



Original Article

## Family Characteristics Correlated with the Risk of Behavioral, Psychosocial, and Emotional Developmental Disorders in Adolescents

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### ABSTRACT

**Introduction:** Data shows that one fifth of children in the world suffer from mental and behavioral disorders and the majority of them are teenagers aged 10-19 years. Family characteristics are related to adolescent mental emotional, where research on this is still controversial.

**Aims:** To analyze the correlation between family characteristics and the risk of behavioral, psychosocial, and emotional disorders in adolescents.

**Methods:** Analytical observational research with a cross sectional research design. The study sample was 600 teenage students at SMPN 8 Surabaya aged 12-17 years who met the inclusion criteria selected using simple sampling. Descriptive analysis was performed to determine behavioral, psychosocial, emotional profiles of adolescents, and family characteristics. The relationship between family characteristics and the risk of behavioral, psychosocial and emotional developmental disorders in adolescents using chi-square. Multivariate analysis was done to assess the Odds Ratio.

**Results:** Of the 600 students, it was found that 179 (29.8%) teenagers were at risk of behavioral, psychosocial, and emotional disorders using the Pediatric Symptom Checklist-17 instrument. There is a significant relationship ( $p$ -value  $<0.05$ ) between gender ( $p < 0.01$ ; OR 2.256), parents' marital status ( $p < 0.03$ , OR: 1.756), family harmony ( $p < 0.001$ ; OR 3.378), closeness to parents ( $p < 0.001$ ; OR 3.876), factors such as parental education, parental employment, and parental income were not significantly related to the risk of adolescent behavioral, psychosocial and emotional disorders.

**Conclusion:** Family characteristics correlated with the risk of behavioral, psychosocial and emotional disorders in adolescents.

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## GRAPHICAL ABSTRACT



### Introduction

Adolescent is a group of children aged 10-19 years and young people aged 15-24 years. Regulation of the Minister of Health of the Republic of Indonesia explains that what is meant by adolescent is the age group 10-18 years. The World Health Organization (WHO) data states that around 20% or one-fifth of children in the world suffer from mental and behavioral disorders and the majority of them are adolescents aged 10-19 years. Family characteristics, including parents' marital status, family harmony, and closeness to parents have an important relationship in the growth and development of adolescents. The adolescent who is raised in a family social environment that is not good or family disharmony, the risk of the child experiencing personality disorders, and becoming an antisocial personality as well as deviant behavior is greater compared to children who are raised in a harmonious or healthy family [1-6]. Data regarding adolescents, regarding behavioral, psychosocial, and emotional developmental disorders in adolescents is still very limited. Some literature states that adolescence is the most difficult period in relation to oneself, family and the environment. Therefore, there is a great opportunity for detrimental risky behavior. Adolescents who have problems in behavioral, mental, emotional and psychosocial development, internalization, externalization, and attention behavior disorders can potentially reduce their quality of life,

academics can tend to have economic, productivity, legal, and social problems as adults [6].

Observational and cross-sectional research was conducted on 600 adolescents to find the relationship between family characteristics and the risk of behavioral, psychosocial, and emotional disorders.

### Materials and Methods

This study used a non-experimental quantitative, observational, and analytic with a cross-sectional research design from 2022 until 2023. Direct data collection used a questionnaire distributed to 600 students of State Junior High School 8 Surabaya, Indonesia. Research subjects carried out biodata, self-family characteristics, PSC-17 questionnaires. The study inclusion criteria were teenagers aged 12-17 years, had permission from their teacher/guardian, willing to take part in the research, and filled out the questionnaire well and honestly. Meanwhile, the exclusion criteria are if the research subject is not cooperative in the research, and is physically and mentally unhealthy. The independent variable in this study is family characteristics; the dependent variable in this study is the risk of behavioral, psychosocial, and emotional disorders in adolescents aged 12-17 years. Descriptive analysis to determine the characteristics of adolescents and parents.

Analysis was done to determine the relationship between family characteristics and the risk of behavioral, psychosocial, and emotional development disorders in adolescents using chi-square relationship analysis. Multivariate analysis is used to determine the Odds Ratio value.

## Results and Discussion

### Adolescent and family characteristics

The study was attended by 600 teenage students who met the inclusion criteria. Table 1 presents the characteristics of adolescents and their families. There were 241 (40.2%) adolescents in grade 7, 181 (30.2%) in grade 8, and 178 (29.7%)

in grade 9. There were 342 (57.0%) boys and 258 (43.0%) girls. From family characteristics, it was found that father's education was low in 193 (32.2%) adolescents and high school education or above in 407 (67.8%) adolescents. Maternal education was low in 236 (39.3%) and high maternal education in 364 (60.7%) adolescents. Most fathers worked at 580 (96.7%) and did not work at 20 (3.3%). Most mothers did not work in 392 (65.3%) and mothers worked in 208 (34.7%) adolescents.

The highest monthly parental income was less than two million rupiah for 311 (51.8%) adolescents and those with a total parental income of more than two million rupiah per month were 289 (48.2%).

**Table 1:** Adolescents and family characteristics

Adolescent and Family Characteristics	n	%
Grade	241	40.2
Grade 7	181	30.2
Grade 8	178	29.7
Grade 9		
Sex	258	43.0
Female	342	57.0
Male		
Father Education	193	32.2
Low	407	67.8
High		
Mother Education	236	39.3
Low	364	60.7
High		
Father Occupation	580	96.7
Have Occupation	20	3.3
No Occupation		
Mother Occupation	208	34.7
Have Occupation	392	65.3
No Occupation		
Parents monthly income	311	51.8
< 2 million rupiah/month	289	48.2
> 2 million rupiah/month		
Parents Marital Status	519	86.5
Married	81	13.5
Divorced/on Process		
Family Harmony	528	88.0
Harmonious	72	12.0
Not Harmonious		
Relationship with parents	551	91.8
Close Relationship	49	8.2
Not Close		

Adolescents whose parents were still married were 519 (86.5%) and whose parents were in the process of divorce or had already divorced were 81 (13.5%) adolescents. In the aspect of family harmony, it was found that there were 528 (88.0%) adolescents who had harmonious families, while there were 72 (12.0%) adolescents who had disharmonious families. In terms of relationships with parents, 551 (91.8%) adolescents stated that they were close to their parents and 49 (8.2%) adolescents were not close to their parents.

#### *Characteristics-risk of behavioral, psychosocial, and emotional disorders*

The risk of behavioral, psychosocial, and emotional disorders in adolescents, namely SMPN 8 Surabaya students, was evaluated using a screening instrument, namely the Pediatric Symptom Checklist-17 (PSC-17).

The PSC-17 screening instrument consists of an assessment of the internalization subscale, externalization subscale and attention subscale. Meanwhile, the conclusion about the risk of adolescents behavioral, psychosocial, and emotional disorders is expressed as the sum of all existing subscales. [Table 2](#) explains that 179 (29.8%) adolescents are at risk of behavioral,

psychosocial, and emotional disorders, while 421 (70.2%) are normal. Based on the behavior subscale, it was found that 245 (40.8%) adolescents were at risk of internalizing behavior disorders, 120 (20.0%) adolescents were at risk of externalizing behavior disorders, and 35 (5.8%) adolescents were at risk of attention behavior disorders.

#### *Risk factors and the relationship between family characteristics and the risk of behavioral, psychosocial and emotional disorders in adolescents*

In this study, an analysis of risk factors and the relationship between family characteristics and the risk of behavioral, psychosocial, and emotional disorders in adolescents was carried out, as summarized in [Table 3](#).

There was a significant relationship ( $p$  value  $<0.05$ ) between gender ( $p < 0.01$ ; OR 2.256), parents' marital status ( $p < 0.03$ , OR: 1.756), family harmony ( $p < 0.001$ ; OR 3.378), and closeness to parents ( $p < 0.001$ ; OR 3.876). The factors of parental education, parental occupation, and parental income were not significantly related to the risk of adolescent behavioral, psychosocial and emotional disorders.

**Table 2:** Characteristics-risk of behavioral, psychosocial, and emotional risk disorders

Risk of Behavioral, Psychosocial, and Emotional Disorders (PSC-17)	n	%
Internalizing Subscale		
1. Score < 5: Normal	355	59.2
2. Score $\geq$ 5: Risk of Disorder	245	40.8
Externalizing Subscale		
1. Score < 7: Normal	480	80.0
2. Score $\geq$ 7: Risk of Disorder	120	20.0
Attention Subscale		
1. Score < 7: Normal	565	94.2
2. Score $\geq$ 7: Risk of Disorder	35	5.8
Internalizing + Externalizing + Attention (Total Score PSC-17)		
Total Score PSC-17 < 15 : Normal	421	70.2
Total Score PSC-17 $\geq$ 15: Risk of Behavioral, Psychosocial, and Emotional Disorders	179	29.8

**Table 3:** Analysis of risk factors and the relationship between family characteristics and the risk of behavioral, psychosocial and emotional disorders in adolescents

	Risk of Behavioral. Psychosocial and Emotional Disorders	<i>p-value</i>	<i>Odds Ratio</i> (95% CI)			
	Normal (n=421)	Risk of Disorder (n=179)				
			n	%		
Grade					0.111	
Grade 7	171	40.6	70	39.1		
Grade 8	135	32.1	46	25.7		
Grade 9	115	27.3	63	35.2		
Sex*					<0.001*	
Female	205	48.7	53	29.6		2.256 (1.553-3.278)
Male	216	51.3	126	70.4		
Father Education					0.266	
Low	159	37.8	77	43.0		0.804 (0.563-1.147)
High	262	62.2	102	57.0		
Mother Education					0.454	
Low	131	31.1	62	34.6		0.852 (0.588-1.235)
High	290	68.9	117	65.4		
Mother Occupation					0.113	
Have occupation	137	32.5	71	39.7		0.734 (0.511-1.054)
No occupation	284	67.5	108	60.3		
Father Occupation					0.817	
Have occupation	406	96.4	174	97.2		0.778 (0.278-2.173)
No occupation	15	3.6	5	2.8		
Parents Monthly Income					0.097	
< 2 million rupiah/month	228	54.2	83	46.4		1.366 (0.962-1.941)
≥ 2 million rupiah/month	193	45.8	96	53.6		
Parents marital status*					0.030*	
Married	373	88.6	146	81.6		1.756 (1.084-2.846)
Divorced/On Process	48	11.4	33	18.4		
Family Harmony*					<0.001*	
Harmonious	390	92.6	138	77.1		3.738 (2.255-6.195)

Not Harmonious	31	7.4	41	22.9		
Close Relationship with Parents*					<0.001*	
Close	401	95.2	150	83.8		3.876 (2.128 - 7.062)
Not Close	20	4.8	29	16.2		

\*p-value <0.05 : significant

Adolescence is a developmental period accompanied by neurobiological, cognitive, physiological, psychosocial and environmental changes. During adolescence, they experience more stressors than in previous developments and are more reactive to stressors, both emotional and psychological. Circumstances that cause stress are called stress triggers or stressors and cause changes in the body's system, the body's response is called the stress response. Several conditions are said to trigger stress in the body and disrupt body homeostasis, including mental and emotional and behavioral health problems [7-10].

Behavioral disorders can be categorized into internalizing behavioral disorders (eg depression, anxiety, fear, lack of self-confidence, etc.), externalizing disorders (e.g., conduct disorder, aggressiveness, violence, disobeying rules, disobedience, substance abuse, etc.), and attention behavioral disorders. The behavioral, mental, emotional, and psychosocial problems that occur are interpreted as negative stimuli (stress) that influence the response to HPA axis activity [9-11].

In this study, there was a fairly high incidence of risk of behavioral, psychosocial, and emotional disorders in adolescents, namely 179 (29.8%) adolescents. There was a significant relationship between gender, parents' marital status, family harmony, and close relationship with parents. This is in accordance with another research which shows that increased negative emotions and the development of internalizing symptoms are more common in girls. Women are at greater risk of behavioral-psychosocial-emotional disorders than men. Women are more at risk of experiencing behavioral, psychosocial, and emotional disorders, especially internalization,

compared to men who are more dominant in externalization and attention. Women are more likely to show somatic complaints and symptoms of anxiety and depression [12-15].

Family and relationships with peers are environments that influence the development of adolescent behavior. Parents are responsible for instilling values, norms, and behavior in their children. Family characteristics such as parents' marital status, family harmony, and closeness to parents/family have a significant relationship with the risk of behavioral, psychosocial, and emotional disorders in the adolescent subjects of this research. This is in accordance with the results of Ayling Sanjaya's research in 2023 and is in line with Kehusmaa in his research which concluded that problems in social relationships with peers and family in childhood and adolescence are associated with behavioral disorders in young adulthood. Relationships with family and time spent with family can mitigate the effects of problems in peer relationships. Parental attention and support is very important for the development of adolescent mental health. Other literature states that there is a link between interactions, reactions and family support in adolescents with internalization and externalization problems in adolescents [13,16-18].

Internalization behavior is a behavioral problem that is directed at oneself and is excessively controlled, thus affecting a person's psychological state, for example social withdrawal, somatic complaints, loneliness, anxiety, and depression. This internalization behavior problem is hidden, so adolescents who experience it often do not receive attention and are not detected. This early detection can be achieved through close

relationships with parents/family as the closest environment [19, 20].

An important factor that needs to be considered regarding externalizing, internalizing and attentional behavior in adolescents is parental involvement. In this study, it was found that 551 (91.8%) adolescents stated that they had a close relationship with their parents and 49 (8.2%) adolescents were not close to their parents. Involvement and closeness with parents is an integral part of children's behavior and psychosocial well-being. The quality of relationships with parents is associated with positive psychological adjustment, happiness, and less risk of antisocial behavior. Parental attention and support is very important for the development of adolescent mental health. There is a connection between interactions, reactions and family support in adolescents with internalization and externalization problems in adolescents [17, 18-20].

Family harmony is a variable that is associated with the risk of adolescent behavioral-psychosocial-emotional disorders. This is in accordance with research conducted by Sillekens which concluded that growing up in a messy, disharmonious, and broken home has the consequence of experiencing externalizing behavior problems. In this study, there were 528 (88.0%) adolescents who had harmonious families, while there were 72 (12.0%) adolescents who had disharmonious families. Adolescents whose parents were still married were 519 (86.5%) and whose parents were in the process of divorce or had already divorced were 81 (13.5%) adolescents. Adolescents with disharmonious families are less able to communicate their emotions and thoughts effectively. Lack of family support, leading to anxiety and depression. A disharmonious family causes adolescents to lack communication skills, often feel blamed, and tend to experience loneliness and develop internalizing and attentional behavior. A different opinion from Wang claimed that adolescents with disharmonious families apparently do not experience behavioral problems and anxiety because of good social support and problem-solving skills. Studies by Wang found that parents

who are not in harmony can still reduce feelings of loneliness, provide affection, accompany their children's activities, pay attention and fulfill their needs to prevent anxiety [21-25].

Mental and behavioral health is one of the causes of death among adolescents globally. Wise analysis and decisions regarding treatment methods are needed to better understand the dynamics and underlying multicellular causes. Handling adolescent behavioral problems requires multidisciplinary scientific involvement, including pediatricians, child and adolescent growth and development consultants, mental health doctors, obstetricians, medical rehabilitation doctors, nutritionists, nurses, psychologists, social workers, crisis intervention teams, legal experts, team drug abuse, etc. Services for teenagers are promotive, preventive, curative, rehabilitative and counseling by guaranteeing privacy, comfort, a sense of security and comprehensive services (Medise, 2017; Freebairn et al., 2022). Social support is something that is very supportive in handling behavioral disorders in adolescents. Based on the literature, the main social support that is important in adolescence is from parents or family and peers. Optimal and quality relationships between teenagers and their parents and/or friends can be a barrier and protective factor against stress, having good coping mechanisms. On the other hand, adolescents who are anti-social and do not have close relationships with parents and friends will increase risky behavior which will result in further consequences [26-30]. Limitations of the study were potential biases or constraints in the research design. Students may need full assistance in filling out the questionnaire thereby minimizing misperceptions and filling methods. In the context of the limitations of this study, it is important to acknowledge that sample bias arises because the research is confined to a specific location, namely State Junior High School 8 in Surabaya, Indonesia. This may constrain the generalization of findings to a broader population, concerning that the characteristics of students in this school may not necessarily reflect those of adolescents in other regions or educational institutions.

Furthermore, the reliance on self-responses from adolescents in data collection introduces the potential for response bias, where participants might provide socially desirable answers or responses that do not entirely reflect their actual experiences.

### Conclusion

Family characteristics correlated with the risk of behavioral, psychosocial, and emotional disorders in adolescents.

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### Disclosure Statement

No potential conflict of interest was reported by the authors.

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The Research Ethics Committee (KPEK) officially approved this study at the Faculty of Medicine, Airlangga University Surabaya No.204/EC/KEPK/FKUA/2022 on November 2022.

### Authors' Contributions

All authors contributed to data analysis, drafting, and revising of the paper and agreed to be responsible for all the aspects of this work.

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