

Aggressive Scale Measurement Model: A Psychometric Research And Implications For Class VII Middle School Students

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Abstract: The purpose of this study is to examine the aggressiveness scale measurement model, to test the construct validity and constructively scale of aggressiveness, and to find the forms that form the construct scale of aggressiveness. Aggressiveness is measured in four forms, namely physical aggression, verbal aggression, anger and hostility. The data collection method uses an aggressiveness scale. The subjects in this study were 90 students of class IX in SMK X and SMK Y. This study was analysed using the Smart PLS 3.2.0 program with reflective constructs through the 2nd order CFA. Based on the results of the analysis of the construct validity and the construct reliability, the forms and indicators that make up the aggressiveness are declared valid and reliable. This shows that all existing forms and indicators are able to reflect aggressiveness. The most dominant form of aggression that can reflect aggressiveness is physical aggression and the lowest reflects aggression is anger. Thus the model can be accepted because the theory that describes aggressiveness is in accordance with empirical data obtained.

Keyword: Aggressiveness, Anger, Hostility, Partial Least Square, Physical Aggression, Verbal Aggression.

1. INTRODUCTION

Teenagers are stages of development that occur between childhood and adulthood [1]. Adolescence is a period of developmental transition between childhood and adulthood which generally starts at the age of 12 or 13 years and ends in the late teens or early twenties [2]. At the age of adolescence the curiosity of the outside world is very large, then adolescents must be more selective in relationships, because if one of the association then the teenager will fall into bad relationships. Bad associations are included in aggressive behaviour according to Masykouri [3]. The factors causing the emergence of aggressiveness according to Ormord, Anderman and Anderman [4] include environment, media and cognitive factors. Besides the factors causing the emergence of aggressiveness according to Anantasari [5], namely psychological factors, social factors, environmental factors, biological factors and genetic factors. The impact that results from aggressiveness can occur to the perpetrators and victims themselves. According to Sarwono [6] and Breakwell [7] the impact that occurs on victims of aggressiveness is depression, physical disability, injury and death. Depression that occurs in victims because victims feel setbacks, dissatisfaction and despair. Physical disability if it occurs in victims of aggressiveness will last a lifetime and is difficult to cure. Injuries suffered by the victim will not last a lifetime, but only certain parts that experience it and can also be cured. Then the most extreme impact experienced by the victim is death if they experience torture or directly killed by the perpetrators who have high aggressive behaviour using tools or no tools at all.

While the impact that occurs on the aggressors themselves and the environment according to Hawadi [8] is that the aggressors will be ostracized or shunned by their friends and he will also have a bad self-concept. He too will have the image of a bad boy, so he will feel less safe and happy. In addition to himself Hawadi [8] explains the impact arising for

the environment, will feel fear and create unhealthy social relationships with peers. Furthermore, the offender will disturb the peace of the environment because he usually has a tendency to damage something around him. There are several theories that underlie thought aggressiveness, namely the theory of instinct from Sigmund Freud, the survival theory from Charles Darwin, and the theory of social learning from Miller and Dollard, which was further developed by Bandura. Darwin with his survival theory said that historically, this behaviour was considered to be an action for the needs of survival in order to maintain and develop humanity or to build and develop community [9]. Freud [10] explains that aggressive behaviour is intrinsic and is a pressing instinct in humans. Whereas social learning theory proposed by Miller and Dollard [11] believes that aggressiveness is obtained from learning since childhood and is used as a response pattern. Subsequent developments in aggressiveness according to [12],[13] developed the ideas put forward by Miller and Dollard about learning by imitation. They suggest that everyone learns a lot of behaviour through imitation, even without reinforcement. Everyone can imitate some of the behaviours through observing the model they see, and the consequences they cause. Experiments conducted by Bandura and Walters [13] indicate that children can have aggressive behaviour just by observing the aggressive behaviour of the model they see. Aggressiveness is behaviour that aims to hurt, threaten or endanger both physically and verbally and either directly or indirectly to other people or objects that are the target of behaviour [14]. Berkowitz [15] can be said that forms of behaviour that have the intention to hurt both physically or psychologically. Meanwhile, according to Bushman and Anderson [16] said that aggressiveness is a behaviour that can and aims to harm also directly endanger others, and the perpetrators believe that the target will have the motivation to avoid the behaviour that will occur. Nelson [17] argues that the concept of aggressiveness can be defined as open behaviour or signalling behaviour that will occur with the capacity to cause physical harm to other individuals. There is also the opinion that aggressiveness is a series of negative actions that arise because when children interact with their environment [18]. Bandura, Ross, and Ross [19] discuss aggression in which he assumes that there are environmental features that

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encourage the acquisition of aggressive behavioural responses, and their performance and maintenance. Aggressive behaviour can be learned by watching other people behave aggressively, and by imitating that person's behaviour. Thus, behaviour that is done directly or indirectly both physically and verbally which aims to hurt and harm others is called aggressiveness. This aggressiveness research has been carried out by several figures, including aggressiveness research conducted by Harris [20] to see the validity and reliability of the measuring instrument based on the forms of aggressiveness similar to the scale carried out in this study. The forms of aggressiveness that are used based on the theory of Buss and Perry [14] are physical aggression, verbal aggression, anger and hostility. With the results obtained validity of 0.85 for physical aggression, 0.72 for verbal aggression, 0.77 for hostility and 0.83 for anger. Meanwhile, according to Buss and Perry [14] the results obtained are validity of 0.85 for physical aggression, 0.72 for verbal aggression, 0.77 hostility and 0.83 for anger. While the results of Harris research [20] get a total value of the Cronbach's alpha scale of 0.88. The similarity of this research lies only in the forms of aggressiveness expressed by Buss and Perry [14], with differences in the form of location and research subjects. So from the differences that have been mentioned will show the results of contractions of different possible validity, therefore this researcher knows the quality of the scale that has been made. In addition, the forms of aggressiveness proposed by Buss and Durkee [21] are assault, indirect aggression, irritability, negativity, resentment, suspicion and verbal aggression. According to Buss and Perry [14] forms of aggressiveness namely, physical aggression, verbal aggression, anger and hostility. Meanwhile, according to Yudofsky, Silver, Jackson, Endicott, and Williams [22], the forms of aggression consist of two, namely physical aggression, carried out to injure people or damage property through physical actions in the form of hitting, pushing, stepping, pinching, pulling, slapping, biting, and stabbing, and verbal aggression is done to verbally injure someone, in the form of insulting, cursing, or cursing, angry, refusing to speak or silence, slandering, mocking, threatening through words, shouting, scaring and calling in a call rude. Of the several forms of aggressiveness, Halperin, McKay and Jeffrey [23], have combined them to create their own forms of aggressiveness, forms of verbal aggression items, aggression against objects and animals, physical provocation that is provoked to start physical aggression, and use of weapons . With the results of the validity obtained from these results amounted to 0.45, these results have an invalid meaning because they do not meet the minimum requirements of > 0.5 . While the total value of the Cronbach's alpha scale is 0.93. There are many differences in this study, including forms of aggressiveness, research subjects and research locations. From these differences will show the results of the contracted validity expressed will be different. Buss and Perry [14] conducted research on students, while in this aggressiveness study it was shown in junior high school students, where the scale used refers to the aggressiveness scale according to Buss and Perry. The forms of aggressiveness possessed were physical aggression, verbal aggression, anger and hostility. Physical aggression is an action carried out intentionally or unintentionally aimed at hurting, disturbing or endangering others through motoric responses in physical form, such as hitting, kicking, and others. Verbal aggression acts intentionally

or unintentionally aim to hurt, disturb or endanger others through vocal responses in the verbal form. Anger is a negative emotion that arises because of a mismatch of expectations with the expected expectations and expressions that come out can hurt himself or others. Forms of anger in the form of feelings of anger, annoyance, also includes arability, which is about temperamental, tendency to be quick to anger and difficulty controlling anger. Then finally the hostility in the form of actions in expressing hatred, antagonism, and others. Hostility is also representative of the cognitive component, including hatred, jealousy and obscenity, as well as distrust and concern. Conceptual framework based on the four forms of aggressiveness consisting of physical aggression, verbal aggression, anger and hostility. It can be seen in Figure 1 presented below.

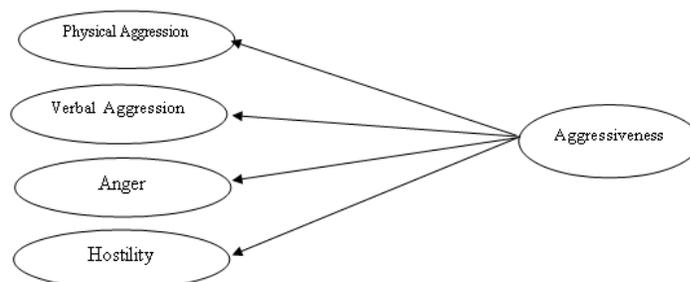


Figure 1: Conceptual framework of employability

Based on Figure 1 that has been presented above, the following research hypothesis was prepared:

H: The forms of aggressiveness that is, physical aggression, verbal aggression, anger and hostility can form the construct of aggressiveness.

Based on the explanation above, several problem formulations can be formulated that will be explained, including 1) Is the construct of aggressiveness valid and reliable? 2) Is the form of physical aggression, verbal aggression, anger and hostility able to form the construct or variable of aggressiveness? One approach that can be used in testing the construct of a measuring instrument is Confirmatory Factor Analysis. Confirmatory Factor Analysis (CFA) is a major approach in factor analysis. CFA can be used to test the dimensionality of a construct. This test is used to perform model measurements so that it can describe the dimensions and indicators of behaviour in reflecting latent variables, namely aggressiveness by looking at the loading factors of each aspect that form a construct. CFA can also be used to test the validity and reliability of the constructs of latent construct indicators [24]. The CFA used in this study is the second order confirmatory factor analysis (2nd Order CFA) is a measurement model that consists of two levels. The first level of analysis is carried out from the latent construct of the dimension to the indicators and its second analysis is carried out from the latent construct to the dimension construct [24]. Based on the description that has been explained before, this study aims to test the measurement model of aggressiveness scale, to test the construct validity and construct reliability of the aggressiveness scale, and to find the forms that form the construct scale of the aggressiveness.

2 RESEARCH METHOD

2.1 Participant

The research subjects used in this study amounted to 90 students of class IX with two different schools, namely SMPN 9 Yogyakarta as many as 65 students and SMPN 1 Bojonegara, Cianjur as many as 25 students. With the same character, namely, students in class IX male and female sexes, as well as schools with the status of public schools.

2.2 Research Instrument

The instrument used to measure the aggressiveness in this study was the scale of aggressiveness that was constructed by the researcher himself based on the forms of aggressiveness from Buss and Perry [14], namely physical aggression, verbal aggression, anger and hostility. With the number of items or statements given as many as 32 statements. Some examples of aggressiveness items in the form of physical aggression are "I will not encourage others even for any reason", and "when hurt, I will hit that person". In the form of verbal aggression that is "I am a person who can keep verbal so as not to hurt someone else's day", and "I will revile him, when arguing with someone I don't like". In the form of anger that is "I will feel resentful when meeting people I do not like", and "my anger is easily controlled". Then in the form of hostility that is "I have never been jealous of what my friends have", and "I do not easily hate others". The measurement scale used is a Likert scale with four categories, namely the answers and questions are very inappropriate given a score of 1, not suitable given a score of 2, according to a given score of 3 and very appropriate given a score of 4. This scale has two forms of statements namely favourable and unfavourable. Number 1 or STS is the lowest value that reflects the lowest weight given by the respondent to an item or statement and number 4 or SS is the highest value that reflects the highest weight given by the respondent to an item or statement. The indicators that reflect each of these forms are as follows:

TABLE 1.
BLUEPRINT FOR AGGRESSIVE SCALE

Forms	Indicator	Item		Amount
		U	F	
Physical Aggression	Hit	28	21	8
	Pulling	22	2	
	Pinch	15	8	
Verbal Aggression	Encourage	13	29	8
	Scolding	20, 9	23	
	Insulting	1	31, 14	
Anger	Threats	3	27	8
	Upset	30	19	
	Angry Feelings	24, 18	4, 32	
Hostility	Annoyed	26	12	8
	Hate it	5	25	
	Jealous or Envy	16	10	
	Suspicious	11, 7	6, 17	
Jumlah		16	16	32

2.3 Validity and Reliability

Test the validity and reliability of measuring instruments using the outer model test with the Smart PLS 3.0 program with reflective constructs. Confirmatory is the nature of the construct validity test for expressing quality, obtained from the measuring instruments used in accordance with the theoretical

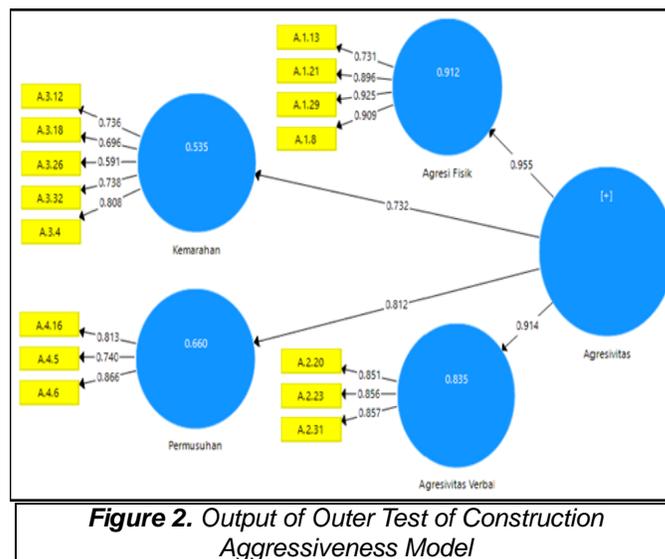
references used. How to see loading factor > 0.5 of discriminant validity is done by construct validity test, the average variance extracted value (AVE) > 0.5 and discriminant validity to compare the root variance of average variance extracted (AVE) Correlation between constructs must be higher compared to between forms. Then next to show the internal consistency of the measuring instrument used the reliability test, how to see the value of composite reliability and Cronbach's alpha according to Cooper that must be > 0.7 [25].

2.4 Data Analysis

Analysis of the data used in this study uses the SmartPLS 3.2.8 program through the CFA 2nd order. PLS is a variance-based structural equation analysis (SEM) that can simultaneously test measurement models to test the construct validity and reliability [26].

3 RESULT

The results of the outer aggressiveness construct model that has been done with Smart PLS 3.2.8, then get the picture in the form:



3.1 Convergent Validity

Based on the test of convergent validity on the outer model, it was found that the value of factor loading from variables to dimensions has a value > 0.5 shown in table 2.

TABLE 2.
VALUE LOADING FACTOR (VARIABLE-FORM)

Form	The Loading Factor Value	Information
AF	0.955	Valid
AV	0.914	Valid
K	0.732	Valid
P	0.812	Valid

Based on the test of convergent validity on the outer model, it was found that the factor loading value from the dimensions to the indicators has a value > 0.5, which is shown in table 3.

TABLE 3.
VALUE LOADING FACTOR (FORM-INDICATOR)

Item	The Loading Factor Value	Information
A.1.13	0.731	Valid
A.1.21	0.896	Valid

A.1.29	0.925	Valid
A.1.8	0.909	Valid
A.2.20	0.851	Valid
A.2.23	0.856	Valid
A.2.31	0.857	Valid
A.3.12	0.736	Valid
A.3.18	0.696	Valid
A.3.26	0.591	Valid
A.3.32	0.738	Valid
A.3.4	0.808	Valid
A.4.16	0.813	Valid
A.4.5	0.740	Valid
A.4.6	0.866	Valid

Based on the convergent validity test values show the average variance extracted or AVE in the quality of work life construct of 0.523 with the average variance extracted or AVE value in each dimension can be seen in the table 4.

Table 4.

AVERAGE VARIANCE EXTRACTED (AVE) VALUE OF CONSTRUCTION AGGRESSIVENESS

Form	AVE Value	Information
AF	0.755	Valid
AV	0.731	Valid
K	0.515	Valid
P	0.653	Valid

3.2 Discriminant Validity

Based on the discriminant validity test values, the root results of the Average Variance Extracted or AVE in each dimension are higher than the average variance extracted root or AVE in other dimensions, so that the discriminant validity criteria are met. Average Variance Extracted Root Value (AVE) construct of quality of work life can be seen in the table 5.

TABLE 5.

ROOT VALUES AVERAGE VARIANCE EXTRACTED (AVE) CONSTRUCTION AGGRESSIVENESS

Form	AF	AV	K	P
AF	0.869	0.813	0.664	0.770
AV	0.813	0.855	0.632	0.664
K	0.664	0.632	0.717	0.639
P	0.770	0.664	0.639	0.808

The construct validity in SEM (Confirmatory Factor Analysis or CFA) shows that the four indicators are valid with a loading factor value (λ) ≥ 0.5

3.3. Construction Reliability Test

Based on the results of the construct reliability test that has been done, the Composite Reliability and Cronbach's Alpha values > 0.7 can be obtained so that the items used in this study are reliable.

TABLE 6.

THE VALUE OF COMPOSITE RELIABILITY AND CRONBACH'S ALPHA CONSTRUCTIVE AGGRESSIVENESS

Variable	Composite Reliability	Cronbach's Alpha	Information
Aggressiveness	0.940	0.927	Reliable

The results of construct reliability testing using Confirmatory Factor Analysis 2nd Order in Table 6 above show that constructs have good reliability and give meaning that the dimensions that measure constructs or latent variable aggressiveness meet unidimensional criteria [27]. This is

indicated by the value of Composite Reliability 0.940 and Cronbach's Alpha 0.927. Test the validity and reliability of these constructs produce valid and reliable items that are able to reflect the forms of aggressiveness, namely items in numbers 28, 22, 15, 2, 29, 20, 9, 1, 3, 31, 14, 30, 24, 27, 19, 25, 16, 10, 11, 7, 17 while the items that are not able to reflect the forms of aggressiveness are items in numbers 13, 21, 29, 8, 20, 23, 31, 12, 18, 26, 32, 4, 16, 5 and 6. Based on the analysis of research data through the outer model above on the construct of aggressiveness using Confirmatory Factor Analysis 2nd Order, the results show that the model is acceptable, because all forms of aggressiveness are able to reflect the construct of aggressiveness formed.

4 DISCUSSION

The validity of the construct and the reliability of the construct get the results of data analysis of all forms and items that make up the aggressiveness of grade VII junior high school students so that they can be said to be valid and reliable, then all of these forms and indicators can reflect and shape aggressiveness. The most dominant form that can reflect aggressiveness is physical aggression where the main indicators are grabbing, hitting, pitching and pushing. Physical aggression has 4 items left over, including "I will pinch it when people I don't like are near me" and "when there are people who scold me, I will push it to the ground". Considering that this research proved that the form of physical aggression has the highest loading factor value (0.955) as constructor or variable of aggressiveness than the other three forms, namely forms of verbal aggression with a loading factor of 0.914; hostility with loading factor of 0.812; and anger with a loading factor of 0.732. The forms and indicators that have the lowest results are anger, which are the main indicators of anger, anger and resentment. Anger has 5 items left over, including "when I am advised, I feel anger" and "I easily feel angry about trivial matters". This is consistent with the results of previous studies conducted by McKay, Perry and Harvey [28] who have the same forms of aggressiveness, namely physical aggression, verbal aggression, anger and hostility, but the results of the validity and reliability tests are lower than the research conducted with a reliability value of 0.90 while in this study the reliability value of 0.940. In addition, the same study was also carried out by Harris [20] that aggression was also formed by physical aggression, verbal aggression, anger and hostility, but the results of his study showed the value of reliability was only 0.77. The difference between this research and the previous research is according to Yudofsky, Silver, Jackson, Endicott, and Williams [22] that forms of aggressiveness consist of only two forms, namely physical aggression and verbal aggression. Furthermore according to Buss and Durkee [21] that aggression has eight forms, namely attack, indirect aggression, irritability, negativity, resentment, suspicion and verbal aggression. This shows that aggressiveness can be reflected in various forms. The results of this study are expected to provide an overview of the validity and reliability of constructively in adolescents so that it can be used as a reference in further research in developing a scale of aggressiveness.

CONCLUSION

Based on the results of the analysis and discussion, the conclusions obtained that all forms and indicators that exist

are able to reflect aggressiveness. The most dominant form of aggressiveness that can reflect aggressiveness is physical aggression and the lowest reflects aggression is anger. Thus the model can be accepted because the theory that describes aggressiveness is in accordance with empirical data obtained.

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