



Validity and Reliability Construct of Subjective Well-Being Scale

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Abstract

The research objectives are to describe the subjective well-being of teachers, analyze the validity and reliability construct of subjective well-being scale, and find the shaper component of subjective well-being scale construct. The subjective well-being scale measure components with two components are cognitive and affective. The subject of the research is the teachers work in "X" Junior High School with a total of 69 people. The data collecting method is using a subjective well-being scale. The research data were analyzed by Structural Equation Modelling (SEM) SmartPLS 3.2.8 with a reflective construct through 2nd order CFA. Based on the analysis result of the validity and construct reliability, the components and indicators which form subjective well-being to teachers are stated valid and reliable. It points to all existed indicators and components that are able to reflect and form subjective well-being. By then, the measurement model could be accepted because of the theory reflecting subjective well-being based on empirically collected data.

Keywords: Affective; 2nd order CFA; cognitive; construct reliability; construct validity; partial least square; subjective well-being; teachers

1. Introduction

Teachers in Indonesia currently have various tasks and responsibilities of both administrative and academic. These tasks include teaching full day a week, accompanying and guiding student contest, completing the school reports and education office, preparation of school accreditation, working on school activity proposals, engaging in student council and other extracurricular, teaching student tutoring, and arranging learning preparation and curriculum.

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The number of tasks and responsibilities causes the teacher to experience a lot of pressure, such as stress, physical and psychological fatigue, apathetic to do the activity, worry, angry, disappointed, and so on. Based on Diener, Aurora, and Harter [1], the stress situation allows for unpleasant experiences for the teachers, which will decrease subjective well-being in individuals. According to Weinstein, Brown, and Ryan [2], the teacher's stress situation will influence physical conditions such as feeling fatigued, decreasing physical healthy, and psychological or mental. If the individuals get much more negative affect experience than positive affect can be said that subjective well-being individuals are low.

The subjective well-being is important for the teachers to carry out the tasks and roles well. Keyes and Magyar-Moe research [3] shows that well-being is the tool of a more healthy and productive life. Based on Fajriani and Suprihatin [4], the happy soul will create individuals to be focus on what they work on. It does to the teachers; they required focusing on their tasks as teachers are teaching for their psychological conditions are happy, so they produce healthy, productive, and well-being life.

According to Diener, Kanazawa, Suh, and Oishi [5], it is crucial in life caused by many things. First, the high subjective well-being gives benefits included better health and increasing life expectancy. Second, people in this world think subjective well-being is significant. Third, subjective well-being shows individuals how to value life quality and provide the required information for evaluating the subjective well-being of society generally.

Based on the result of the interview with the five teachers in Yogyakarta is found, there is low subjective well-being. It is caused by the minim income, under pressure psychology, health disturbed, and so on. The low subjective well-being in teachers will influence to teaching and learning process, so the teacher experience teaching fatigue, health disturbed, lazy to do an activity, unstable emotion, shoddy work, and so on. Bowling, Eschleman, and Wang [6] research result stated there is a positive relationship between job satisfaction and life satisfaction; those satisfactions could influence the existence of positive affect and negative effect. It shows that the causal relationship between subjective well-being and job satisfaction is stronger than the causal relation of job satisfaction to subjective well-being.

Subjective well-being has two impacts positive and negative. The subjective well-being positive impact has existed the feeling of excitement, strong, proud, inspired, and determined. Meanwhile, the subjective well-being negative impact is feeling distressed, disappointed, scared, irritable, and afraid. Subjective well-being is also beneficial to spread positive aura to others and transmit high self-esteem. King and Napa [7] said that subjective well-being related to the appearance of positive emotion, good health, and longer life, good social relation, and high income. Based on Thoits and Hewitt [8], individuals experience life satisfaction, and increased happiness is more likely to dedicate their lives to work voluntarily.

The high subjective well-being individuals tend to do the activities in stable physical and psychological by then the productivity is increased. Moreover, they have a specific life purpose and the satisfaction of current attainment. The teachers who have subjective well-being will be able to survive in facing a problem, easy to get up from failure, control emotion, have the confidence that they can resolve the job problem [9], and decrease tiredness during work [10].

The first research is about happiness, which is done by Wilson [11] and concluded that "happy people have young characteristics, health, educated, high income, extrovert, optimist, calm, religious, married, high self-respect, high employee morale, simple aspirations." Over decades after Wilson's review [11], the research of

happiness spreads and evolves. The research is not only related to happy individual characteristics. Still, it widens on underlying background, factor interaction of external and internal (personal and environment factor), and how the individual sees their life.

Diener [12] knew the subjective well-being concept as an identifying tool of how an individual understands and evaluates their life quality, included cognitive and affective value [13]. The term subjective well-being is often used alternately with happiness and often used as an alternative to avoid the ambiguous meaning of happiness term. Diener [14] research with 7.204 respondents from 42 countries shows which 94% of respondents said happiness is more important than money, and 64% of respondents said that happiness is crucial in life. By then, Diener [14] suggested to take on a policy of each country in the case to concern its society's subjective well-being, especially in carrying out the government strategic programs.

Subjective well-being is one of happiness form emphasizes pleasant emotional experience; this involves the high positive affect and low negative affect to individual [15]. Diener and Ryan [16] stated that subjective well-being is a term used to draw the well-being level is experienced by an individual based on individual subjective evaluation. Subjective well-being is psychological construction, which is how people think and feel what they have and have happened in their life Tov and Nay [17] it is understood as to how people value the level of their whole life quality or how much people love the life they have been through [18]. Kim-Prieto, Diener, Tamir, Scollon, and Diener [19] said the subjective well-being is the subjective society evaluation toward individual life that includes concepts such as life satisfaction, pleasant emotion, the fulfilled feeling by dominant satisfaction like married, work, and high low emotional situation. By then, subjective well-being is a common term which encompasses various concepts related to how people think and feel their life.

The second component is effective, which is the reflection of experience in understanding various events in individual life. Affective component divided into two: 1) positive affect is positive emotion representation, which works as the will. An individual with positive affect shows the high spirit in doing an activity, active in various activities, strong in every condition, proud of the achievement they get, pleasant of the life they through. 2) Negative affect is unpleasant emotion representation, which reflects an individual reaction to an unpleasant event they experienced. The negative effect shows sadness when the result is unexpected, angry when someone doesn't respond, worried when hearing the bad news, embarrassed when making a mistake, and feeling guilty when not apologizing to someone.

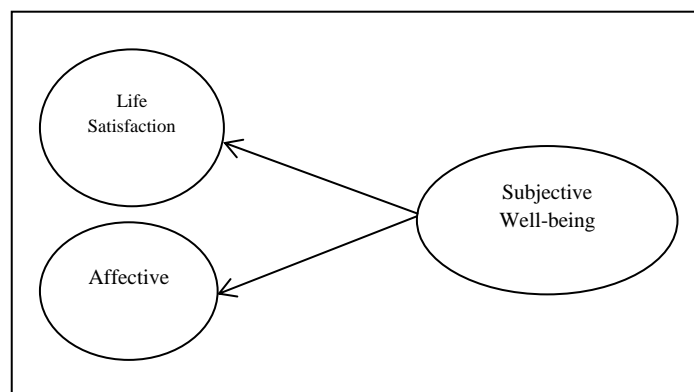


Figure 1. Conceptual framework of subjective well-being

One of the approaches which can be used in examining the construct of a measure component is Confirmatory Factor Analysis (CFA). It is one of the primary approaches in factor analysis. CFA can be used to examine the composition of a construct. The examination is used to model measurement to it can draw the component, and behavioral indicator in reflecting the latent variable is subjective well-being by looking at factor loading of each component, which forms a construct. CFA is also used to examine the construct validity and construct reliability of indicators (items) of latent construct shaper [20]. The used CFA in the research is the second-order confirmatory factor analysis (2nd Order CFA), which is a measurement model consisting of two levels. The first level of analysis is carried out from a latent component construct to indicators, and the second analysis is carried out from a latent construct to its component construct [20].

Based on the description above, it can be concluded that subjective well-being is an important aspect of life. Considering its importance to be investigated, the problem formulations of the study are: 1) is the subjective well-being construct valid and reliable? And 2) is the life satisfaction indicator and affective able to form subjective well-being construct?

This study is purposed to examine the construct validity and reliability of subjective well-being by different countries and cultural points of view from the previous research. Considering the importance of the subjective well-being variable, the study of reliability and validity of the subjective well-being construct scale is essential because the understanding of it is always developing as a multidimensional construct. Based on Cenkseven-Onder and Sari [21] where subjective well-being used to determine the level of teacher subjective well-being and how they increase the school life quality from boredom level.

2. Research method

2.1. Participant

The research subject is 69 teachers who work in "X" Junior High School with age range 20-60 years old and willed to participate in the research in this study.

2.2. Instrumen

The research instrument uses the subjective well-being scale adopted from Diener [12]. Item is arranged based on the subjective well-being components that are life satisfaction and affective. The scaling method uses a rating scale model with five answer choices. The example of the life satisfaction component is "my life situation is better", "in all things, I almost reach my purpose", and "I satisfy with my life". The examples of positive affective component statements are "spirit", "proud", and "motivated". The examples of negative affective component statements are "guilty", "afraid", and "angry". The items from this research point to subjective well-being by Diener [12]. There is a blueprint of the subjective well-being scale, which can be seen in table 1.

Table 1: Blueprint subjective well-being scale

Component	Indicator	Item	Amount
Life satisfaction	a. Evaluation of global life satisfaction.	1,2,3,4,5	5
	b. Evaluation of satisfaction in domains such as physical and		

	mental health, work, recreation, social, and family relationships.		
Affective	a. Positive affective: Interested in something, excited, strong, enthusiastic, alert, proud, inspired, determined, attentive, and active.	1,2,3,4,5,6,7,8,9,10	20
	b. Negative affective: Distressed, disappointed, guilty, scared, hostile, irritable, shamed, nervous, jittery, and afraid.	11,12,13,14,15,16,17,18,19,20	
	Amount		25

2.3. Validity and Reliability

This research aimed to test the construct of validity and reliability of the subjective well-being measure instrument with the outer model test. The construct validity test is conducted confirmatory to show how well the result which is obtained from the measure instrument based on reference theory in defining construct. Construct validity test included convergent validity, refers to loading factor value result of > 0.5 , the value of average variance extracted (AVE) of > 0.5 , and discriminant validity was executed by comparing the roots of AVE where the value should be higher from the correlation between the existed aspects. Next, is the reliability test to show internal consistency to measure the instrument used. The method is to look at the reliability composite value and Cronbach's Alpha, where, according to Cooper, the value must be owned by > 0.7 [22].

The reliability test is carried out to see the internal consistency of measurement instrument by seeing the reliability composite value and Cronbach's Alpha with a higher value, which it will show consistency value from each item of measuring latent variable. According to Hair et al. [23], the expected Composite Reliability value and Cronbach's Alpha is > 0.7 and value 0.6 is still accepted, then based on Cooper, the internal consistency test has fulfilled if the construct validity is based on criteria, so the value of average variance extracted (AVE) has represented internal consistency, because of the valid consistency which is reliable but the contrary, the reliable construct is not absolutely valid [22].

2.4. Data Analysis

Data of the research is analyzed by program SmartPLS 3.2.8. According to Abdillah and Hartono [24], PLS is a variant based-Structural Equation Modeling (SEM) that can simultaneously test the measurement model to examine validity and reliability.

3. Result

Based on the analysis result of the outer model test on subjective well-being scale is conducted by Smart PLS 3.2.8. can be seen the result on a picture below:

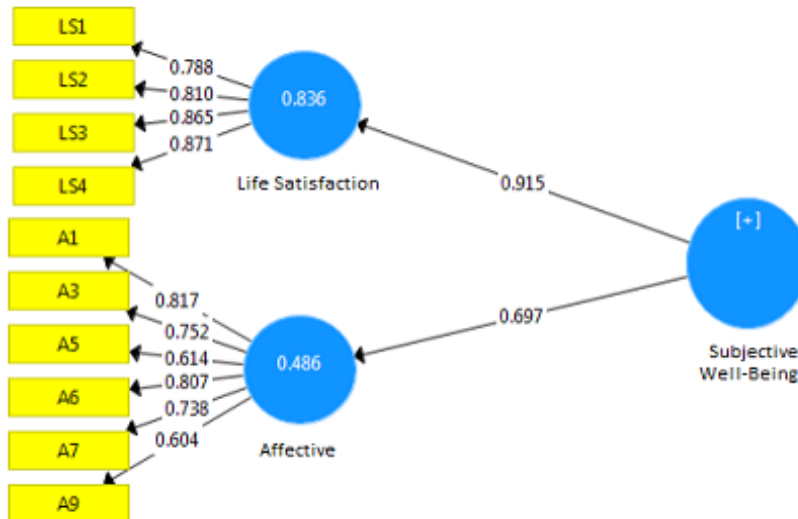


Figure 2: Output PLS outer model subjective well-being construct

3.1. Convergent Validity

Based on the convergent validity test on the outer model, it was found the loading factor value from variable to the components has a value of > 0.5, which is pointed in table 2.

Table 2: Loading factor (variable-component)

Components	Value of loading factor	Information
Life satisfaction	0.915	Valid
Affective	0.697	Valid

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

Table 3: Loading factor value (component-indicator)

Item	Value of loading factor	Information
KP 1	0.788	Valid
KP 2	0.810	Valid
KP 3	0.865	Valid
KP 4	0.871	Valid
PP 1	0.817	Valid
PP 3	0.752	Valid
PP 5	0.614	Valid
PP 6	0.807	Valid
PP 7	0.738	Valid
PP 9	0.604	Valid

Based on convergent validity test value, it shows the average variance extracted or AVE in subjective well-

being construct of 0.523 with the value of average variance extracted on each component can be seen in table 4.

Table 4: Average variance extracted (AVE) value of subjective well-being construct

Components	AVE value	Information
Life satisfaction	0.696	Valid
Affective	0.528	Valid

3.2. Discriminant validity

Based on the discriminant validity test value shows the result of the roots of AVE on each component is higher than the root of AVE in another component, so the discriminant validity criteria are met. The root value of Average Variance Extracted (AVE) of the subjective well-being construct is in table 5.

Table 5: Average variance extracted (AVE) root value of subjective well-being construct

Component	Life satisfaction	Affective
Life satisfaction	0.834	0.411
Affective	0.411	0.727

3.3. Construction reliability test

Based on reliability construct test have been carried out, the Composite Reliability value and Cronbach's Alpha of >0.7 are obtained, so the item which is used in this research is reliable.

Table 6: Composite reliability value dan Cronbach's alpha subjective well-being construct

Variable	Composite reliability	Cronbach alpha	Information
Subjective well-being	0.881	0.841	Reliable

The reliability construct test result using confirmatory analysis on table 6 above shows the construct has good reliability. It gives the meaning that the component measuring the construct of the latent variable of subjective well-being fulfilled the unidimensional criteria [23]. This is indicated by the value of Composite Reliability 0.881 and Cronbach alpha 0.841.

Based on the processing and data analysis of the subjective well-being variable component which formed using 2nd Order CFA, the result indicates the model can be accepted because all dimensions can reflect the variable created.

4. Discussion

According to construct validity result and reliability construct, the components and indicators which forms the subjective well-being is variable and valid. It shows all the components and indicators which are able to reflect

and form the subjective well-being. The dominant component is able to reflect the subjective well-being is life satisfaction component with the loading factor value of 0.915. The life satisfaction described in the evaluation of global life satisfaction and evaluation of satisfaction in domains such as physical and mental health, work, recreation, social, and family relationships. Subjects who have the satisfaction of life feel that they have achieved various things in their dreams, and the important things they want also felt that his life was good and satisfying. The results showed that individuals with high life satisfaction tended to be more adaptable and easily manage the negative emotions they felt [25].

The lowest component, which reflects subjective well-being, is the affective component with the loading factor value of 0.697. The positive affect is described as interested in something, excited, strong, enthusiastic, alert, proud, inspired, determined, attentive, and active. Negative affect is described with distressed, disappointed, guilty, scared, hostile, irritable, shamed, nervous, jittery, and afraid. The affection felt by the subjects of this study in the form of feelings of excitement, feel certainty about his life, have life motivation, have concern for others, and have the toughness to deal with various problems experienced.

There are previous studies that also examined instruments to measure subjective well-being. Mishra and Dixit's research [26] measures subjective well-being with Diener's theory, which shows the value of composite reliability is 0.77. Also, Babincak's study [27] also examines subjective well-being with the term subjective happiness. The findings in his study show that the reliability value is 0.615. Compared with previous research, in this study, the reliability value of composite and Cronbach alpha is better with a value of 0.881 and 0.841

The finding result is expected to give an overview of the construct validity and reliability of the subjective well-being in the context of teacher education in Yogyakarta, so there it can be used as the preference for further research related to subjective well-being.

5. Conclusion

According to analysis findings and discussion, it can be concluded that the components of subjective well-being achieve good validity and reliability, then all components and indicators of subjective well-being significantly can form subjective well-being variables. The most dominant component is able to reflect subjective well-being is life satisfaction with a loading factor of 0.915 while the lowest component, which reflects subjective well-being is the affective component with a loading factor of 0.697.

6. Limitation and Recommendation

This research has several limitations, including limited research subjects. The subjects in this study were teachers from one junior high school. So, the results obtained are still weak and cannot be generalized for teachers at other levels of education. The results of this study indicate that in the affective aspects, all negative affect indicators do not meet the loading factor value, so the remaining items do not describe the negative affect as in the theoretical concept. Also, data analysis techniques are only used to build models, so the model still needs to be developed. For future researchers, it is better to be able to measure subjective well-being teachers on a broader subject so that the results obtained are sufficient enough to be generalized. Then, it is necessary to reexamine the theoretical model of the concept of subjective well-being with other SEM methods, so that the model obtained is more adequate.

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