



## Developing a Pancasila students' character instrument: Proof of construct validity and estimation of construct reliability

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### ABSTRACT

This study aims to prove construct validity and estimate construct reliability of the character scale of Pancasila students by using confirmatory factor analysis. The research approach used is quantitative, with a sample of 200 high school students selected at random. This study measured the variables by six aspects, 15 indicators, and 20 questions. The six aspects include faith and piety to God Almighty, global nationality, cooperation, independence, critical reasoning, and creativity. The data analysis technique used is confirmatory factor analysis. The study results concluded that the instrument for assessing the character of Pancasila students in high school had a loading factor of more than 0.4 and a value of more than 0.96 which was declared valid and significant. Likewise, the instrument has been declared fit to test the goodness of fit model. Thus, this finding indicates that the observed and performance covariance matrices are not significantly different. This study recommends a scale to measure the character of Pancasila students in senior high school.

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## INTRODUCTION

Character is a contemporary issue that continues to be a hot and interesting discussion among psychologists and educational practitioners, especially in facing the 21st century. *The 21st Century Education Framework* developed by the [World Economic Forum \(2016\)](#) states that there are three important skills that the nation's generation must possess to survive and be able to compete in the 21st century, one of which is character qualities. This character is also of concern to all nations, including Indonesia. A character-strengthening program is currently carried out by the Indonesian nation so that it can be seen in the educational objectives, namely: developing the potential of students to become human beings who believe and fear God Almighty, have a noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens contained in [Law Number 20 of 2003 concerning the National Education System](#). Besides, character strengthening is also enshrined in the National Long-Term Development Plan (RPJP) for 2005-2025 ([Law Number 17 of 2007 concerning the National Long-Term Development Plan for 2005-2025](#)), including, among other things, creating a society with noble character, morality, ethics, culture, and civility based on the Pancasila philosophy. Likewise,

in 2010, the Indonesian government launched and implemented the policy of the National Movement for National Action Plan for National Character Education. Unfortunately, this policy has not been implemented evenly in schools throughout Indonesia. The next strategic step taken by the Ministry of Education and Culture is to continue, expand, strengthen, optimize, and deepen character education in schools by bringing up the Strengthening Character Education movement.

Character education experts have different opinions regarding the right character values to be internalized in students to face the 21st century. The Center for Curriculum Redesign, in Character Education for the 21st Century, develops six main character values that must be integrated with their internal education, namely, character values, mindfulness, curiosity, courage, resilience, ethics, and leadership (Bialik et al., 2015). Also, the World Economic Forum (2016) developed six characteristics in the 21st-century education framework: curiosity, initiative, persistence/grit, adaptability, leadership, and social and cultural awareness. Meanwhile, Indonesia in 2020, through the Ministry of Education and Culture, has also developed six main characters called the "Pancasila student profile" by developing six main character values, including the character of faith and piety to God Almighty and noble character, global diversity, independence, cooperation, and critical and creative reasoning.

The character of faith and piety to God Almighty is the character of students who understand religious teachings and beliefs and apply these understandings in daily life. There are five key elements of faith, fear of God Almighty, and noble character: (a) religious character, (b) personal character, (c) morality to humans, (d) morality to nature, and (e) state morality (Ministry of Education and Culture, 2020). Meanwhile, according to the Center for Educational Assessment (2019), indicators of an attitude of faith and piety to God Almighty can be shown in the attitude toward obedience in carrying out worship both at school and outside school, saying greetings, starting and ending activities by praying, appreciating adherents of other religions, and staying away from God's prohibition.

Global diversity is the characteristic of students who maintain their noble culture, locality, and identity, and keep an open mind when interacting with other cultures. Meanwhile, according to the Ministry of Education and Culture (2020), the indicators of the character of global diversity include the attitude of students who want to know and respect the culture, have intercultural communication skills in interacting with others, and are responsible for maintaining diversity by living in harmony with people of different races, religions, customs, and groups.

The corporation character relates to the character of Indonesian students who can carry out activities together voluntarily so that the activities carried out can run smoothly, easily, and lightly (Ministry of Education and Culture, 2020). In line with that, Center for Educational Assessment (2019) explains that corporation is an attitude of students that reflects the action of working hand in hand and helping each other in solving problems/work. The elements of the corporation are collaboration, caring, and sharing.

Independence is the character of Pancasila students who do not depend on others and are responsible for their duties and obligations (Ministry of Education and Culture, 2020). Independence can be interpreted as an attitude of students who do not depend on others and who use energy and time of mind to achieve the desired goals (Center for Educational Assessment, 2019). Indicators of independence attitude are self-awareness of the situation at hand and self-regulation. Zimmerman and Schunk (2004) divide self-regulation into three aspects applied to learning: metacognition, motivation, and behavior. In metacognition, students who have self-regulation can plan, organize, instruct themselves, monitor, and evaluate themselves in the learning process (Ormrod, 2008). Motivated learners who learn will feel that they are competent/capable, have self-efficacy, and have independence (Pintrich, et al., 1994). Students can create behavior to fulfill a goal or several desired goals. One of the goals that students want to achieve is to be successful in learning. Students will succeed in learning if they have the drive or desire to learn. Meanwhile, behaviorally, students who learn can select, arrange, and organize the environment to be more optimal in learning through habits and interactions (Zimmerman & Schunk, 2004).

The character of critical reasoning is that students can objectively process information both qualitatively and quantitatively, build relationships between various information, analyze information, evaluate, and conclude (Ministry of Education and Culture, 2020). Critical reasoning is also an evaluation activity and process that directs and regulates problem-solving and decision-making (Facione, 2011; Facione & Gittens, 2015). Piirto (2011) views creative thinking skills as part of divergent thinking and divides creative thinking skills into five aspects consisting of fluency, flexibility, originality, elaboration, and transformation. Meanwhile, Hadar and Tiros (2019) define creative thinking as the attitude of students who can generate ideas in the problem-solving process.

Creativity character is the character of Pancasila students who can develop and produce something, both original and useful ideas/works, and have an impact on society and the nation. The key element of being creative consists of generating original ideas and producing original works and actions (Ministry of Education and Culture, 2020). McGregor (2007) defines creativity as the ability to create or provide a unique idea from an alternative point of view. He describes five aspects/dimensions of creative thinking, namely fluency, flexibility, originality, and elaboration. In this regard, in the realm of learning context, fluency is the ability to express similar ideas to solve a problem. In the same context, flexibility is the ability to generate various kinds of ideas to solve a problem outside the usual category. Originality is the ability to provide a unique or extraordinary response. Elaboration is the ability to express the direction of the idea in detail to turn the idea into reality (Ministry of Education and Culture, 2020).

The character of Pancasila students is very important for Indonesian students to face the 21st century, which is full of challenges and competition. Many types of research on the character have been carried out, but none has discussed the character of Pancasila students. Research has been done, such as research by Supriyadi et al. (2019), who developed procedures and guidelines for character assessment in vocational high schools. Research by Khilmiyah et al. (2015) developed a model of assessment of intrapersonal and interpersonal skills in elementary schools. Research by Syamsudin et al. (2016) developed an effective assessment to measure the social competence of elementary school students in the learning process at school.

Based on these data, it is very important to develop a measurement scale to measure the character of Pancasila students. In measuring, it is necessary to have a measurement scale that is valid and reliable. Confirmatory factor analysis is one part of the structural equation model that is used to study measurement models and identify relationships between dimensions, indicators, and observation items (Brown & Moore, 2012). One of the advantages of this measurement method is that it can find out the relationship between latent variables and observed variables in more detail (Amalia, 2019). In this study, the researcher wants to describe the scale of measuring the character of Pancasila students using confirmatory factor analysis, which includes indicators of faith and piety to God Almighty, global diversity, independence, cooperation, and critical and creative reasoning using confirmatory factor analysis.

## METHOD

### Research Aims

This study aims to prove the construct validity of the instrument and estimate the construct reliability of the character scale of Pancasila students by using confirmatory factor analysis. The quantitative approach is used to describe the scale of measuring the character of Pancasila students by using confirmatory factor analysis. This factor analysis method proved and verified many factors underlying the research variables.

### Sample and Data Collection

The sample in this study is students from three high schools in Palu, Indonesia. In determining the sample, it is necessary to pay attention to the adequacy of the sample used in the study

because the adequacy of the sample greatly affects the fit of the model in factor analysis (Yadama & Pandey, 1995). The sample size used should be at least 100 (Kline, 2014; MacCallum et al., 1999; O'Rourke & Hatcher, 2013). From this opinion, the sample of this study is 200 students, so it has met the adequacy of the sample to obtain valid data. Furthermore, the data from the research participants were made anonymous, and the data obtained during this study was used only for research purposes.

The data collection used a questionnaire using a five-point Likert scale, namely always (5), often (4), sometimes (3), rarely (2), and never (1). The variables studied in this study were the characters of Pancasila students. The variables were measured by six-character values and measurement items consisting of Faith and piety to God Almighty, global diversity, independence, cooperation, and critical and creative reasoning, which is limited to the indicators mentioned in Table 1.

Table 1. The Distribution of Indicators and Items

Aspect	Indicators	Measurement Items	Code
Faith and fear of God Almighty (IMTK)	Religious	Students carry out worship according to their religion and beliefs.	A1
		Students actively participate in religious activities at school.	A2
		Students actively participate in religious activities ( <i>ta'lim</i> assemblies) outside the school.	A3
		Students stay away from religious prohibitions such as stealing, adultery, and drinking/drugs.	A4
Global Nationality (BKGL)	Knowing and appreciating culture	Students are proud to wear traditional Indonesian clothes.	B1
	Intercultural communication skills in interacting with others	Students establish good communication relationships with other students regardless of differences in religion, race, customs, and class.	B2
	Reflection and responsibility for the experience of diversity	Students live in harmony with friends of different religions, races, customs, and groups.	B3
Cooperation (GTRG)	Cooperate	Students work together in doing group assignments.	C1
	Concern	Students help friends/other people who are affected by the disaster.	C2
	Share	Students are willing to share with friends who are in trouble.	C3
Independent (MNDR)	Self-regulation	Students have targets for learning.	D1
		Students have your strategies in learning.	D2
		Students can manage their study time well.	D3
		Students know their strengths and weaknesses.	D4
Critical Reasoning (KRTS)	Obtaining and processing information	Students question something they do not know.	E1
	Analyze and evaluate reasoning	Students check the truth of the information before disseminating it.	E2
	Making decisions based on facts	Students make decisions/conclusions based on facts.	E3
Creative (KRTF)	Generate original ideas/ideas	Students can develop or enrich other people's ideas/works.	F1
		Students spark many ideas, answers, suggestions for solutions, ideas or things that other people do not think of.	F2
	Produce original work	Students make reports/works in detail and different from the theme.	F3

## Data Analysis

The data analysis technique used in this research is second-order confirmatory factor analysis (2nd Order CFA), a measurement model consisting of two levels. The first level of analysis is carried out from the aspect construct to its indicators, and the second analysis is carried out from the latent construct to the aspect construct (Latan, 2012). Thus, the construct validity of the character instrument can be seen by looking at the weight of the factor load and the t-value, calculating the reliability of the character instrument construct using the standard loading factor of each item and the error of each item, the contribution of aspects and indicators in reflecting/measuring the character variable, and confirming the hypothesized model, namely the fit of the model and the data. CFA analysis was carried out using the LISREL 8.50 software. In confirmatory factor analysis, there are latent variables and indicator variables. Latent variables are variables that cannot be formed and constructed directly, while indicator variables are variables that can be observed and measured directly. The analytical measurement model was built using the formula presented in Equation (1) (Nasir et al., 2015), in which  $x$  = the vectors for indicator variables,  $\xi$  = the exogenous latent variables,  $\lambda$  = the loading factor, and  $\delta$  = error. Evidence of construct validity: The validity of an indicator item in representing the construct is if the t value  $> 1.96$  and the standardized loading factor (SLF) is not less than 0.4 (Prudon, 2015; Williams et al., 2010).

$$\begin{aligned} \text{Indicator} &= \lambda \text{ construct} + \text{error} \\ x &= \lambda \xi + \delta \end{aligned} \dots\dots\dots (1)$$

Meanwhile, to test the fit of the model between the empirical data and the designed model, the goodness of fit model test was conducted. The model is said to be fit if the chi-square value is less than 2 df (Arbuckle, 1997), the p-value is more than 0.05 (Pedhazur, 1997; Ferdinand, 2002), Root Mean Square Error of Approximation (RMSEA) is less than or equal to 0.08 (Ferdinand, 2002; Sarwono, 2010) and the goodness of fit index (GFI) is greater than or equal to or close to 0.9 (Pedhazur, 1997; Ferdinand, 2002) or close to one (Sarwono, 2010).

To find out if the instrument is good, in addition to testing the validity and model fit analysis, reliability testing is necessary. Estimation of construct reliability can be determined by using Composite Reliability (CR or omega coefficient ( $\omega$ )), Average Variance Extracted (AVE), and Maximal Reliability (H), but generally, what is commonly used is Composite Reliability (CR) and Average Variance Extracted (AVE). The reliability estimate used in this study refers to Composite Reliability (CR) or reliability coefficients (Fornell & Larcker, 1981; Ghozali & Fuad, 2014), which are presented in Equation (2), where  $i$  = the component loading factor or factor loading indicator of  $i$ , and  $var i = 1 - \lambda_i^2$ . The construct reliability coefficient has a value between 0 and 1. The higher the coefficient indicates, the more reliable the measurement model developed. Criteria are considered reliable if  $\rho_c > 0.80$  (Catalán & Gordon, 2020).

$$\rho_c = \frac{(\sum \lambda_i)^2}{(\sum \lambda_i)^2 + \sum_i var(\epsilon_i)} = \frac{(\sum \lambda_i)^2}{(\sum \lambda_i)^2 + \sum_i (1 - \lambda_i^2)} \dots\dots\dots (2)$$

## FINDINGS AND DISCUSSION

### Findings

The results of this study are described based on the variable constructs of the Pancasila student character that have been previously formulated, namely having faith and piety to God Almighty, global diversity, independence, cooperation, and critical and creative reasoning. The data presented in Figure 1 are obtained based on the research findings.

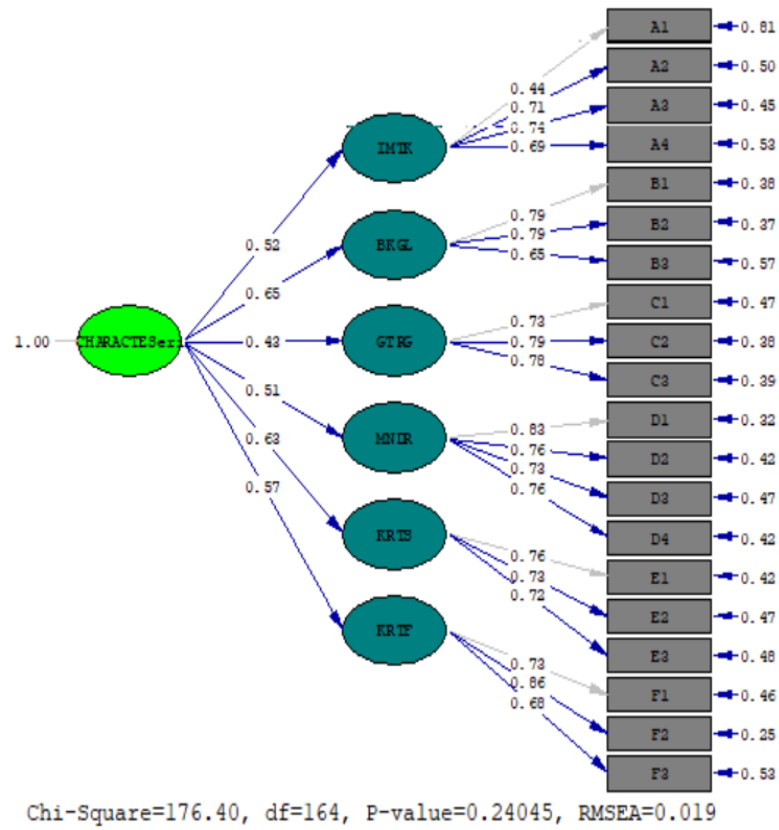


Figure 1. Standardized Solution Loading Factor

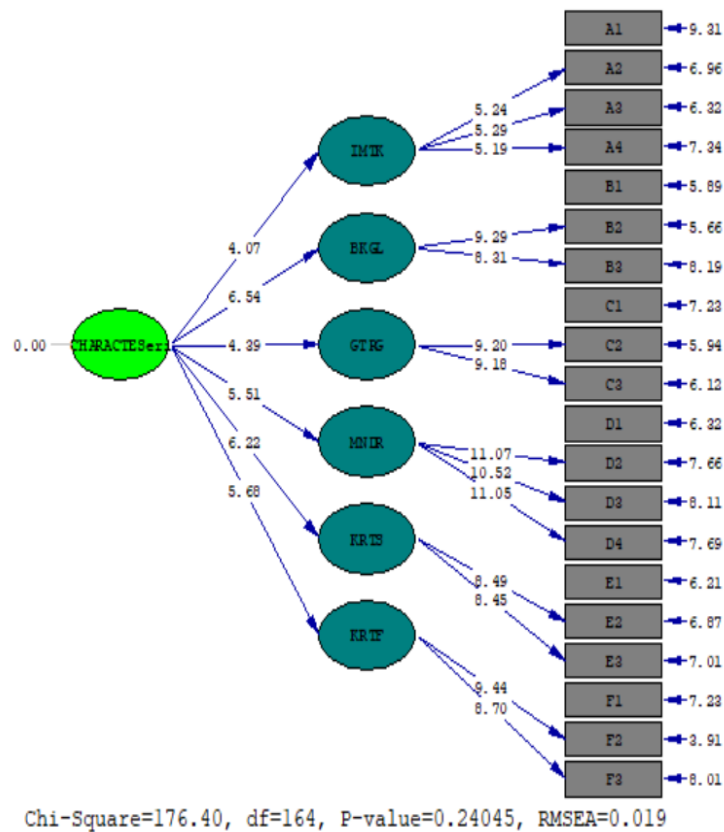


Figure 2. T-value

Based on [Figure 1](#) and [Figure 2](#), the loading factor value in the standardized solution shows that the value obtained is valid and significant because the factor loading value for each factor is higher than 0.4, and the t value is  $> 1.96$ . Likewise, the testing of aspects and indicators of the character of Pancasila students shows the same thing, as seen in [Table 2](#). Based on [Table 2](#), the highest loading factor is shown in the aspect of creativity character (F2), related to the attitude of students who can spark many ideas, answers, suggestions in completion, and ideas or things that others do not think of, while the lowest loading factor is shown in faith and piety to God Almighty, religious indicators (A1) relate to the student's attitude. Students carry out worship according to their religion and beliefs. The loading value is obtained in the second-order CFA measurement, especially in measuring latent variables (characters) to aspects, as seen in [Table 3](#).

**Table 2.** Analysis of 2nd Order CFA (Aspect-Indicators)

Aspect	Items	Loading factor $> 0.4$	t value ( $>1.96$ )	Decision
IMTK	A1	0.44		Valid
IMTK	A2	0.71	5.24	Valid
IMTK	A3	0.74	5.29	Valid
IMTK	A4	0.69	5.19	Valid
BKGL	B1	0.79		Valid
BKGL	B2	0.79	9.29	Valid
BKGL	B3	0.65	8.31	Valid
GTRG	C1	0.73		Valid
GTRG	C2	0.79	9.20	Valid
GTRG	C3	0.78	9.18	Valid
MNDR	D1	0.82		Valid
MNDR	D2	0.76	11.07	Valid
MNDR	D3	0.73	10.52	Valid
MNDR	D4	0.76	11.05	Valid
KRTS	E1	0.76		Valid
KRTS	E2	0.73	8.49	Valid
KRTS	E3	0.72	8.45	Valid
KRTF	F1	0.73		Valid
KRTF	F2	0.86	9.44	Valid
KRTF	F3	0.68	8.70	Valid

**Table 3.** Results of 2nd Order CFA Analysis (Latent-Aspect Variables)

Variable	Aspect	Standardized solution loading factor $> 0.4$	t value ( $>1.96$ )	Decision
Character	IMTK	0.52	4.07	Valid
Character	BKGL	0.65	6.54	Valid
Character	GTRG	0.43	4.29	Valid
Character	MNDR	0.51	5.51	Valid
Character	KRTS	0.63	6.22	Valid
Character	KRTF	0.57	5.68	Valid

Based on the second-order CFA analysis results, the latent variable to the aspect shows that it is valid and significant with a loading factor value above 0.4 and a t-value greater than 1.96. The goodness of fit model analysis also supports these results. The analysis results show that the p-value is greater than a (0.05), RMSE is 0.08, and the Chi-Square value is 2df, as seen in [Table 4](#).

**Table 4.** Criteria for Model Fit

No.	Fit Index	Score	Standard value	Information
1.	P-Value	0.240	0.05	Fit
2.	RMSEA	0.019	0.08	Fit
3.	Chi-Square	176.4	2df (164)	Fit
4.	GFI	0.92	0.9	Fit

Based on Table 4, the p-value is  $0.240 \geq 0.05$ , the RMSEA value is  $0.019 \leq 0.08$ , the chi-square value is less than 2 df (165), and the GFI value is 0.92. This is in line with the opinion which states that the model is said to be fit if the chi-square value is less than 2 df (Arbuckle, 1997), a p-value is more than 0.05 (Pedhazur, 1997; Ferdinand, 2002), Root Mean Square Error of Approximation (RMSEA) is less than or equal to 0.08 (Ferdinand, 2002; Sarwono, 2010), and the Goodness of Fit Index (GFI) is greater than or equal to or close to 0.9 (Pedhazur, 1997; Ferdinand, 2002) or close to one (Sarwono, 2010). Thus, it means that the proposed model is supported by empirical data, or in other words, the proposed model fits the data. Thus, it can be said that the construct of six aspects of the student's character is valid and significant in measuring the latent variable of character, and the 20 items of questions are said to be valid and significant in its aspects. The next unit of analysis tests the construct reliability of the student character variables. This analysis was conducted in this study to determine the consistency of the student character measurement model.

Table 5. Result of Construct Reliability Analysis

Aspect	Items		i2	1-i2	
IMTK	A1	0.44	0.194	0.806	0.9593
IMTK	A2	0.71	0.504	0.496	
IMTK	A3	0.74	0.548	0.452	
IMTK	A4	0.69	0.476	0.524	
BKGL	B1	0.79	0.624	0.376	
BKGL	B2	0.79	0.624	0.376	
BKGL	B3	0.65	0.423	0.578	
GTRG	C1	0.73	0.533	0.467	
GTRG	C2	0.79	0.624	0.376	
GTRG	C3	0.78	0.608	0.392	
MNDR	D1	0.82	0.672	0.328	
MNDR	D2	0.76	0.578	0.422	
MNDR	D3	0.73	0.533	0.467	
MNDR	D4	0.76	0.578	0.422	
KRTS	E1	0.76	0.578	0.422	
KRTS	E2	0.73	0.533	0.467	
<b>KRTS</b>	E3	0.72	0.5184	0.482	
<b>KRTF</b>	F1	0.73	0.5329	0.467	
<b>KRTF</b>	F2	0.86	0.7396	0.260	
<b>KRTF</b>	F3	0.68	0.4624	0.538	
		14.66		9.1182	

The next unit of analysis is reliability testing. It is based on the results of the analysis of construct reliability, which can be seen in Table 5. Table 5 shows the results of construct reliability analysis based on all aspects and indicators of factor loading coefficients. The results of the analysis obtained an omega coefficient or reliability coefficient of 0.959, greater than 0.80 (Catalán & Gordon, 2020). Thus, the model for measuring student character is reliable.

## Discussion

In the second CFA test, it was found that, in general, the aspect of the character of faith and piety to God Almighty, represented by four measurement items, indicates that item A3 is that students actively participate in religious activities at school. This finding aligns with the argument of Janmohamed (2017), who describes the young generation of Muslims who are both characterized by faith and modernity and can be reconciled in building their identity. Center for Educational Assessment (2019) states that the character of faith and piety to God is marked by the participation of students in various religious activities both at and outside of school.

Three indicators and three items represent the findings of the second aspect of global diversity. Items B1 and B2 contribute greatly to the character aspect of global diversity. Item B1



relates to students being proud to wear traditional Indonesian clothes and B2 Students establishing good communication relationships with other students regardless of differences in religion, race, customs, and class. This is in line with the formulation in the Strategic Plan of the Ministry of Education and Culture 2020 – 2024 (Wahyuningsih et al., 2021), which states that Indonesian students who have global diversity characters are students who know and appreciate culture, have intercultural communication skills in interacting with others, and can reflect and be responsible for the experience of diversity (Ministry of Education and Culture, 2020). This reflection of responsibility can be realized by maintaining unity and integrity, such as the attitude of students living in harmony with other students (B3).

The third aspect is the character of cooperation. This cooperation aspect consists of three indicators and three items. Item C2 has the greatest contribution to the cooperation aspect. The item relates to the indicator of concern shown by the attitude of students who help friends/ other people who experience disasters by holding fundraisers. This aligns with Zuchdi (2011), who explains that caring is an attitude and action that always wants to assist people in need. In addition, Items C1 and C3 also have the attitude of students working together in doing group assignments. According to the Ministry of Education and Culture (2020), cooperation character refers to the character of Indonesian students who can carry out activities together voluntarily so that the activities carried out can run smoothly, easily, and lightly. Meanwhile, C3 is related to the attitude of students willing to share with friends who are in trouble. This aspect is an important indicator of cooperation.

The fourth aspect is the character of independence. This aspect consists of two indicators and four questions. Item D1 is an item that contributes greatly to the independent character aspect. Item D1 relates to the attitude of students having a target in learning or having a goal in learning. Students who have the attitude toward independence, in this case, self-regulation, will be able to create behavior to fulfill a goal or several desired goals. Students with high achievement use more self-regulated learning strategies than those with low achievement (Pintrich et al., 1994; Chen, 2002). Other items, such as the attitude of students who have their strategies in learning (D2), can manage their study time well (D3), and know their strengths and weaknesses (D4), are related to self-regulation in metacognition as explained by Ormrod (2008), which states that students who have self-regulation will be able to plan, organize, instruct themselves, monitor, and evaluate themselves in the learning process.

The fifth character aspect is critical reasoning character. This aspect of critical reasoning is measured based on three indicators and three items. Item E1 has the greatest contribution to the critical reasoning aspect. Item E1 relates to students asking questions about something they do not know. This is in line with Kurfiss (1988), who states that critical reasoning is concerned with investigations whose purpose is to explain situations, phenomena, and questions that integrate all available information and, therefore, can be justified convincingly. With the character of critical thinking, students can solve the problems they face. One cannot study well without thinking well. Thus, critical thinking is related to career success, but also to success in higher education. Based on previous surveys, critical thinking and creativity are considered beneficial to improve students' ability in problem-solving and decision-making through collaboration and effective communication, especially in facing the 21st century (Selman & Jaedun, 2020). Another item that also plays a role in critical character development is item E2, namely, students check the truth of information before disseminating it, and students make decisions/conclusions based on facts. This aspect is in line with the Ministry of Education and Culture (2020), which explains that the key elements of critical reasoning is obtaining and processing information and ideas, analyzing and evaluating reasoning, reflecting on thoughts and thought processes, and making decisions.

The sixth and last aspect of the character is the character of creativity. This aspect is measured based on two indicators and three items. The F2 item is an item that has a major contribution to the creative character aspect. This item relates to the attitude of students who can develop/enrich the ideas of others. This is in line with McGregor's (2007) opinion, which states that

creative thinking is also defined as the ability to create or provide a unique idea from an alternative point of view. In addition, other items that contribute to the development of creativity and F1 and F3 items relate to the student's attitude toward the ability to develop or enrich other people's ideas/works. Students make reports/works in detail and different from the theme. According to the [Ministry of Education and Culture \(2020\)](#), the key element of creativity is generating original ideas and producing original works and actions. Creativity is one of the important skills that must be possessed and is the key to effective learning in the 21st century. Creativity has been considered to play an important role throughout a person's lifespan and is directly related to the development of content knowledge and skills ([Ritter & Mostert, 2017](#)).

The findings in this study indicate that all items measuring the character of high school students have a factor loading of higher than 0.4 and a value of more than 1.96, which means they have met the criteria for construct validity. This indicates that all items (20 items) in the student character measurement model have significance in measuring latent variables ([Prudon, 2015](#)). Likewise, the measurement of aspects to latent variables of all aspects shows the loading factor is more than 0.4, and the t-value is more than 1.96. Of the six aspects of character assessment, the character aspect of global citizenship (BKG) has a major contribution to the latent variables (characters) of students.

These findings are also supported by the results of the goodness of fit model testing. The findings of this study indicate that all indicators of the goodness of fit model (p-value, RMSEA, GFI, AGFI) have been met. The model is said to be fit if the chi-square value is less than 2 df ([Arbuckle, 1997](#)), the p-value is more than 0.05 ([Pedhazur, 1997](#); [Ferdinand, 2002](#)), Root Mean Square Error of Approximation (RMSEA) is less than or equal to 0.08 ([Ferdinand, 2002](#); [Sarwono, 2010](#)) and the Goodness of Fit Index (GFI) is greater than or equal to or close to 0.9 ([Pedhazur, 1997](#); [Ferdinand, 2002](#)). Thus, it can be concluded that the observed and implied covariance matrices are not significantly different ([Hoyle, 2004](#)). This finding shows that there is no difference between the theoretical model and the empirical findings.

The last unit of analysis is constructed reliability. The results of the construct reliability test showed that the 20 items measuring students' character were declared reliable with a reliability coefficient of 0.96, exceeding the predetermined criteria, namely  $> 0.80$  ([Catalán & Gordon, 2020](#)). A high-reliability coefficient provides information about internal consistency and homogeneous variance between one measurement item and another ([Widhiarso, 2009](#)). Therefore, it can be interpreted that although the items differ, they measure the same construct ([Huck, 2007](#)). Thus, it can be concluded that the character assessment model for the character scale of Pancasila students in this study can be used to measure the character constructs of students consistently.

## CONCLUSION

Based on the results of this study, it can be concluded that the six aspects and indicators that make up the latent variables of the Pancasila student character are valid and significant and have a significant effect on latent variables in the second-order confirmatory factor analysis (2nd CFA), as well as the relationship between indicators and items to aspects showing the effect significantly. Likewise, in the goodness of fit test, this model has been declared fit. Thus, these findings indicate that the observed and implied covariance matrices are not significantly different. This means there is no equal difference between the theoretical model and the empirical findings. Likewise, the 20 items for assessing the students' character were reliable in the construct reliability test. Therefore, it can be concluded that the Pancasila student character instrument developed in this study can be used to consistently measure students' character. Another implication of this study is that through this measurement scale, teachers can measure students' character as an initial step in assessing students' graduation requirements in high school. In addition, if this character measurement scale is applied continuously, the teacher can determine the development of the six aspects of the character.

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## DISCLOSURE STATEMENT

The authors declare that they have no conflict of interest to disclose.

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