# Examining Construct Validity And Reliability Of Social Anxiety Scale

### Rika Afrianti, Fatwa Tentama

Abstract: The purpose of this study is to examine the validity and reliability of the social anxiety scale and examine the aspects and indicators that can form social anxiety variable. Social anxiety is measured by three aspects, namely fear of negative evaluation, social avoidance specific to new situations and social avoidance and distress in general. The population in this study were all semester two students at "X" University in Yogyakarta. The sample in this study were 60 overseas students in semester two at the "X" University in Yogyakarta. The sampling technique used was purposive sampling. The data collection method uses social anxiety scale. The research data were analyzed with Structural Equation Modeling (SEM) through the SmartPLS 3.2.8 program. Based on the results of data analysis, aspects and indicators forming social anxiety variables are declared valid and reliable. The most dominant aspect that reflects social anxiety is the fear of negative evaluation with a loading factor of 0.870. The weakest aspect that reflects social anxiety is the aspect of social avoidance and distress in general, with a factor loading value of 0.810. This shows that all aspects and indicators are able to reflect and shape social anxiety variables. Thus, the structural model can be accepted because the theory that describes social anxiety is in accordance with empirical data obtained from the subject.

**Keywords:** Construct Reliability, Construct Validity, Distress in General, Fear of Negative Evaluation, Social Anxiety, Social Avoidance, Structural Equation Modeling

# 1. INTRODUCTION

Humans are social creatures [1] who always interact with one another. Social interaction can be done anywhere and with anyone. However, often these interactions become limited because individuals feel negative emotions when interacting with others. According to Yang, Guo, and Xu [2], 11.13 percent of students could not find suitable roles when interacting with groups and felt pressured because they could not interact well with their friends and lecturers. One result of the inability to interact is that students feel social anxiety. This is by the research of Wen and Lin [3] who found that social anxiety can be experienced by an individual when he enters college. According to Russell and Shaw [4], 10 percent of students even report severe social anxiety. Individuals at the time of entering the lecture are in the majority of the transition phase of the development phase from late adolescence to early adulthood, in this phase the individual seeks to build interpersonal relationships with others [5].

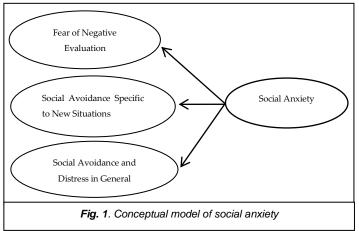
According to Greca and Lopez [6], social anxiety is a persistent fear of social situations, which are related to selfperformance in the face of evaluations from others, in this situation individuals feel afraid to be observed, and humiliated. According to Greca and Harrison [7], individuals who have social anxiety cannot interact well with the surrounding environment, be it peers, opposite-sex friends, close friends and people around him. Hofman [8] says that individuals with social anxiety tend to view themselves negatively, cannot control their emotions, and avoid the social situations they face. Social anxiety can stop someone doing what they want and or can do, and usually, people who experience social anxiety do a lot of avoidance from social situations. If in the long term, there is no handling, it can affect social relationships, work success, education, and other activities [9]. According to Beard, and Amir, [10], social anxiety has an impact on an individual's state of anxiety, this is because there is an interpretation bias done by individuals with social anxiety.

High social anxiety is positively correlated with social avoidance behaviour [11], low social competence [12], low quality of friendship and social support [13], increasing internet addiction [14], and increased cannabis use [15]. In students, social anxiety negatively impacts academic achievement and perseverance in learning [16] and is at higher risk for dropping out of school [17]. Murphy and Leighton [18] explain that people who experience social anxiety will feel afraid to ask strangers, afraid to talk to people who have a higher position, afraid to appear in public, or even scared to eat or drink in public places. According to Martin and Fox [19], social anxiety can be caused by a highly evaluative teacher leadership style. Fear of negative evaluations can be described by shame which can ultimately cause social anxiety [20], [21]. Social anxiety can also be caused by the physical appearance that is felt unattractive [22], which is then aggravated by a negative self-image [23], [24]. Based on the results of interviews with students who are in semester 2 of the University of "X" in Yogyakarta, of eight students there were five students who avoided doing group assignments and did not want to be asked to present their assignments in front of the class. When asked, he said that he did not dare to appear in front of the class and felt ashamed if he received a bad evaluation from his friends. Based on these initial observations, the researchers conducted a study of social anxiety. Social anxiety is a term used to describe someone's feeling that is characterized by emotional discomfort, fear and worry regarding certain social situations [25]. In simpler language, social anxiety is a feeling of shame being valued or cared for by others because of the prejudice that other people give negative judgments on themselves [26]. Theories about social anxiety continue to develop. Leary [27] developed social anxiety in terms of personality and clinical perspective. Greca and Lopez [28] developed a scale of social anxiety for adolescents, and they also examined the relationship between adolescent social anxiety with peer relationships, friendship, and social functions. Then Hackmann, Clark and McManus [29] associate social anxiety with evaluating negative selfimage. Xu, Schneier, Heimberg, Princisvalle, Liebowitz, Wang, and Blanco [30] developed anxiety disorders in alcohol users. Social anxiety can be defined as anxiety that results from the possibility of real interpersonal evaluations or imagining social

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situations [31]. According to Greca and Lopez [28], social anxiety is a persistent fear of social situations, which is related to feelings of being observed, fear of being humiliated and humiliated for self-performance in the face of evaluations from others. In DSM IV-TR [32] social anxiety is defined as a set of behaviours related to fear of situations and social performance that is felt to be embarrassing, this includes several situations, such as public speaking, withdrawing from conversations with strangers or authority figure, showing assertive behaviour with different individuals, and not eating and drinking in front of a group of people. According to Russell and Shaw [33], social anxiety is a mental disorder characterized by extreme fear when meeting new people and is afraid of supervision in various interactional situations. Vertue [34] defines social anxiety as behaviour related to fear of situations and social performance that is felt to be embarrassing. It includes several situations such as speaking in public and withdrawing from conversations with strangers. Social anxiety is often chronic and persistent and can have consequences in the form of decreased quality of life [35]. In the last decade, empirical studies have shown that social anxiety interferes with the development and quality of friendships [36]. Other studies have found that social anxiety affects emotional expression. Someone with excessive social anxiety tends to express more with negative emotions such as excessive embarrassment [37]. Changes in facial expressions are social cues that are conveyed, as important information about interpersonal evaluation [38]. Negative self-image in a person can also affect social anxiety [39]. Greca and Lopez [28] suggested three aspects of social anxiety namely; 1) Fear of negative evaluation, individuals feel worried to do or say something embarrassing or make themselves feel humiliated, other than that individuals will feel that other people are watching carefully every move they do. 2) Social avoidance specific to new situations, individuals feel nervous when talking and do not understand why it can happen he will also feel embarrassed when close to others, nervous when meeting someone new, and feel worried when doing something new in front of others. 3) Social avoidance and distress in general, which is a feeling of general pressure experienced by people who are known as being reluctant to invite others for fear of rejection, find it difficult to ask others, and feel ashamed when there is group work.



Based on Figure 1 above, the hypothesis in this study is the aspect of fear of negative evaluation, social avoidance specific to new situations and social avoidance and distress, in

general, are able to form social anxiety variables. One approach that can be used in testing the construct of a measuring instrument is Confirmatory Factor Analysis (CFA). Confirmatory Factor Analysis (CFA) is one of the main approaches in factor analysis. Confirmatory Factor Analysis (CFA) can be used to test aspects of a construct. This test is used to perform model measurements so that it can describe aspects and indicators of behavior in reflecting latent variables, namely social anxiety by looking at the loading factors of each aspect that form a construct. Confirmatory Factor Analysis (CFA) is also used to test the construct validity and construct reliability of the indicators (items) forming latent variables [40]. Confirmatory Factor Analysis (CFA) used in this study is the second order confirmatory factor analysis (2nd Order CFA), a measurement model that consists of two levels. The first level of analysis is carried out from aspects to its indicators, and the second analysis is carried out from latent variables to aspects [40]. Based on the description above, the problem formulations in this study are 1) Is the social anxiety scale valid and reliable?; 2) Are the aspects of fear of negative evaluation, social avoidance specific to new situations, and social avoidance and distress in general capable of forming social anxiety variables?. The purpose of this study is to: 1) Test the validity and reliability of scale social anxiety and 2) Test the aspects and indicators that can form social anxiety variables.

# 2. RESEARCH METHOD

# 2.1 Population, Sample, and Sampling Technique

The population in this study were all semester two students at "X" University in Yogyakarta. The sample in this study were 60 overseas students in semester two at the "X" University in Yogyakarta, with age criteria 17-25 years. The sampling technique used is purposive sampling.

### 2.2 Data Collection Method

Social anxiety is measured using a social anxiety scale with a semantic differential scale. The scale of this study was compiled by researchers with reference to aspects of social anxiety according to Lagreca and Lopez [28], namely fear of negative evaluation, social avoidance specific to new situations, and social avoidance and distress in general. Examples of items from each aspect can be seen in the following table:

**TABLE 1**SAMPLE ITEM OF FEAR OF NEGATIVE EVALUATION

	When	someon	e criticiz	es me, I.		
Accept it	1	2	3	4	5	Refuse it
Am happy	1	2	3	4	5	Am sad

TABLE 2
SAMPLE ITEM OF SOCIAL AVOIDANCE SPECIFIC TO NEW SITUATIONS

	V	Vhen in a	situation	n I am			
Easy to adapt	1	2	3	4	5	Difficult adapt	to
Feeling relax	1	2	3	4	5	Feeling afraid	

TABLE 3
SAMPLE ITEM OF SOCIAL AVOIDANCE AND DISTRESS IN GENERAL

	li	n a socia	l commu	nity, I		
Feel	1	2	3	4	5	Feel
passionate						anxious
Talk a lot	1	2	3	4	5	Keep silent

The blueprint that is used as a reference in the preparation of the scale can be seen in table 4.

TABLE 4
BLUEPRINT OF THE SOCIAL ANXIETY SCALE

Aspect	Indicator	Item Numbers	Total
Fear of Negative Evaluation	a. Fear of getting bad comments from other people     b. Feeling you will be laughed at by others	1,2,3,4,5, 6	6
Social Avoidance Specific to New Situations	<ul><li>a. Difficult to adapt to a new place.</li><li>b. Not confident facing other people</li></ul>	7,8,9,10,1 1,12	6
Social Avoidance and Distress in General	<ul><li>a. Feel ashamed if doing a task in group</li><li>b. It's hard to socialize with people that known</li></ul>	13,14,15, 16,17,18	6
	Total	18	18

### 2.3 Validity and Reliability

To test the construct validity and reliability in this study used the outer model testing through the smartPLS 3.2.8 program. Validity testing consists of tests of convergent validity and discriminant validity. The convergence validity can be seen from the loading factor value > 0.5 and the value of Average Variance Extracted (AVE) > 0.5 [41], while the discriminant validity can be seen from the roots comparison of Average Variance Extracted (AVE) in which the aspects must be higher than correlation with other aspects [41]. While reliability testing consists of Cronbach alpha test and composite reliability > 0.7 [41].

### 2.4 Data Analysis

The data in this study were analyzed using the 2nd Order CFA through the SmartPLS 3.2.8 program. According to Abdillah and Hartono [42], PLS is a variant-based Structural Equation Model (SEM) that can simultaneously test measurement models to test validity and reliability.

### 3. RESULT

Based on the analysis of the outer model test on the social anxiety scale conducted using the SmartPLS 3.2.8 program, the result can be seen in Figure 2 below.

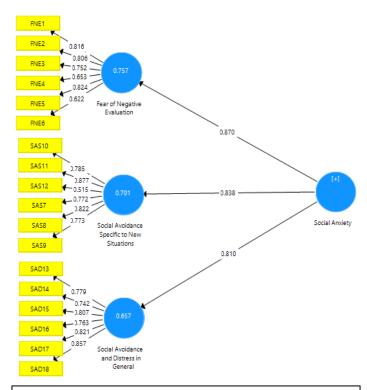


Fig. 2. Output outer model of social anxiety scale

# 3.1 The Construct Validity Test Result

## 3.1.1 Convergent Validity

Based on the convergent validity test on the outer model, it was found that the value of factor loading from variables to aspects has a value of > 0.5, which means the results of the validity test of social anxiety construct can be said to be valid because it meets the criteria of factor loading values > 0.5. The results can be seen in table 5.

TABLE 5
LOADING FACTOR VALUES (VARIABLE-ASPECT)

EGADING TAGTON VALUES (VANIABLE AGI EGT)				
Aspect	Loading factor	Explanation		
FNE	0.870	Valid		
SAS	0.838	Valid		
SAD	0.810	Valid		

Based on the test of convergent validity on the outer model, it was found that the loading factor value from aspects to indicators has a value of > 0.5 shown in table 6.

TABLE 6
LOADING FACTOR VALUE (INDICATOR-ASPECT)

EDADING FACTOR VALUE (INDICATOR-ASFECT)			
Item	Loading factor	Explanation	
FNE1	0.816	Valid	
FNE2	0.806	Valid	
FNE3	0.752	Valid	

FNE4	0.653	Valid
FNE5	0.824	Valid
FNE6	0.622	Valid
SAS7	0.785	Valid
SAS8	0.877	Valid
SAS9	0.515	Valid
SAS10	0.772	Valid
SAS11	0.822	Valid
SAS12	0.773	Valid
SAD13	0.779	Valid
SAD14	0.742	Valid
SAD15	0.807	Valid
SAD16	0.763	Valid
SAD17	0.821	Valid
SAD18	0.857	Valid

Convergent validity test results show the value of Average Variance Extracted (AVE)> 0.5. The Average Variance Extracted (AVE) value of the social anxiety variable is 0.508 and the Average Variance Extracted (AVE) value of each aspect can be seen in table 7.

TABLE 7
THE AVE VALUE OF SOCIAL ANXIETY VARIABLE

Aspect	AVE	Explanation
FNE	0.562	Valid
SAS	0.587	Valid
SAD	0.633	Valid

# 3.1.2 Discriminant Validity

Based on the discriminant validity test values, the root results of the Average Variance Extracted (AVE) in each aspect are higher than the AVE in other aspects, so that the discriminant validity criteria are met. Root Average Variance Extracted (AVE) values for social anxiety variables can be seen in table 8.

TABLE 8

AVERAGE VARIANCE EXTRACTED (AVE) ROOT VALUE OF SOCIAL

ANYJETY

	ANALETT					
Aspect	FNE	SAS	SAD			
FNE	0.750	0.677	0.646			
SAS	0.677	0.766	0. 646			
SAD	0.646	0.512	0.796			

### 3.2 The Construct Reliability Test Result

The results of the construct reliability test suggested that the composite reliability and Cronbach alpha > 0.7 are obtained so that it can be stated that the items used in this study are reliable.

**TABLE 9** THE VALUE OF COMPOSITE CONSTRUCT RELIABILITY AND CRONBACH ALPHA OF SOCIAL ANXIETY

Variable	Composite Reliability Value	Cronbach Alpha Value	Explanation
Social Anxiety	0.911	0.889	Reliable

The results of construct reliability testing with the 2nd Order Confirmatory Factor Analysis (CFA) in table 9 show that the social anxiety scale has good reliability and means that aspects that measure social anxiety variables meet unidimensional criteria [43]. This is indicated by the value of the reliability composite of 0.911 and Cronbach alpha of 0.889 The construct validity and reliability tests produce valid and reliable items that are able to reflect social anxiety variables, namely items 1,2,3,4,5,6,7,8,9,10,11,12,13,14 , 15,16,17,18,19,20,21,22,23,24. The results of the analysis of research data using the 2nd Order Confirmatory Factor Analysis (CFA), shows that the measurement model can be accepted because all aspects can reflect the variables formed.

# 4 DISCUSSION

Based on the results of the analysis of the construct validity and the construct reliability, the aspects and indicators that make up the social anxiety scale are declared valid and reliable. This shows that all aspects and indicators can reflect and shape social anxiety variables. The most dominant aspect that can reflect social anxiety is the fear of negative evaluation with a loading factor of 0.870. Indicators of fear show this if someone gets bad comments from others and feel embarrassed by others. The findings at the study site showed that many students refused to appear in public for fear of making mistakes and being laughed at. Students feel ashamed to present their assignments in front of their friends for fear of making mistakes and being laughed at by others. This fear of getting a negative evaluation affects social anxiety. The lowest aspect that reflects social anxiety is the aspect of social avoidance and distress in general, with a loading factor of 0.810. This is shown by feeling ashamed if there is group work, and it is difficult to get along with people known. The findings at the research site show that many students are easier to communicate with, and discuss with someone they already know than people who are not yet known, even though in their group assignments students are passive. Findings from relevant studies show that social anxiety variables meet reliability requirements with Cronbach alpha value of 0.820 [44]. Furthermore, the results of the study of Greca and Lopez [45] has also shown a Cronbach alpha value of 0.690. Similarly, the study from Fresco, Coles, Heimberg, Liebowitz, Hami, Stein, and Goetz [46] shows Cronbach alpha value of 0.740 and other findings by Heeren, Jones, and McNally [47] with a Cronbach alpha value of 0.810. Whereas in this study, the Cronbach alpha value obtained was 0.880. The results of this study are expected to provide an overview of the validity and reliability of the social anxiety constructs of new semester two students so that it can be used as a reference in

subsequent studies related to social anxiety.

### 5 CONCLUSION

Based on the analysis and discussion, it can be concluded that: 1) Social anxiety scale meets validity and reliability 2) All aspects and indicators can form social anxiety variables, namely fear of negative evaluation, social avoidance specific to new situations, and social avoidance and distress in general. The aspect that has a dominant influence on social anxiety is the fear of negative evaluation and the weakest aspect describing social anxiety variables is social avoidance and distress in general. In this study, a social anxiety scale measurement model was formed that was in accordance with empirical data obtained from subjects at the study site.

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