

FAMILY CLIMATE, PERCEPTION, AND ADOLESCENTS' STRESS PRIOR TO AND DURING COVID-19 PANDEMIC

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Abstract

The COVID-19 pandemic has various impacts on life, one of which causes stress in adolescents. This study aims to analyze the influence of family climate and adolescent perceptions of stress levels during the pandemic. This study used a cross-sectional study design. The sampling in this study used a non-probability sampling method with a voluntary sampling technique through the distribution of bold questionnaires. The research sample was 113 junior high and high school students aged 13-18 in the Greater Jakarta area (Jakarta, Bogor, Depok, Tangerang, Bekasi). Based on the study results, the category of almost all teenagers has a family climate in the medium. Almost approaching adolescents, adolescents' perceptions and stress levels during the pandemic are included in the low category. There was no significant difference between adolescents' perceptions before and during the pandemic, while adolescents' stress level was significantly higher than before the pandemic. The study's results showed that family climate was negatively related to adolescent stress levels during the pandemic. On the other hand, adolescent perceptions during the pandemic were significantly positively related to the stress level of adolescents during the pandemic. Factors that significantly negatively affect adolescent stress levels during the pandemic are family size and family climate (on the dimensions of relationships in the family and family violence). Adolescent perceptions during the pandemic have a positive effect on adolescent stress levels during the pandemic.

Keywords: adolescents, COVID-19 pandemic, family climate, perception, stress

IKLIM KELUARGA, PERSEPSI, DAN TINGKAT STRES REMAJA SEBELUM DAN SELAMA PANDEMI COVID-19

Abstrak

Pandemi COVID-19 menimbulkan berbagai dampak dalam kehidupan, salah satunya menyebabkan stres pada remaja. Penelitian ini bertujuan menganalisis pengaruh iklim keluarga dan persepsi remaja terhadap tingkat stres selama pandemi. Penelitian ini menggunakan desain *cross sectional study*. Penarikan contoh dalam penelitian ini menggunakan metode *non-probability sampling* dengan teknik *voluntary sampling* melalui penyebaran kuesioner daring. Sampel penelitian adalah 113 siswa remaja SMP dan SMA usia 13-18 tahun di wilayah Jabodetabek (Jakarta, Bogor, Depok, Tangerang, Bekasi). Berdasarkan hasil penelitian, remaja memiliki iklim keluarga dalam kategori sedang. Persepsi dan tingkat stres remaja selama pandemi termasuk dalam kategori rendah. Tidak terdapat perbedaan yang signifikan antara persepsi remaja sebelum dan selama pandemi, sedangkan pada tingkat stres remaja secara signifikan lebih tinggi selama pandemi daripada sebelum pandemi. Hasil penelitian memperlihatkan bahwa iklim keluarga berhubungan negatif signifikan dengan tingkat stres remaja selama pandemi. Persepsi remaja selama pandemi berhubungan positif signifikan dengan tingkat stres remaja selama pandemi. Faktor-faktor yang berpengaruh negatif signifikan terhadap tingkat stres remaja selama pandemi adalah besar keluarga dan iklim keluarga (pada dimensi hubungan dalam keluarga dan ketiadaan kekerasan dalam keluarga), sedangkan persepsi remaja selama pandemi berpengaruh positif signifikan terhadap tingkat stres remaja selama pandemi.

Kata kunci: iklim keluarga, pandemi COVID-19, persepsi, remaja, stres

INTRODUCTION

The COVID-19 pandemic that has hit the world has caused various impacts on life. First, people are ordered to stay at home, so businesses, offices, and educational institutions are paralyzed (Bharali, 2020). Second, the emergence of the COVID-19 pandemic impacts activities commonly carried out by the community, one of which is learning and teaching activities in schools and working to break the virus's spread. Third, the government recommended physical distancing and large-scale social restrictions (PSBB). This causes students to learn distance, and some workers must work from home (WFH) (Putri, Oktaviani, Utami, Ni'maturrohmah, Addiina, & Nisa, 2020). Finally, the COVID-19 pandemic has taken a heavy toll worldwide and poses a challenge to people's mental health (Gotlib, Borchers, Chahal, Gifuni, Teresi, & Ho, 2021).

The COVID-19 pandemic has kept people at home, one of which is teenagers. During the pandemic, teenagers spend much time at home with family. The family is the closest environment that is directly related to the teenager. The family is the most critical support system available to teenagers. The dynamic relationship of parents with adolescents can play an important role in adolescents' development (Mohanraj & Latha, 2005). The family climate is defined as the quality and quantity of cognitive, emotional, and social support available to the child in the family (Brar, 2017). The family climate can be one of the determining factors of stress for adolescents. During the pandemic, for some families, spending more time together during lockdown can bring family members closer to each other and foster a sense of well-being in the family. In addition, parents and adolescents may also experience stress because they are faced with more daily busyness (Janssen *et al.*, 2020).

The COVID-19 pandemic has also had an impact on teenagers. School closures due to the COVID-19 pandemic have affected 87 percent of students in the world physically, socially, and psychologically (Tang, Xiang, Cheung, & Xiang, 2021). The impact can be related to teenagers' perceptions during the pandemic. Perception is an individual's definition or meaning of a situation (Price, Price, & McKenry, 2009). Perception during a pandemic is a meaning given by individuals during a pandemic and tends to be a negative meaning. The findings of Branquinho *et al.* (2020) show that adolescents feel the impact of the pandemic in the form of loss of contact with friends, lowering interpersonal skills, increased distrust of others, and changing daily routines. However, teenagers have more time to enjoy being with their parents.

Changes due to this pandemic impact adolescent health, one of which is causing stress (Putri *et al.*, 2020). Stress can be interpreted as a state that is felt when the load is not aligned with the ability to cope with the load (Ariyanto, 2016). Stress arises when adolescents face new unpredictable situations, strange situations, and fear of missing something (Roy, Kamath, & Kamath, 2015). Stress during a pandemic is a condition of imbalance in the body, both physical and psychological, that adolescents feel during the pandemic. The stress during the COVID-19 pandemic is academic stress and fear and anxiety about their health and those closest to them, changing sleep patterns or diets, and difficulty concentrating and using drugs or drugs (WHO, 2020). On the other hand, the results of the research of Tang *et al.* (2021) show that children and adolescents consider staying at home more positive and generate less psychological stress and more life satisfaction.

Adolescence is the most challenging period because of changes in oneself, such as biological, cognitive, affective, and social functions (Rais, 2011). The condition of emotional changes makes adolescents always experience storms and stress (turbulent and stressed). Turbulent emotions in adolescents are influenced by several things, including the living environment, family, school, peers, as well as daily activities (Hastuti & Baiti, 2019). At this stage of development, adolescents experience emotional instability and tendencies to be sensitive to matters concerning their person. This can make teenagers vulnerable to stress. However, family interaction and the school environment can minimize adolescent stress levels (Pranadji & Muharrifah, 2010).

Efrizal's findings (2020) show that there are changes in adolescents during the COVID-19 pandemic, including that teenagers find it difficult to see friends because there is no face-to-face learning, must always wear a mask when leaving the house, and must always maintain distance. This condition can stress some teenagers, but some teenagers also feel a positive impact because they can interact longer with their families. During the pandemic, adolescents have a perception that tends to be negative toward the situation due to fear of viral infections, the abundance of sad news during the pandemic, and the disruption of social life so that it can be stressful (Mohler-kuo, Dzemaili, Foster, Werlen, & Walitza, 2021).

The family climate plays an essential role in the family process and can act as a positive moderator related to the impact of stressors on the health and well-being of adolescents and affects adolescent stress levels when carrying out learning activities during the COVID-19 pandemic (Booth & Amato, 2000 in Herke *et al.*, 2020). Studies on the family climate show that poor relationships between parents and adolescents can result in

negative adolescent behavior, such as aggressive behavior, juvenile delinquency, and low self-esteem (Wissink *et al.*, 2006). According to Zusman *et al.* (2020), conflict and family cohesion are essential factors related to stress that provide risks or can serve as a mitigation resource for the psychological impacts caused during the pandemic on adolescents and adults. In the lockdown conditions during the pandemic, some families have poor living conditions, lack of good nutrition, lack of space to study, and lack of access to books and the internet. This is a hurdle for families when trying to overcome the challenges faced during lockdown (Cowie & Myers, 2021). Adolescents who received support from family members and evaluated problems with parents had lower stress levels compared to the group of adolescents who received less support from the family (Belea & Calauz, 2019). Families can play a role in minimizing the effects of stress during the pandemic. Parents must listen to the teenager to express their feelings and fears about the current situation. Parents also need to increase family time to provide a sense of security for teenagers (Al Omari *et al.*, 2020).

Research on the causes of stress levels in adolescents has been done a lot. However, in this study, the pandemic needs to be studied because it makes various life changes so that adolescents give a different assessment of the conditions before the pandemic. Furthermore, this study has the novelty of examining adolescent stress during the pandemic and its effects. Therefore, this study aims to analyze the influence of the family climate and adolescent perceptions on stress levels during the COVID-19 pandemic.

METHODS

This research is a cross-sectional study designed through the dissemination of voluntary online questionnaires. The cross-sectional study design is a research design in the form of collecting information from a population which is only carried out once at a specific time (Sumarwan *et al.*, 2014). The research was conducted in the Jabodetabek area (Jakarta, Bogor, Depok, Tangerang, Bekasi). The research location was chosen because DKI Jakarta and West Java Province are the areas with the highest COVID-19 cases in Indonesia. The sample in this study was 113 adolescents aged 13-18 years. Sampling in this study used a non-probability sampling method with a voluntary sampling technique. The number of adolescents who were respondents to the study was 120 adolescents in the Jabodetabek area. After being eliminated, 113 teenagers met the criteria.

The type of data used in this study is primary data. Primary data was obtained directly through self-reports with the help of questionnaires distributed through social media (Whatsapp, Instagram, and Facebook). Primary data include family characteristics consisting of family size, family status, age of father and mother, education of fathers and mothers, and per capita income of families (before and during the COVID-19 pandemic). The characteristics of adolescents consist of adolescence and gender. In addition, there are variables of family climate, adolescent perceptions before and during the COVID-19 pandemic, and adolescent stress before and during the COVID-19 pandemic.

The family climate instrument uses a modified family environment questionnaire (Novita, Hastuti, & Herawati, 2015). The family climate is the environmental conditions in the family, both in the form of a physical and psychological atmosphere that can affect family members, including teaching and learning, interpersonal relationships, security, and environmental structure. The family environment is grouped into several sub-dimensions, namely family support as many as six statement items, emotional, social learning as many as five statement items, respect in the family as many as three statement items, social support as many as two statement items, relationships in the family as many as three statement items, rules and norms as many as four statement items, feelings of security as many as four statement items, absence of violence in the family as many as four statement items, the physical environment of the house is as many as three items of the statement, as well as the external cooperation of the family as many as two items of statement. The instrument uses a Likert scale, among which 1=very non-conforming, 2=non-conforming, 3=appropriate, 4=very appropriate. The value of Cronbach's Alpha family environment questionnaire was 0,932.

Adolescent perception instruments use a modified questionnaire (Wadood *et al.*, 2020). Adolescent perception is adolescents' assessment, perspective, or opinion regarding the situation experienced. In this study, adolescent perception instruments were grouped into two parts: adolescent perceptions before the COVID-19 pandemic, as many as seven statement items on the Likert scale, including 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree. Furthermore, adolescent perceptions during the COVID-19 pandemic were as many as eight statements on the Likert scale, among which 1=strongly disagreed, 2=disagreed, 3=agreed, 4=strongly agreed, plus one open question. The value of Cronbach's Alpha adolescent perception questionnaire before the COVID-19 pandemic was 0.791, while the value of Cronbach's Alpha adolescent perception questionnaire during the COVID-19 pandemic was 0,674.

The adolescent stress instrument uses a modified Perceived Stress Scale (PSS-10) questionnaire from Cohen and Williamson (1988). Adolescent stress is a condition of physical or psychic imbalance due to the causes of stress. In this study, the adolescent stress instruments were grouped into two parts, namely adolescent stress before the COVID-19 pandemic, as many as ten questions on the Likert scale, among which 0=never, 1=almost ever, 2=sometimes, 3=quite often, 4=very often. Furthermore, adolescent stress during the COVID-19 pandemic was as many as ten on the Likert scale, among them 0=never, 1=almost ever, 2=sometimes, 3=quite often, 4=very often. The value of Cronbach's Alpha adolescent stress questionnaire before the COVID-19 pandemic was 0,911, while the value of Cronbach's Alpha adolescent stress questionnaire during the COVID-19 pandemic was 0,937.

Data processing is carried out through the stages of data collection, cleaning 'data cleaning,' editing 'data editing,' and analyzing 'data analysis. Reliability and validity tests are carried out first before the questionnaire's distribution to determine the questionnaire's quality. Furthermore, the index scores obtained are categorized into three low cut-off points (<60), medium (60-79,9), and high (≥ 80).

The data is processed using Microsoft Excel 2019 and SPSS 22 for Windows. Descriptive analysis was used to identify the number, percentage, average, standard deviation, minimum and maximum values in the family climate, adolescent perceptions before and during the COVID-19 pandemic, and adolescent stress levels before and during the COVID-19 pandemic. Paired t-test to analyze differences in per capita income of families before and during the pandemic, adolescent perceptions before and during the COVID-19 pandemic, and adolescent stress levels before and during the COVID-19 pandemic.

Pearson's correlation test analyzes the relationship between family climate, adolescent perceptions during the COVID-19 pandemic, and adolescent stress levels during the COVID-19 pandemic. Multiple linear regression tests were used to analyze the influence of family climate and adolescent perceptions during the COVID-19 pandemic on adolescent stress levels during the COVID-19 pandemic.

RESULTS

Characteristics of Adolescents and Families

The characteristics of adolescents studied in this study include age and gender. The study involved 113 adolescents comprising 47,8 percent of adolescent boys and 52,2 percent of adolescent girls in the range of 13 years to 18 years. As many as 16 percent of adolescents are in the early teen stage, and 84 percent are intermediate adolescents with an average age of 16,60. Furthermore, regarding family characteristics, a large part of the respondents (89,4%) belonged to the family group with complete parents, while the rest (10,6%) belonged to single-parent families. The average age of the father is 48,43 years and the average age of the mother is 43,72 years which is included in the middle adult group. Almost half of the fathers (46,9%) have an equivalent length of high school education, and mothers have a length of education up to high school equivalent (40,7%). Finally, the research showed that the average per capita income before the pandemic was IDR1.011.585,28, while during the pandemic, the average per capita income was IDR800.123,25.

Family Climate

Table 1 shows that almost half of adolescents (46%) have a family climate in the moderate category, with an average score of 74,28. The highest average score was on the family's respect dimension, 79,55. The dimensions of the absence of violence in the family and the home's physical environment are still in the low category, with average values of 60,99 and 61,75, respectively.

Table 1 Distribution of respondents based on index values and average values of family climate

Variable	Category						Min-Max	Average \pm SD
	Low		Medium		High			
	n	%	n	%	n	%		
Family climate	18	15,9	52	46,0	43	38,1	34-100	74,28 \pm 14,560
Learning support	11	9,7	49	43,4	53	46,9	28-100	78,22 \pm 16,046
Socio-emotional learning	19	16,8	38	33,6	56	49,6	20-100	74,69 \pm 20,259
Respect in the family	15	13,3	42	37,2	56	49,6	0-100	79,55 \pm 20,870
Social support	24	21,2	36	31,9	53	46,9	0-100	73,60 \pm 24,370

Table 1 Distribution of respondents based on index values and average values of family climate (continue)

Variable	Category						Min-Max	Average±SD
	Low		Medium		High			
	n	%	n	%	n	%		
Relationships in the family	25	22,1	32	28,3	56	49,6	22-100	78,47±21,274
Rules and norms	21	18,6	28	24,8	64	56,6	25-100	79,42±21,451
Feeling of security	30	26,5	27	23,9	56	49,6	17-100	76,11±21,261
Absence of violence in the family	49	43,4	19	16,8	45	39,8	0-100	60,99±34,490
The physical environment of the house	56	49,6	32	28,3	25	22,1	0-100	61,75±24,842
Family external cooperation	13	11,5	30	26,5	70	61,9	0-100	79,35±20,687

Note: n = number of samples, SD = standard deviation

Adolescent Perception and Stress

Based on Table 2, the most significant percentage of adolescents (39,8%) who had negative perceptions during the COVID-19 pandemic was in a low category, with an average of 66,11. Meanwhile, 46,9 percent of adolescents had low-stress levels during the COVID-19 pandemic, averaging 52,53.

Table 2 Distribution of respondents based on index values and average values of adolescent perceptions and stress during the COVID-19 pandemic

Variable	Category						Min-Max	Average±SD
	Low		Medium		High			
	n	%	n	%	n	%		
Perceptions of adolescents during the COVID-19 pandemic	45	39,8	40	35,4	28	24,8	13-100	66,11±18,555
Teen stress during the COVID-19 pandemic	53	46,9	30	26,5	30	26,5	3-100	61,17±24,577

Note: n = number of samples, SD = standard deviation

Based on Table 3, paired t-test on adolescent stress before and during the pandemic showed that Sig. (2-tailed) The stress level variable is worth 0,000, meaning there is a significant difference between adolescent stress before and during the pandemic. In addition, the average value of the stress level before the pandemic increased to 61,17. This shows that during the pandemic, adolescents have a higher level of stress than before the pandemic.

Table 3 Different paired *t-test* adolescent perceptions before and during the COVID-19 pandemic

Variable	Average	Sig.
Teen stress before the COVID-19 pandemic	52,35	0,000**
Teen stress during the COVID-19 pandemic	61,17	

Note: *significant at $p < 0.05$ or **very significant at $p < 0.01$

Relationship between Family Characteristics, Adolescent Characteristics, Family Climate, Adolescent Perceptions with Adolescent Stress Levels during the COVID-19 Pandemic

Based on the results of Pearson's correlation test between family climate and adolescent perceptions during the pandemic and adolescent stress levels during the pandemic. The learning support dimension is negatively related to adolescent stress levels during the COVID-19 pandemic ($r = -0,203$; $p < 0,05$), meaning that the higher the learning support, the lower the adolescent stress level during the pandemic. The social learning dimension of emotions is significantly negatively related to adolescent stress levels during the COVID-19

pandemic ($r=-0,195$; $p<0,05$), meaning that the higher the social-emotional learning, the lower the stress level of adolescents during the pandemic. The relationship dimension in the family is very significantly related to adolescent stress levels during the COVID-19 pandemic ($r=-0,267$; $p<0,01$), that is, the higher the relationship in the family, the lower the stress level of adolescents during the pandemic. The dimension of the absence of violence in the family is significantly negatively related to adolescent stress during the COVID-19 pandemic ($r=-0,207$; $p<0,05$), meaning that the more absent the violence in the family, the lower the stress level of adolescents during the pandemic. Furthermore, adolescent perception during the COVID-19 pandemic is significantly positively related to adolescent stress levels during the COVID-19 pandemic ($r=0,209$; $p<0,05$), meaning that the higher the adolescent's negative perception of COVID-19, the higher the adolescent stress level during the pandemic (Table 4).

Table 4 Correlation coefficients between family characteristics and adolescent characteristics, with adolescent perception and stress during the COVID-19 pandemic

Variable	Correlation Coefficient
	Teenage Stress
Family Climate	
Learning support	-0,203*
Socio-emotional learning	-0,195*
Respect	-0,099
Social support	-0,091
Relationships in the family	-0,267**
Rules and norms	-0,120
Feeling of security	-0,180
Absence of violence in the family	-0,207*
The physical environment of the house	-0,092
Family external cooperation	-0,128
Perceptions during the pandemic	0,209*

Note: *significant at $p<0,05$ or **significant at $p<0,01$

Influence of Family Characteristics, Adolescent Characteristics, Family Climate, and Adolescent Perceptions of Adolescent Stress during the COVID-19 Pandemic

This study uses multiple linear regression tests and has met classical assumption tests. Based on Table 5, it can be seen that the family size ($\beta = -0,283$) has a significant negative effect on the stress level of adolescents during the pandemic. This means that each addition of one family member will reduce adolescent stress during the pandemic by -4,924. The dimension of relationships in the family ($\beta = -0,326$) negatively affects very significantly the stress level of adolescents during the pandemic. This means that each increase in one unit of relationship points in the family will reduce the stress level of adolescents during the pandemic by -0,377. The dimension of the absence of violence in the family ($\beta = -0,337$) negatively affects the stress levels of adolescents during the pandemic. This means that each increase in one unit point of absence of violence in the family will reduce the stress level of adolescents during the pandemic by -0,240. Finally, adolescent perception during the pandemic ($\beta = 0,305$) significantly positively affected adolescent stress levels. This means that each increase in one unit point of the negative perception of adolescents will increase the stress level of adolescents during the pandemic by 0,404. The *Adjusted R Square* value in this study was 0,201, which means that 20,1 percent of adolescent stress levels during the pandemic were affected by the variables studied. Meanwhile, 79,9 percent of adolescent stress levels during the pandemic were influenced by other variables outside of the variables studied.

Table 5 Results of multiple linear regression tests of family characteristics, adolescent characteristics, family climate, and adolescent perceptions during the pandemic of adolescent stress during the COVID-19 pandemic

Variable	Non-Standardized coefficient		Standardization	Sig.
	B	Standards Error	Coefficient β	
Constant	129,186	40,482		0,002
Age (years)	-0,163	2,140	-0,007	0,939

Table 5 Results of multiple linear regression tests of family characteristics, adolescent characteristics, family climate, and adolescent perceptions during the pandemic of adolescent stress during the COVID-19 pandemic (continue)

Variable	Non-Standardized coefficient		Standardization	Sig.
	B	Standards Error	Coefficient β	
Gender (man, woman)	7,445	4,603	0,152	0,109
Large family (small, medium, large)	-4,924	1,663	-0,283	0,004**
Family status (complete, single)	-2,560	7,599	-0,032	0,737
Father's education (years)	0,357	2,652	0,015	0,893
Maternal education (years)	-3,112	2,644	-0,131	0,242
Father's age (years)	-0,153	0,315	-0,050	0,629
Mother's age (years)	-0,168	0,337	-0,049	0,619
Per capita income during the pandemic (rupiah)	5,418 X 10 ⁻⁷	0,000	0,048	0,636
Family climate				
Learning support	-0,406	0,226	-0,265	0,076
Social learning of emotions	-0,171	0,172	-0,141	0,323
Respect	0,268	0,177	0,228	0,133
Social support	0,205	0,148	0,203	0,168
Relationships in the family	-0,377	0,163	-0,326	0,023*
Rules and norms	0,125	0,138	0,109	0,368
Feeling of security	-0,041	0,161	-0,036	0,798
Absence of violence in the family	-0,240	0,066	-0,337	0,000*
The physical environment of the house	0,097	0,104	0,098	0,353
Family external cooperation	-0,175	0,152	-0,147	0,253
Perceptions of adolescents during the pandemic	0,404	0,137	0,305	0,004**
F			2,529	
Sig.			0,001**	
R ²			0,343	
Adjusted R Square			0,201	

Note: *significant at $p < 0,05$; **significant at $p < 0,01$

DISCUSSION

Adolescence is a period of anxiety, worry, and full of conflict. The rapid changes that occur can cause problems for adolescents. Circumstances like this can be stressful for adolescents (Swain, 2016). Adolescence is a transition period from childhood to adulthood as a process of self-learning intelligence, stress, and personality formation (Agungnugraha, 2020).

According to the theory of ecosystems, the ecological environment is a topology understood as a nested array of central structures (Bronfenbrenner, 1979). These structures are called micro, meso, exo, and macro. A microenvironment is a place that can easily engage in in-person interactions, such as family interactions at home, daycare centers, and playgrounds. The influence of the microenvironment will be considered on the child because this environment is very close to the child (Hastuti, 2015). Based on the study's results, the most significant percentage of adolescents have a family climate that is in the moderate category. The average family climate score in this study conducted in the Jabodetabek area was higher than that of Novita *et al.* (2015) conducted in rural areas. Therefore, it can be seen that the family climate in the Jabodetabek area, which tends to be urban, is higher than that of rural areas. That is, it can be said that the family is already capable enough to build a good family climate for teenagers.

The results showed that the most significant percentage of adolescents had a negative perception during the COVID-19 pandemic, which was in the low category. This is in line with the findings of Commodari and La Rosa (2020), who examined adolescents in Italy and explained that adolescents have a low perception of risk during the pandemic. These results suggest that adolescents think COVID-19 has no potential to cause severe disease. The results of a survey conducted by UNICEF (2020) explained that despite facing great difficulties during the COVID-19 pandemic, many adolescents had found different ways to deal with the pandemic. Teenagers do productive activities, care about themselves, and divert themselves not thinking about the pandemic. This shows that adolescents have strategies to adapt during the COVID-19 pandemic, so the negative perceptions they have during the pandemic tend to be reduced.

The results showed that the most significant percentage of adolescents had stress levels that were in the low category during the COVID-19 pandemic. This is due to changes in adolescents during the COVID-19 pandemic, including teenagers finding it difficult to meet friends because there is no face-to-face learning, must always wear a mask when leaving the house, cannot gather with friends, and must always maintain distance. This condition can stress some teenagers, but some adolescents also feel a positive impact because they can interact longer with family (Efrizal, 2020).

Different paired t-tests on adolescent stress levels before and during the pandemic showed a significant difference between adolescent stress levels before and during the COVID-19 pandemic. There has been an increase in the average value of adolescent stress levels before and during the COVID-19 pandemic. Adolescents' concern for conditions can cause adolescent stress during a pandemic during pandemic compared to normal conditions. Teenagers and parents who experienced a significant increase in stress had lower baseline stress levels than teenagers and parents who did not experience an increase in stress during the lockdown. This suggests that the group that did not experience increased stress during the pandemic had better coping mechanisms than those with lower initial stress (Glanz *et al.* 2008 in Paschke *et al.* 2021). This is supported by the findings of Prasetyo *et al.* (2021), which explain that during the COVID-19 pandemic, adolescents showed high anxiety, depression, and stress levels compared to normal conditions.

Family climate variables, among them the learning support dimension, have a significant negative relationship with adolescent stress levels during the COVID-19 pandemic. This is in line with the results of a study by Belea and Calauz (2019), which explained that adolescents who received support from family members evaluated problems with parents, making adolescents have lower stress levels compared to the group of adolescents who received less support from the family. The social learning dimension of emotions significantly negatively impacts adolescent stress levels during the COVID-19 pandemic. Adolescents who have emotional maturity can do good stress management in the face of stressors, making adjustments when stressors appear (Ahsan & Ilmy, 2018). The family's relationship dimension has a significant negative relationship with adolescent stress levels during the COVID-19 pandemic. Family relationships are essential to buffer negativity (Ellis, Dumas, & Forbes, 2020). The dimension of the absence of violence in the family has a significant negative relationship with adolescent stress levels during the COVID-19 pandemic. The absence of violence in the family can reduce adolescent stress levels so that it can reduce feelings of worry and bring out feelings of security in adolescents.

Adolescent perceptions positively correlate with adolescent stress levels during the COVID-19 pandemic. Negative perceptions of adolescents during the COVID-19 pandemic can cause pressure on adolescents. Aslan *et al.* (2020) findings show that negative perceptions of the impact of COVID-19 are significant predictors of the stress felt in adolescents. Perceived stress is positively related to the negative perception of the impact of COVID-19 on student well-being in education, economics, and its relationship with others.

Based on the results of multiple linear regression tests, adolescent stress levels during the COVID-19 pandemic are significantly affected by family size, the dimension of relationships in the family, the absence of violence in the family, and adolescent perceptions during the pandemic. An increasing number of family members can lower adolescent stress levels. This is because, during the pandemic, family members work together and support each other so that teenagers have many support systems that can reduce stress. The relationship between parents and close adolescents makes adolescents less easily stressed when stressors come their way because the family plays a role in the problems adolescents face (Ellis *et al.*, 2020). Finally, violence in the family can have an impact on adolescents. The significant impacts of exposure to family violence are depression, anxiety, and stress (LeBlanc, 2002; Rais, 2011). Relating to the negative perceptions of adolescents during the COVID-19 pandemic, Guessoum *et al.* (2020) study explain that lockdowns and concerns related to COVID-19 are factors causing stress. Some teens reported feeling worried, stressed, lonely, and unhappy with life during lockdown (Girlguiding, 2020).

This research has limitations, including voluntary sampling techniques, which can only be concluded for examples in the study. The study data collection was carried out online, so researchers have limitations in

ascertaining adolescent perceptions and the stress level felt by adolescents. Stress measurement instruments describe stress only psychologically, not physically. In addition, this study did not measure the effect of school climate on adolescent stress because some adolescents are still doing online learning, so they have not felt the school climate directly.

CONCLUSIONS AND SUGGESTIONS

Based on the study results, adolescents have a family climate that is in the moderate category. Adolescents' perception and stress levels during the pandemic belong to the low category. There was no significant difference between adolescent perceptions before and during the pandemic, whereas, at stress levels, adolescents had higher levels of stress during the pandemic than before the pandemic. The family climate is negatively related to adolescent stress levels during the pandemic. Adolescent perceptions during the pandemic have a significant positive relationship with adolescent stress levels during the pandemic. Factors that significantly negatively influence adolescent stress levels during the pandemic are family size and family climate (on the dimension of relationships in the family and the absence of violence in the family). In contrast, adolescent perceptions during the pandemic have a positive effect on adolescent stress levels during the pandemic.

The pandemic is a situation that teenagers must face, although some teenagers have negative perceptions during the pandemic. Parents must accept pandemic conditions so adolescents can create positive emotions to reduce stress. Parents must create an environment conducive to adolescents, especially during the pandemic, such as preventing violence in the family, increasing learning support, emotional and social learning, respect in the family, social support, relationships in the family, feelings of security, and the physical environment of the home. During the pandemic, teenagers can adjust to the situation that is happening. Assessments that tend to be negative must be appropriately managed so as not to cause stress. Schools can provide online counseling to adolescents during learning at home so that the adolescent's mental state is maintained and the teenager is not easily stressed. In addition, counseling can also be given to parents, such as family climate management, to create a conducive learning environment at home.

Policymakers can create family programs and programs for teens to reduce stress. In addition, this research is also expected to contribute to scientific development in the family and child development field. In the following study, it is hoped can examine the factors that cause stress in adolescents, such as the influence of the school environment, to expand research on the causes of adolescent stress other than the family environment.

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