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Article Validity and Reliability of a Revised Scale of Attitude towards Buddhism (TSAB-R)

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Abstract: The empirical properties of a revised 24-item instrument called the Thanissaro Scale of Attitude towards Buddhism (TSAB-R) designed to measure Buddhist affective religiosity are described. The instrument was tested on adolescents and teenagers in the UK. Discriminant validity of the instrument was found satisfactory in relation to Buddhist affiliation and content validity in relation to religious involvement with temple attendance, scripture reading, meditation, having had a religious or spiritual experience and religious style. Unlike Christians, for Buddhists, affective religiosity was found to vary independently from age and sex. The differential between heritage and convert religious style of Buddhism was linked to the perceived affective religiosity of the Buddhist features of the home shrine and bowing to parents. Factor analysis revealed two subscales within the instrument for intellectual and affective components. With confirmation of the validity and reliability of the revised scale, the instrument is commended for measurement of Buddhist affective religiosity with adults and children down to the age of 13 years.

Keywords: Buddhism; religiosity; quantitative measure; affective religiosity

1. Introduction

Modelling the religious sphere of life has led to the development of over 125 measurement scales [1]. Broadly speaking, the four core aspects of religiosity amenable to measurement include: religious belief, attitude to religion, religious participation and affiliation ([2], pp. 129–30). Since the majority of these measures have been grounded in monotheistic religions, it cannot be assumed they can be extrapolated to a non-theistic religion like Buddhism. Since some Buddhists question the salience of (dogmatic) belief to Buddhism [3], it is likely that the relationship between attitude towards religion, participation and affiliation would hold the key to measurement of Buddhist religiosity.

Preliminary work with attitude towards Buddhism has borrowed from the principles of the Francis Scale of Attitude toward Christianity (FSAC) [4]. Research with adolescents in the UK resulted in the design and reliability testing of a 24-item, 5-point Likert attitude scale for Buddhism known as the Thanissaro Scale of Attitude towards Buddhism (TSAB)—an instrument designed to measure the affective aspect of Buddhist religiosity as well as the intellectual response to Buddhist tenets [5]. Given that many aspects of Buddhist teachings such as karma and meditation elicit positive attitudes even outside the community of those self-identifying as Buddhist, the scale was designed on the basis of an exercise in discriminant validity: containing Buddhism-based attitude questions with the biggest differential between Buddhists and non-Buddhist views. The designer of TSAB had no chance to test the validity of the scale directly with Buddhists and commended this task to future research along with comparison of the affective aspect of Buddhism with other individual differences and dimensions of religiosity.

It is a challenge to find shared identity in the diverse Buddhist community. Often there seem to be more differences from one Buddhist to another, than between Buddhists and non-Buddhists. One of

the biggest sources of internal diversity is seen in the heritage-convert dichotomy for Buddhists in western society—while some of these Buddhists have ethnic roots in the countries of Asia (so-called "heritage Buddhists") (e.g., [6], p. 199), others have converted to Buddhism independent of their family's influence (so-called "convert" Buddhists) (e.g., [7], pp. 42–49). These different routes into Buddhist faith result in major differences in religious style.

For most religions, participation is measured by frequency of place of worship attendance frequency, personal prayer and scripture reading. For Buddhists, equivalents can be found for all three of these modes of religious participation. Scripture reading would mean study of the Buddhist sutras or the Tipitaka in translation and chanting of tracts of Buddhist verses in the relevant scriptural language—with 55% of Buddhists involved with this form of practice to some extent. For Buddhists, attendance at a place of worship for those of heritage style would mean visits to Buddhist temples, but for those of convert style it might mean joining activities at meditation centres or Buddhist centres, with 98% of Buddhists involved in this practice to some extent, making it the most ubiquitous expression of religious participation—being practised intensively by heritage and convert Buddhists alike. For Buddhists, meditation would mean sitting cross-legged to cultivate mindfulness, with 82% of Buddhists involved in this practice to some extent ([8], p. 311).

It is only fair however, in the Buddhist case, additionally to include religious aspects of everyday life beyond the formalized expressions of religion—since when Buddhists were questioned about their faith, many considered non-formal aspects important to their Buddhist identity, not just their "cultural" identity. Having had a religious or spiritual experience found in 48% of Buddhists, means self-report of phenomena such as meditation inner experience, insight, wonder or other-worldly contact. Having a Buddhist shrine (reported by 70% of Buddhists), means displaying a raised shelf or set of tables in the home with Buddhist iconography and has also been used as a proxy for Buddhists affiliation in a Chinese study [9]. Bowing to parents means physically expressing respect to parents by lowering the head as more than just a gesture, and was found in 57% of Buddhists.

The expectations for validity based on previous experience with FSAC are that attitude towards religion would be more positive in those who are younger, in females, in those who self-identify as belonging to that religion and in those who participate most frequently in religious activities such as prayer, scripture reading or attendance at a place of worship ([10], p. 191). To test these expectations in the Buddhist context, the discriminant validity of TSAB-R was measured in a comparison between the scores of those adhering and those not adhering to Buddhism. In a test of content validity, statistical links between Buddhist affective religiosity and other dimensions of religiosity were explored for bowing to parents, scripture reading, having a home shrine, meditating, having had a religious or spiritual experience and temple attendance. The empirical properties of the instrument were tested in relation to other individual differences such as age, sex and religious style. Finally, the reliability of the revised scale was revisited and a confirmatory factor analysis performed.

2. Methodology

2.1. Sample

Buddhist teenagers participating in this study were derived from a tiny religious minority of 0.2%–0.4% in the British population. The sample size for the inter-religious comparison (*viz.* the "discriminant validity" heading in the findings section below) was 518. In this sample the experimental group consisted of 166 self-identifying Buddhist adolescents aged between 13- and 15-years-old derived from the dataset described by Thanissaro [8]. This sample contained 95 male (57%) and 71 female (43%) participants. The comparison group numbering 352, derived from the dataset described by Thanissaro [11], consisted of adolescents attending London schools who did *not* self-identify as Buddhists, also with ages between 13- and 15-years-old. This comparison group consisted of 225 male (64%) and 127 female (36%) participants. The self-identifying religion of the comparison group included

42% Christian, 34% no religion, 13% Muslim, 5% Hindu, 4% unspecified (not Buddhist), 1% Jewish and 1% Sikh.

For the intra-Buddhist comparisons (viz. all but the "discriminant validity" heading in the findings section below), the sample size was 417. These were teenagers attending temples in Britain or displaying an interest in Buddhist keywords¹ on their Facebook page, all of whom self-identified as Buddhists. The sample consisted of 225 male (54%) and 192 females (46%) aged between 13 and 20 and included Buddhists of Asian (52%), White (34%), Mixed (11%) Chinese (2%) and Black (1%) ethnicity. In terms of the temple institutions attended, to give some idea of Buddhist denominations included, the sample comprised Sinhalese (23%), Thai (16%), Tibetan (12%), Burmese (11%), Vietnamese (9%), Japanese (5%), Bangladeshi (3%), Western (2%), Chinese (2%), Nepalese (2%) and Cambodian (1%). Since the definition of heritage-style Buddhism is having a connection with Asian Buddhism through one's parents, Buddhists of Asian-Indian, Asian-Pakistani, Asian-Bangladeshi, Any Other Asian and Chinese ethnicity were allocated to the "heritage" Buddhist teenager category (hereafter abbreviated to "HBT"). Buddhists of White, Black-African and Black-Caribbean ethnicity were allocated to the "convert" Buddhist teenager category (hereafter abbreviated to "CBT"). In this sample, of those for whom religious style could be ascertained,² 61% were heritage and 39% were convert. Although it is likely that attitude towards Buddhism could be tested more easily in an adult age-group who would have a more fluent command of the English vocabulary, this research project was hosted in an education faculty and of necessity worked with adolescents and teenagers.

2.2. Instrument

A composite questionnaire deployed general questions on ethnicity, age, sex and religious affiliation. Multiple choice items allowed participants to indicate whether and how often they meditated, bowed to parents, attended a place of worship or read the scriptures. It was asked whether the respondents had a Buddhist shrine at their home and whether they had had a religious or spiritual experience. This general section was followed by the TSAB-R, which like TSAB, is a set of 24 statements relating to Buddhism. Respondents rated their level of agreement with the statements using a five-point Likert scale (Agree strongly—Agree—Not Certain—Disagree—Disagree Strongly) (*see* Figure A1 *for print example*). Differences between the TSAB and TSAB-R relate to reduction of verbosity in the original questions. Following the numerical order in which TSAB-R questions appear in Table 1, simplifications of language were made to questions 1, 8, 9, 10, 15, 17, 20, 21 and 22. Question 23 was converted into a second reverse-coded item. Special attention was given to the original "Sangha Day" question which after the testing of three variations to avoid the compound wording used in the TSAB ([8], p. 339) was adjusted to the wording "I like how Buddhists encourage people to become friends" for question 6.

¹ The keywords included the words: arhat (Buddhism), Buddhism, Buddhism Theravada, Buddhist, Buddhist meditation, Burmese Buddhist temple, Dhammakaya meditation, Dhammakaya movement, Foundation for the Preservation of the Mahayana Tradition, FWBO, Gautama Buddha, interbeing, Karma Kagyu, Mahayana, merit (Buddhism), New Kadampa Tradition, Order of Interbeing, Samatha, Soka Gakkai International SGI, Theravada, Theravada Buddhism, Theravada Buddhist, Tibetan Buddhism, Triratna Buddhist Community, Vietnamese Family of Buddhism, Vipassana, Vipassana meditation, Zen, Thich Nhat Hanh, Buddhism in Bangladesh, Buddhahood, Diamond Way Buddhism, Buddha's Dharma, Pure Land Buddhism, Buddha's Light International Association.

² Not possible where ethnicity was "mixed".

Table 1. Comparison of attitude towards Buddhism between adolescents of no religion, non-Buddhist religion and Buddhist religion.

		None *	Non-B. *	Budd.	χ^2	<i>p</i> <
1.	I like how Buddhists train their minds through prayer and meditation	16	15	77	192.4	0.001
2.	I like the way Buddhists offer flowers and incense to statues of Buddha	18	11	80	221.1	0.001
3.	Eightfold Path seems a good way to achieve happiness	17	15	67	137.4	0.001
4.	I admire Buddhists for respecting all living things	24	16	87	220.9	0.001
5.	I find it inspiring to hear Buddhist stories	19	23	75	134.3	0.001
6.	I like how Buddhists encourage people to become friends	13	15	72	196.0	0.001
7.	Spending time as a Buddhist monk is beneficial to the world at large	11	6	54	139.6	0.001
8.	I like how some Buddhists spend time in meditation as monks or nuns	14	12	66	153.2	0.001
9.	Buddhists should have respect for those worthy of respect	20	17	74	151.5	0.001
10.	I like the Buddhist idea of having a calm mind	37	31	86	126.7	0.001
11.	I respect Buddhists for giving food and money to their monks	30	18	85	187.9	0.001
12.	I respect the Buddhist idea that understanding is more important than belief	28	16	77	159.9	0.001
13.	It is important for Buddhists to spend time meditating	18	13	76	189.2	0.001
14.	It is necessary for us to share what we have with others	26	25	72	103.6	0.001
15.	Enjoying life or hating it depends on how we see the world	36	31	71	66.8	0.001
16.	Spending time meditating is a constructive use of one's time	12	11	54	109.2	0.001
17.	Buddhists should not to kill any sort of animal	18	17	71	143.5	0.001
18.	It is necessary for us to give support to the poor and the needy	32	28	88	157.4	0.001
19.	Nirvana is the ultimate peace	10	4	60	185.8	0.001
20.	Buddhists should avoid drinking alcohol	25	24	54	45.6	0.001
21.	Buddhists should look after their parents in their old age	26	23	83	160.1	0.001
22.	People who have helped us a lot deserve our special respect	40	27	82	121.0	0.001
23.	If a person does good deeds, good things will come back to them	58	67	66	118.4	0.001
24.	I would enjoy killing any sort of animal [®]	64	66	1	187.1	0.001

* from ([11], p. 242), Yates correction applied throughout; [®] indicates "reverse-coding" of the question.

2.3. Procedure

Surveys were distributed in the UK in the period 2013–2014 in paper and online formats and completed in the participants' own time. For those unable to complete the paper survey immediately, a stamped addressed envelope was provided to facilitate return. For the online version of the survey a Qualtrics web-based survey was hosted on the St Mary's Centre website (www.st-marys-centre.org.uk). Teenagers were directed to this survey by clicking sidebar advertising banners that appeared on their Facebook page if they belonged to a Buddhism-related interest group. The online sample was limited to those both resident in the UK and falling within the target age-group. For all items excepting those that were reverse coded³ "Agree Strongly" was coded by a score of "5", "Agree" by "4", "Not Certain" by "3", "Disagree" by "2" and "Disagree Strongly" by "1"—the aggregate of the 24 items produces scores ranging from 120 indicating the most positive attitude towards Buddhism down to 24 indicating the least positive. Results were compared by Chi-square for single-item categorical measures and independent samples *t*-test for continuous scale scores in comparison between groups by the relevant routines of the SPSS statistical package [12].

3. Findings

In this section, findings have been subdivided into four subheadings: firstly, a test of validity, in terms of Buddhist affiliation and religious participation (bowing to parents, home shrine, meditation, having had a religious or spiritual experience, temple attendance and scripture reading), secondly a test of statistical links between TSAB-R and the individual differences of sex, age and religious style, thirdly the revised scale is revisited for an assessment of internal consistency reliability and finally a Principal Component Analysis of the instrument is performed.

3.1. Validity

3.1.1. Discriminant Validity: Buddhist Affiliation

As shown in Table 1, Buddhists had significantly more positive attitude, item-by-item on every one of the 24 questions on the Scale of Attitude towards Buddhism in comparison with adolescents of no religion and adolescents of a non-Buddhist religion. Only on item 23 which was fielded as a reverse coded item in the Buddhist sample, were non-Buddhist responses more similar to the Buddhist responses than to the response of those of no religions. These results strongly support the validity of those questions as Buddhist attitude identifiers. Taken together as a scale, the mean Scale of Attitude towards Buddhism score was greater for Buddhist adolescents ($M_{buddhist} = 97.04$, S.D. = 12.04) than for adolescents of non-Buddhist religions ($M_{non-buddhist} = 75.98$, S.D. = 8.54) a difference that was highly significant (t[396] = 20.41, p < 0.001). Similarly, the mean Scale of Attitude towards Buddhism score was greater for Buddhist = 97.04, S.D. = 12.04) than for adolescents of no religion ($M_{non-buddhist} = 97.04$, S.D. = 12.04) than for adolescents of no religion ($M_{non-buddhist} = 97.04$, S.D. = 12.04) than for adolescents of no religion ($M_{non-buddhist} = 97.04$, S.D. = 12.04) than for adolescents of no religion ($M_{non-religion} = 75.32$, S.D. = 12.55) a difference that was also highly significant (t[284] = 14.78, p < 0.001).

3.1.2. Content Validity: Religious Participation

To examine whether the instrument covered all facets of the social construct of Buddhist religiosity, the presence or absence of diverse available formal and implicit expressions of Buddhist participation were compared in terms of TSAB-R.

Temple attendance: A significantly lower TSAB-R score was found for those who attended a temple weekly ($M_{weekly} = 94.69$, S.D. = 15.17) than for those who did not attend the temple this often ($M_{non-weekly} = 97.76$, S.D. = 10.73, t[380] = 2.38, p < 0.05).

³ For reverse-coded items, the inverse scoring applies with $AS = 1 \dots DS = 5$.

Scripture reading: Being a reader of the Buddhist scriptures corresponded with a significantly more positive attitude towards Buddhism ($M_{reader} = 97.75$, S.D. = 12.92) compared to those who did not read the scriptures ($M_{non-reader} = 94.33$, S.D. = 13.45, t[393] = -2.63, p < 0.01).

Meditation: A significantly higher TSAB-R score was found for those who meditated daily $(M_{daily} = 100.43, \text{ S.D.} = 12.21)$ than for those who did not meditate this often $(M_{non-daily} = 95.36, \text{ S.D.} = 13.25, t[414] = -3.03, p < 0.01)$, however comparison of TSAB-R scores between those who meditated monthly $(M_{monthly} = 97.31, \text{ S.D.} = 12.62)$ and those who meditated less than monthly $(M_{non-daily} = 95.02, \text{ S.D.} = 13.78)$, were not significantly different (t[414] = -1.47, NS).

Having had a religious or spiritual experience: According to the work of Thanissaro [13], those who had had a religious or spiritual experience were significantly more positive in their attitude towards Buddhism ($M_{rse+} = 97.39$, S.D. = 13.81) than those who had *not* had a religious or spiritual experience ($M_{rse-} = 94.71$, S.D. = 12.35, t[415] = -2.06, p < 0.05).

Bowing to parents: According to the work of Thanissaro [14], for heritage Buddhist teenagers, the TSAB-R score for those bowing to parents ($M_{bowing} = 98.29$, S.D. = 11.70) was not significantly more positive than for heritage Buddhist teenagers who did not bow to their parents ($M_{no \ bowing} = 94.66$, S.D. = 12.28, t[224] = 1.87, N.S.). For convert Buddhist teenagers however, the TSAB-R score for those bowing to parents ($M_{bowing} = 99.92$, S.D. = 15.06) was significantly more positive than for other convert Buddhist teenagers who did not bow to their parents ($M_{no \ bowing} = 92.56$, S.D. = 14.96, t[144] = 2.31, p < 0.05).

Having a home shrine: For heritage teen Buddhists, having a shrine corresponded with a significantly higher mean score on the TSAB-R ($M_{with shrine} = 98.55$, S.D. = 11.50) than that of those without a shrine ($M_{no shrine} = 91.13$, S.D. = 12.46, t[224] = -3.30, p < 0.01). For convert teen Buddhists however, having a shrine did not correspond with a significant difference in score on the TSAB-R ($M_{with shrine} = 96.64$, S.D. = 14.60) as compared with those who had no shrine ($M_{no shrine} = 92.40$, S.D. = 15.27, t[142] = -1.68, NS).

3.2. Individual Differences

To test extrapolation of trends in conjunction with individual differences observed with FSAC and also to ascertain the performance of the instrument across differences of religious style, TSAB-R scores were tested against sex, age and religious style.

Sex: No sex-differences were apparent for TSAB-R scores, with no significant difference between the male mean TSAB-R score ($M_{male} = 95.97$, S.D. = 12.82) and the female ($M_{female} = 96.47$, S.D. = 13.47, t[415] = -0.381, NS).

Age: The mean TSAB-R score for those in their early teens (13- to 16-year-olds) $(M_{early_teen} = 97.07, \text{ S.D.} = 12.22)$ was not significantly different from that of those in their late teens (17- to 20-year-olds) $(M_{late_teen} = 95.18, \text{ S.D.} = 14.30, t[378] = 1.436, \text{ NS}).$

Religious Style: The mean TSAB-R score for HBT was higher ($M_{hbt} = 97.53$, S.D. = 11.89) than for CBT ($M_{cbt} = 93.92$, S.D. = 15.20) which was a significant difference (t[256] = 2.430, p < 0.05).

3.3. Reliability of the Revised Scale

The study was able to verify the internal consistency reliability of TSAB-R using the usual measures of reliability [15,16]. Cronbachs's alpha coefficient for all 24 items of Buddhist attitude together was 0.901, with item-total reliabilities ranging from 0.324 to 0.785—well within the bounds of acceptability since Kline [17] indicates that an alpha-coefficient of over 0.8 is acceptable in psychological testing. Table 2 shows the contributing reliabilities for each item, arranged in decreasing order of reliability.

	Item Rest of Test Correlation
I like how Buddhists train their minds through prayer and meditation	0.785
I like the Buddhist idea of having a calm mind	0.772
I like how Buddhists encourage people to become friends	0.739
It is necessary for us to give support to the poor and the needy	0.726
I admire Buddhists for respecting all living things	0.725
I like how some Buddhists spend time in meditation as monks or nuns	0.699
I find it inspiring to hear Buddhist stories	0.670
I would enjoy killing any sort of animal [®]	0.668
It is important for Buddhists to spend time meditating	0.664
Buddhists should look after their parents in their old age	0.654
Spending time meditating is a constructive use of one's time	0.638
Eightfold Path seems a good way to achieve happiness	0.632
I respect the Buddhist idea that understanding is more important than belief	0.619
Nirvana is the ultimate peace	0.598
I respect Buddhists for giving food and money to their monks	0.586
People who have helped us a lot deserve our special respect	0.571
I like the way Buddhists offer flowers and incense to statues of Buddha	0.555
It is necessary for us to share what we have with others	0.542
Buddhists should have respect for those worthy of respect	0.537
Enjoying life or hating it depends on how we see the world	0.525
Buddhists should not kill any sort of animal	0.523
Spending time as a Buddhist monk is beneficial to the world at large	0.513
If a person does good deeds, bad things will come back to them ®	0.406
Buddhists should avoid drinking alcohol	0.324
<i>Alpha coefficient for all 24 items together =</i>	0.901

Table 2. Reliability of the revised Scale of Attitude towards Buddhism (TSAB-R).

[®] Indicates that this item was reverse scored for correlation purposes.

3.4. Factor Analysis

A principal component analysis (PCA) was conducted on the 24 items with orthogonal rotation (Promax). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = 0.96 which is well above the acceptable limit [18]. Bartlett's test of sphericity χ^2 (276) = 5279.79, p < 0.001 indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. Four components had eigenvalues over Kaiser's criterion of 1, however factor analysis identified only two components that corresponded with reliable sub-scales and in combination accounted for 49.58% of the total variance. Table 3 shows the factor loadings after rotation. The items that cluster on the same components suggest that component 1 represents "Intellect" and component 2 "Affect".

Item	Rotated Factor Loadings		
	Intellect	Affect	
Spending time meditating is a constructive use of one's time	0.84	-0.12	
It is important for Buddhists to spend time meditating	0.75	-0.01	
I like how Buddhists train their minds through prayer and meditation	0.72	0.15	
I like how some Buddhists spend time in meditation as monks or nuns	0.71	0.05	
Nirvana is the ultimate peace	0.66	0.00	
Eightfold Path seems a good way to achieve happiness	0.58	0.11	
I find it inspiring to hear Buddhist stories	0.55	0.18	
I like how Buddhists encourage people to become friends	0.51	0.30	
Spending time as a Buddhist monk is beneficial to the world at large	0.50	0.02	
I respect the Buddhist idea that understanding is more important than belief	0.36	0.33	
Enjoying life or hating it depends on how we see the world	0.33	0.25	
If a person does good deeds, bad things will come back to them	-0.32	-0.12	
I like the Buddhist idea of having a calm mind	0.40	0.47	
It is necessary for us to give support to the poor and the needy	-0.00	0.82	
I would enjoy killing any sort of animal	0.04	-0.79	
I admire Buddhists for respecting all living things	0.09	0.74	
People who have helped us a lot deserve our special respect	-0.07	0.71	
Buddhists should look after their parents in their old age	0.10	0.64	
I respect Buddhists for giving food and money to their monks	0.01	0.63	
Buddhists should have respect for those worthy of respect	0.09	0.50	
It is necessary for us to share what we have with others	0.20	0.40	
Buddhists should not kill any sort of animal	0.20	0.37	
I like the way Buddhists offer flowers and incense to statues of Buddha	0.24	0.38	
Buddhists should avoid drinking alcohol	0.18	0.18	
Eigenvalues	10.68	1.22	
% of variance	44.48	5.10	
α	0.910	0.757	

Table 3. Summary	y of exploratory	[,] factor analysis	results for	TSAB-R ((n = 417).
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Factor loadings over 0.40 appear in **bold**; Extraction method: Principal Axis Factoring; Rotation method: Promax with Kaiser Normalization.

4. Discussion

4.1. Discriminant Validity

TSAB-R was able to discriminate accurately between adolescents self-identifying as being of Buddhist, non-Buddhist or no religion on the basis of their affective religiosity, both on individual questions and with the scale as a whole, commending the choice of questions on the TSAB-R both as effective Buddhist identifiers and meaningful across the range of Buddhist styles.

4.2. Content Validity

That TSAB-R covers all aspects of the construct of affective Buddhist religiosity has been borne out in the statistical linking of higher scores with more frequent participation in many forms of Buddhist practice, whether it was temple attendance, scripture reading, meditation or having a religious or spiritual experience. The strongest link between participation and affective religiosity was for the practice of meditation, specifically daily meditation, which is interesting considering the popularity of meditation and mindfulness practices even outside the community of those self-identifying as Buddhist. Another expectation from Christian affective religiosity is that scores would be higher amongst females and those of a younger age group. For Buddhist affective religiosity however, there was no sex-difference or age-difference between scores.

4.3. Complexity Introduced by the Heritage-Convert Dichotomy

The differences in scores between heritage and convert Buddhists may indicate that as an instrument, TSAB-R is slightly weighted towards the heritage style of Buddhism or that CBT are actually less affective in their religiosity than HBT. In any case, such differences would be masked if affiliation were the only indicator of Buddhist religiosity. Nonetheless, instead of having to consider HBT and CBT samples separately, direct comparison can be made to see the relative importance of different forms of practice to each style with TSAB-R as a common variable. As has been seen from the findings, bowing to parents linked to the affective religiosity for CBT but not for HBT, but the opposite was true in the case of having a Buddhist shrine in the home. It may be that the perpetuating or plausibility structures communicating the culture of Buddhism between generations differ depending on the style of Buddhism practised.

4.4. Emancipatory Apologetic for the Instrument

As Buddhists are relatively unfamiliar with quantitative analysis of their religiosity, and mindful of Wilfred Cantwell-Smith's advice that no statement about Buddhist doctrine is valid unless Buddhists can respond, "Yes! That is what we hold" ([19], p. 97), a few words of reassurance about this scale are probably required. Reflecting on whether this instrument measures something that would be recognizable to Buddhists, rather than having value only as an academic hermeneutic, I would consider TSAB-R scores represent steadfastness of the ten-forms of Right View [as they appear in the Sāleyyaka Sutta ([20], pp. 347–48) rather than strength of belief. This affective aspect of being Buddhist might correspond with faith or "piety" although not necessarily corresponding with translation of such piety into religious participation—which would be measured by a different sort of instrument.

4.5. Commendation for Further Use

Given the limitations of drawing conclusions about Buddhist religiosity based solely on 'saying one is a Buddhist' TSAB-R offers a new dimension for the consideration of Buddhists' religiosity, and also those in the category of Buddhist sympathizers and those with multiple religious affiliations. The validity testing contained in this paper indicates potential for the instrument to distinguish between Buddhist and non-Buddhist affective religiosity while also predicting a higher degree of "readiness" to participate in Buddhist activities. It would be instructive to plot TSAB-R scores over the full course of the lifespan and Buddhist mentors would find it useful to measure the influence of nurture, formation and other educational interventions on elevating affective Buddhist religiosity in their students, in a way that has not been previously possible. TSAB-R is thus commended here for further use amongst adults and children down to the age of 13—in the English wording tested here or in translation.

4.6. Suggestions for Further Research

Since PCA indicates that two subscales of "intellect" and "affect" may vary to some extent independently within this scale of Buddhist religiosity, in future research it would be helpful to consider these two aspects of religiosity separately, for example in their relative emphasis in heritage and convert styles of Buddhism. Also, as the wording of the TSAB-R questions is reasonably accessible to respondents who are not themselves Buddhist, the instrument would lend itself to inter-religious comparison of attitude towards Buddhism. It would also be instructive to field the instrument in countries where Buddhism has a more dominant presence outside the Western context where TSAB-R has been designed.

Conflicts of Interest: The author declares no conflict of interest.

Appendix A

INSTRUCTIONS Please read each sentence carefully and see if you agree or disa You have to draw one ring on each line. If you Agree Strongly, put a ring around If you Agree, put a ring around AS A If you are Not Certain, put a ring around AS A If you Disagree, put a ring around AS A If you Disagree Strongly, put a ring around	NC NC NC	with it. D DS D DS D DS D DS D DS D DS	
I like how Buddhists train their minds through prayer and meditation I like the way Buddhists offer flowers and incense to statues of Buddha			
Eightfold Path seems a good way to achieve happiness			
I admire Buddhists for respecting all living things I find it inspiring to hear Buddhist stories			
I like how Buddhists encourage people to become friends			
Spending time as a Buddhist monk is beneficial to the world at large			
I like how some Buddhists spend time in meditation as monks or nuns			
Buddhists should have respect for those worthy of respect			
I like the Buddhist idea of having a calm mind			
I respect Buddhists for giving food and money to their monks			
I respect the Buddhist idea that understanding is more important than belief			
It is important for Buddhists to spend time meditating			
It is necessary for us to share what we have with others			
Enjoying life or hating it depends on how we see the world			
Spending time meditating is a constructive use of one's time			
Buddhists should not kill any sort of animal			
It is necessary for us to give support to the poor and the needy			DS
Nirvana is the ultimate peace			
Buddhists should avoid drinking alcohol			
Buddhists should look after their parents in their old age			DS
People who have helped us a lot deserve our special respect			DS
If a person does good deeds, bad things will come back to them			DS
I would enjoy killing any sort of animal	AS A	NC D	DS

Figure A1. Revised Scale of Attitude towards Buddhism (TSAB-R).

References

- 1. Peter C. Hill, and Ralph W. Hood. *Measures of Religiosity*. Birmingham: Religious Education Press, 1999.
- 2. Leslie J. Francis. "Comparative empirical research in religion: Conceptual and operational challenges within empirical theology." In *Empirical Theology in Texts and Tables: Qualitative, Quantitative and Comparative Perspectives*. Edited by Leslie J. Francis, Mandy Robbins and Jeff Astley. Brill: Leiden, 2009, pp. 127–52.
- 3. Stephen Batchelor. Buddhism without Beliefs: A Contemporary Guide to Awakening. New York: Riverhead, 1997.
- 4. Leslie J. Francis. "Attitude and longitude: A study in measurement." *Character Potential: A Record of Research* 8 (1978): 119–30.
- 5. Phra Nicholas Thanissaro. "Measuring attitude towards Buddhism and Sikhism: Internal consistency reliability for two new instruments." *Mental Health, Religion & Culture* 14 (2011): 797–803. [CrossRef]
- 6. Joyce Miller. "The Forest Hermitage: An Ethnographic Study of a Buddhist Community in Warwickshire." Master's Thesis, University of Warwick, Coventry, UK, 1992.
- 7. Jan Nattier. "Visible & Invisible: The Politics of Representation in Buddhist America." *Tricycle, the Buddhist Review* 5 (1995): 42–49.

- 8. Phra Nicholas Thanissaro. "Temple-going Teenagers: Religiosity and Identity of Buddhists growing up in Britain." Ph.D. Thesis, University of Warwick, Coventry, UK, 2016.
- 9. Xinzhong Yao, and Paul Badham. *Religious Experience in Contemporary China*. Cardiff: University of Wales Press, 2007.
- 10. William K. Kay, and Leslie J. Francis. *Drift from the Churches: Attitude toward Christianity during Childhood and Adolescence*. Cardiff: University of Wales Press, 1996.
- 11. Phra Nicholas Thanissaro. "Religious Education and Attitudes to Buddhism & Sikhism." Master's Thesis, University of Warwick, Coventry, UK, 2010.
- 12. SPSS Inc. SPSS User's Guide, 2nd ed. New York: McGraw-Hill, 1988.
- Phra Nicholas Thanissaro. "The spirituality of Buddhist teenagers: Religious/spiritual experiences and their associated triggers, attributes and attitudes." *International Journal of Children's Spirituality* 20 (2015): 219–33. [CrossRef]
- 14. Phra Nicholas Thanissaro. "Buddhist teen bowing to parents: Straddling the border between private and public religion." *Usuteaduslik Ajakiri* 69 (2016): 110–26.
- 15. Lee J. Cronbach. "Coefficient alpha and the internal structure of tests." *Psychometrika* 16 (1951): 297–334. [CrossRef]
- 16. Robert F. DeVellis. Scale Development: Theory and Applications. London: Sage Publications, 1991, vol. 26.
- 17. Paul Kline. The Handbook of Psychological Testing. London: Routledge, 1999.
- 18. Graeme D. Hutchinson, and Nick Sofroniou. *The Multivariate Social Scientist: Introductory Statistics Using Generalized Linear Models*. London: Sage, 1999.
- 19. William Cantwell Smith. *Towards a World Theology: Faith and the Comparative History of Religion*. Maryknoll: Orbis, 1981.
- 20. Pali Text Society. *The Middle Length Sayings*. Translated by Isaline B. Horner. Lancaster: Pali Text Society, 2007, vol. 1.



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