Physical Self, Social Self, Psychological Self, and Moral Self in Reflecting Self-Concept

Hartuti\textsuperscript{a}, Fatwa Tentama\textsuperscript{b,*}, Muhamad Hasan Abdillah\textsuperscript{c}, Rifa Nur Alifah\textsuperscript{d}

\textsuperscript{a,b,c,d}Faculty of Psychology, Ahmad Dahlan University, Yogyakarta, Indonesia
\textsuperscript{a}Email: hartutiraharjanti67@gmail.com
\textsuperscript{b}Email: fatwa.tentama@psy.uad.ac.id
\textsuperscript{c}Email: addakhil.abdulloh@gmail.com
\textsuperscript{d}Email: erifanuralifah@gmail.com

Abstract

The purpose of this study is to test the validity and reliability of the self-concept as a construct and test aspects and indicators that can form this construct. Self-concept is measured by four aspects, including physical self, social self, psychological self, and moral self. The population in this study are all students of grade XI with a total sample of 60 students. The sampling technique used is simple random sampling. The data collection method is a self-concept scale. Research data were analyzed using Structural Equation Modeling (SEM) through the SmartPLS version 3.28. Based on the results of data analysis, the aspects and indicators that made up the construct of self-concept were valid and reliable. The dominant aspect reflecting the construct of self-concept is the social self with a loading factor of 0.806, and the weakest aspect reflecting the construct of the self-concept is the physical self with a loading factor of 0.703. This shows that all aspects and indicators are able to reflect and shape the construct of self-concept. Thus, the measurement model can be accepted because theories that describe self-concept fit with empirical data obtained from the subject.

\textbf{Keywords:} Construct reliability; construct validity; moral self; psychological self; physical self; self-concept; social self; structural equation modeling.

\* Corresponding author.
1. Introduction

Self-concept is a key construct in educational psychology, and developmental psychology [1] and many researchers study self-concept as a basis for developing aspects of learning in the context of the school environment [2, 3]. In general, self-concept is seen as a psychological construct that leads to the success of self-regulation in learning [4, 5], in social [6, 7, 8], as well as in more general daily life [9, 10]. Self-concept can explain the involvement of individuals in various learning processes and the process of adaptation or self-adjustment [11, 12, 13]. Self-concept is a non-cognitive skill that is very important for every individual, which is the basis of other non-cognitive skills. Self-concept serves as the basis for building other valuable skills such as social skills and higher-order thinking skills [14]. Self-concept that is owned by an individual reflects how the individual feels about himself, which consists of self-confidence, self-awareness, self-efficacy, and self-esteem [15]. Individuals with positive self-concepts tend to have high learning motivations that lead to better learning achievement [16]. Some researchers confirm that students who have self-concepts show healthy development and positive psychological functioning [17, 18, 19, 20]. Self-concept is an important part of the personality that functions as a determinant of attitudes and individual behavior [21, 22]. Self-concept can explain and predict how individuals will act or respond [23]. It makes individuals feel more confident and positive attitude towards everything they face so that they can respect themselves and see positive things that can be done for their success [24]. In academic contexts, self-concept encourages individuals to be more interested in some academic domains than others [25]. In addition, high self-concept will also increase student self-esteem [26, 27, 28]. Achievement of positive self-concept represents the goals desired by individuals in education and broader socio-cultural settings [29]. Conversely, low self-concept will affect various important attributes in psychology [30]. Individuals who have negative self-concepts will view themselves as incapable and powerless [22]. Individuals value themselves as never good enough so that whatever is obtained will be valued less than what is obtained by others [24]. Individuals also tend to be easily jealous of what others have, are less able to control emotions, and underestimate themselves so that individuals lack confidence or hesitate to try new things [31]. Some researchers identify that individuals with low self-concept tend to negatively assess their physical condition and with this condition they believe that they will not be able to fulfill their expectations and goals, so that individuals do not value everything they have, and do not carry out social roles in their environment [32, 30]. Self-concept in the field of education was developed by [33] who provide a framework for making theoretical concepts about self-concept, in very broad terms, self-concept is understood as an individual's perception of himself. This perception is formed through individual experience of the environment that involves social supports from those closest to him [34]. Self-concept is a picture of the individual, about himself, and his hopes [32]. Self-concept, as an individual's expectations about him, will determine how individuals behave. Self-concept is a picture of an individual's beliefs about him that includes physical, psychological, social, emotional, aspirational, and achievement characteristics [24]. Self-concept is something that individuals want to show to others, starting from self-observation, then produces a picture and self-assessment [35]. Self-concept refers to the psychological construct consisting of self-description, including the evaluation of abilities and self-esteem associated with individual evaluations [36]. Self-concept is described as an assessment of the personality, strengths, and weaknesses possessed by individuals [37]. Reference [32] suggested that self-concept is a combination of aspects of the physical self, social self, moral self, and psychological self. The aspect of the physical self is an
individual's assessment of everything that an individual has, including his body, clothing, and objects. Individuals will assess everything they have so that they meet the expectations they want, when those expectations are not met, then the individual will try to cover it up. The aspect of social self is related to how the social role played by individuals in their social sphere and the extent of the individual's assessment of that role. The moral aspect of self is the values and principles that give meaning and direction in the lives of individuals who view the moral, ethical values themselves. Moral aspects include honesty, responsibility for failures experienced, religiosity, and conformity of behavior with the norms of the existing community. The psychological aspect of self includes thoughts, feelings, and attitudes that an individual has of himself. Individuals will appreciate everything they have by balancing their thoughts and attitudes. The conceptual model of self-concept consisting of the physical self, social self, psychological self, and moral self can be seen in Figure 1.

**Figure 1: Conceptual model of self-concept**

Based on Figure 1 above, the hypotheses in this study are:

1. A self-concept scale measurement model that is fit with empirical data is formed.
2. The aspects of the physical self, social self, psychological self, and moral self are able to form the construct of self-concept.

One approach that can be used in testing the construct of a measuring instrument is Confirmatory Factor Analysis (CFA). CFA is one of the main approaches in factor analysis. It can be used to test aspects of a construct. This test is used to measure the model so that it can describe aspects and indicators of behavior in reflecting latent variables, namely self-concept, by looking at the loading factor of each aspect that forms a construct. Confirmatory Factor Analysis (CFA) is also used to test the construct validity and construct reliability of the indicators that form latent variables. CFA used in this study is the second order Confirmatory Factor Analysis ($2^{nd}$ 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 its aspects [38]. Based on the description above, the formulation of the problems in this study are 1) Is the scale of self-concept valid and reliable?, 2) Can aspects of the physical self, social self, moral self, and psychological self form the construct of self-concept? The purpose of this study is to examine the validity and reliability of the self-concept
scale and test the aspects and indicators that can form the construct of self-concept.

2. Research Method

2.1. Population, Sample and Sampling Technique

The participant of this study were all students of grade XI State Senior High School Kasihan 1, and the sample consists of 60 students. The sampling technique uses a cluster random sampling technique.

2.2. Data Collection Method

The self-concept in this study was measured using a scale with a Likert model. The researcher arranged the self-concept scale by referring to aspects of self-concept proposed by Berzonsky [32], namely physical self, social self, moral self, and psychological self. Examples of items on the aspect of physical self are "I am proud to use local products" and "Friends feel lost when I do not go to school", examples of items on aspects of social self are "I feel lonely even when I am in a crowd" and "My opinion is accepted by friends. Examples of items on moral aspects of self are "I lied to my parents" and "I like to follow social activities", examples of items on psychological aspects of self are "I have a strong conviction" and "I resigned to my destiny". Blueprints used as a reference in the scale of self-concept can be seen in Table 1.

Table 1: Blueprint of self-concept scale

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Item</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Favorable</td>
<td>Unfavorable</td>
</tr>
<tr>
<td>Physical self</td>
<td>1,9,17,25,33</td>
<td>5,13,21,29,37</td>
</tr>
<tr>
<td>Social self</td>
<td>2,10,18,26,34</td>
<td>6,14,22,30,38</td>
</tr>
<tr>
<td>Psychological self</td>
<td>4,12,20,28,36,40</td>
<td>8,16,24,32</td>
</tr>
<tr>
<td>Moral self</td>
<td>3,11,19,27,35,39</td>
<td>7,15,23,31</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

2.3. Construct Validity and Reliability

To the validity and reliability of the construct, this study used the outer model testing through the smartPLS 3.28 program. The construct validity test consists of convergent and discriminant validity tests. Convergent validity can be seen from the loading factor and the Average Variance Extracted value (AVE) of > 0.5 [39]. According to Hair, Black, Babin, and Anderson [40] the higher the loading factor score, the more important role this construct has in interpreting the factor matrix. A loading factor and AVE value of > 0.5 are considered significant [39]. While discriminant validity can be seen from comparing the roots of the Average Variance Extracted (AVE) between aspects which must be higher than the correlation with other aspects [39]. The construct reliability test is performed to show the internal consistency of the measuring instrument by looking at the value of composite reliability and Cronbach alpha with a higher value, it will show the consistency value of each item in measuring latent variables. According to Hair, Black, Babin, and Anderson [40], the expected composite reliability and Cronbach alpha values are > 0.7, and > 0.6 values are still acceptable [39].
2.4. Data Analysis

The data in this study were analyzed using the outer model with the 2\textsuperscript{nd} order CFA through the SmartPLS 3.28 program. According to Abdillah and Hartono [41], Partial Least Square (PLS) is a variant-based Structural Equation Model (SEM) that can simultaneously test measurement models to test the construct validity and reliability.

3. Results and Discussion

Figure 2: Outer model of self-concept scale

The second order confirmatory factor analysis (2\textsuperscript{nd} Order CFA) test on the job satisfaction scale shows that the job satisfaction scale is valid and reliable. Therefore, the Indonesian version of the job satisfaction scale can be used maximally as a tool to measure job satisfaction among employees. Job satisfaction can be reflected in five aspects, namely the job itself, salary, promotion, supervision, and coworkers. The most dominant aspect that reflects the job satisfaction is the promotion, in which its main indicators are perception towards the amount of salary and fairness in getting the salary. The salary motivates those lecturers to work, the salary received is also felt appropriate and satisfying, and the university is able to provide fair salaries that are in accordance with applicable regulations.

3.1. Construct Validity Test

3.1.1. Convergent Validity

Convergent validity test is done by testing the outer model, which is seen from the value of the loading factor and Average Variance Extracted (AVE). Based on the data analysis, it was found that the value of loading factors from variables to aspects and from aspects to indicators are > 0.5. Loading factor weights of 0.5 or more are considered to have validation that is strong enough to explain latent constructs [40]. The results of convergent validity testing can be seen in Table 2 and Table 3.
Table 2: Loading factor value (variable-aspect)

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Loading factor</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical self</td>
<td>0.703</td>
<td>Valid</td>
</tr>
<tr>
<td>Social self</td>
<td>0.806</td>
<td>Valid</td>
</tr>
<tr>
<td>Psychological self</td>
<td>0.791</td>
<td>Valid</td>
</tr>
<tr>
<td>Moral self</td>
<td>0.748</td>
<td>Valid</td>
</tr>
</tbody>
</table>

Based on the test of convergent validity on the outer model, it was found that the loading factor value from aspects to the indicators is > 0.5 shown in Table 3.

Table 3: Loading factor (aspect-item)

<table>
<thead>
<tr>
<th>Item</th>
<th>Loading factor</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF17</td>
<td>0.823</td>
<td>Valid</td>
</tr>
<tr>
<td>AF33</td>
<td>0.722</td>
<td>Valid</td>
</tr>
<tr>
<td>SF37</td>
<td>0.860</td>
<td>Valid</td>
</tr>
<tr>
<td>AS14</td>
<td>0.715</td>
<td>Valid</td>
</tr>
<tr>
<td>AS18</td>
<td>0.836</td>
<td>Valid</td>
</tr>
<tr>
<td>AS26</td>
<td>0.770</td>
<td>Valid</td>
</tr>
<tr>
<td>AP12</td>
<td>0.627</td>
<td>Valid</td>
</tr>
<tr>
<td>AP16</td>
<td>0.723</td>
<td>Valid</td>
</tr>
<tr>
<td>AP20</td>
<td>0.796</td>
<td>Valid</td>
</tr>
<tr>
<td>AP40</td>
<td>0.795</td>
<td>Valid</td>
</tr>
<tr>
<td>AM15</td>
<td>0.810</td>
<td>Valid</td>
</tr>
<tr>
<td>AM19</td>
<td>0.731</td>
<td>Valid</td>
</tr>
<tr>
<td>AM27</td>
<td>0.804</td>
<td>Valid</td>
</tr>
<tr>
<td>AM3</td>
<td>0.640</td>
<td>Valid</td>
</tr>
<tr>
<td>AM31</td>
<td>0.651</td>
<td>Valid</td>
</tr>
</tbody>
</table>

Furthermore, the results of the convergent validity test show the Average Variance Extracted (AVE) value is > 0.5. The Average Variance Extracted (AVE) value of the self-concept construct is 0.544, and the Average Variance Extracted (AVE) value of each aspect can be seen in Table 4.

Table 4: Average Variance Extracted (AVE) value of self-concept

<table>
<thead>
<tr>
<th>Aspect</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Self</td>
<td>0.646</td>
</tr>
<tr>
<td>Social Self</td>
<td>0.601</td>
</tr>
<tr>
<td>Psychological Self</td>
<td>0.545</td>
</tr>
<tr>
<td>Moral Self</td>
<td>0.534</td>
</tr>
</tbody>
</table>
3.1.2. Discriminant Validity

The results of the discriminant validity test show that the root value of the Average Variance Extracted (AVE) in each aspect is higher than the AVE root value in other aspects, so the discriminant validity criteria are met. The AVE root value can be seen in Table 5.

**Table 5: AVE root value of self-concept**

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Physical self</th>
<th>Psychological self</th>
<th>Social self</th>
<th>Moral self</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical self</td>
<td>0.804</td>
<td>0.560</td>
<td>0.723</td>
<td>0.610</td>
</tr>
<tr>
<td>Psychological self</td>
<td>0.560</td>
<td><strong>0.738</strong></td>
<td>0.541</td>
<td>0.648</td>
</tr>
<tr>
<td>Social self</td>
<td>0.723</td>
<td>0.541</td>
<td><strong>0.775</strong></td>
<td>0.597</td>
</tr>
<tr>
<td>Moral self</td>
<td>0.610</td>
<td>0.648</td>
<td>0.597</td>
<td><strong>0.731</strong></td>
</tr>
</tbody>
</table>

3.2. Construct Reliability Test

Construct reliability testing is done by testing the outer model, which is seen from the value of composite reliability and Cronbach alpha, which should be above 0.7. The result shows that the value is above 0.7, thus, it means that the scale in this study is reliable. The composite reliability and Cronbach alpha values can be seen in Table 6.

**Table 6: Composite reliability and Cronbach alpha value of self-concept**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Composite reliability</th>
<th>Cronbach alpha</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Concept</td>
<td>0.826</td>
<td>0.719</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

The results of the construct reliability test in Table 6 shows that the scale of self-concept has good reliability and it means that the form that measures latent variables of self-concept meets unidimensional criteria [42]. This is indicated by the reliability composite of 0.826 and Cronbach alpha of 0.719. The construct validity and reliability test results invalid and reliable items that can reflect aspects of self-concept are items numbers AF17, AFS33, AFS37, AS14, AS18, AS26, AP12, AP16, AP20, AP40, AM15, AM19, AM27, AM3, AM31 of 40 items. The results of research data analysis using the outer model testing show that the model is acceptable because all aspects can reflect the construct that is formed.

4. Discussion

Based on the results of the analysis of construct validity and construct reliability, the aspects and indicators that make up the construct of self-concept are valid and reliable. Thus, all aspects and existing indicators are able to reflect and shape the construct of self-concept. The most dominant aspect that is able to reflect self-concept is social self with a loading factor of 0.806. Social self describes the extent to which students feel capable and feel valuable in the sphere of social interaction with others. This is supported by valid and reliable indicators that show that students feel accepted by their peers and are judged as pleasant people, but they still feel lonely even
in a crowd. The weakest aspect of reflecting self-concept is the physical self, with a loading factor of 0.703. Physical self describes how an individual views his health condition, body, and physical appearance. Valid and reliable indicators show that students pay attention to lifestyle, so students have a healthy body even though they also sometimes feel pain. The results of previous studies that examined the constructs of self-concept that are relevant to this study are the research of Liu, Wang, and Parkins [43] who designed a scale of self-concept to assess students' academic self-concepts in Singapore. The conceptualization of self-concept as a hierarchical model consists of 20 items with a Likert scale model using four alternative answers. Yorke [44], in his research, modified the instruments developed by Liu, Wang, and Parkins [43], and the study showed that the scale had met the reliability requirements with Cronbach alpha of 0.70. Other research, showing a self-concept instrument framework, is done by Bong [45] and Park [46], which is used as a reference in the research of Lafontaine, Dupont, Jaegers, and Schillings [47]. Indicators are arranged based on aspects of internal references and external references. Data are obtained from 48 countries and shows that the scale has met the reliability requirements with Cronbach alpha of 0.58. The self-concept instrument was also developed by Mandelman, Tan, Kornilov, Sternberg, and Grigorenko [48] based on memory, analytical, creative, and practical aspects, the study showed that the scale had fulfilled the reliability requirements to get a Cronbach alpha coefficient of 0.69, research conducted on elementary school students and their teachers. Some researchers modified the self-concept instrument from Harter [49] to make it more easily understood by girls aged 8-10 years who were in Africa and America, of these nine items showing a Cronbach alpha coefficient of 0.690 [50]. Alfansuri, Rusilowati, and Ridlo [51] developed a self-concept scale instrument model from Borg and Gallin [52] this instrument shows a Cronbach alpha value of 0.709. This is compared with the results of this study shows that the scale of self-concept from the results of this study is also appropriate to be used or applied in expressing self-concept in students. It is because the analysis results show that this self-concept scale has better and reliable validity and reliability with composite reliability of 0.826 and Cronbach alpha 0.719. The results of this study are expected to provide an overview of the validity and reliability of the self-construct scale, especially in revealing self-concepts to students, so that they can be a reference in further research related to self-concept. The limitation of this study is that the number of subjects is still small so that the next researcher can develop this instrument with more research subjects. In addition, the research location is also still in one school so that the next researcher can increase the number of research locations.

5. Conclusion

Based on the results of the analysis and discussion that has been done, it can be concluded that: 1) The construct of self-concept has fulfilled good validity and reliability, and 2) All aspects and indicators can significantly form self-concept. The most dominant aspect that reflects self-concept is the social self, and the weakest aspect is physical self. In this study, a self-concept scale measurement model was formed which is by empirical data obtained from subjects at the study site.

Acknowledgements

The author would like to thank Institute for Research and Community Service, Ahmad Dahlan University Yogyakarta for giving permission and support to carry out this research.
References


