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Development of a self-efficacy model in junior and senior high school students based on religiosity and family determinants: a cross sectional approach

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Abstract:

Objectives: Self-efficacy is the belief a person has regarding his success in completing a task. A high level of self-efficacy can affect one's thoughts and motivation to complete tasks well. Conversely, someone with low self-efficacy has a tendency to avoid difficult tasks. Self-efficacy can play a role in success in the future. This study aimed to develop a self-efficacy model for junior and senior high school students based on religious and family determinants.

Method: This study used a cross-sectional design and simple sampling technique. The calculation result involved 158 samples. The independent variables were religious and family determinants. The dependent variable was self-efficacy. The data were collected using a questionnaire that was tested for validity and reliability. The analysis used a multiple linear regression test with a significance level of $\alpha \leq 0.05$.

Results: The results showed self-efficacy was effectively determined by religion, communication, bonding and parenting factors. Overall, religion had the greatest role in influencing self-efficacy. Bonding and communication had an indirect effect on self-efficacy through parenting factors mediators.

Conclusion: Parenting factors influence self-efficacy indirectly through bonding and communication; however, parenting factors cannot be ignored. Religion was the biggest determinant of self-efficacy and capital of good self-control and strong conviction in completing tasks and achieving goals.

Keywords: adolescents, family determinants, religiosity, self-efficacy model

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Introduction

The transition period is a difficult time for adolescents because they are required to be able to adapt to change from childhood to adulthood; it is a time of accepting responsibility. In connection with this, adolescents need adequate stimulation from the beginning of their lives so as not to cause problems in the future. An important effort during this time is preventive effort, as an intervention through health education. Preventive interventions related to health education can help individuals, especially adolescents, to control their lives and begin self-regulated change processes and for them to be guided by a sense of resilience and personal efficacy [1]. The following discusses self-efficacy specifically as an indicator for adolescents to control their lives and make changes in achieving their goals.

Self-efficacy is the perception of one's abilities, including abilities and beliefs that involve an individual's understanding of a task. Self-efficacy is also interpreted as a person's beliefs related to success in completing specific tasks [2]. Furthermore, it was explained that a high level of self-efficacy can affect one's mind, motivation, mood and physical health. Conversely, someone with low self-efficacy tends to avoid difficult tasks. They will focus on their doubts and not be able to think about how to be a successful person. They give up easily in the face of difficulties and easily become victims of depression. Conversely, someone with high self-efficacy will consider a difficult task as a challenge and something which must be mastered [1], [2], [3]. Health education

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is related to developing competencies or increasing self-efficacy in four aspects: (1) increased self-awareness related to health and illness; (2) increasing understanding of potential stressors, objectives and alternative coping responses; (3) increased understanding of the supporting sources needed; and (4) improvement of individual or group abilities, in coping skills, such as problem solving, communication skills, tolerance to stress and frustration, motivation, hope, stress management and self-esteem [1]. Parents need to facilitate the development of their children, from intimacy in the family to complex social systems where children must learn to function [4].

Bronfenbrenner's Bio-ecological Systems Theory [5] is a part of a microsystem that has direct contact with children and shapes children's behaviour [6]. Factors in the family that play a role in development and are thought to be able to be treated through health education to improve the self-efficacy of adolescents are communication and relations patterns, parenting and bonding. Open communication and relations or interactions between family members are important factors in the family and are seen as one of the characteristics that show that the family is functioning well [1]. Parenting (parental nurturance or parenting) is a pattern that describes the interaction between children and parents, and which includes fulfilment of physical needs, psychological needs and socialisation of prevailing norms in the community so that children can live in harmony with their environment. Childcare consists of four styles that combine parental authority with parenting, namely (a) authoritative (high authority and high upbringing); (b) authoritarian (high authority and low care); (c) permissive (low authority and high upbringing); and (d) indifferent or negligent (low authority and low care) [7].

Other factors that play a role in child development are religious factors. Planting religious values early in the family is important and can affect children's religious development in the future. Inconsistency and lack of strong support in carrying out worship according to religion will potentially cause conflict in adolescents. In structural equation modelling (SEM), a variable can be an exogenous variable or independent variable and a result variable called an endogenous variable or dependent variable in a chain of causal hypotheses [8]. The conceptual model is composed of four enablers and one result criteria. The result criteria in this study are the achievement of high self-efficacy in adolescents and there are several related factors, namely individual factors in the form of religion and environmental factors in the form of communication and relations, parenting and bonding. In accordance with the theory of individual adolescent variables are risk factors Indicators of individual factors that influence children's development are religious factors. It has been explained that these religious factors are important and there is no doubt that they are factors that influence a child's development [9], [10]. An ecological variable considered to be an influence is family ecology [11]. The variables in family ecology measured in this study are communication and family relations [12], [13], [14], parenting and bonding [15]. Based on these, it is necessary to develop a self-efficacy model built on religious and family factors. The aim of the study was to develop a self-efficacy model for middle school and high school students based on religious and family factors.

Methods

Design

This type of study was a cross-sectional approach, where all data were both predictor variables (independent variables) and effects (dependent variables) taken at the same time. Data collection was carried out from November to December 2018.

Population and sample

The population consisted of adolescents from junior and senior high schools, both public and private, aged 12–19 years, in the city of Malang, East Java, Indonesia. The number of samples was based on 15 schools, consisting of eight junior high schools and seven high schools taken randomly and representing all sectors and types of schools. The number of samples of adolescents used was 158 students taken by simple random sampling.

Procedure

After being given ethical clearance, the study was given a research permit from the National Unity Agency and Community Protection, the Education Office and the schools according to the results of the sample mapping. After been given the permit, data collection was carried out, which began with providing study explanation and clearance from students as respondents, and parents or teachers as guardian.

Instrument

Data collection was done using a questionnaire. The subjects were asked to assess themselves (self-assessment) and their situation within the family. The subjects gave approval by circling number 1 (strongly disagree), 2 (disagree), 3 (agree) or 4 (strongly agree) regarding the measured variables, namely self-efficacy, religion, communication and relations, parenting and bonding. For self-efficacy, what was measured were the perceptions and beliefs of the subjects regarding their ability to complete tasks and the difficulties given. Subjects were also asked for approval of their abilities in planning and the ability to achieve goals in stages. For communication and relations patterns, parenting and bonding patterns, subjects were asked to conduct an assessment of their family situation that described the communication patterns and relations between their father and mother to them, their father's and mother's parenting and the bond felt by the subjects.

Previously, the instrument was tested first to determine its validity and reliability. Validity testing is done to test the accuracy and accuracy in measuring what is required to be measured. The validity test was done using the Pearson product moment test. Reliability testing is done to test reliability, trust and consistency if used repeatedly. Instrument reliability test was carried out using a Cronbach's α [16]. The validity and reliability test of the research instrument was carried out on 40 respondents using an r table = 0.312. The results of the reliability test for the self-efficacy instrument are Cronbach's α = 0.570 with r = 0.471. The religion instrument has a Cronbach's α = 0.746 with r = 0.559; family communication and relations results in a Cronbach's α = 0.798 with r = 0.606, parenting instruments has a Cronbach's α = 0.845 with r = 0.713 and the bonding instrument has a Cronbach's α = 0.8242. with the value r = 0.764.

Data analysis

The analyses were carried out in three ways, namely: the descriptive method was conducted to determine the frequency distribution of each variable after the data were converted into category data. Second, inferential analysis with linear regression was used to test the effect of one variable on the other variables. Third, analysis of SEM was used to conduct trajectory analysis and develop self-efficacy models based on family religion and determinants [17].

Ethical consideration

The Ethics Commission of Health Research (KEPK) study of the Faculty of Public Health, Airlangga University Surabaya approved the study: number 534/EA/KEPK/2018.

Results

The following describes the results of the descriptive analysis of each variable, the results of the linear regression analysis and the results of the SEM self-efficacy analysis. In considering these results, the level of self-efficacy was categorised into two parts, namely low self-efficacy and high self-efficacy, as shown in Table 1. Table 1 shows that the majority of adolescent self-efficacy levels in Malang are in the high category.

Table 1: Level of self-efficacy and religious in adolescents.

Characteristic	Frequency	Percentage (%)
Level of self-efficacy		
Low	47	29.7
High	111	70.3
Total	158	100.0
Level of religion		
Lack	41	26.0
Enough	92	58.2
Good	25	15.8
Total	158	100.0

The level of religion in this exposure was categorised into three parts, namely the level of religion was lacking, sufficient and good, as seen in Table 1. According to Table 1, it was found that the level of religious adolescents in Malang in most categories was between quite religious and religious (74%).

Family determination

Exposure to the results of family factor analysis included parenting, bonding and communication, divided into three levels for each variable, namely less, good and very good. The results of the analysis were related to factors or determinants of this family as seen in Table 3.

According to Table 2, it was found that the majority of parenting styles for children were in the good and very good category (70.9%). Bonding was mostly in the good and very good category (69.6%) and most of the communication patterns of parent relations to children were in the good and very good categories (74.1%). Furthermore, inferential analysis was carried out with linear regression and model analysis using SEM to develop a self-efficacy model based on family religion and determinants, as seen in Table 3.

Table 2: Category of parenting, bonding and communication – relationship between parent and child.

Variable	Category (%)			
	Less	Well	Very good	Total
PA	46 (29.1%)	79 (50.0%)	33 (20.9%)	158 (100%)
BDG	48 (30.4%)	73 (46.2%)	37 (23.4%)	158 (100%)
KR	41 (25.9%)	88 (55.7%)	29 (18.4%)	158 (100%)

BDG, bonding; KR, communication; PA, parenting.

Table 3: Effect of family factors on youth self-efficacy.

Variable	Estimation (R ²)	SE	CR.	Pv
BDG → PA	0.401	0.075	5.364	0.000
KR → PA	0.745	0.109	6.804	0.000
Religion → SE	0.245	0.043	5.761	0.000
PA → SE	0.021	0.021	1.008	0.313

BDG, bonding; KR, communication; PA, parenting; SE, self-efficacy.

Linear regression model effect of family factors on self-efficacy

Based on the results of the analysis, it was found that bonding had a significant effect on the parenting of children with p-value = 0.001 and alpha (α) = 0.05. Communication also has a significant effect on the parenting of children with p-value = 0.0001 and alpha (α) = 0.05. Religion significantly influences self-efficacy with p-value = 0.0001 and alpha (α) = 0.05. Childcare patterns did not significantly influence self-efficacy with p-value = 0.313 and alpha (α) = 0.05. The results of the analysis are seen in Table 3.

Analysis of a self-efficacy structural model based on family determinants

Figure 1 shows that the coefficient value between one variable to another variable was standardised from 0 to 1. This means that the model can be used to compare the role of exogenous variables to endogenous ones. Based on Figure 1, it can be seen that direct religious effects on self-efficacy, 0.43 (43%), were greater than the effect of parenting on self-efficacy, which was equal to 0.08 (8%). Bonding and communication indirectly influenced self-efficacy through parenting mediators. The large indirect effects can be seen in Table 4.

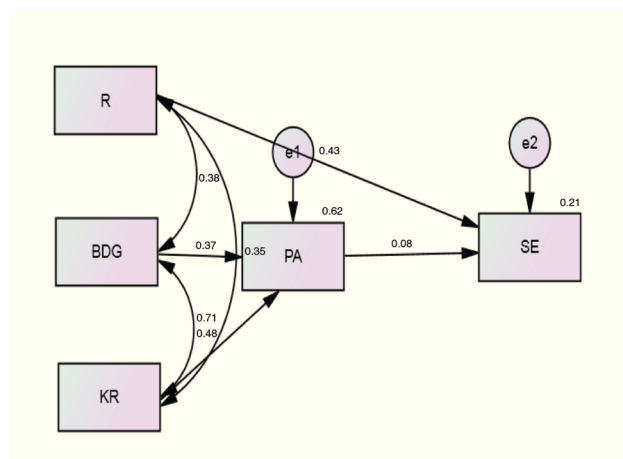


Figure 1: Self-efficacy structural model based on family determination.

Table 4: Standardisation of indirect bonding effects and relationships to self-efficacy through mediator parenting.

Variable	KR	BDG	R	PA
PA	0.000	0.000	0.000	0.000
SE	0.036	0.028	0.000	0.000

BDG, bonding; KR, communication; PA, parenting; SE, self-efficacy.

From Table 4 it can be seen that bonding had an indirect effect on self-efficacy of 2.8% and relationship communication had an indirect effect on self-efficacy of 3.6%. This means that parenting cannot directly influence self-efficacy without going through bonding and relationship communication. Overall, the variable that had the greatest role influence on self-efficacy was religion (43%). Based on the analysis of multiple correlations of the variables religious and family determinants of self-efficacy, it was found that 21% of self-efficacy was effectively determined by religious, communication, bonding and parenting factors, such as seen in Table 5 (Squared Multiple Correlations Model).

Table 5: Squared multiple correlations model.

Variable	Estimate (R^2)
PA	0.620
SE	0.210

PA, parenting; SE, self-efficacy.

Discussion

Based on the results of the analysis, it is found that the majority of teenagers in Malang City have high self-efficacy. This is very good for teenagers because they have high confidence in their abilities so that they can produce good levels of performance and this can affect their lives. High self-efficacy can make teenagers think, motivate themselves and behave specifically in achieving goals [2]. This opinion is made clear by other experts, that high self-efficacy is important because individuals will tend to try harder to complete a task [2], [18]. Conversely, if someone has low self-efficacy, they will tend to avoid assignments and submit heavy tasks to others. Because of the importance of self-efficacy, intervention is needed to improve it. Effective self-efficacy interventions can help improve adolescent coping so that they are more adaptive and have a fighting spirit to compete [18].

Based on the description, it can be concluded that the majority of adolescents are teenagers who have the opportunity to succeed and become a superior generation in the future. High self-efficacy has the opportunity for adolescents to improve self-motivation and make good plans. This is in accordance with the findings of

Tangkeallo et al. [19] that self-efficacy correlates significantly with motivation, the ability to prepare planning and evaluation for final year students. From a different perspective, the results show that motivation, competence, intention, discipline and responsibility are factors that influence self-efficacy [20]. Another study found that the higher the self-efficacy beliefs possessed by students, the higher the achievement motivation possessed by these students, and vice versa [21].

Religious variables are measured based on adolescent beliefs towards God, belief in religion and routine and obedience to worship. Based on the results of the analysis, it is found that the level of religious adolescents in Malang City is mostly in the enough category of religiosity (74%). These results become capital for adolescents to have good self-control and strong beliefs in completing tasks and achieving their goals. Individuals with good religiosity will sincerely accept what happens to them, while individuals with less religiosity tend to not be able to accept what happens to them. It is further explained that the level of religiosity will harmonise life with the rules of religion, so that individuals will obey and think positively that everything that has been set by God must be done [22].

Regarding family determinant factors, it is found that most parenting styles to children are in the good and very good categories, as well as for bonding and communication patterns of parents' relations to children. The family is a support system that is important for adolescent development. A pattern of good support will produce good development for adolescents. This is consistent with the opinion of Sanchhya and Susilawati [23] that adolescent development is related to families in every aspect. The family is the first social environment for adolescents to develop, so that adolescents need family support to be able to develop self-esteem. This opinion is made clear by other researchers, that the first educator for children is the child's parents. Parents are the first teachers to provide education to children, which is delivered through parenting to their children [24].

In connection with this, family support through parenting, bonding and good communication is needed by young people to produce optimal development. Authoritarian families do not benefit the development of adolescents. This is in accordance with Rohmatun's [24] opinion that parents with authoritarian parenting will produce children who are less optimally developed. This happens because children do not have the opportunity to give opinions or express ideas and thoughts. Authoritarianism will also cause children's initiative to be lost so that they become pessimistic and have an attitude of not caring about their surroundings. This opinion is in line with other researchers that parental authority and bonding will have an impact on adolescent functional abilities [7]. The results of inferential analysis found that religion significantly influences self-efficacy. A person who has good or positive religious values and orientation will have confidence that he is capable and will succeed in his assignment because he/she is sure that God will help him/her. This is in accordance with the opinion of Thaha and Rustan [22] which explains that one's attitude is very closely related to religiosity. Religious orientation is an individual's perspective on his religion and how that individual uses his religion or beliefs in daily life [22].

For the family determinant factor, it is found that bonding and relationship communication significantly influence parenting, which then plays a role in determining self-efficacy. Directly, the child's parenting does not significantly influence self-efficacy without the role of bonding and relationship communication. These results are in accordance with the opinion of Ainsworth [25] that all forms of interaction between parents and infants or children will be an experience for children and will develop as a relationship of stickiness that can affect self-efficacy, self-confidence and self-esteem, all of which are important for academic success. This is also in line with other experts who say that bonding will have an impact on the functional abilities of adolescents [7].

Based on the results of the SEM, it is found that direct religious and parenting effects affect self-efficacy. Bonding and communication indirectly influence self-efficacy through parenting mediators. The results of the multiple correlations analysis show that the overall role of the largest variable that has an effective effect on self-efficacy is religion, then communication, bonding and parenting are determined. Relating to religion, this result is, in the opinion of Thaha and Rustan [22], that religious orientation is capital for adolescents to exercise self-control and provide strong beliefs in completing tasks and achieving their goals. For family determinants, this result is not in accordance with Rohmatun's opinion [24], which states that parents with authoritarian parenting will produce children who are less developed optimally. Self-efficacy is influenced by bonding and relationship communication by using parenting as a mediator. Religious and family factors are not the main determinants of self-efficacy; there are still other factors that need to be examined related to variables that play a role in determining self-efficacy, among others, education variables, school environment and the relationship of children to teachers and peers.

High adolescence self-efficacy will contribute to adolescent problem solving skills. Self-efficacy is related to the people's beliefs on their capabilities for controlling their performances and events that affect their lives. This result of the study can be used school to use the religious approach in adolescents and make policies related to parental participation in improving adolescent self-efficacy. The role of parents is to improve by bonding and communication and family relations with adolescents.

Overall, the idea that religiosity and parenting influence adolescent self-efficacy, also bonding and communication between parents and adolescents can increase adolescent self-efficacy through parenting mediators. This shows the magnitude of the role of parenting parents in influencing adolescent self-efficacy. Further research is needed on the relationships and comparisons through processes such as whether religion can influence adolescent self-efficacy. Previous research shows that for some people, religion will be very important while some consider it unimportant [26]. There are several other studies that examine the spiritual in adolescents, which do not depend on worship activities alone [27]. Thus, future research should look at youth spirituality in adolescents so that it can also be applied to non-religious adolescents.

Conclusion

The biggest variable that influences self-efficacy in our study population is religiosity. However, the parenting variable cannot be neglected to affect efficacy. Bonding and communication have an indirect effect on self-efficacy. This means that parenting affects self-efficacy through bonding and relationship communication support. Thus, it can be concluded that self-efficacy is effectively determined by religious, communication, bonding and parenting factors.

Conflict of Interest: We declare no conflict of interest.

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