

Development of Resilient Measurement Instruments for High School Students in Denpasar

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Received August 02, 2021;

Revised August 31, 2021;

Accepted Sept. 20, 2021;

Published Online 2021-10-01

Conflict of Interest

Disclosures:

The authors declare that they have no significant competing financial, professional or personal interests that might have influenced the performance or presentation of the work described in this manuscript.

Abstract: The purpose of this development research is to determine the value of the validity and reliability of the tough character instrument. This study was designed with research and development methods. Analysis of the data used in the CVR and CVI tests from Lawshe, the empirical test with the product moment formula, while to test the reliability using Cronbach's alpha. The instrument validation test was carried out by experts. The results of data analysis using the Lawshe CVR test obtained an item value (CVR > 0), then the CVI value was obtained at 0.96, this value means that the content validity index of 45 items in the tough character instrument is very good. The results of the calculation of the validity of the item validity test using the Product Moment formula according to the valid category criteria. this shows that the level of reliability of the tough character instrument is very high, so this tough character instrument product is very important to be developed for students in high school.

Keywords: Instrument development, strong character.



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How to Cite: Wilhelmina Olok, Nyoman Dantes, Ni Ketut Suarni. 2021. Development of Resilient Measurement Instruments for High School Students in Denpasar. Bisma, 5 (2): pp. 135-141, DOI: <http://dx.doi.org/10.23887/bisma.v5i2>

Introduction

Regulation of the Minister of Education and Culture of the Republic of Indonesia No. 20 of 2018 concerning PPK in Formal Education units, article 2 paragraph 1 explains that: "Strengthening Character Education (PPK) is carried out by applying the values contained in Pancasila. Character education which mainly consists of religious values, honest, tolerant, disciplined, hard working, creative, independent, democratic, curiosity, national spirit, love for the homeland, respect for achievements, commucative, peace-loving, likes to read, cares about the enviroment, cares about social, and is responsible"(Kemendikbud, 2018).

As it is known that the globalization process will continuously have an impact on changing the character of Indonesian youth, the lack of character education will cause a moral crisis that results in negative behavior in adolescents in schools and society. The importance of character education is to improve one's abilities when dealing with problems, difficulties and obstacles that come in his life. Everyone has different problems, difficulties and obstacles in his life and also how to face and resolve and deal with them is different, this depends on each individual.

Everyone is strived to have optimal ways and abilities when dealing with obstacles, to have confidence and optimism to be able to complete every task and job given as best as possible to be able to find a way out of the problem at hand so as to be able to complete or complete any given job or task. . The results of observations made at SMA Dwijendra Denpasar in the 2020/2021 school year, it was found that students with pessimistic symptoms and behavior, gave up easily in the face of obstacles and obstacles found during the learning process and were less serious in doing a task.

The results of observations or observations also found that there were students who played with social media so that they were often absent during class hours and ignored the assignments given by the teacher. After interviewing the students, information was obtained on how students' attitudes towards the tasks given by the teacher were obtained. Some students say that they do and complete assignments seriously in various ways in order to get grades from the subject teacher, but others only do their best and some even don't do and collect assignments given by the subject teacher. because they think the task is difficult to do so the student must be called to the BK room to get further treatment by the Counseling Guidance Teacher.

Based on the results of research conducted by (Chisholm et al., 2006), it is concluded that by developing instruments self-endurance can help students in knowing the character of toughness in themselves, self-resistance in the face of obstacles and students are able to complete the given task. The instrument self-endurance developed can meet the acceptance criteria to be used as an instrument to support the implementation of Counseling Guidance services in schools.

The results of observations of the phenomena that have occurred so far are that many students do not have the motivation to complete their assignments on time, like to procrastinate and buy time, do not focus on doing assignments, do not want to complete work and tend to feel lazy. Students who have self-endurance low show their inability to complete the work and tasks given well to completion, lack of self-effort, work carelessly and easily give up when doing tasks that are considered difficult. Meanwhile, students who have high self-endurance will show the opposite, such as being able to complete the tasks and work given well to completion, having their own spirit and hard work, working responsibly and always trying

According to (Dharsana, 2015) self-endurance is the need to be able to withstand obstacles including doing work to completion, working hard on tasks. Students without a strong desire to complete work to completion, easily give up when doing assignments, like to procrastinate and choose the tasks given, it can be said that these students have self- endurance low. Students with great responsibility and enthusiasm in completing tasks to completion, always trying to find a way out for any obstacles found, it can be said that these students have high self-endurance . self-endurance is an aspect of individual resilience to what extent a person's speed and accuracy in solving problems.

According to (Kobasa, 1979 in (Putra et al., 2017), a tough personality is a personality trait that can make a person stronger, more resilient, more stable, and more resilient optimistic in dealing with stress. Resilience is the attitude and behavior of never giving up or never giving up when facing various difficulties in carrying out activities or tasks so that they are able to overcome these difficulties in achieving goals. Indicators of a tough attitude are: trying to achieve goals, persevering and enthusiastic, working hard and agile and quickly rising from failure. Attitude and affective aspects are matters related to psychology so that in the assessment and measurement a non-test instrument is needed. According to Zainul (2005: 5) in (Adib, 2015) that measurement is the process of giving numbers or numerical descriptions of the extent to which students have been able to reach a level. In this measurement using an instrument in the form of a questionnaire. Questionnaires or questionnaires are written data collection tools that contain a series of questions or statements related to certain topics filled out by students or respondents and the results are used to explore and collect information, information or data as needed. The purpose of this study was to develop a tough character instrument for high school/vocational high school adolescents and to describe the validity of content, empirical validity and reliability of the instrument of tough character in adolescents.

From the background and problems related to the importance of developing tough character instruments, the researchers are interested in researching this and taking the title: "Development of Tough Character Measurement Instruments for High School / Vocational High School Adolescents in Denpasar in 2021".

Method

Data Analysis Procedure

Research was designed with research and development method to produce and develop a tough character assessment instrument for teenagers in high school / vocational school in Denpasar. According to (Dantes, 2017) there are ten steps that need to be taken in developing the instrument, namely: (1) setting the test objectives (the purpose of this test was identified through observations on students during the COVID-19 pandemic and interviews with several BK teachers in high schools / vocational schools in Denpasar). related to the tough character of students in completing the tasks given by the teacher; (2) analysis of books and learning resources that are relevant to the problem objectives with the aim of strengthening theories and products; (3) making a grid based on theory and indicators; (4) product design based on the grid that has been arranged; (5) validation of the concept by presenting 5 experts and giving a score on each aspect between 1-4 the lower total score indicates an inappropriate character rating scale and a higher total score indicates the feasibility of the rating scale tough character; (6) product revision; (7) limited test reproduction; (8) test trials (empirical validation) were conducted on 46 SMA/SMK students and; (9) analysis of test results (validity test) (10) assemble questions. To determine validity, validity content Lawshe's formula for content ratio (CVR) can be used by involving 5 experts or practitioners with the following scores: 1 = irrelevant, 2 = less relevant; 3 = relevant The formula can be described as follows:

$$CVR = \frac{n_e - \frac{N}{2}}{\frac{N}{2}}$$

(Lawshe, 1975)

Information:

CVR = Content Validity Ratio

n_e = number of panelists who gave an assessment (relevant)

N = Number of panelists

Apart from CVR, the overall validity value is determined using the *Content Validity Index* (CVI) with the formula as following:

$$CVI = \frac{\sum CVR}{K}$$

(Lawshe, 1975)

Furthermore, the empirical validity test was carried out empirically on students of SMA Dwijendra Denpasar and SMK Negeri 2 Denpasar with 46 students and the test used the formula Product Moment as follows:

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

Note:

r_{xy} = correlation index

N = number of subjects

X =score item

Y =total score

ΣX = sum score of items

ΣY = total score total

Σ^2 sum of squares=item scores

Σ^2 = sum of squares totalitems

Reliability testperformed on the instrument tough characters to determine the level of consistency on items using Cronbach alpha formula as follows:

$$r_{ii} = \frac{k}{k-1} x \left\{ 1 - \frac{\sum si}{st} \right\}$$

(Juliandi, 2008)

Information:

r_{ii} = reliability value

K = number of items

(S_i) = number of variance scores for each item

(St) = total variance

and using IBM program computer assistance SSPS 24.

Results and Discussion

This discussion shows the results that the product of a tough character instrument for high school / vocational students in Denpasar city needs to be developed, based on the results of validation data analysis by experts, an agreement was obtained between the experts and based on the content validity test of the items and based on the test. reliability regarding the importance of tough character instrument products.

The results of data analysis using the Lawshe CVR test obtained a point value ($CVR > 0$), then the CVI value was obtained a value of 0.96, this value means that the content validity index of 45 items in the tough character instrument is very good so it is feasible to be developed for teenagers. The next test that is carried out is the calculation of the validity of the items with using the Product Moment formula and to determine the level of validity, while the test criteria are the criteria for items in the valid category if $r_{hit} > r_{tab}$ at a significant level of 5% $N = 46$, then r_{tab} is obtained 0.291. Judging from the results of the calculation, out of 45 items, 1 item was declared invalid, namely item number 41 because $r_{hit} < r_{tab}$ and 44 items were declared valid or feasible.

The next test is to determine the reliability using Cronbach's Alpha the reliability coefficient of r_{ii} hit is 0.52 and from the IBM statistical application SSPS 4.2 the reliability result is 0.999. This shows that the reliability level of the tough character instrument is very high, so the product of the tough character instrument is important to be developed and can determine the high toughness of high school/vocational high school students.

With this tough character instrument, it can be used to determine the level of toughness in high school/vocational high school students, where in this study the researcher developed a tough character instrument by describing the aspects (self-endurance) proposed by (Dharsana, 2015), namely (1) persist in continuing to work until it is finished, (2) try to persist in completing the work to completion, (3) persist in working hard on a task or job. The development of this tough character instrument has implications for counseling guidance services where this questionnaire can be used as an early detection tool in knowing the high and low of tough characters in high school / vocational high school students. By knowing early, the low level of tough character in students, it can help Counselors or BK teachers in providing counseling and guidance services that are more targeted and optimally adapted to the high and low tough characters experienced by high school / vocational students in Denpasar city.

This research is in accordance with research conducted by Dewi Sulistrisiana, et al in 2020 with the title: Development of Instruments to Measure Self-Endurance. Where aspects (self-endurance) are divided into 3, namely: (1) persisting to continue working to completion, (2) trying to persist in completing the work to completion, (3) persisting in working hard on a task or job. The results of this study are based on the results of the assessment of 5 experts, the self-resistance instrument with 40 approved items obtained results of more than 0 (> 0) which means 40 items are declared valid. Furthermore, CVI data analysis with a result of 0.98 or CVI more than 0, then the questionnaire instrument is declared valid. After calculating the reliability value (r11), the instrument of self-resistance is 0.918 with a very high reliability category.

Conclusion

Research and development resulted in an instrument in the form of a tough character questionnaire for high school/vocational high school students in the city of Denpasar. The research model used is the development of Research and Development (R & D).

The results of expert or expert validation, development or tough character instruments obtained a content validity index (CVI) of 0.96, which means this instrument is very good. Test the validity of the instrument with the criteria for the items in the valid category if $r_{hit} > r_{tab}$ at a significant level of 5% $N = 46$, then the R_{tab} is 0.291. Judging from the results of the calculation, out of 45 items, 1 item was declared invalid, namely item number 41 because $r_{hit} < r_{tab}$ and 44 items were declared valid or feasible. The next test is to determine the reliability using Cronbach's Alpha, the reliability coefficient of R_i hit is 0.52 and from the IBM statistical application spss 4.2, the reliability result is 0.999. This shows that the reliability level of the tough character instrument is very high.

Acknowledgment

Author would like to thank and appreciate profusely for all the help, guidance, and contributions of all related parties who have worked hard for the development of this research. The author would like to thank the supervisor of this research, Prof. Dr. Nyoman Dantes as the first supervisor, and Prof. Dr. Ni Ketut Suarni, MS., Kons as the second supervisor and at the same time the Head of the Undiksha Counseling Guidance Postgraduate Program who always gives direction to in this research. Prof. Dr. I Ketut Dharsana M.Pd.,Kons., As validation experts, Ni Komang Valentina, S.Pd; Santina Maria Kurniawati Putri, S.Pd., as a BK teacher who is willing to test the experts. And all related parties who have provided support for this research have achieved the expected results.

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Article Information (Supplementary)

Conflict of Interest Disclosures:

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First Publication Right: BISMA The Journal of Counseling

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Word Count:

