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## **PSYCHOMETRIC PROPERTIES OF A SUBLIME SOCIAL ATTITUDE SCALE FOR PROSPECTIVE OF BUDDHIST EDUCATION TEACHERS**

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### **ABSTRACT**

**Purpose** - A sublime social attitude (*brahmavihāra*) has been identified as a crucial aspect of Buddhist Education (BE) for fostering prosocial behavior. Therefore, this study aims to construct and establish the validity of a sublime social attitude scale for prospective teachers of BE, as well as to detect social desirability bias (SDB).

**Methodology** – This is a development research through a survey method using a quantitative approach that produces a scale to measure the *brahmavihāra* of prospective Buddhist education teachers. The content validity was quantitatively analysed by calculating and comparing three statistical methods for item relevance, namely

content validity index, binomial test, and asymmetric score confidence interval, based on the evaluation of nine experts. Furthermore, empirical testing was conducted using second-order confirmatory factor analysis (CFA) with 233 respondents from a population 1012. The identification of item susceptibility to SDB was carried out through qualitative rating by three raters on a draft of a sublime social attitude scale and empirically confirmed by CFA.

**Findings** - The results showed that *brahmavihāra*, a psychological attribute consisting of four dimensions, namely loving-kindness, compassion, sympathetic joy, and equanimity, were empirically proven by CFA. Empirical testing resulted in 24 valid items having a fit model with the goodness of fit criteria fulfilled. Further, five items were identified by the experts as potentially vulnerable to SDB, and only one was empirically confirmed to be vulnerable based on the CFA.

**Significance** - The instrument developed in this study could serve as an effective assessment tool for BE instructors and a psychological scale for other stakeholders to measure *brahmavihāra* in the recruitment of BE teachers.

**Keywords:** Development and validation, social desirability, sublime social attitude scale, prospective teacher.

## INTRODUCTION

Social responsibility is an area that needs to be developed in the academic field and education policy for prospective teachers, as it helps to increase their capacity (McDiarmid & Clevenger-Bright, 2008). This area has been covered to some extent by personality competence. Personal development referred to as inclusive education in prospective teacher education has been identified as a priority issue (Kosnik & Beck, 2009), but efforts to develop this capacity is still not optimal (Soloway, 2011).

Buddhist College, an institution that produces prospective teachers of BE is responsible for forming social and personality competencies, particularly in cultivating a sublime social attitude, such as loving-kindness, compassion, sympathetic joy, and equanimity. A sublime

social attitude from a Buddhist perspective is called *brahmavihāra*, which means a sublime state of mind (Rhys Davids & Stede, 1925, p. 549) *Brahmavihāra* is an attitude, a way of behaving, and a noble way of life that always radiates loving-kindness, compassion, sympathetic joy, and equanimity (Ṭhānissaro, 2014). It is the ideal attitude towards all beings in matters of interaction that creates harmony (Nyanaponika, 1999). Buddhaghosa (2011) defined *brahmavihāra* as a sublime social attitude and a useful meditation object for mind cultivation. Meanwhile, Tejadhamma (2015), regarded *brahmavihāra* as a central position in the field of mental training in Buddhist education. This is because it is a crucial aspect of spiritual, moral and ethics in Buddhism; serving as a regulative and normative principle for creating a harmonious life (Vajirañāna 1940) as well as enhancing prosocial attitudes (Zeng et al., 2018).

From an ethical viewpoint, these four attitudes serve as the moral foundation of every harmonious life and are significant for spiritual development (Nandasara, 2014). The four social attitudes help to minimize egoism and reduce boundaries between oneself and others (Miller, 1979), thereby lessening social barriers (Dhammadinna & Chawhan, 2020). The *brahmavihāra* is more than just a mental condition; it is an attitude or quality of consciousness, and a universal moral compass that is inherent in consciousness (Parker, 2017). According to Carnell (2021), the *brahmavihāra* adds emotional depth to mindfulness exercises, which not only sharpens lawyers' minds but also establishes a connection between the heart and the mind.

Loving-kindness (*mettā*) is a multi-significant term that refers to universal love extending to all beings with equal intensity (Buddharakkhita, 2014; Ohnuma, 2012; Tejadhamma, 2015; Thittila, 2010). The main aspect of loving-kindness is the cultivation of protection for other creatures through an attitude of friendship (Anālayo, 2015). Compassion (*karunā*) is defined as being moved by the suffering of others and motivated to help (Buddhaghosa, 2011). The main component of compassion is caring for others to be free from suffering (Anālayo, 2015). Sympathetic joy (*muditā*) is etymologically and closely related to appreciative joy (Anālayo, 2015), which helps to eliminate envy (Buddhaghosa, 2011). It is an attitude of not feeling envy towards the success of others based on self-transcendence (Zeng et al., 2016). Equanimity (*upekkhā*) is defined as an attitude of equality, similar to that of a wise supervisor

(Buddhaghosa, 2011). Equanimity is a mental form of impartiality towards various phenomena (Bodhi, 2007), and an absence of compulsive reactivity (Analayo, 2021), which is characterized by not being attached to pleasurable experiences and rejecting unpleasant experiences (Olendzki, 2006).

The four attitudes are considered to be noble because they represent an ideal way of socially interacting with all beings and creating a harmonious community, making them crucial teachings in Buddhism (Nyanaponika, 1999). Nevertheless, there is still misunderstanding regarding *brahmavihāra* since it is often taken out of context (Thānissaro, 2014). The development of *brahmavihāra* for prospective teachers of BE is essential, especially in Indonesia, a socioculturally diverse country with a greater potential for conflict (Nottingham, 2002). Religious teachers play a vital role in cultivating tolerance, which is manifested in the social context of students. According to Maulana (2017), the majority of religious teachers in public schools in Indonesia have exclusive attitude and conservative views about religion. Although there is no actual data regarding BE teachers, it does not mean that the potential does not exist. Therefore, cultivating a sublime social attitude is an urgent need that should be addressed early on in the education of prospective Buddhist teachers.

Although a sublime social attitude is an important aspect of the affective domain of BE, assessment is limited to written tests that tend to measure cognitive aspects. This can be attributed to the lack of instruments to measure noble attitudes and the tendency of most BE teachers to prioritise the cognitive domain (Sulani, 2017). This tendency can be seen in the development of teaching materials and assessments that only rely on test instruments (Sulani, 2017). As these conditions are not ideal, Buddhist teachers are expected to be able to develop all aspects of education (cognitive, affective, and psychomotor) in a balanced manner.

A number of research experts have examined the dimensions of the *brahmavihāra* (Cho et al., 2018; Hadash et al., 2016; Neff 2003; Raes et al., 2011; Rangari & Mehta, 2016; Sprecher & Fehr, 2005; Zeng et al., 2016; Zeng et al., 2014). However, these researches have only partially developed per-dimensional instrument of the *brahmavihāra*. Kraus and Sears (2009), comprehensively developed this aspect by focusing on loving kindness and compassion instruments that produce

positive and negative quality scales towards oneself and others. Despite its importance, the basis and use of findings related to noble social attitudes conducted are still limited to the fields of psychotherapy and meditation (Cho et al., 2018; Zeng et al., 2014; Zeng et al., 2016), with less consideration for education. According to Buddhaghosa (2011), *brahmavihāra* can be developed not only through meditation practice (*brahmavihāra bhavana*) but also through an educational process as a mental attitude. This concurs with Fishbein and Ajzen's (1975) theory on the interrelation between belief, attitude, intention, and behavior, that belief or knowledge functions as an information base that can influence these aspects.

Another basic problem is that research experts who develop the instruments related to *brahmavihāra* tend to ignore the bias that occurs when respondents respond to items in the survey. This response bias occurs when respondents provide self-reports, not based on their true feelings, but on social desires, in order to present a positive self-image. The terms used to describe these phenomena are social desirability bias (SDB), faking, and response distortion (Ziegler & Buehner, 2009). The existence of SDB can distort information obtained through self-disclosure, thereby posing a serious threat to establishing validity (Jo, 2000). Ironically, SDB is often disregarded in the construction, evaluation, and implementation of psychological scales (King & Bruner, 2000). Furthermore, individual subject motives, such as specific achievements, can also cause respondents to answer in accordance with their social desires (Edwards, 1957). Another factor in SDB is the interaction between the testee and the item, whereby the item stimulates the emergence of a response bias (Ciptadi & Umar, 2012) since the attitude-measuring item has the potential to be answered in a socially desirable manner.

## METHODOLOGY

### Research Design

This developmental research through a survey using a quantitative approach was designed to produce a self-report instrument to measure the noble social attitude of prospective BE teachers. The type of survey used was a cross-sectional survey design conducted online using Google Forms.

## **Participants and Recruitment**

In this study, the participants were divided into two groups, namely expert respondents for theoretical testing and Buddhist College students for empirical testing. The expert participants included validators for the content validation verification process and validators for detecting SDB. Besides, the criteria for an expert as a validator for the content validation process included: (1) a bachelor's degree in BE or experience conducting studies on the topic of *brahmavihāra* (2) a professional in the field of BE, such as a lecturer of BE/*bhikkhu*. The validators for item vulnerability detection against SDB were those who understand the construction of scale and SDB. The potential participants were purposively selected based on these criteria, and a total of nine experts (five Buddhist monks and four BE lecturers) were chosen to verify content validity. The experts who assessed item susceptibility to SDB consisted of three people (two professors in educational research and evaluation and a psychologist).

Data for empirical testing were collected through simple random sampling from a population of 1012. A sample of 293 students from nine Buddhist colleges in Indonesia (120 males and 173 females) was obtained through two stages of trials. Item discriminant analysis was conducted using limited trial data from a sample of 60 students at Sriwijaya State Buddhist College and Raden Wijaya State Buddhist College. The trial data expanded from the sample of 233 was used for CFA to check the validity and reliability, as well as to detect SDB; which was obtained from nine Buddhist colleges namely Sriwijaya, Raden Wijaya, Nalanda, Mahaprajna, Darma Widya, Syailendra, Smaratungga, Jinarakkhita, and Kertarajasa.

## **Research Procedure**

The development of a sublime social attitude scale for prospective BE teachers, later named the Sublime Social Attitude Scale (SSAS), followed the 16-stage procedure for developing an affective domain instrument (Gable & Wolf, 1993). These stages were subsequently condensed into six, namely (1) preparation of the draft instrument, (2) trial 1, (3) revision, (4) trial 2, (5) validity and reliability analyses, and (6) product presentation. The early stages of development yielded a draft of a self-report instrument consisting of 33 items in Indonesian with six response options ranging from strongly disagree to strongly

agree. Table 1 presents a detailed breakdown of the stages involved in developing the scale as follows:

**Table 1**

*Stages in Developing Sublime Social Attitude Scale (SSAS)*

Step	Process	Information
Step 1	1. Develop conceptual definitions. 2. Develop operational definitions. 3. Select a scaling technique. 4. Conduct a judgemental review of items. 5. Select a response format. 6. Develop directions for responding. 7. Prepare a draft of the instrument and gather preliminary data.	The preparation of the instrument is based on a literature review consisting of 33 items.
Step 2	8. Pilot the data. 9. Prepare the final instrument.	Assessment of item suitability with constructs by experts (content validity verification) and detection of item susceptibility to SDB based on expert assessment (social desirability scale value).
Step 3	10. Gather final pilot data. 11. Analyse pilot data. 12. Revise the instrument.	Limited trial for item discrimination analysis.
Step 4	13. Conduct a final pilot study. 14. Produce the instrument.	Extended trial for construct validity analysis,
Step 5	15. Conduct additional validity and reliability analyses.	composite reliability, and confirmation.
Step 6	16. Prepare a test manual.	

**Data Analysis**

The data were analyzed to answer two research questions, namely: (1) How valid and reliable are the items developed for the sublime social attitude scale? (2) How vulnerable are the developed items to social desirability bias? To answer these questions, several stages of data analysis were carried out, namely content validity analysis, item discriminant analysis, CFA to test construct validity and composite reliability, as well as factor analysis for SDB detection.

The expert assessment results were quantitatively analysed by calculating and comparing the results for item relevance through three different statistical methods, namely content validity index (CVI), binomial test (BT), and asymmetric score confidence interval (CI). The CVI method, which reflects the proportion of respondents who agree on the relevance of an item, included two calculations, namely the CVI value at the item level (I-CVI) and the scale level (S-CVI). Lynn (1986) recommends that the I-CVI should not be less than 0.78, with a panel of nine experts. The second statistical method used for content validity testing was the binomial test. The binomial test proposed by Aiken (1985), examines the hypothesis about the population value  $V$ , and was calculated for each item following the method of Conover (1999). This test was conducted to examine the null hypothesis ( $H_0$ ), which was considered an irrelevant item, and the alternative hypothesis ( $H_1$ ), considered relevant at a significance level of 0.05. The third method used in this study was the asymmetric confidence interval (CI), adapted from Penfield and Miller (2004) formula. This is a parameter for measuring how accurately the mean of a sample represents (includes) the true population mean value. This method is used for problems related to the use of statistical methods in assessing the relevance of content with small samples where data is often not normally distributed (Thrush et al., 2007). In this study, the accuracy rate of each item was determined at a 95 percent asymmetric score confidence interval to test the null hypothesis ( $H_0$ ) that the item is rated as irrelevant (less than 3.0). The length of the score confidence interval was also calculated. According to Penfield and Miller (2004), a shorter confidence interval indicates the proximity of the observed sample mean to the population mean.

The item discrimination analysis is a preliminary item selection process before estimating reliability and validity. Item discrimination power is the extent to which an item can distinguish between individuals who have the attribute construct being measured and those who do not. This analysis was carried out through corrected item-total correlation using SPSS with a limit of  $(r_{ix}) \geq 0.3$ . Construct validity and composite reliability were analysed using the output of second-order CFA with Lisrel 8.0 software. According to Iqbaria et al. (1997), an item is considered valid in representing the construct when the  $t \geq 1.96$  and the standardised loading factor is at least 0.3 (p. 290). The goodness of fit criteria used include RMSEA, where a value of  $\leq 0.08$  is considered valid (Steiger & Lind, 1980), a  $p$ -value of  $\geq 0.05$  is considered significant, a CFI value of  $\geq 0.9$  is deemed fit,

and PGFI where the higher value is considered better. According to Hair et al. (2014, p. 619), composite reliability can be calculated using the construct reliability (CR) formula and the extracted variance (VE) with limits of between  $\geq 0.7$  and  $\geq 0.5$ . Meanwhile, the reliability based on internal consistency can be estimated using Cronbach's alpha with a limit of  $\geq 0.7$  (Nunnally & Bernstein, 1994).

The empirical analysis was carried out through CFA to detect item susceptibility to SDB. Prior to the analysis of the model with CFA, the potential vulnerability of items in the SSAS was identified from the results of a qualitative rating by three raters who produced a score called the Social Desirability Scale Value (SDSV). The SDB detection method used in this study was adopted from Ciptadi and Umar (2012). Unlike in Ferrando (2005), where the process of empirically detecting bias with CFA does not involve a social desirability measuring instrument as a marker variable. The items considered potentially susceptible to SDB (having an SDSV score of  $\geq 3$ ) were used as marker variables in the CFA analysis. Through the CFA approach, social desirability was modeled into a factor and tested to check whether the items that were potentially vulnerable to SDB were indeed included in the same factor. In this process, the fit model was compared between models that did not include social desirability as a factor (model I) and those using SDB as a factor or bi-factor model (model II). When the model involving SDB as a factor produces a good fit model, it indicates that the developed scale contains other factors besides the construct factor being measured, namely the SDB factor (Ciptadi & Umar, 2012). In the bi-factor model, SDB, as a factor, only has a relationship with items that have SDSV of  $\geq 0.3$ , without any direct relationship with the noble social attitude construct. Items that are empirically proven to be vulnerable to SDB can be determined by comparing their *t*-values against the *brahmavihara* and SDB factors. With reference to Iqbaria et al. (1997), items with a *t*-value of  $> 1.96$  for both factors (the dimensions of the *brahmavihara* and SDB factors) are proven to measure the *brahmavihara* and SDB factors.

## RESEARCH FINDINGS

### Results of Content Validity Index Analysis

The developed a Sublime Social Attitude Scale (SSAS) consisted of 33 items (A1 – A12, B1 – B9, C1 – C6, and D1 – D6). The items data were analysed for content validity at both the item level (I-CVI) and

scale level (S-CVI) by nine experts. Lynn (1986, p. 384) stated that with nine experts at a significance level of 0.05, an item is considered valid when it has an I-CVI value of  $\geq 0.78$ . Based on the results of the analysis, 0.67 (item B1) and 0.56 (item B2) were considered irrelevant to the construct since they had an I-CVI value of  $< 0.78$  and did not meet the CVI criteria. The value of content validity at the scale level (S-CVI) in this study was calculated using the S-CVI/Ave method, resulting in a score of 0.95.

**Table 2**

*Recapitulation of I-CVI Calculation*

Item Code	$\Sigma$ value 3 or 4	I-CVI	Category	Item	$\Sigma$ value 3 or 4	I-CVI	Category
A1.	9	1	Valid	B6	9	1	Valid
A2	9	1	Valid	B7	9	1	Valid
A3	7	.78	Valid	B8	9	1	Valid
A4	8	.89	Valid	B9	9	1	Valid
A5	9	1	Valid	C1	9	1	Valid
A6	8	.89	Valid	C2	8	.89	Valid
A7	9	1	Valid	C3	9	1	Valid
A8	9	1	Valid	C4	9	1	Valid
A9	9	1	Valid	C5	9	1	Valid
A10	9	1	Valid	C6	9	1	Valid
A11	9	1	Valid	D1	8	.89	Valid
A12	9	1	Valid	D2	9	1	Valid
B1	6	.67	Invalid	D3	9	1	Valid
B2	5	.56	Invalid	D4	9	1	Valid
B3	8	.89	Valid	D5	9	1	Valid
B4	9	1	Valid	D6	9	1	Valid
B5	9	1	Valid				
S-CVI Ave						0,95	Valid

**Results of Binomial Test Analysis**

The binomial test analysis in this study used the SPSS 23 software. The test results in Table 3 showed that A3, B1, and B2 were not significant items because they had p-values of 0.18, 0.51, and 1.00 ( $p > 0.05$ ), respectively. Therefore,  $H_0$  was accepted and the items were considered irrelevant by the expert. The other 30 items had a p-value of  $< 0.05$ , indicating that they were considered relevant to the construct of sublime social attitudes.

**Table 3**

*Recapitulation of Binomial Test Results*

Item code	<i>P</i>	Item	<i>P</i>	Item	<i>p</i>	Item	<i>P</i>
A1	.00	A10	.004	B7	.00	D1	.04
A2	.00	A11	.00	B8	.00	D2	.00
A3	.18	A12	.00	B9	.00	D3	.00
A4	.04	B1	.51	C1	.00	D4	.00
A5	.00	B2	1.00	C2	.04	D5	.00
A6	.04	B3	.04	C3	.00	D6	.00
A7	.00	B4	.00	C4	.00		
A8	.00	B5	.00	C5	.00		
A9	.00	B6	.00	C6	.00		

**Results of Asymmetric Confidence Interval (CI) Analysis**

The confidence interval score was manually calculated using Microsoft Excel by following a series of five steps adapted from Penfield and Miller (2004). The results of the analysis showed that the lower and upper limits of the confidence interval score were between 2.99 and 3.49. The items with a sample mean value of < 3 were declared not to meet the CI criteria. According to Table 4, out of the 33 developed items, only B1 and B2 did not meet the CI criteria. Furthermore, the average length of the interval for all items was 0.50. Most of the items that met the lower limit criteria had a confidence interval length equal to or less than the overall mean interval length ( $\leq 0.50$ ). This indicates that with a 95% asymmetric score confidence interval, the sample size is sufficient to estimate the population mean (i.e., the sample mean is relatively close to the population mean). Table 5 shows a total of 14 items, those marked with an asterisk, met the CI criteria, although their confidence interval length was greater than the average interval length ( $\geq 0.50$ ).

**Table 4**

*Rating and 95% Score Confidence Intervals for 33 Hypothetical Items*

Item code	Mean sample (M)	Lower limit	Upper limit	Length of interval	Item	Mean sample (M)	Lower limit	Upper limit	Length of interval
A1	3.67	3.16	3.64	.48	B6	3.78	3.31	3.74	.44
A2	3.67	3.16	3.64	.48	B7	3.56	3.03	3.54	.51
A3	3.67	3.16	3.64	.48	B8	3.44	2.90	3.44	.54

(continued)

Item code	Mean sample (M)	Lower limit	Upper limit	Length of interval	Item	Mean sample (M)	Lower limit	Upper limit	Length of interval
A4	3.00	2.44	3.03	.59	B9	3.44	2.90	3.44	.54
A5	3.78	3.31	3.74	.44	C1	3.78	3.31	3.74	.44
A6	3.11	2.55	3.13	.59	C2	3.11	2.55	3.13	.59
A7	3.56	3.03	3.54	.51	C3	3.67	3.16	3.64	.48
A8	3.89	3.46	3.85	.39	C4	3.78	3.31	3.74	.44
A9	3.67	3.16	3.64	.48	C5	3.11	2.55	3.13	.59
A10	3.78	3.31	3.74	.44	C6	3.67	3.16	3.64	.48
A11	3.78	3.31	3.74	.44	D1	3.11	2.55	3.13	.59
A12	3.78	3.31	3.74	.44	D2	3.56	3.03	3.54	.51
B1	2.67	2.13	2.72	.59	D3	3.56	3.03	3.54	.51
B2	2.56	2.04	2.62	.58	D4	3.67	3.16	3.64	.48
B3	3.44	2.90	3.44	.54	D5	3.11	2.55	3.13	.59
B4	3.78	3.31	3.74	.44	D6	3.67	3.16	3.64	.48
B5	3.67	3.16	3.64	.48					

The items were selected based on content validity by comparing the results of the three statistical methods. Items A3, B1, and B2 were dropped as they did not meet the criteria for the three statistical methods as shown in Table 5. Although A3 met the CVI and CI criteria, it did not pass the binomial test, hence it was dropped. Consequently, a total of 30 items were included in the limited trial for discriminant analysis.

**Table 5**

*Summary of the Results of Content Validity Index, Exact Binomial Test, and Asymmetric Confidence Interval*

Code	Item	CVI $\geq .78$	Exact Binomial Test $p < 0.05$	Lower limit 95%
A1	I feel enthusiastic when I aspire for the happiness of all sentient beings, including myself.	√	√	√
A2	I feel at peace even when I need to sacrifice my own comfort for the happiness of others.	√	√	√
A3	I only care about people who treat me well.	√	-	√
A4	I am warm-hearted towards anyone I meet regardless of ethnicity or religion.	√	√	√*

(continued)

Code	Item	CVI $\geq$ .78	Exact Binominal Test $p < 0.05$	Lower limit 95%
A5	I set an example for others by avoiding activities that can cause suffering.	√	√	√
A6	I am very passionate about preventing my friends from doing evil.	√	√	√*
A7	I am happy to show respect when meeting other people even to those who are younger than me.	√	√	√*
A8	I criticize others without hatred.	√	√	√
A9	I support the sale of animals for consumption.	√	√	√
A10	I sincerely treat others with love, because all beings do not want to be hurt.	√	√	√
A11	My mind is filled with hatred whenever I am belittled by others.	√	√	√
A12	I am vindictive, even in trivial matters.	√	√	√
B1	I accept my suffering gracefully to avoid causing new suffering.	-	-	-
B2	I do not grieve when I find myself unable to reduce the suffering of others due to circumstances beyond my control.	-	-	-
B3	I do not want to hurt others, including hostile people.	√	√	√*
B4	My heart trembles when I witness the suffering of others, including animals.	√	√	√
B5	Despite the opportunities, I am not tempted to take what belongs to other people.	√	√	√*
B6	I firmly rebuke a friend who misbehaves even though he/she may not like it.	√	√	√
B7	When I see other people suffering, I help unreservedly.	√	√	√*
B8	I am passionate about seeking opportunities to serve others without expecting anything in return.	√	√	√*
B9	I take responsibility for situations when others need help.	√	√	√*
C1	I am happy to congratulate friends on their successes.	√	√	√

(continued)

Code	Item	CVI $\geq$ .78	Exact Binominal Test $p < 0.05$	Lower limit 95%
C2	I always feel happy about other people's celebrations (such as birthdays and religious holidays).	√	√	√*
C3	I feel happy to see people of other religions performing their worship.	√	√	√
C4	When I see others doing well, even in a small way, I feel joyful.	√	√	√
C5	I always acknowledge the support of my friends, even though they may not be evident.	√	√	√*
C6	I feel happy about my friends' well-being, even when I am not feeling good.	√	√	√
D1	I stay calm in any situation, knowing that I am the heir to my own deeds.	√	√	√*
D2	I do not give up easily when suffering, as I have a fighting spirit for greater happiness.	√	√	√*
D3	I am delighted when I receive a surprise gift or when pleasant things happen to me.	√	√	√*
D4	I feel very excited when performing activities.	√	√	√
D5	I find it difficult to be calm when faced with difficulties in daily life.	√	√	√*
D6	I do not get anxious easily about something unexpected.	√	√	√

### **Results of Item Discriminant Analysis**

Based on limited trial data from 60 students of Sriwijaya and Raden Wijaya Buddhist College, the results of item discriminant analysis using corrected item-total correlation, indicated that there were two items, namely A5 and B3, which had a discrepancy index of  $<0.3$ , that is 0.23 and 0.26, respectively. This means that the item cannot distinguish individuals who have sublime social attitude from those who do not and thus require their exclusion.

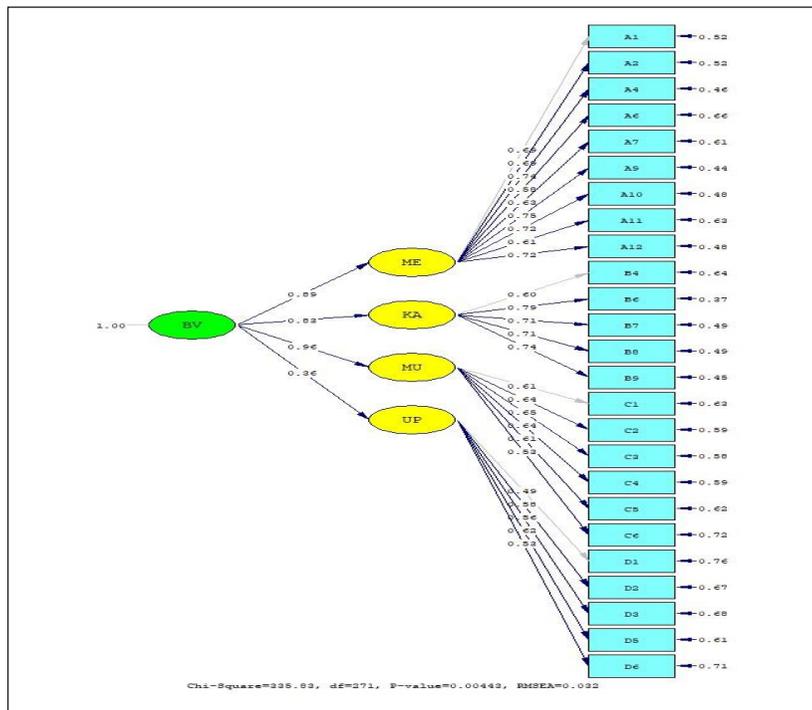
### **Validity and Reliability Analysis**

The second order CFA for the 28 items in the SSAS resulted in a Chi-square value of 506.04, df 346, RMSEA 0.05, GFI 0.87, SRMR 0.06, CFI 0.98, and PGFI 0.74. However, items A8, B5, and D4 had

standardised loading factor (SLF) of  $< 0.3$  (i.e., 0.26; 0.05; and -0.11, respectively) indicating that they were not valid and that the model did not fit. Therefore, re-analysis was carried out after excluding the invalid items. The results of the re-analysis in Figure 1 showed a Chi-square value of 335.83, df 271 RMSEA 0.03, SRMR 0.05; CFI 0.99, NFI 0.95, NNFI 0.99, IFI 0.99, and PGFI 0.75, with all items and dimensions having an LF value of  $\geq 0.3$  and a t-value of  $\geq 1.96$ . Fit indices criteria, such as RMSEA, SRMR, CFI, NFI, and IFI were also met, indicating that the model was fit and all items met construct validity. The estimation of the construct reliability coefficient using the construct reliability formula and extracted variance yielded a CR value of 0.9 and VE of 0.6. Moreover, the reliability estimation based on internal consistency using Cronbach's alpha yielded a value of 0.9. Therefore, based on the estimation of the reliability coefficient using CR, VE, and Cronbach's alpha, it can be concluded that the developed scale is reliable.

**Figure 1**

*Second Order CFA Output Lisrel: Measurement Model SSAS*



## Results of Social Desirability Bias Detection

The Social Desirability Scale Value (SDSV), which reflects the level of item vulnerability to SDB in this study was obtained by calculating the average value of the rating results of three experts on each item. The rating results showed that five items were considered potentially vulnerable to SDB since they had an SDSV of  $\geq 3$ . These items were distributed across four dimensions of the *brahmavihāra*, namely A4 and A10 for loving-kindness, B7 for compassion, C5 for sympathetic joy, and D6 for equanimity. The five items were used as marker variables in the detection of SDB with CFA, and the measurement results for models I and II showed that they fit the data well. Table 6 shows that RMSEA, CFI, Chi-square, and NFI criteria were all met. Based on the Chi-square values between the two models, it appeared that model II was smaller. This indicates that when SDB is included as another factor in the analysed model, the measurement model becomes a better fit. The loading factor and t-value results showed that all items in model II were capable of measuring the *brahmavihāra* construct through their respective dimensions (loving-kindness, compassion, sympathetic joy, and equanimity). Out of the five items that were identified as potentially vulnerable to SDB by the expert, only B7 was empirically proven to be vulnerable to SDB. This is evidenced by its significant t-value of  $\geq 1.96$ , compassion dimension/factor of 8.35, and SDB factor of 2.10. This indicated that besides being able to measure compassion, B7 could measure other factors, in this case, the SDB. Therefore, item B7 was dropped from the SSAS.

**Table 7**

*Comparison of Model Fit based on CFA*

Model I		Model II	
Fit Indices	Result	Fit Indices	Result
RMSEA	.03	RMSEA	0.03
Df	271	Df	245
GFI	.90	GFI	0.90
AGFI	0.88	AGFI	0.88
Chi-square	335.83	Chi-square	301.19
p-value	.00	p-value	.01
NFI	.95	NFI	.96
CFI	.99	CFI	.99
PGFI	.75	PGFI	.74

## DISCUSSION

This is an important preliminary study that aims to develop a scale for measuring the sublime social attitudes of prospective teachers of BE. This scale is expected to serve as an affective assessment instrument for lecturers and as a psychological measuring scale for stakeholders in the recruitment of BE teachers. The triangulation of information from the analysis of three BE quantitative methods and qualitative analysis, based on expert comments that were iteratively used to assess content validity and susceptibility of items to SDB, could produce better-scaled items. Expert narrative comments are crucial sources of information that help in revising scale items. Several items that met the criteria for relevance based on the three statistical methods, were subjected to revision, particularly with regard to their wording, while some went through quite substantial changes. Table 5 shows that most of the calculation results of the three statistical methods are congruent, except for Item A3. Despite meeting the CVI and CI criteria, A3 did not pass the binomial test, indicating that it is irrelevant to the construct. Therefore, the use of the three statistical methods has been proven to be effective in improving content validity studies.

Item A3 stating that ‘I only care about people who treat me well’ belongs to the loving-kindness dimension. However, based on the analysis by the experts, the item did not meet the three criteria of the content validity statistical method, indicating that it did not reflect loving-kindness. Items B1 and B2, which belong to the compassion dimension, also did not meet the three criteria. Most of the experts stated that the two items are part of the dimension of *upekkhā* because the attitude of not being anxious (relief) when facing suffering and feeling calm when failing to help others is an expression of an equanimity. However, in practice, these two dimensions are interrelated, because practising compassion without falling into sorrow requires practising equanimity. This finding is slightly different from the definition of compassion by Strauss et al. (2016) which involves cognitive, affective, and psychomotor contemplation, as well as the recognition and understanding of the universality of suffering for oneself and others. Analayo (2015) also asserts that the awareness of other people’s suffering is the basis of developing compassionate meditation, while the practice of compassion is expressed in the desire for others to be free from suffering. This process involves prioritising equanimity among the other *brahmavihāra* dimensions as a preliminary practice. Because, equanimity is closely related to mindfulness which is an important part of developing compassion

for oneself and others (Analayo, 2021). This supports the statement by Pagis (2015), that meditation-based mental balance is not only a psychological state but also a social attitude.

The content validity value was 0.95 at the scale level (S-CVI) and increased to 0.98 when items B1 and B2 were dropped, even to 0.99 when A3, B1, and B2 were further dropped into the very satisfying category. This indicated that the 30 items had content validity with a high level of agreement among the experts. This is based on Waltz et al (2005), that the standard for the average suitability index (S-CVI Ave) is 0.90. Table 5 shows that 14 items marked with an asterisk met the criteria for the three content validity methods. However, based on the CI method, the length of the confidence interval was greater than the length of the average interval. This indicates that a larger sample (experts) is required to accurately estimate the level of precision in the population mean. According to Penfield and Miller (2004), the results of the CI analysis showed that the assessments of the nine experts had a mean relatively close to the population mean. Therefore, the experts agreed that the items developed were aligned with the construct being measured, although some items marked with an asterisk required more appraisers to attain a desirable level of precision.

The final results of the measurement model, based on CFA, showed that all items had an SLF of  $\geq 0.3$  while the  $t$ -value in all paths was  $\geq 1.96$ . Although the  $p$ -value  $< 0.05$  in Figure 1, the model could still be declared a good fit, since other criteria, such as RMSEA, SRMR, CFI, NFI, NNFI, IFI, and PGFI were met. This is consistent with Bentler and Bonnet (1980) assertion that assessing the fit model using only the  $p$ -value is not sufficient. Meanwhile, Hair et al (2014) stated that the use of 3-4 goodness of fit criteria is sufficient to assess the feasibility of a product and the researcher reported at least one incremental index and one absolute index, in addition to the Chi-square and degrees of freedom for the measurement model.

Based on factor analysis, Item B7, which reads, “When I see other people suffering, I help unreservedly” has been proven to measure not only compassion but also the SDB factor because it has a  $t$ -value  $\geq 1.96$  for both factors. In other words, the behavioural form of the statement is an expression of compassion. However, this statement had also proven to stimulate respondents to respond to the item in a socially desirable manner. This corresponds to the statement by Ciptadi and Umar (2012) that if an item with a high SDSV is proven to have a significant contribution ( $t$ -value  $\geq 1.96$ ) to the SDB factor

in CFA then the item contains a social bias. Thus, based on the theoretical and empirical tests conducted, it was concluded that the final SSAS consisted of 24 items that fulfilled the elements of validity and reliability and were not susceptible to SDB.

## CONCLUSION

In conclusion, *Brahmavihāra* is a psychological attribute that refers to a way of behaving, feeling, thinking, and a natural expression of the quality of the mind. This attribute radiates loving-kindness, compassion, sympathetic joy, and equanimity based on and guided by beliefs about the law of cause and effect (*karma*). The *brahmavihāra* construct consists of four dimensions, which have been empirically proven based on CFA. Theoretical and empirical testing in the process of constructing a large social attitude scale has produced a valid and reliable scale. Theoretically, this study can serve as a reference for *brahmavihāra* construct, which is not only studied using a normative theological method, but also through psychological, sociological, and psychometric approaches. The SSAS can be used by Buddhist religious education lecturers and teachers as an affective instrument for assessing sublime social attitudes. Other stakeholders, such as Buddhist school foundations can use the SSAS as an accompanying instrument in recruiting prospective Buddhist education teacher. The use of the three statistical methods has proven to be effective in improving the content validity study of the developed scale, especially in the systematic evaluation of item relevance, and in assessing the adequacy of the sample size (expert). The identification of the susceptibility of items to SDB through rating by raters, and factor analysis at the construction and evaluation stages of the scale, are considered quite effective in detecting potential response bias caused by the items. However, the SDB control process at the scale implementation stage is also necessary to minimise the potential for response bias caused by respondents. This is to ensure that the information obtained from the scale is not distorted.

## LIMITATIONS OF THE STUDY AND SUGGESTIONS

The instrument developed to measure sublime social attitudes in this study is only in the form of a self-report. Therefore, observation sheets can be developed in future studies to measure sublime social attitudes through rubrics and/or peer assessments.

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