

Validity And Reliability of Scale of Needs and Problems of Junior High and High School Students

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ABSTRACT

The scale of needs and scale of problems of Junior High School and Senior High School students are important instruments in the preparation of programs and practices of guidance and counseling services in schools. The use of valid and reliable scales of needs and scales of problems of students greatly determines the accuracy of student data obtained in the implementation of the needs assessment program carried out by guidance and counseling teachers. This study aims to develop a scale of needs and scale of problems of students that meet the criteria of content validity and Alpha Cronbach reliability. The results of this study are expected to contribute to increasing the availability of valid and reliable data collection instruments for Junior High School and Senior High School students. The results of the validity and reliability tests in this study indicate that the scale of Junior High School and Senior High School students' needs consisting of 22 items, and the scale of Junior High School and Senior High School students' problems consisting of 26 items, both meet the content validity criteria with the highest correlation coefficient value of 0.766 and the lowest of 0.202, and meet the Alpha Cronbach reliability criteria with a reliability coefficient value on the scale of Junior High School and Senior High School students' needs of 0.850 (good category), and an Alpha Cronbach reliability coefficient value on the scale of Junior High School and Senior High School students' problems of 0.818 (good category).

Keywords: counseling instrumentation, guidance needs assessment, problems scale, reliability, validity



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INTRODUCTION

Guidance and counseling instrumentation is one of the important services in designing guidance and counseling service programs and practices based on the needs and problems of students in formal educational institutions (Hartono, 2020; Muiz & Fitriani, 2022). Guidance and counseling instrumentation services are guidance and counseling services that aim to collect student data as counselees using various valid and reliable instruments and manage the data, so that it is useful in preparing guidance and counseling service programs and practices in schools. Schools as one of the formal educational institutions carry out the function of organizing learning, guidance and counseling services and education management which aims to develop the potential of students, so that they become people who believe in and fear God Almighty, have noble character, are healthy, intelligent, creative and independent to become democratic and responsible citizens, and are able to participate optimally in the implementation of national development in their respective fields of expertise.

The practice of guidance and counseling services in schools requires valid and reliable instruments to collect student data as counselees, to manage the data accurately through data collection services, so that it is useful for guidance and counseling teachers in preparing programs and implementing guidance and counseling services based on the needs and problems of students. The availability of data collection instruments in various forms is a necessity in the implementation of guidance and counseling services, including in the form of a measurement scale to make it easier for guidance and counseling teachers to measure student needs and problems (*needs assessment*). The measurement scale as a needs assessment technique has

advantages when compared to other techniques, including that students can easily do it honestly and objectively according to the conditions they experience, the data collected by guidance and counseling teachers is valid and reliable, data can be managed using simple statistical techniques, and the use of data is very urgent as a basis for preparing programs and practices of guidance and counseling services to students (Hartono, 2020).

The availability of measurement scales as a technique for collecting student data in various schools is still limited in type and quantity, so that guidance and counseling teachers still need data collection instruments that are easy to use in the field in an effort to conduct needs assessments (Pristanti & Farozin, 2018). The scale of student needs and problems is a measurement scale model specifically designed to conduct needs assessments in order to prepare programs and practices for guidance and counseling services in schools based on student needs and problems. This instrument was developed using content validity procedures through the stages of defining variables operationally, developing grids, formulating each statement item, compiling each statement item in the form of a Thurstone scale model, conducting trials on a number of Junior High School and Senior High School students, and calculating content validity and Alpha Cronbach reliability (Hartono, 2020; Pratama, 2020).

The scale of needs and scale of student problems are designed based on the division of guidance and counseling services in schools as regulated in article 6 paragraph (2) of the Indonesian Minister of Education and Culture Regulation Number 111 of 2014 concerning guidance and counseling in basic education and secondary education, namely the field of personal services, the field of learning services, the field of social services, and the field of career services, so that guidance and counseling teachers can easily identify the needs and problems of students as a basis for developing guidance and counseling service programs and practices in schools as an integral part of the formal education program which plays a role in facilitating the development and independence of students in personal, social, learning, and career aspects.

This study aims to develop a scale of needs and a scale of student problems that meet the criteria of content validity and Alpha Cronbach reliability, which are useful for helping guidance and counseling teachers in conducting needs assessments to students carefully and accurately in order to prepare quality guidance and counseling service programs and practices in schools, easy to implement, and evaluate to make guidance and counseling services an important aspect of formal education practices that are always needed by students as a facility in achieving optimal levels of development in personal, social, learning, and career aspects.

Specifically, the scale of needs and scale of student problems is equipped with a manual or usage guideline to make it easier for guidance and counseling teachers to use it. This scale has the following specifications: first, it contains statement items formulated based on the descriptors of the needs and problems of junior high and high school students in the fields of personal, social, learning, and career services; second, it has a key to determine the variety of student needs and problems; third, it is compiled using the Alpha Cronbach content validity and reliability procedures; fourth, each statement item is compiled with simple and concrete sentences, so that it does not cause different perceptions; fifth, it has adequate content validity and Alpha Cronbach reliability; sixth, the time allocation to work on this scale is shorter, around 30 minutes or flexible because it is typical (measuring what students want), so it does not bore students; and seventh, it can be given to students online using Google Form or offline.

METHOD

This research is categorized as development research using the adapted Dick and Carey model (Hartono & Soedarmadji, 2018) through three stages, the first pre-development stage by conducting a survey and conceptual analysis, the second development stage, namely compiling

a draft of the measurement scale, namely the scale of student needs and the scale of student problems in the form of a Thurstone scale model using the content validity procedure, and the third post-development stage, namely conducting a trial of the draft of the student needs scale and the scale of student problems to a number of students who are determined as trial subjects or research samples, to calculate the content validity coefficient and the Alpha Cronbach reliability coefficient, then the final compilation of the trial results that meet the validity and reliability criteria is carried out.

The stages of the adapted Dick and Carey development model are described in Figure 1 as follows.

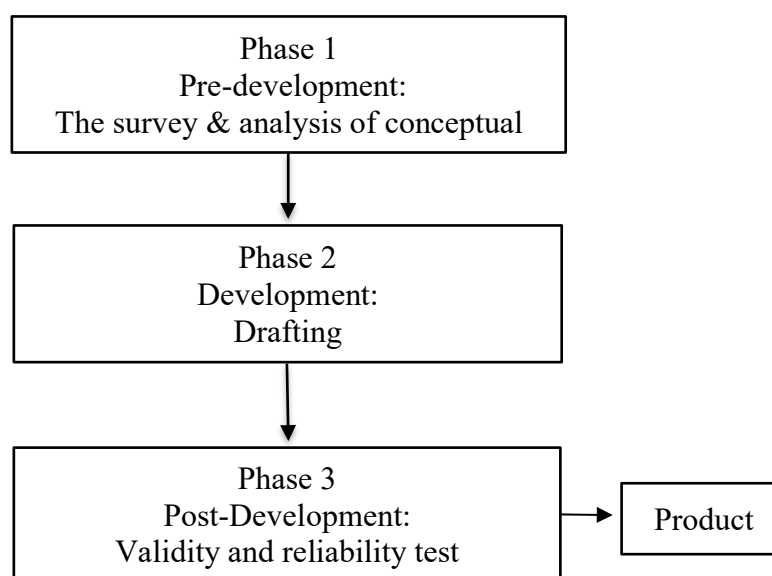


Figure 1. Adaptation Development Model from Dick and Carey
(Hartono & Soedarmadji, 2018)

The population of this study were students of SMA Intensive Taruna Pembangunan Surabaya and students of SMP Negeri 2 Sukodono Sidoarjo Regency with a total of 1426 students consisting of 43 parallel classes. The research sample was determined using a random sampling technique through a class lottery method obtained class X-1 = 22 students and class X-4 = 25 students of SMA Intensive Taruna Pembangunan Surabaya, and class VIII-A = 22 students and class VIII-D = 20 students of SMP Negeri 2 Sukodono Sidoarjo Regency, so that the number of research samples was 89 students.

The research data were analyzed using the Pearson Product Moment correlation statistical technique after fulfilling the linearity test of the relationship, to determine the validity of the items by correlating each item score with the total score, and then the Alpha Cronbach reliability test was carried out using the IBM SPSS for Windows version 25 program. The criteria for the student needs scale and student problem scale items are declared valid if the error probability value (p) is 0.00-0.05, and the Alpha Cronbach reliability criteria using the Cutoff, Streiner, Garson, and Nunnally provisions (Mohajan, 2017), namely if the Alpha Cronbach reliability coefficient reaches 0.60 in the sufficient category, 0.70 in the adequate category, and 0.80 in the good category (Arfandi et al., 2020; Bhisma, 2011; Gugiu & Gugiu, 2017).

RESULT AND DISCUSSION

Research results

The results of the content validity test analysis on the scale of needs and scale of student problems in the research sample of students at SMP Negeri 2 Sukodono, Sidoarjo Regency and students at SMA Intensive Taruna Pembangunan Surabaya are described in tables 1 and 2.

Table 1
Results of Content Validity Test of Junior High School and Senior High School
Students' Needs Scale (N = 89)

Item Number	Correlation Coefficient (r) Product Moment Pearson	Probability of Error (p) or Significance Level	Information
A3	0.558	0.000	Valid
A6	0.581	0.000	Valid
A10	0.355	0.001	Valid
A11	0.766	0.000	Valid
B1	0.558	0.000	Valid
B2	0.451	0.000	Valid
B3	0.513	0.000	Valid
B5	0.275	0.009	Valid
B6	0.735	0.000	Valid
B7	0.558	0.000	Valid
C1	0.735	0.000	Valid
C2	0.748	0.000	Valid
C6	0.517	0.000	Valid
C8	0.248	0.019	Valid
C10	0.576	0.000	Valid
D3	0.400	0.000	Valid
D4	0.209	0.049	Valid
D5	0.346	0.001	Valid
D6	0.321	0.002	Valid
D7	0.558	0.000	Valid
D8	0.757	0.000	Valid
D9	0.708	0.000	Valid

Based on table 1, the results of the item analysis obtained 22 items of statements of the scale of needs of Junior High School and Senior High School students that meet the valid criteria, namely the value of the probability of error (p) or the level of significance reaches 0.00-0.05. The correlation coefficient (r) of the highest item analysis results is 0.766 at a significance level of 0.00, and the lowest is 0.209 at a significance level of 0.049.

Table 2
Results of Content Validity Test of Junior High School and Senior High School Students'
Problem Scale (N = 89)

Item Number	Correlation Coefficient (r) Product Moment Pearson	Probability of Error (p) or Significance Level	Information
A1	0.202	0.057	Valid
A2	0.384	0.000	Valid
A3	0.537	0.000	Valid
A4	0.541	0.000	Valid
A5	0.480	0.000	Valid
A6	0.308	0.003	Valid
A7	0.531	0.000	Valid
A8	0.449	0.000	Valid
B1	0.324	0.002	Valid
B4	0.540	0.000	Valid
B5	0.559	0.000	Valid
B6	0.387	0.000	Valid
B7	0.275	0.009	Valid
C1	0.485	0.000	Valid
C2	0.297	0.005	Valid
C3	0.406	0.000	Valid
C4	0.550	0.000	Valid
C5	0.559	0.000	Valid
C6	0.406	0.000	Valid
D1	0.522	0.000	Valid
D4	0.270	0.010	Valid
D5	0.409	0.000	Valid
D6	0.434	0.000	Valid
D7	0.315	0.003	Valid
D8	0.222	0.036	Valid
D9	0.406	0.000	Valid

Based on table 2, the results of the item analysis obtained 26 items of statements of the scale of Junior High School and Senior High school students' problems that meet the valid criteria, namely the value of the probability of error (p) or the level of significance reaches 0.00-0.05. The correlation coefficient (r) of the highest item analysis results is 0.559 at a significance level of 0.00, and the lowest is 0.202 at a significance level of 0.057.

The results of the Alpha Cronbach reliability test of the needs scale and the problem scale of students in the research sample of students at SMP Negeri 2 Sukodono, Sidoarjo Regency and students at SMA Intensive Taruna Pembangunan Surabaya are described in Table 3.

Table 3
Cronbach Alpha Reliability Test Results on the Needs Scale and Problems Scale of Junior High School and Senior High School Students

Number	Scale	N	Number of Items	Cronbach's Alpha	Information
1	Scale of students needs	89	22	0,850	Reliable good category
2	Scale of students problems	89	26	0,818	Reliable good category

Table 3 shows that the scale of student needs meets the Alpha Cronbach reliability criteria of 0.850 in the good category, and the scale of student problems also meets the Alpha Cronbach reliability of 0.818 also in the good category.

Discussion

The implementation of guidance and counseling programs in schools based on Permendikbud Number 111 of 2024 concerning Guidance and Counseling in Primary and Secondary Education and Permendiknas Number 27 of 2008 concerning Academic Qualification Standards and Counselor Competencies requires an adequate needs assessment program. Needs assessment activities require valid and reliable instruments (Cohen & Stanczak, 2000; Hartono, 2020) to obtain data on student needs and data on student problems which are used as a basis for compiling guidance and counseling service programs in schools.

The availability of many valid and reliable instruments that make it easier for guidance and counseling teachers to conduct needs assessments in an effort to develop guidance and counseling programs based on the needs and problems of students can provide several benefits, namely as follows. First, optimizing the effectiveness of guidance and counseling programs; second, helping to optimize available resources so that they can be used more effectively and efficiently; and third, improving the quality of guidance and counseling services to students in an effort to help them realize independence in personal, social, learning, and career aspects (Hartono, 2016; Hartono & Musdalifah, 2019).

The results of the development of the scale of needs and scale of student problems in this study showed that as many as 22 items of the scale of needs and 26 items of the scale of problems of Junior High and Senior High School students were declared valid and reliable, which contributed to increasing the availability of appropriate, adequate, and easy-to-use student data collection instruments for junior high and senior high school guidance and counseling teachers in conducting needs assessments, namely collecting data on the needs and problems of Junior High School and Senior High School students as completely as possible in order to prepare programs and practices for guidance and counseling services in schools based on the needs and problems of students.

The scale of Junior High and Senior High School students' needs was designed using the content validity method and Alpha Cronbach's reliability, obtaining the highest correlation coefficient of 0.766 and the lowest of 0.209 with a reliability coefficient of 0.850 in the good category. The scale of junior high and senior high school students' problems was also designed using the content validity method and Alpha Cronbach's reliability, obtaining the highest correlation coefficient of 0.559 and the lowest of 0.202 with an Alpha Cronbach's reliability of 0.818 in the good category. The Alpha Cronbach's reliability coefficient is used as evidence of

the quality of an instrument (Salgado et al., 2016; Taber, 2017) which shows that the respondent's response to a statement is stable or fixed or does not change, while content validity indicates that each item of an instrument statement can measure a concept to be measured. The scale of needs and scale of student problems that are stated to be valid, based on evidence from trial results on 89 junior high and senior high school students, are stated to be valid for measuring a number of needs and problems of Junior High School and Senior High school students.

The scale of Junior High School and Senior High school students' needs measures students' needs in the personal aspect with 4 statements, the social aspect with 6 statements, the learning aspect with 5 statements, and the career aspect with 7 statements. Meanwhile, the scale of Junior High School and Senior High school students' problems measures students' problems in the personal aspect with 8 statements, the social aspect with 5 statements, the learning aspect with 6 statements, and the career aspect with 7 statements.

CONCLUSION

Based on data analysis, the results of this study concluded that the scale of Junior High School and Senior High School students' needs as many as 22 statement items measuring students' needs in personal, social, learning and career aspects have met the criteria for content validity and Alpha Cronbach reliability in the good category. The scale of Junior High School and Senior High School students' problems as many as 26 statement items measuring students' problems in personal, social, learning and career aspects have also met the criteria for content validity and Alpha Cronbach reliability in the good category.

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