Unidimensional and Multidimensional Reliability Coefficient of *Karmapatha* Philosophy-based Student Behavior Questionnaire

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Abstrak

Perilaku siswa sangat sering disoroti oleh guru-guru Bimbingan dan Konseling di sekolah, khususnya Sekolah Menengah Pertama (SMP). Hal ini disebabkan oleh banyak sekali perilaku siswa SMP yang mengandung anomali bila dibandingkan dengan aturan-aturan sekolah yang sudah dicantumkan dalam buku saku siswa. Tujuan dari penelitian ini untuk menciptakan kuesioner perilaku siswa berbasiskan ajaran karmapatha yang memiliki standar bila dikaji dari reliabilitas kuesioner. Penelitian ini termasuk jenis penelitian kalibrasi instrumen. Populasi penelitian ini adalah seluruh siswa kelas VIII SMP dengan sampelnya berupa jawaban 100 siswa yang dipilih secara purposive sampling. Metode pengumpulan data dengan tes. Hasil analisis data diperoleh reliabilitas secara unidimesi, kuesioner perilaku siswa berbasiskan ajaran karmapatha sebelum dikoreksi oleh efek spurious overlap diperoleh koefisien rxx' sebesar 0,850 memenuhi kelayakan untuk digunakan sebagai instrumen penelitian; dan bila dikaji dari reliabilitas secara unidimesi, kuesioner perilaku siswa berbasiskan ajaran karmapatha setelah dikoreksi oleh efek spurious overlap diperoleh koefisien rxx' sebesar 0,853.. Reliabilitas secara multidimesi, kuesioner perilaku siswa berbasiskan ajaran karmapatha sebelum dikoreksi oleh efek spurious overlap diperoleh koefisien αs sebesar 0,945. dan bila dikaji dari reliabilitas secara multidimesi, kuesioner perilaku siswa berbasiskan ajaran karmapatha setelah dikoreksi oleh efek spurious overlap diperoleh koefisien αs sebesar 0,942, keseluruhan memenuhi kelayakan untuk digunakan sebagai instrumen penelitian.

Kata kunci: Reliabilitas, Perilaku siswa, Unidimensi, Multidimensi, Karmapatha

Abstract

Guidance and Counseling teachers often highlight student behavior, especially in Junior High Schools. This is because many junior high school students' behavior contains anomalies compared to the school rules in the student handbook. The purpose of this research is to create a student behavior questionnaire based on the teachings of *karmapatha* that has a standard when assessed based on the reliability of the questionnaire. This research is a type of instrument calibration research. The population of this study was all students of grade VIII junior high school, with the sample being the answers of 100 students selected by purposive sampling. Data collection methods with tests. The results of data analysis obtained unidimensional reliability, student behavior questionnaire based on *karmapatha* teachings before being corrected by spurious overlap effect obtained rxx' coefficient of 0.850 meets the feasibility to be used as a research instrument; and when examined from unidimensional reliability, student behavior questionnaire based on *karmapatha* teachings after being corrected by spurious overlap effect obtained rxx' coefficient of 0.853. Multidimensional reliability, the *karmapatha* teaching-based student behavior questionnaire, before being corrected by the spurious overlap effect, obtained an αs coefficient of 0.945. and when examined from multidimensional reliability, the *karmapatha* teaching-based student behavior questionnaire, after being corrected by the spurious overlap effect, obtained an αs coefficient of 0.942, overall meeting the feasibility to be used as a research instrument.

Keywords: Reliability, Student behavior, Unidimensional, Multidimensional, *Karmapatha*

1. INTRODUCTION

Psychology views human behavior as reactions that can be simple or complex. In humans and various animal species in general, there are forms of instinctive behavior (species-specific behavior) based on nature to maintain life (Agag & El-Masry, 2016; Yazar Soyadı, 2015). A student's daily actions must reflect the character developed at the school. The noble character that underlies a person's traits will be reflected in everyday behavior (Khairani & Putra, 2021; Solehat & Ramadan, 2021). This behavior will be visible and can be observed in three ways, namely *idep*, *sabda*, and *bayu*. *Idep*, implemented in mind, is the

source of the thought-forms themselves, followed by forms of speech or words and actions. These three things are always related to almost every object or other thing throughout nature and this world (Dharma et al., 2018; Karmini et al., 2021). To maintain a balance between thoughts, words, and actions, you must first understand physical life phenomena and non-physical natural phenomena. Through contemplation of these three things, we will gain in-depth knowledge that can help us find the best things to balance and control our thoughts, words, and actions to be useful for ourselves and our environment (Ariawan et al., 2021; Suciani et al., 2019). With reflection, we can be introspective, self-introspective, *mulat sarira*, which aims to achieve peace.

Guidance and Counseling teachers often highlight student behavior in schools, especially junior high schools. This is caused by the behavior of many junior high school students, which contains anomalies compared to the school rules included in the student's pocketbook. All violations committed by students are recorded in the pocketbook. Violations of school rules by students are caused by the school rarely measuring the school rules that have been made through certain instruments, for example, questionnaires about student behavior (Divayana et al., 2019; Widiasih et al., 2019). From the results of distributing the student behavior questionnaire, the guidance and counseling teacher can inform the students concerned of the results and provide counseling services for students whose questionnaire scores are categorized as needing counseling services. One example of a questionnaire developed for junior high school students with truth guidelines is a behavior questionnaire based on *karmapatha* teachings. The questionnaire has a basis for student behavior if the student's response is categorized as violating or not violating, namely the *karmapatha* teachings. This *karmapatha* teaching is derived from the concept of *Tri Kaya Parisudha*. One of the morals in Hinduism is the teachings of *Tri Kaya Parisudha*. Following the teachings of the *Tri Kaya Parisudha* in thinking well, saying well, and doing good, thoughts are the determining element, while words and deeds are only implementing elements (Ayu et al., 2020; Suwindia & Wati, 2021). In this case, the mind is the source of sensual desire. The mind moves the lips to speak good and bad (Dewi et al., 2020; Suanthara, 2018; Widiasih et al., 2019). The mind also moves the body to do something good or bad.

One study regarding whether or not an instrument can be used as a measuring tool is the instrument's reliability. Instrument reliability refers to the constancy of an instrument when used to measure the same subject but in different periods (Maulani et al., 2020; Yusup, 2018). Until now, unidimensional reliability has been used to determine whether an instrument can be used further (Ndiung & Jediut, 2020; Srirahayu & Arty, 2018). If an instrument's unidimensional reliability coefficient (rxx') has reached 0.70 or higher, it usually meets the requirements for use as a measuring instrument. However, when constructing an instrument, such as a student behavior instrument based on *karmapatha* teachings, it is rarely found to have unidimensional aspects. Every instrument developed by an instrument developer usually has several aspects, so the instrument has more than one dimension (Yugakisha & Jayanta, 2021). Of course, if the instrument has more than one aspect, then determining the validity of the items and the reliability of the instrument must not be unidimensional. In other words, testing the validity of items and calculating the instrument's reliability must be multi-dimensional. The student behavior questionnaire based on *karmapatha* teachings that the author has compiled has been tested for the validity of its items unidimensionally and multi-dimensionally, both before and after being corrected for the spurious overlap effect. Even after the validity of the items was tested with Pearson's Product Moment correlation, which had been corrected for the spurious overlap effect, the amount of contamination in the total score caused by the spurious overlap effect, which was then known as the unidimensional and multidimensional spurious overlap effect (ESO) coefficient, had been determined. Because the research contract with LPPM Panji Sakti

University is only limited to determining the validity of questionnaire items unidimensionally and multidimensionally before and after being corrected for spurious overlap effects and determining the coefficient of spurious overlap effect (ESO) of questionnaire items unidimensionally and multidimensionally, the magnitude of the questionnaire reliability coefficient (rxx') unidimensionally and multidimensionally, both before and after being corrected for the spurious overlap effect has not been included in the results of the study (see Puger, 2023). This research aims to create a student behavior questionnaire based on *karmapatha* teachings that has standards when assessed on the reliability of the questionnaire. So, it can be used as a research instrument in research activities that involve student behavior variables.

2. METHODS

This research is a type of instrument calibration research. Instrument calibration is an instrument's preliminary testing and calculation until it becomes a standard instrument (Suardi, 2017). The tests intended for instrument calibration are content and item validity testing (N.K.A. Sutami et al., 2021; Rahmawati & Trimulyono, 2021). Meanwhile, the calculations are inter-rater response reliability and instrument reliability calculations. Testing content validity and calculating inter-rater response reliability are the scope of an instrument's internal analysis. Meanwhile, testing item validity and calculating instrument reliability is the scope of external analysis of an instrument. In this research, an external analysis was carried out on the instrument as a 'student behavior questionnaire based on *karmapatha* teachings.' One of the external analyzes carried out was calculating the reliability of the questionnaire, both unidimensionally and multidimensionally, before and after being corrected for the spurious overlap effect. From these four units of analysis, a decision can be made regarding the suitability of a student behavior questionnaire based on *karmapatha* teachings for research.

This research carried out an external analysis of student behavior questionnaires based on *karmapatha* teachings, meaning that eighth-grade junior high school students were required to respond to the questionnaire the researcher gave. So, the population in this study were all eighth-grade students at SMP Negeri 2 Seririt. Meanwhile, the sample consisted of 100 eighth-grade students at SMP Negeri 2 Seririt recruited using purposive sampling. Purposive sampling is a method of taking samples based on previously determined research objectives. Sample members are selected from subgroups in the population that suit the research objectives. Let's examine the statements from the student behavior questionnaire based on *karmapatha* teachings. It is based on junior high school students' abilities in eighth grade. The suitability of the material for each questionnaire item greatly influences the consistency of the responses given by the sample to the student behavior questionnaire based on *karmapatha* teachings. The instrument needed to obtain data in the form of questionnaire responses is a student behavior questionnaire based on the *karmapatha* teachings that was developed. The questionnaire consists of 50 items and must be responded to by 100 students within 50 minutes. Before this questionnaire was prepared, an operational definition of student behavior based on *Karmapatha* teachings was first created, and a specification table for a student behavior questionnaire based on *Karmapatha* teachings contained variable names, dimensions (aspects), indicators, and item numbers. The student behavior questionnaire grid based on *karmapatha* teachings is presented in Table 1.

Table 1. The Student Behavior Questionnaire Grid is Based on *Karmapatha* Teachings

Dimension	Indicator	Statement		Total		
		Positive	**Negative**	**+**	**-**	**Σ**
a. *Manacika parisudha*.	1. Don't want other people's things.	5, 19	10, 28, 45	2	3	5
	2. Don't think badly of other people.	15, 50	2, 24, 49	1	3	5
	3. Do not deny the law of *karmaphala*.	7, 38	26, 34, 41	2	3	5
b. *Wacika parisudha*.	1. Don't say evil (say *ahala*).	12, 30	1, 17, 32	2	3	5
	2. Don't say harsh words (said *aprgas*).	4, 20, 39	13, 48	3	2	5
	3. Do not slander (king *pisuna*).	9, 16, 35	3, 46	3	2	5
	4. Do not use words that contain lies.	6, 18, 37	21, 42	3	2	5
c. *Kayika parisudha*.	1. Not hurting or killing (*ahimsa*).	11, 33, 40	23, 36, 47	3	3	6
	2. Don't steal.	8, 31	22, 29, 44	2	3	5
	3. Not committing adultery.	14, 25	27, 43	2	2	4
Jumlah				**24**	**26**	**50**

Based on the questionnaire grid listed in Table 1, a student behavior questionnaire based on *karmapatha* teachings, which consists of 50 items, can be compiled. For more details regarding the student behavior questionnaire based on *Karmapatha* teachings, please review Appendix 1, page 74. The student behavior questionnaire based on *Karmapatha* teachings used to collect data in this research has been tested for content validity, and the inter-rater response reliability has been calculated. By using Gregory's formula, a content validity coefficient (VI) of 0.96 was obtained. Meanwhile, the inter-rater response reliability was calculated using the Anava Hoyt formula, which obtained an rxx' coefficient of 0.89. Because the VI coefficient (= 0.96) is greater than 0.90 and assessed for content validity, the student behavior questionnaire based on *karmapatha* teachings can be used further. Likewise, suppose the rxx' coefficient (= 0.89) is greater than 0.70. In that case, judging from the reliability of the inter-rater responses, the student behavior questionnaire based on the developed *karmapatha* teachings can be used further. In trials with 100 eighth-grade students at SMP Negeri 2 Seririt, a student behavior questionnaire based on *karmapatha* teachings was tested for unidimensional item validity (rix) before being corrected for the spurious overlap effect. From the results of testing the validity of the items, results were obtained, which could be categorized into two parts, namely: (1) as many as 48 statement items were suitable for use as a questionnaire, and (2) as many as 2 statement items were declared invalid. Meanwhile, in testing student behavior questionnaires based on *karmapatha* teachings, item validity (ri(x-i)) was also tested unidimensionally after being corrected for the spurious overlap effect. From the results of testing the validity of the items, results were obtained that could be categorized into two parts: 39 statement items were suitable for use as a questionnaire, and 11 statement items were declared invalid.

Testing the validity of student behavior questionnaire items based on *karmapatha* teachings in a multidimensional manner before and after being corrected for the spurious overlap effect was tested per dimension, namely the *manacika parisudha*, *wacika parisudha*,

and *kayika parisudha* dimensions. Testing the validity of the items (rix) of the student behavior questionnaire based on *karmapatha* teachings in the *manacika parisudha* dimension before being corrected for the spurious overlap effect resulted in 15 statement items suitable for use as a questionnaire compiler. Meanwhile, testing the validity of the items (ri(x-i)) of the student behavior questionnaire based on *Karmapatha* teachings in the *manacika parisudha* dimension after being corrected for the spurious overlap effect, the results were obtained, which can be categorized into two parts, namely 11 statement items suitable for use as a questionnaire, and four items statement declared invalid. Testing the validity of the items (rix) of the student behavior questionnaire based on *karmapatha* teachings in the *wacika parisudha* dimension before being corrected for the spurious overlap effect obtained results that could be categorized into two parts, namely 19 statement items suitable for use as a questionnaire compiler, and 1 statement item declared invalid; Meanwhile, testing the validity of the items (ri(x-i)) of the student behavior questionnaire based on *Karmapatha* teachings in the *Wacika Parisudha* dimension after being corrected for the spurious overlap effect, obtained results that can be categorized into two parts, namely 14 statement items suitable for use as a questionnaire, and six items statement declared invalid. Testing the validity of the items (rix) of the student behavior questionnaire based on *Karmapatha* teachings in the *kayika parisudha* dimension before being corrected for the spurious overlap effect resulted in 15 statement items suitable for use as a questionnaire compiler.

Meanwhile, testing the validity of the items (ri(x-i)) of the student behavior questionnaire based on *Karmapatha* teachings in the *kayika parisudha* dimension after being corrected for the spurious overlap effect, the results were obtained, which can be categorized into two parts, namely 11 statement items suitable for use as a questionnaire, and four items statement declared invalid. The student behavior questionnaire based on *karmapatha* teachings has tested the validity of items unidimensionally and multidimensionally before and after being corrected for the spurious overlap effect. The results of testing the validity of student behavior questionnaire items unidimensionally and multidimensionally before and after being corrected for the spurious overlap effect before calculating the questionnaire reliability (rxx') for each unit of analysis.

3. RESULTS AND DISCUSSION

Results

Before being tested on 100 Eigh[th] grade students of SMP Negeri 2 Seririt, the student behavior questionnaire based on *karmapatha* teachings was tested for content validity and inter-rater response reliability. Using the VI formula (the complete calculation is with the researcher), a VI value of 0.96 was obtained. This means the content validity value of the student behavior questionnaire based on *karmapatha* teachings is 0.96. Because the VI value is above 0.90, a student behavior questionnaire based on *karmapatha* teachings can be used further. The results of calculating inter-rater response reliability using the Anava Hoyt formula obtained an r" coefficient of 0.89 (complete calculations are with the researcher). Because the calculated inter-rater response reliability coefficient (r"-calculated) is higher than the reliability coefficient required by Fraenkel and Wallen (0.89 > 0.70), this student behavior questionnaire based on *karmapatha* teachings can be tested further. After the student behavior questionnaire based on *karmapatha* teachings met the requirements when assessed from the VI and rxx' coefficients (inter-rater response reliability), then the student behavior questionnaire based on *karmapatha* teachings was distributed to 100 class VIII students of SMP Negeri 2 Seririt. Based on the results of calculating the reliability of a student behavior questionnaire based on karmapatha teachings in a unidimensional and multidimensional manner before and after being corrected for the spurious overlap effect,

information was obtained regarding the feasibility or infeasibility of this questionnaire to be used as a research instrument.

The first finding was that calculating the reliability coefficient of the student behavior questionnaire based on *karmapatha* teachings was unidimensional before being corrected for the spurious overlap effect. Suppose you look at the results of testing content validity and calculating the reliability of inter-rater responses. In that case, the analysis continues with testing the validity of the student behavior questionnaire items based on *karmapatha* teachings in a unidimensional manner. Testing the validity of student behavior questionnaire items based on *karmapatha* teachings unidimensionally before being corrected for the spurious overlap effect using the product moment correlation formula. The rix-calculated value obtained for each item of the student behavior questionnaire based on *karmapatha* teachings was compared with the r-table value. The r-table value for the sample size (n) is 100 subjects, and the 5% significance level is 0.195. If the rix-calculation value is > 0.195, then the questionnaire item is in the valid category. Conversely, if the rix-calculation value is <0.195, the questionnaire item is in the dropped category.

The results of testing the validity of student behavior questionnaire items based on *Karmapatha* teachings unidimensionally before being corrected by the spurious overlap effect using the product moment correlation formula, the results obtained are that the validity of student behavior questionnaire items based on *Karmapatha* teachings unidimensionally before being corrected by the spurious overlap effect can be divided into two groups. , namely: (1) questionnaire items that are included in the valid category, namely questionnaire items number: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, and 50, and (2) questionnaire items that are included in the drop category, namely questionnaire items number: 27, and 42. Removing the questionnaire items from the drop category calculates the reliability coefficient using the alpha formula Cronbach. The reliability coefficient of the student behavior questionnaire based on *karmapatha* teachings (rxx') was obtained unidimensionally before being corrected for the spurious overlap effect of 0.850. Suppose the rxx' coefficient is compared with the reliability criteria proposed by Fraenkel and Wallen (1993), which requires a reliability coefficient of at least 0.70. In that case, the rxx' coefficient obtained is considered reliable. This means that if we examine the reliability coefficient (rxx') of the student behavior questionnaire based on *Karmapatha* teachings unidimensionally before being corrected for the spurious overlap effect, it can be used as a research instrument.

The second finding, calculating the reliability coefficient of the student behavior questionnaire based on *Karmapatha* teachings, was unidimensional after being corrected for the spurious overlap effect. Suppose you look at the results of testing content validity and calculating the reliability of inter-rater responses. In that case, the analysis continues with testing the validity of the student behavior questionnaire items based on *karmapatha* teachings in a unidimensional manner. Testing the validity of student behavior questionnaire items based on *karmapatha* teachings unidimensionally after being corrected for the spurious overlap effect using the corrected product moment correlation formula. The calculated ri(x-i) value obtained for each item of the student behavior questionnaire based on *karmapatha* teachings is compared with the r-table value. The r-table value for the sample size (n) is 100 subjects, and the 5% significance level is 0.195. If the ri(x-i)-count value is > 0.195, then the questionnaire item is in the valid category. Conversely, the questionnaire item is in the dropped category if the ri(x-i)-count value is < 0.195. The results of testing the validity of student behavior questionnaire items based on *Karmapatha* teachings unidimensionally after being corrected for the spurious overlap effect using the corrected product moment correlation formula showed that the validity of student behavior questionnaire items based on

Karmapatha teachings unidimensionally after being corrected for the spurious overlap effect could be divided into two groups, namely questionnaire items that are included in the valid category, namely questionnaire items number: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 22, 23, 24, 25, 26, 28, 29, 30, 32, 34, 36, 37, 38, 39, 40, 43, 44, 45, 46, 47, 49, and 50, and questionnaire items that fall into the drop category, namely questionnaire item numbers: 1, 16, 20, 21, 27, 31, 33, 35, 41, 42, and 48. By removing questionnaire items in the drop category and calculating the reliability coefficient using Cronbach's alpha formula, the reliability coefficient for the behavioral questionnaire is obtained from students based on *karmapatha* (rxx') teachings unidimensionally after being corrected for the spurious overlap effect of 0.853. Suppose the rxx' coefficient is compared with the reliability criteria proposed by Fraenkel and Wallen (1993), which requires a reliability coefficient of at least 0.70. In that case, the rxx' coefficient obtained is considered reliable. This means it can be used as a research instrument if examined from the reliability coefficient (rxx') of a unidimensional student behavior questionnaire based on *karmapatha* teachings after being corrected for the spurious overlap effect.

The third finding was that the reliability coefficient of the student behavior questionnaire was calculated in a multidimensional manner based on *Karmapatha* teachings before being corrected for the spurious overlap effect. In the *Manacika Parisudha* dimension, if you look at the results of testing content validity and calculating the reliability of inter-rater responses, the analysis continues with testing the validity of the student behavior questionnaire items based on *karmapatha* teachings in the *Manacika Parisudha* dimension. Testing the validity of student behavior questionnaire items based on *karmapatha* teachings on the *Manacika Parisudha* dimension before being corrected for the spurious overlap effect using the product moment correlation formula. The rix-calculated value obtained for each item of the student behavior questionnaire based on *karmapatha* teachings in the *Manacika Parisudha* dimension is compared with the r-table value. The r-table value for the sample size (n) is 100 subjects, and the 5% significance level is 0.195. If the rix-calculation value is > 0.195, then the questionnaire item is in the valid category. Conversely, if the rix-calculation value is <0.195, the questionnaire item is in the dropped category.

The results of testing the validity of student behavior questionnaire items based on *Karmapatha* teachings in the *Manacika Parisudha* dimension before being corrected by the spurious overlap effect using the product moment correlation formula showed that the validity of student behavior questionnaire items based on *Karmapatha* teachings in the *Manacika Parisudha* dimension before being corrected by the spurious overlap effect can be said to be questionnaire item number. : 2, 5, 7, 10, 15, 19, 24, 26, 28, 34, 38, 41, 45, 49, and 50 are valid categories. By removing questionnaire items that were in the drop category and the reliability coefficient was calculated using Cronbach's alpha formula, the reliability coefficient for the student behavior questionnaire based on *karmapatha* teachings on the *Manacika Parisudha* (rxx') dimension was obtained before being corrected for the spurious overlap effect of 0.6901432. In the *Wacika Parisudha* dimension, the results of testing the validity of student behavior questionnaire items based on *Karmapatha* teachings in the *Wacika Parisudha* dimension before being corrected for the spurious overlap effect using the product moment correlation formula, it was found that the validity of the student behavior questionnaire items based on *Karmapatha* teachings on the *Wacika Parisudha* dimension before being corrected by the effect spurious overlap can be divided into two groups, namely questionnaire items which are included in the valid category, namely questionnaire item numbers: 1, 3, 4, 6, 9, 12, 13, 16, 17, 18, 20, 21, 30, 32, 35, 37, 39, 46, and 48, and questionnaire items that are in the drop category, namely questionnaire item number 42. By removing questionnaire items that are in the drop category and calculating the reliability coefficient using Cronbach's alpha formula, the reliability coefficient for the student behavior

questionnaire based on *karmapatha* teachings is obtained. in the *Wacika Parisudha* (rxx') dimension before being corrected for the spurious overlap effect of 0.6617157.

In the *kayika parisudha* dimension, the results of testing the validity of student behavior questionnaire items based on *karmapatha* teachings in the *kayika parisudha* dimension before being corrected by the spurious overlap effect using the product moment correlation formula showed that the validity of the student behavior questionnaire items based on *karmapatha* teachings in the *kayika parisudha* dimension before being corrected by the effect spurious overlap can be said that questionnaire item numbers: 8, 11, 14, 22, 23, 25, 27, 29, 31, 33, 36, 40, 43, 44, and 47 are in the valid category. By removing questionnaire items in the drop category and calculating the reliability coefficient using Cronbach's alpha formula, the reliability coefficient for the student behavior questionnaire based on *Karmapatha* teachings on the *kayika parisudha* (rxx') dimension was obtained before being corrected for the spurious overlap effect of 0.6592927. To calculate the multidimensional reliability of the student behavior questionnaire based on *karmapatha* teachings before being corrected for the spurious overlap effect, the stratified alpha formula (αs) was used. Based on the materials already mentioned, after being calculated using the stratified alpha formula, the coefficient αs of the student behavior questionnaire based on multidimensional *karmapatha* teachings was obtained before being corrected for the spurious overlap effect of 0.945. If the αs coefficient is compared with the reliability criteria proposed by Fraenkel and Wallen (1993), which requires a reliability coefficient of at least 0.70, then the αs coefficient obtained is reliable. This means that, if examined from the reliability coefficient (αs) of a student behavior questionnaire based on *karmapatha* teachings in a multidimensional manner before being corrected for the spurious overlap effect, it can be used as a research instrument.

The fourth finding is a calculation of the reliability coefficient of the student behavior questionnaire based on multidimensional *karmapatha* teachings after being corrected for the spurious overlap effect. In the *Manacika Parisudha* dimension, the results of testing content validity and calculating the reliability of inter-rater responses, the analysis continued with testing the validity of the student behavior questionnaire items based on *karmapatha* teachings on the *Manacika Parisudha* dimension. Testing the validity of student behavior questionnaire items based on *Karmapatha* teachings in the *Manacika Parisudha* dimension after being corrected for the spurious overlap effect using the corrected product moment correlation formula (ri(x-i). The ri(x-i)-calculated value obtained for each student behavior questionnaire item is based on *Karmapatha* teachings. *Manacika Parisudha* dimensions are compared with the r-table value for a sample size (n) of 100 subjects and a 5% significance level of 0.195. If the ri(x-i)-calculated value is > 0.195, then the questionnaire items are in the valid category. Conversely, if the ri(x-i)-calculated value is <0.195, the questionnaire item is in the drop category.

The results of testing the validity of student behavior questionnaire items based on *Karmapatha* teachings in the *Manacika Parisudha* dimension after being corrected for the spurious overlap effect using the corrected product moment correlation formula (ri(x-i)) showed that the validity of student behavior questionnaire items based on *Karmapatha* teachings in the *Manacika Parisudha* dimension after being corrected by the spurious overlap effect can be divided into two groups, namely: (1) questionnaire items which are included in the valid category, namely questionnaire items number: 2, 5, 7, 10, 15, 19, 24, 26, 28, 34, and 49, and (2) questionnaire items that are in the drop category, namely questionnaire items number: 38, 41, 45, and 50. By removing questionnaire items that are in the drop category and calculating the reliability coefficient using Cronbach's alpha formula, the reliability coefficient for the student behavior questionnaire based on *karmapatha* teachings is obtained. in the *Manacika Parisudha* (rxx') dimension after being corrected for the spurious overlap effect of 0.7105012.   In the *Wacika Parisudha* dimension, the results of testing the validity

of student behavior questionnaire items based on *Karmapatha* teachings in the *Wacika Parisudha* dimension after being corrected for the spurious overlap effect using the corrected product moment correlation formula (ri(x-i)), showed that the validity of the student behavior questionnaire items based on *Karmapatha* teachings *Wacika Parisudha* dimensions after being corrected for the spurious overlap effect can be divided into two groups, namely questionnaire items which are included in the valid category, namely questionnaire item numbers: 1, 4, 6, 9, 12, 13, 17, 18, 21, 30, 32, 35, 37, and 46, and questionnaire items that are in the drop category, namely questionnaire items number: 3, 16, 20, 39, 42, and 48. By removing questionnaire items that are in the drop category and the reliability coefficient is calculated using Cronbach's alpha formula, The reliability coefficient obtained for the student behavior questionnaire based on *Karmapatha* teachings on the *Wacika Parisudha* (rxx') dimension after being corrected for the spurious overlap effect was 0.6645565.

In the *Kayika parisudha* dimension, the results of testing the validity of the student behavior questionnaire items based on *Karmapatha* teachings on the *Kayika parisudha* dimension after being corrected for the spurious overlap effect using the corrected product moment correlation formula (ri(x-i)), showed that the validity of the student behavior questionnaire items based on the *Karmapatha* teachings dimension *kayika parisudha* after being corrected for the spurious overlap effect can be divided into two groups, namely questionnaire items which are included in the valid category, namely questionnaire item numbers: 8, 11, 14, 22, 23, 25, 29, 36, 40, 43, and 44, and questionnaire items that are in the drop category, namely questionnaire item numbers: 27, 31, 33, and 47. By removing questionnaire items in the drop category and calculating the reliability coefficient using Cronbach's alpha formula, the reliability coefficient for the student behavior questionnaire based on *karmapatha* teachings on dimensions is obtained. *kayika parisudha* (rxx') after correction for the spurious overlap effect of 0.6621443. To calculate the reliability of a student behavior questionnaire based on *karmapatha* teachings in a multidimensional manner after being corrected for the spurious overlap effect, the stratified alpha formula (αs) was used.

Based on the materials mentioned, after being calculated using the stratified alpha formula, the coefficient αs of the student behavior questionnaire based on multidimensional *karmapatha* teachings was obtained after being corrected for the spurious overlap effect of 0.942. If the αs coefficient is compared with the reliability criteria proposed by Fraenkel and Wallen (1993), which requires a reliability coefficient of at least 0.70, then the αs coefficient obtained is reliable. This means it can be used as a research instrument if examined from the reliability coefficient (αs) of a multidimensional *karmapatha*-based student behavior questionnaire after being corrected for the spurious overlap effect.

Discussion

The first finding in this research is the result of calculating the reliability of a student behavior questionnaire based on unidimensional *karmapatha* teachings before being corrected for the spurious overlap effect. After removing items in the drop category using the alpha-Cronbach formula, an rxx' coefficient of 0.850 was obtained. Meanwhile, the results of calculating the reliability of the student behavior questionnaire based on *Karmapatha* teachings were unidimensional after being corrected for the spurious overlap effect. After removing items in the drop category using Cronbach's alpha formula, an rxx' coefficient of 0.853 was obtained. The results of calculating the reliability of the student behavior questionnaire based on *karmapatha* teachings in a multidimensional manner before being corrected for the spurious overlap effect, after removing items in the drop category using the stratified alpha formula (αs), obtained an αs coefficient of 0.945. Meanwhile, the results of calculating the reliability of the student behavior questionnaire based on *karmapatha*

teachings in a multidimensional manner, after being corrected for the spurious overlap effect, after removing items in the drop category using the stratified alpha formula (αs), obtained an αs coefficient of 0.942. The four reliability coefficients obtained, both the unidimensional rxx' coefficients before and after being corrected by the spurious overlap effect and the multidimensional αs before and after being corrected by the spurious overlap effect, both provide a conclusion that when examined from the rxx' coefficient and αs of the behavioral questionnaire students based on *karmapatha* teachings whose items in the drop category have been eliminated can be used further as research instruments.

The reliability of an instrument refers to the stability or certainty of the results when the instrument is tested on the same student more than once (Srirahayu & Arty, 2018; Sumaryatun et al., 2016). The alpha-Cronbach formula is usually used when calculating the reliability coefficient of a questionnaire. Calculating the reliability coefficient using the alpha-Cronbach formula by removing questionnaire items in the drop category unidimensionally is known as the unidimensional reliability coefficient (rxx') before and after being corrected for the spurious overlap effect. On the other hand, calculating the reliability coefficient using the stratified alpha formula by removing questionnaire items that are multidimensionally dropped is known as the multidimensional reliability coefficient (αs) before and after being corrected for the spurious overlap effect. The coefficient rxx' assumes that all the items that make up the student behavior questionnaire based on *karmapatha* teachings come from the same dimension (or one dimension).

In comparison, the αs coefficient assumes that all the items that make up the student behavior questionnaire based on *karmapatha* teachings come from different dimensions (or more than one dimension). The instrument is in the form of a questionnaire to review the questionnaire grid. If the questionnaire grid uses multidimensionality, then the assumption is that all the questionnaire items come from different dimensions. However, until now, in standardizing a questionnaire, the assumption is used to state that all the items that make up a questionnaire come from the same dimension (unidimensional). In fact, by calculating reliability using the unidimensional Cronbach's alpha formula, you will get an rxx' coefficient that is smaller when compared to the αs coefficient or stratified alpha coefficient. The ability to use student behavior questionnaires based on *karmapatha* teachings after removing items in the drop category, both unidimensionally and multi-dimensionally, when examined from the rxx' and αs coefficients, is caused by four vital factors, namely the high or low value of the reliability coefficient (rxx') of responses between -rater, the high and low coefficients of ri(x-i) unidimensionally and multidimensionally, the removal of items that are in the drop category, and the length and shortness of the statement of an item and the number of items that make up the questionnaire, the high and low stakes (stake) of the questionnaire by the user (user). The high or low value of the reliability coefficient (rxx') of inter-rater responses to student behavior questionnaires based on *Karmapatha* teachings can be used as an indicator to determine the high or low value of the reliability coefficient of student behavior questionnaires based on *Karmapatha* teachings (Nufus et al., 2017; Riscaputantri & Wening, 2018). The higher the reliability coefficient (rxx') value of the inter-rater response, the higher the reliability coefficient value of the student behavior questionnaire based on *karmapatha* teachings, unidimensionally and multidimensionally.

Another factor that influences the reliability coefficient value of the student behavior questionnaire based on *Karmapatha* teachings is the high and low rix and ri(x-i) coefficients for each item that makes up the student behavior questionnaire based on *Karmapatha* teachings. The higher the value of the coefficient rix and ri(x-i) for each item that makes up the student behavior questionnaire based on *karmapatha* teachings, the higher the value of the reliability coefficient (rxx' and αs) of the student behavior questionnaire based on *karmapatha* teachings both unidimensionally and multi-dimensionally. Dropped

questionnaire items, namely questionnaire items whose rix and ri(x-i)-calculated values are below the r-table value, are not included in calculating the reliability coefficient (rxx' and αs) of student behavior questionnaires based on *karmapatha* teachings, whether using alpha-Cronbach formula (a-C) or those using the stratified alpha formula (αs) (Amirrudin et al., 2021). This can affect the k value (number of valid items), which is the Cronbach's alpha formula. The denominator of the k component in the Cronbach's alpha formula is k-1. Because the valid items in the student behavior questionnaire based on *Karmapatha* teachings are unidimensional, there are 48 items before being corrected for the spurious overlap effect. This also applies when calculating the reliability of the questionnaire on each dimension before calculating the stratified alpha coefficient (□s).

Apart from these three factors, the length and shortness of the statements of student behavior questionnaire items based on *karmapatha* teachings also influence the high and low values of the reliability coefficient of an instrument. This is caused by the statement of items in a questionnaire being too long, causing respondents to experience deviations in their understanding of the items in question, so anomalies often occur in responding. Anomalies in responding due to the length of the item statements in a questionnaire cause low item scores. A low item score causes the reliability coefficient value to be low. The length of a questionnaire also influences the level of reliability coefficient (rxx') obtained. The longer a questionnaire, usually within certain limits, causes an increase in the reliability coefficient obtained. Reliability will be greater for scores from long tests (more items) than short tests (Taherdoost, 2016; Yantini et al., 2021). Homogeneity of the content of a test tends to increase reliability. Questionnaires with many items are more valid than questionnaires with only a few statement items. The high or low validity indicates the high or low reliability of the questionnaire. Thus, the longer the questionnaire, the higher the reliability. The length of the questionnaire is related to the reliability of the questionnaire in question. The effect of changing the length of the questionnaire on the reliability coefficient can be predicted by the Spearman-Brown prophecy formula.

The final factor determining an instrument's high or low reliability is the user's high or low stake (low-high stake). For questionnaires that have high stakes for the user, such as a questionnaire regarding pilot stress when piloting an airplane, the reliability coefficient must be above 0.900. Meanwhile, questionnaires with a low stake can achieve a reliability lower than 0.900. However, according to the criteria of Fraenkel and Wallen (1993), the reliability coefficient of a questionnaire must at least reach 0.700. Questionnaires with a reliability coefficient below 0.700 must be rejected for research purposes. Most of the prepared questionnaires, for example, for achievement motivation, work motivation, learning motivation, interests, religiosity, and so on, have several dimensions. Each dimension has several indicators. The statements that make up a questionnaire will be derived from these indicators. Therefore, when testing the validity of the questionnaire's items, you should use multidimensional item validity testing.

Furthermore, using a multidimensional reference to calculate the questionnaire's reliability would be best. However, even though a person's questionnaire has multiple dimensions, testing the validity of the items and calculating the questionnaire's reliability are carried out unidimensionally, which is why the questionnaire's reliability coefficient is low.

The finding of determining the unidimensional assumption is difficult to fulfill due to the discovery of several new factors that are also measured in one instrument (Khasanah et al., 2020; Kiklhorn et al., 2020). In other words, researchers often use psychological instruments to be multi-dimensional (Abubakar et al., 2022). The high tendency for measurement instruments to be multidimensional is caused by several things, including the characteristics of psychological constructs that tend to lead to multidimensional models, the involvement of aspects in the preparation of measuring multidimensional instruments, the

number of items in the instrument being too large, the technique of writing items that have a positive direction (favorable) and negative (unfavorable), and different units of measurement (Khasanah et al., 2020). The results of calculating the reliability of the unidimensional student creativity questionnaire after removing items in the drop category were obtained using the alpha-Cronbach formula. Meanwhile, the results of calculating the reliability of the student creativity questionnaire were multidimensional after removing items in the drop category using the alpha-stratified formula.

4. CONCLUSION

The unidimensional reliability of the student behavior questionnaire based on *karmapatha* teachings before being corrected for the spurious overlap effect meets the feasibility of using it as a research instrument. The multidimensional reliability of the student behavior questionnaire based on *karmapatha* teachings before being corrected for the spurious overlap effect fulfills the feasibility of using it as a research instrument. Teachers who calibrate instruments in the form of questionnaires are recommended to calculate their reliability multidimensionally after correcting them for spurious overlap effects.

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