and build positive relationships (Denham et al., 2007). Another definition of emotional competence is the ability to manage emotions, which includes aspects of the ability to (1) identify, (2) express, (3) understand, (4) regulate, and (5) use emotions (Brasseur et al., 2013). When individuals cannot manage emotions effectively, it will lead to depression, anger, and a lack of emotional regulation that might trigger difficulties in adjustment, deviant behavior, and domestic violence in the family (Santrock, 2018). In caring for children with autism, mothers need good emotional competence to avoid stress and foster good attitudes in parenting.

Providing more support to parents and improving parental emotional control can be a promising intervention (Brown et al., 2020). A literature study research by Volling et al. (2009) suggested that the family environment significantly influences individuals' social and emotional development. One of the components of the family environment is the perceived social support of the individual. The results of previous studies suggested that family function in caring for ASD children, which might come from spouses, siblings, and extended family, can improve the welfare of mothers (Desiningrum, Suminar, & Surjaningrum, 2019). There are various theories about family, all of which assume that



the greater the interaction and support of family members in the care of children, the greater the likelihood of better parenting (Grace & Gleasure, 2017).

Kuntjoro (2002) stated that social support is the presence, willingness, and care of people who can be relied on, appreciate and love us. Social support will be meaningful, depending on the acceptance. According to Cohen, Underwood, and Gottlieb (Cohen et al., 1985), social support is the perception that other people are responsive and receptive to one's needs, which helps deal with stress or anxiety.

The dimension of the family social support used in the study refers to the theory by Merz et al. (2014), which consists of (1) Appraisal Support, i.e., an individual's perception of a person's availability to talk about problems; (2) Belonging Support, that is individual's perception of a person's availability to do something with together; (3) Tangible Support, that is individual's perception of the availability of material support. Since these three dimensions are appropriate for social support received by parents, namely physical support (tangible), need for advice (appraisal), and assistance (belonging) (Poblete & Gee, 2018).

Sarafino & Smith (2011) stated that social support is an action taken by others to someone, which can also be defined as received support. Support refers to a person's perception of comfort, care, and assistance is called perceived support. In this study, social support is received by mothers of children with autism and is referred to as perceived support. In this context, it must be understood that the needs of parents refer to the support of resources in parenting instead of their personal needs. The needs of parents depend on the personal resources of the parents, support from the family, characteristics of children, and, more importantly, the sociocultural conditions of the family (Pratiwi et al., 2021). In addition, parental support for the growth and development of ASD children is very much needed, for example, for the implementation of ASD therapy (Saptasari, 2017). Meeting the needs related to parenting can foster well-being for ASD children, parents, and families (Desiningrum, 2010).

It can be concluded that perceived family social support of mothers of children with ASD might affect the relationship between emotional competence and parental stress; in other words, family social



support can be a moderator that can strengthen or weaken the relationship. A study discovered that social support could be a moderator in foster parents exposed to violence and efforts to overcome their emotional difficulties (Gilbar et al., 2018). Another study suggested that social support moderates the relationship between depression and a health-promoting lifestyle (Lu et al., 2019).

Based on the previous description, this study aimed to determine the relationship between emotional competence and parental stress in mothers of children with ASD, with the role of family social support as a moderator.

## Method

#### Figures and tables

This research was quantitative research with the correlational method. The research participants were determined based on the following criteria: mothers of children with ASD, members of therapy centers, and schools for children with special needs in Semarang, Solo, and Yogyakarta having children aged 5-12 years. The purposive sampling technique resulted in a total of 165 participants. The technique was conducted by distributing questionnaires using google Forms. The data were analyzed using the structural equation model (SEM) technique on the Lisrel program.

The research made use of three psychological measurement scales, namely (1) Parental Stress Scale formulated by Berry & Jones, (1995) to measure parental stress. PSS has 18 items ( $\lambda = 0.59 - 0.86$ ; CR = 0.88 – 0.90; VE = 0.51 – 0.57); (2) Interpersonal Support Evaluation List / ISEL 12 (Cohen et al., 1985) to measure family social support. This scale consists of 12 items ( $\lambda = 0.64 - 0.93$ ; CR = 0.83 – 0.86; VE = 0.55 – 0.62); (3) The Profile Of Emotional Competence/PEC (Brasseur et al., 2013) to measure emotional competence, consisting of 20 items ( $\lambda = 0.59 - 0.90$ ; CR = 0.83 – 0.91; VE = 0.55 – 0.72). The result of validity test which shows the score of loading factor  $\lambda > 0.5$ , the result of reliability score showing the value of Composite Reliability/CR > 0.7, and the value of Variance Extracted/VE > 0.5 indicates that all the scale are valid and reliable that can be used in the study. All items in those scales were adapted into statement relating with conditions during the covid-19 pandemic.



#### Moderated SEM Assessment

This study used Moderated Structural Equation Modeling, which observes the effect of a latent variable on the relationship between the independent latent variable and the latent dependent variable. This study was aimed to determine the effect of emotional competence on parental stress with the role of family social support as a moderating variable, as shown in the following figure:

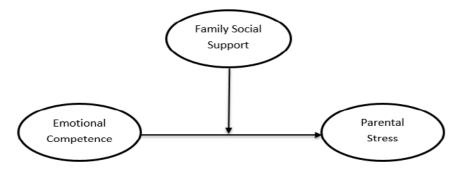
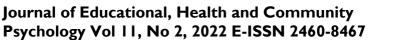
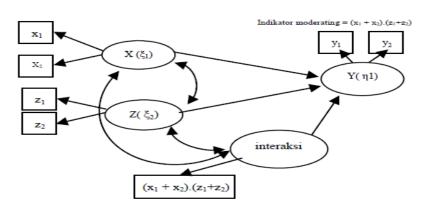


Figure I. Research Diagram

The method used to assess the moderating effect on complex SEM is the Ping method (Ghozali, 2005) which states that a single indicator should be used to indicate a moderating latent variable. The single indicator is a multiplication of each indicator of the exogenous latent variable with each indicator of the moderator variable as described in the following figure:







Note. The path analysis shows associations between variables (emotional competence, family social support, and parental stress), controlling for the time during covid-19. The coefficients presented are standardized linear regression coefficients.

Figure 2. Scheme of Moderated SEM

The structural equation model is presented as follows.

$$\eta = \alpha + \gamma_{11}\xi_1 + \gamma_{12}\xi_{21} + \omega_{12}\xi_1\xi_2 + \zeta,$$

**η** (Eta) : Endogenous latent variable

 $\alpha$  (Alpha) : Influence coefficients of endogenous latent variables

 $\gamma$  (Gamma) : Influence coefficients of exogenous latent variables

 $\boldsymbol{\xi}$  (Ksi) : Exogenous latent variable

ζ (Zeta) : Error model

Data analysis in the study was conducted as follows:

- I. Conducting confirmatory factor analysis to assess the unidimensionality of variables.
- 2. Build a structural model to determine whether all indicators of latent variables meet the assumptions of normal multivariate and multicollinearity to measure the possibility of conducting a moderated relationship SEM analysis:
- a. Model development based on concepts and theories
- b. Path Diagram
- c. Evaluation of Goodness of Fit
- d. Interpretation of the result of a modified model
- 3. Procedure when conducting M-SEM:

1)



- a. Performing estimation by excluding the interaction variables
- b. Inputting the result into the model using moderated latent variable
- c. Manually determining the value of the interaction loading parameter and error variance of the interaction variable

# Result

# **Confirmatory Factor Analysis**

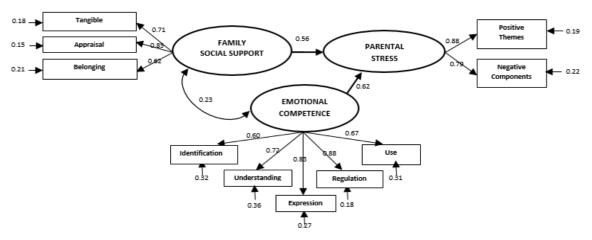
Unidimensionality was carried out on three latent variables in this study using the Confirmatory Factor Analysis method to assess each indicator variable's validity, reliability, and contribution to creating latent variables. The test statistic used in confirmatory factor analysis was the t distribution. The indicator is significant in measuring the latent variable if the t-value > 1.96. The statistical significance of each indicator is measured from the variables of emotional competence, family social support, and parental stress.

## Structural Model

## Model I

The hypothesis discussed in the structural modeling is whether Emotional Competence and family social support significantly affect parental stress in mothers of children with an autism spectrum disorder. The causal relationship of these variables is shown by a structural model drawing as follows:





Chi-square=98.75; df=34; RMSEA=0.08; CFI=0.88; SRMR=0.07; TLI=0.92; AGFI=0.89

**Figure 3.** Result of Structural Model Analysis on the Effect of Emotional Competence and Family Social Support on Parental Stress in Mothers of Children with Autism Spectrum Disorder

The structural equation model resulted in the relationship between two exogenous variables (emotional competence and family social support) that affected one endogenous variable (parental stress). In addition, the result of the multivariate normality test shows that the values of the statistical test were greater **than 0.5**, which means that all data of latent variable indicators had met the criteria of normal multivariate. From the output, the value of the determinant was 0.04 (<0.05), thus indicating the existence of multicollinearity, and there was a slight possibility of a moderated relationship.

After that, a significance test was conducted on the latent variable to determine whether the latent variables influenced one another. The result of the significant test can be seen in Table 1:

Table I

Relationship	Estimated	t-value	P-value	Remarks
Emotional Competence – Parental Stress	0.564	2.112	0.000	Significant
Family Social Support – Parental Stress	0.619	5.022	0.000	Significant



Table I presents that each of the two exogenous latent variables (emotional competence and family social support) significantly affects the endogenous latent variable (parental stress) because the t-value value is greater than 1.96. From the results, the modeling can be further developed using the moderating effect (MSEM) by testing family social support as a moderator that affects the relationship between emotional competence and parental stress.

# Moderated Structural Model

The moderation variable used in the study was the latent variable of family social support. The hypotheses of the study were:

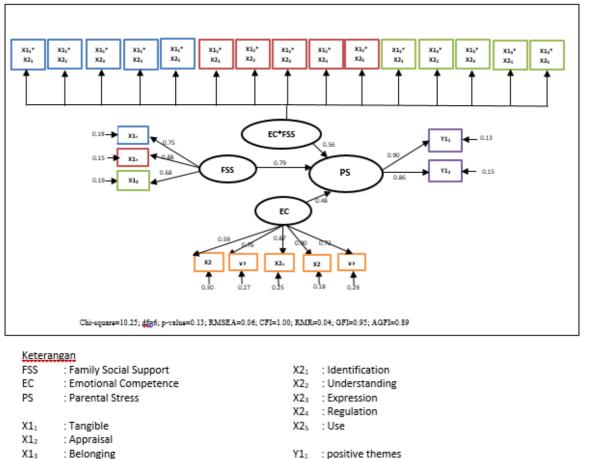
- H<sub>0</sub>: Family social support does not affect the correlation between emotional competence and parental stress
- H<sub>1</sub>: Family social support affects the correlation between emotional competence and parental stress



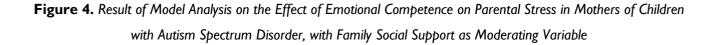
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2

# Model



Y1<sub>2</sub> : negative component



The results of the significance test of the impact between latent variables are presented in table 2 below.

# Table 2

Significance test of SEM Parameters using linear and non-linear analysis.

Relationship	estimated	t-value	P-value	Remarks
Family Social Support – Parental	0.792	6.125	0.000	Significant
Stress				
Emotional Competence – Parental	0.481	2.176	0.001	Significant
Stress				
Emotional competence * Family	0.563	4.926	0.001	Significant
Social Support – Parental Stress				

From the table, the latent-exogenous variable (emotional competence) had a significant effect on the latent-endogenous variable (parental stress), with an at-value greater than 1.96. Likewise, the latent-exogenous variable (family social support) had been observed to directly affect the latent-endogenous variable (parental stress), with an at-value greater than 1.96. Lastly, the moderating variables (emotional competence \* family social support) significantly affected the latent-endogenous variable (parental stress), with an at-value greater than 1.96. This indicates that family social support was a moderating variable, hypothetical accepted.

## Discussion

The analysis of the first structural model (figure 3), that is the significant effect of Emotional Competence and Family Social Support on Parental Stress, resulted in the value of RMSEA = 0.10, CFI = 0.88, RMR = 0.05, GFI = 0.89, AGFI = 0.88. The values are categorized as marginal fit, which means that the model is suitable for the research data. The results of the significance test (table 1) show that each of two exogenous latent variables (emotional competence and family social support) had a significant effect on the endogenous latent variable (parental stress), with an at-value greater than 1.96.



This study concluded that emotional competence affects parental stress in mothers of children with ASD, especially during this pandemic. Emotion is one of the internal aspects of an individual that influences how a person will behave (Denham, Bassett, & Wyatt, 2007). As concluded from the preliminary research results, mothers need good emotional competence in providing care for children with ASD (Siswati & Desiningrum, 2019) since ASD children have unique characteristics of severe emotional regulation difficulties (Desiningrum, 2016). Mothers who cannot manage emotions effectively are prone to depression, anger, and lack of emotional regulation, which can trigger adjustment difficulties, deviant behavior, and domestic violence in the family (Santrock, 2018). It can be concluded that in caring for children with autism, mothers need good emotional competence to manage stress and be patient and considerate of children. A person who has emotional competence in various contexts tends to be able to manage their emotions effectively, be resilient in dealing with stressful situations, and be determined to build positive relationships (Denham et al., 2007).

According to Volling, Kolak, & Kennedy (2009), interactions in the family affect an individual attitude in having interactions with others. It was further explained that the quality of marriage, especially the warm relationship between husband and wife, affects parenting attitudes in mothers. Social support also affects individuals dealing with parental stress and attitudes in parenting (Gleeson, Hsieh, & Cryer-Coupet, 2016; Ono & Honda, 2017).

The moderated structural model (MSEM) (figure 4) was developed to assess family social support as a moderating variable that affects the relationship between emotional competence and parental stress. The result of the analysis shows the values of RMSEA = 0.06, CFI = 1.00, RMR = 0.04, GFI = 0.95, AGFI =0.89. The values are mostly classified as a good fit, meaning that the model fits the research data. The results of the analysis of the parameter significance test with MSEM (table 2) using a combination of variables (emotional competence \* family social support) showed a significant effect on the variable of parental stress, with a t-value greater than 1.96. This indicates that family social support is a moderating variable.



Volling et al. (2009) suggested that the family environment affects individual emotions in social interactions. The presence of family social support strengthens emotional competence in mothers, which might reduce stress levels in mothers of children with ASD. The statement is in line with research (Agbaria & Natur, 2018) which suggests that Social support is one of the moderating variables related to individual aggression attitudes.

In parenting children with ASD, who are sensitive and emotional, mothers should be responsive and patient when dealing with the child (Lambrechts, Van Leeuwen, Boonen, Maes, & Noens, 2011; Russell & McCloskey, 2016; Walter & Smith, 2016). When caring for children with ASD, mothers should be equipped with a personal approach in accordance with their characteristics and the ability to manage emotions to avoid showing negative emotions, which results in poor parenting behavior. Controlling and managing emotions and providing appropriate emotional expressions can have a positive impact on children with ASD, namely stimulating their physical and psychological well-being to optimize child development (Etournaud, 2017; Mann, 2013; Ulofoshio, 2018).

Parental stress has provided a theoretical perspective to consider the impact of the COVID-19 pandemic on the increased risk of child abuse. Managing this stress can be started by considering the family as a holistic unit, not from a parent-centered or child-centered perspective, especially during the pandemic (Xu et al., 2020). The results of this study can strengthen the perspective that family social support is important and needed by mothers in caring for ASD children because the support can improve the function of emotional competence in managing maternal stress when caring for children with ASD.

Families can have the role of a support system in implementing effective measures to protect themselves and their children from Covid-19. Families can use centralized health services to adapt to the pandemic conditions. In many countries, health care providers have provided telehealth or telemental health services via FaceTime, Skype, or other apps, which has increased the availability of healthcare services during the pandemic (Conrad et al., 2020).



Taking care of children with ASD needs much effort, especially when implementing health protocols. Mothers have to maintain attitudes and behaviors with good emotional competence, including understanding children's emotions, expressing appropriate emotions, or managing emotions. The new normal can be implemented at home and in everyday life. Parents can reassess the impact of the pandemic on family life. Complex and increased stress levels during the Covid-19 pandemic can result in bad attitudes in dealing with children (Lawson et al., 2020). Mothers' emotional competence should be maintained and strengthened by family social support so pandemic stress does not turn into parental stress.

This study has several limitations, including the absence of diagnostic data for the type of categorized autism disorder because the types of autism disorder affect mothers' stress levels when raising children with ASD. In addition, the researcher did not use the detailed demographic data of the research subjects, which could also affect the overall research results. Researchers tried to minimize this limitation by maintaining the homogeneity of the data, namely by carefully choosing the characteristics of the subject and the location of data collection. It is recommended for further studies to pay attention to individual demographic factors, especially the age of mothers and children with ASD and the criteria for autism in children.

## Conclusion

This study examines the relationship between emotional competence, family social support, and parental stress in mothers who have children with autism spectrum disorders. Two research models were produced, with the analysis results showing that these models are in accordance with the empirical data. From all significance tests, it is known that the husband's social support is a moderating variable. The implications of this study are empirical evidence regarding the importance of family social support and emotional competence for mothers in caring for children with ASD to avoid parental stress, and these findings can be developed by scientists and practitioners who are interested in studies related to families with ASD, especially in designing appropriate intervention programs.



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