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

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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.

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

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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.

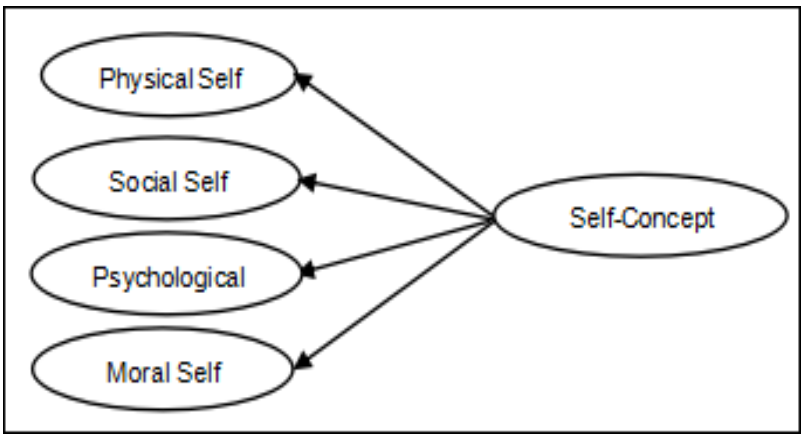

Figure 1: Conceptual model of self-concept

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

Aspect	Item		Total
	Favorable	Unfavorable	
Physical self	1,9,17,25,33	5,13,21,29,37	10
Social self	2,10.18,26,34	6,14,22,30.38	10
Psychological self	4,12,20.28,36,40	8,16,24,32	10
Moral self	3,11,19,27,35,39	7,15,23,31	10
Total	20	20	40

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 2nd 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

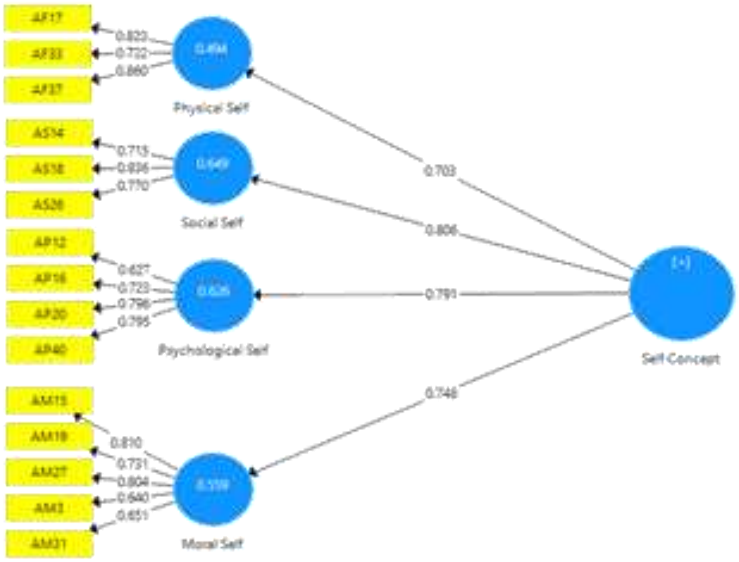

Figure 2: Outer model of self-concept scale

The second order confirmatory factor analysis (2nd 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)

Aspect	Loading factor	Explanation
Physical self	0.703	Valid
Social self	0.806	Valid
Psychological self	0.791	Valid
Moral self	0.748	Valid

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)

Item	Loading factor	Explanation
AF17	0.823	Valid
AF33	0.722	Valid
SF37	0.860	Valid
AS14	0.715	Valid
AS18	0.836	Valid
AS26	0.770	Valid
AP12	0.627	Valid
AP16	0.723	Valid
AP20	0.796	Valid
AP40	0.795	Valid
AM15	0.810	Valid
AM19	0.731	Valid
AM27	0.804	Valid
AM3	0.640	Valid
AM31	0.651	Valid

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

Aspect	AVE
Physical Self	0.646
Social Self	0.601
Psychological Self	0.545
Moral Self	0.534

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

Aspect	Physical self	Psychological self	Social self	Moral self
Physical self	**0.804**	0.560	0.723	0.610
Psychological self	0.560	**0.738**	0.541	0.648
Social self	0.723	0.541	**0.775**	0.597
Moral self	0.610	0.648	0.597	**0.731**

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

Variable	Composite reliability	Cronbach alpha	Explanation
Self- Concept	0.826	0.719	Reliable

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.

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References

[1]. H.W. Marsh, R. Pekrun, K. Murayama, A.K. Arens, P.D. Parker, J. Guo and T. Dicke. "An Integrated model of academic self-concept development: Academic self-concept, grades, test scores, and tracking over 6 years." Developmental Psychology, vol. 54, no. 2, pp. 263-280, 2018.

[2]. P.E. Davis- Kean and H.M. Sandler. "A meta- analysis of measures of self- esteem for young children: A framework for future measures." Child Development, vol. 72, no. 3, pp. 887-906, 2001.

[3]. H.W. Marsh, L.A. Ellis and R.G. Craven. "How do preschool children feel about themselves? Unraveling Measurement and multidimensional self-concept structure." Developmental Psychology, vol. 38 no. 3, pp. 376-393, 2002.

[4]. S.K. Chen, Y.C. Yeh, F.M. Hwang and S.S. Lin. "The relationship between academic self-concept and achievement: A multicohort–multioccasion study." Learning and Individual Differences, vol. 23, pp. 172-178, 2013.

[5]. H.W. Marsh and R.G. Craven. "Reciprocal effects of self-concept and performance from a multidimensional perspective: Beyond seductive pleasure and unidimensional perspectives." Perspectives on Psychological Science, vol. 1, no. 2, pp. 133-163, 2006."

[6]. S. Harter. "New directions in self-development: Resurrecting the i-self." In McInerney, D. M., Marsh, H., Craven, R. G., & Guay, F. Theory driving research: New wave perspectives on self processes and human development. New York: Information Age Publishing, 2012.

[7]. H.W. Marsh, R.H. Parada, R.G. Craven and L. Finger. "The looking glass: A Reciprocal effects model elucidating the complex nature of bullying, psychological determinants, and the central role of self-concept." In Bullying: Implications for the classroom, Orlando: Academic Press, 2014.

[8]. R. Pekrun. "The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice." Educational Psychology Review, vol. 18, no. 4, pp. 315-341, 2006.

[9]. J. Eccles. "Who am i and what am i going to do with my life? Personal and collective identities as motivators of action." Educational Psychologist, vol. 44, no. 2, pp. 78-89, 2009.

[10]. A.J. Elliot and C.S. Dweck. "Competence and motivation: Competence as the core of achievement motivation." In Competence and motivation. New York: Guilford Press, 2005.

[11]. S.L. Christenson, A.L. Reschly and C. Wylie. Research on student engagement. New York: Springer Science & Business Media, 2012.

[12]. A. Rodríguez-Fernández, L. Droguett and L. Revuelta. "School and personal adjustment in adolescence: the role of academic self-concept and perceived social support." Revista de Psicodidáctica, vol. 17, no. 2, pp. 397-415, 2012.

[13]. E.A. Skinner, T.A. Kindermann and C.J. Furrer. "A motivational perspective on engagement and disaffection: Conceptualization and Assessment of children's behavioral and emotional participation in academic activities in the classroom." Educational and Psychological Measurement, vol. 69, no. 3, pp. 493-525, 2009.

[14]. R. Ryberg. "Positive self-concept predicts youth staying in school longer in India." Advances in Life Course Research, vol. 37, pp. 1-55, 2018.

[15]. L.H. Lippman, R. Ryberg, R. Carney and K.A. Moore. Workforce connections: Key "soft skills" that foster youth workforce success: Toward a consensus across fields. Washington: Child Trends, 2018.

[16]. B. Simons-Morton and R. Chen. "Peer and parent influences on school engagement among early adolescents." Youth & Society, vol. 41, no. 1, pp. 3-25, 2009.

[17]. H.J. Bang, C. Suárez-Orozco and E. O'Connor. "Immigrant students' homework: Ecological perspective on facilitators and impediments to task completion." American Journal of Education, vol. 118, no. 1, pp. 25-55, 2011.

[18]. P.A. Chase, L.J. Hilliard, G.J. Geldhof, D.J. Warren and R.M. Lerner. "Academic achievement in the high school years: The changing role of school engagement." Journal of Youth and Adolescence, vol. 43, no. 6, pp. 884-896, 2014.

[19]. S. Kozan, A.D. Fabio, D.L. Blustein and M.E. Kenny. "The role of social support and work-related factors on the school engagement of Italian high school students." Journal of Career Assessment, vol. 22, no. 2, pp. 345-354, 2014.

[20]. R.A. Madill, S.D. Gest and P.C. Rodkin. "Students' perceptions of relatedness in the classroom: The roles of emotionally supportive teacher-child interactions, children's aggressive-disruptive behaviors, and peer social preference." School Psychology Review, vol. 43, no. 1, pp. 86-105, 2014.

[21]. D.D. Chaplin. Empowerment zones and e-rate application rates. Washington: Ther Service, 2016.

[22]. G.W. Stuart and Sundeen. Principles, and practice of psychiatric nursing. Louis: Mosby, 2016.

[23]. J. Waddington. "Developing primary school students' foreign language learner self-concept." System, vol. 82, pp. 39-49, 2019.

[24]. J.F. Calhoun and J.R. Acocella. Psychology of assessment and human relationship. New York: McGraw Hill, 2004.

[25]. M., Jansen, U. Schroeders, O. Lüdtke and H.W. Marsh. "The dimensional structure of students' self-concept and interest in science depends on course composition." Learning and Instruction, vol. 60, pp. 20-28, 2019.

[26]. F. García, E. Gracia and A. Zeleznova. "Validation of the English version of the five-factor self-concept questionnaire." Psicothema, vol. 25, no. 4, pp. 549-555, 2013.

[27]. N. Pellas. "The influence of computer self-efficacy, metacognitive self-regulation and self-esteem on student engagement in online learning programs: Evidence from the virtual world of second life." Computers in Human Behavior, vol. 35, pp. 157-170, 2014.

[28]. F. Preckel, C. Niepel, M. Schneider and M. Brunner. "Self-concept in adolescence: A longitudinal study on reciprocal effects of self-perceptions in academic and social domains." Journal of Adolescence, vol. 36, no. 6, pp. 1165-1175, 2013.

[29]. H.W. Marsh and R. Shavelson. "Self-concept: Its multifaceted, hierarchical structure." Educational Psychologist, vol. 20, no. 3, pp. 107-123, 1985.

[30]. F. Tentama and M.H. Abdillah. "Student employability examined from academic achievement and self-concept." International Journal of Evaluation and Research in Education, vol. 8, no. 2, pp. 243-248, 2019.

[31]. A.M. Hadley, E.C. Hair and K.A. Moore. "Assessing what kids think about them selves: A guide to adolescent self-concept for out of school time program practitioners." Research to Results Child

Trends, vol. 32, pp. 1-6, 2008.

[32]. Berzonsky. Moral development child. USA: The MacMillan Psychology References Series, 2001.

[33]. R.J. Shavelson, J.J. Hubner and G.C. Stanton. "Self-concept: Validation of construct interpretations." Review of Educational Research, vol. 46, no. 3, pp. 407-441, 1976.

[34]. H.H. Kelley. "The processes of causal attribution." American Psychologist, vol. 28, no. 2, pp. 107-128, 1973.

[35]. R. West and L.H. Turner. Introducing communication theory: Analysis and application. New York: McGraw-Hill, 2017.

[36]. S. Mercer. Towards an understanding of language learner self-concept. New York: Springer Science Business Media, 2011.

[37]. J.E. Ormrod. Educational psychology: Developing learners. NJ: Merrill/Prentice-Hall, 2013.

[38]. H. Latan. Structural equation modeling concepts and applications using LISREL 8,80 (in Indonesian). Bandung: Alfabeta, 2012.

[39]. H.M. Jogiyanto. The concept and application of variance-based structural equation modeling in business research (in Indonesian). Yogyakarta: UPP STIM YKPN, 2011.

[40]. J.F. Hair, W.C. Black, B.J. Babin and R.E. Anderson. Multivariate data analysis. Upper Saddle River: Prentice-Hall, 2010.

[41]. W. Abdillah and J. Hartono. Partial Least Square (PLS): Alternative of Structural Equation Modeling (SEM) in business research (in Indonesian). Yogyakarta: Penerbit Andi, 2015.

[42]. J.F. Jr. Hair, G.T.M. Hult, C. Ringle and M. Sarstedt. A primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Sage Publications, 2016.

[43]. W.C. Liu, C.K.J. Wang and E.J. Parkins. "A longitudinal study of students' academic self- concept in a streamed setting: The Singapore context." British Journal of Educational Psychology, vol. 75, no. 4, pp. 567-586, 2005.

[44]. L. Yorke. "Validation of the academic self-concept questionnaire in the Vietnam school survey round 1." Young Lives An International Study of Childhood Poverty, pp. 1-2, 2016.

[45]. M. Bong. "Tests of the internal/external frames of reference model with subject-specific academic self-efficacy and frame-specific academic self-concepts." Journal of Educational Psychology, vol. 90, no. 1, pp. 102–110, 1998.

[46]. Y. Park. "How motivational constructs interact to predict elementary students' reading performance: examples from attitudes and self-concept in reading." Learning and Individual Differences, vol. 21, no. 4, pp. 347-358, 2011.

[47]. D. Lafontaine, V. Dupont, D. Jaegers and P. Schillings. "Self concept in reading: Factor structure, cross-cultural invariance, and relationships with reading achievement in an international context (PIRLS 2011)." Studies in Educational Evaluation, vol. 60, pp. 78-89, 2019.

[48]. S.D. Mandelman, M, Tan, S.A. Kornilov, R.J. Sternberg and E.L. Grigorenko. "The metacognitive component of academic self-concept: The development of a triarchic self-scale." Journal of Cognitive Education and Psychology, vol. 9, no. 1, pp. 73-86, 2010.

[49]. S. Harter. "The perceived competence scale for children." Child Development, pp. 87-97, 1982.

[50]. N.E. Sherwood, W.C. Taylor, M. Treuth, L.M. Klesges, T. Baranowski, A. Zhou, C. Pratt, B.

McClanahan, T.N. Robinson, I. Pruitt and W. Miller. "Measurement characteristics of activity-related psychosocial measures in 8-to 10-year-old African-American girls in the girls health enrichment multisite study (GEMS)." Preventive Medicine, vol. 38, pp. 60-68, 2004.

[51]. D.U. Alfansuri, A. Rusilowati and S. Ridlo. "Development of instrument self-concept assessment student on learning mathematics in junior high school." Journal of Educational Research and Evaluation, vol. 7, no.1, pp. 1-8, 2018.

[52]. W.R. Borg and M.D. Gall. Education research: An introduction. New YorkLondon: Longman, 2007.