

# The Relationship Between Mindful Eating and Mental Well-Being among Sports Science Students in UiTM Sarawak: A Validation of Instruments

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## Abstract

Mindful eating practices could enhance one's mental well-being and increase one's enjoyment of food as well as their sense of satisfaction with their bodies. Hence, mindful eating was positively related to mental well-being, implying that those who were more mindful eaters also had higher levels of mental well-being. However, no previous research had directly applied "mindful eating" to the eating habits of sports science students and their relationship to mental well-being. Thus, the objective of this study was to determine the validity of the instrument in assessing the relationship between mindful eating and mental well-being among sports science students. There were 3 sections of the questionnaire that involved demographic information, Mindful Eating Questionnaire (MEQ) and Warwick-Edinburgh Mental Well-Being Scale (WEMWBS), which were validated by 5 experts. The content validity index (CVI) was determined to validate each question. The findings stated that all the questionnaires were interpreted as appropriate since the values of the I-CVI scores ranged between 0.8 to 1 and S-CVI/UA was 1. This study conveyed the good validity of the questionnaire, making it applicable in determining the relationship between mindful eating and mental well-being among sports science students in UiTM Sarawak.

**Keywords:** Mental Well-Being, Mindful Eating, Sports Science Students, Validity

## Introduction

Mindful eating behaviour is defined as sustained attention on a sensory element of the eating experience, such as taste, and non-judgmental or non-evaluative awareness of mental and emotional states that are in contrast with the sensory aspects of the present eating experience (Mantzios, 2021). Developing a good relationship and spiritual beliefs with the food that is eaten is the most significant aspect of mindful eating. When participating in mindful eating interventions, mindful eating helps people gradually shift from external motivations to eat to internal motivations like hunger (Mantzios et al., 2020), promoting

healthier eating behaviours (Zervos et al., 2022), such as an increased intake of fruit and vegetables (Mantzios et al., 2020). Furthermore, mindfulness is inextricably linked to well-being, as Brown and Ryan (2003) argue: "One attribute of consciousness that has been much discussed in relation to well-being is mindfulness". According to the World Health Organization (2005), mental well-being is the foundation for effective functioning for both the individual and the community, as well as a state that allows individuals to realise their abilities, cope with the normal stresses of life, work productively and fruitfully, and contribute to their community. It also indicates the extent to which people believe they have meaningful control over their life activities. Additionally, mental well-being has been viewed as a basic need (dharuriyyat), especially *hifz al-'aql*, which complies with the precepts of Maqasid Syariah and must be protected and nurtured to the best of our abilities (Wahab et al., 2023).

However, previous research has found that university students frequently fail to meet the recommended intakes for fruits and vegetables (Huang et al., 2003; Moy et al., 2009), have frequent snacking habits of high fat and calorie-dense foods (Kremmyda et al., 2008; Yahia et al., 2008), skip meals, particularly breakfast, and consume fast food more frequently (Alizadeh & Ghabili, 2008; Kiefer et al., 2005). In addition, students' hectic lives may tempt them to engage in unhealthy eating habits, such as eating quickly and eating while working or watching movies. These habits can be referred to as mindless or unconscious eating and greatly contribute to lower mental well-being. Anyhow, recent studies indicate that mindful eating increases the risk of depression (Jun & Choi, 2014; Morrison et al., 2015), also other studies have found higher levels of student anxiety and depression at this stage (Beiter et al., 2015). Academic pressure from meeting grade requirements, taking tests, learning a large amount of material, and managing time has been shown to be a significant source of stress for students (Kumaraswamy, 2013). Additionally, in the fields of sports science studies where student-athletes are involved, burnout is a prevalent problem that can have a very negative effect on one's mental well-being due to the constant demands, long hours, and high expectations in terms of academic education and sport performance. These factors can have a negative impact on the overall quality of life. Moreover, some studies have reported that healthcare professionals in Malaysia have a higher risk of obesity than the general adult population (Hazmi et al., 2015; Mustafa et al., 2013) which sets a bad example not only for the athletes but also for the community.

As a conclusion, there is a need to investigate the relationship between mindful eating and mental well-being among sports science students, which could lead to the development of future intervention and nutrition education programmes aimed at improving nutritional and well-being status among sports science students. However, no previous research has directly applied "mindful eating" to the eating habits of sports science students and their relationship to mental well-being. Consequently, this study would provide the most recent reliable measurement instruments to assess the desire towards mindful eating and mental well-being. The results of this study provided future research with the essential elements and new perspectives needed to create more resilient models for mindful eating and mental well-being in the sports science field.

### **Research Objectives**

To determine the validity of the instrument in assessing the relationship between mindful eating and mental well-being among sports science students.

**Significance of Study**

Mindful eating was encouraged as part of a healthy lifestyle to foster a positive relationship with the food we consumed. Moreover, mindfulness-based treatments for binge eating disorder improve overeating control, promote awareness of hunger and satiety, raise levels of mindfulness, and reduce depressive symptoms, anxiety, and emotional distress. It also lowered the frequency and size of binges. A framework for mindful eating made it possible for individuals to pause as they ate, and this pause encouraged people to eat more slowly, which broke the cycle of overeating and binge eating. According to research, mindful eating reduces emotional eating and binge eating (Katterman et al., 2014). This could have something to do with the beneficial impact that mindfulness-based practices have on lowering anxiety and depression (Behan, 2020). Furthermore, it had been demonstrated that mindfulness meditation could help decrease blood pressure, heart rate, and levels of the stress hormone cortisol, which is linked to obesity. The stress hormone cortisol was frequently referred to as being a part of the body's "flight-or-fight" response. When one's feelings of stress were high, cortisol levels were frequently high as well. According to Sanada et al. (2016), mindfulness-based exercise and mindful eating help lower cortisol levels. Those who ate mindfully could direct their attention to sensory modalities while eating, recognise cues that determined the initiation and cessation of eating, and be aware of the causes and consequences of mindless eating.

Thus, it was needed to understand eating behaviours, awareness of mindful eating, and the relationship between those behaviours and mental well-being among this university's student populations. It would be useful to medical personnel, health practitioners, and educators to update their knowledge on the practise of mindful eating, which improves overall physical health and mental well-being. Also, people would be more confident and believe it when they saw it with their own eyes rather than heard or read it. Above and beyond that, it also served as a future reference for future researchers to conduct studies of the significance and virtues of mindful eating behaviour. Hence, a better understanding and awareness of these complexities may lead to the development of effective intervention strategies for improving mental well-being in addition to reducing the risk of any health disease, particularly overweight and obesity in university populations, which have been rising year after year. Additionally, the findings of the relationship between mindful eating and mental well-being among university students were proposed to increase awareness of mindful eating, which allowed for high-quality graduates in terms of better mental well-being. However, to get accurate and meaningful data, validity was needed to make sure that each item was relevant, clear, and simple before being distributed to the respondents, whose validity would be evaluated by the experts.

This study's findings would provide each item on the questionnaire that was relevant to the construct being measured, which was important in gathering information that would be applicable to the goals of the research. On top of that, by reviewing each question, experts could find and recommend improvements for items that could be unclear or difficult for respondents to understand. This helped in clarifying and improving the understandability of the questions, which may result in more accurate results. Furthermore, the validity also evaluated the simplicity of the questions in order to ensure they were straightforward and not overly complex, which helped in keeping respondents' interest and willingness to complete the questionnaire. Besides, it was easier to compare results from other studies or populations when a questionnaire was reliable and evaluated the variables that it was supposed to measure.

## Methodology

In order to prevent bias and outliers in the study results, the characteristics of every participant were controlled to ensure that all groups had similar characteristics at baseline. Thus, there were inclusion and exclusion criteria for this study. The university's students who were pursuing a study in the sports science field frequently had an intense interest in health and well-being, which was consistent with the goal of research on mindful eating and mental well-being among sport science students. This population presented a distinctive and pertinent demographic for this research since their given interest in health, familiarity with nutrition, relationship to performance, and potential for findings to be applied to sports and exercise environments. However, the hectic lifestyle of university students was related to poor mental well-being as well as poor body weight, which was brought on by mindless eating habits.

A questionnaire item was chosen regarding the factors that developed in the literature, as well a bilingual design was used in the survey questions, which were in English and *Bahasa Melayu*. The survey questionnaire consisted of three sections. Section A, which asked respondents for demographic information such as age, gender, course information, weight, height, household income and CGPA. Then, section B which was the Mindful Eating Questionnaire (MEQ) (Framson et al., 2009), was used in this study to evaluate the connection between mindful eating and sports students' mental well-being. This questionnaire had been validated previously among healthy adults aged 18 to 80 years old (Abdul Basir et al., 2021). There were 28 self-reported inventory items in the MEQ, and it was organised into 5 subscales, each of it consisted of: disinhibition, awareness, external cues, emotional response, and distraction. Lastly, section C was the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS), developed by Tennant et al. in 2007, was used to assess mental well-being. The WEMWBS was a scale that measured both psychological and subjective well-being. This WEMWBS was appropriate for use at the population level for those aged 13 and above (Clarke et al., 2011).

Meanwhile, the majority of quantitative studies used designed surveys because it was simple and straightforward, provided reliable results, and provided easy access to data management (Bidhan, 2010). Then, the questionnaire was arranged to ensure a smooth development and validation procedure. In the initial planning phase, several factors must be taken into consideration, including the survey's content, the target population, the estimated duration of completion, and the interpretation of the scores. The survey's contents and questions should be structured in a way that makes it easy for respondents to comprehend and provide truthful responses, while also highlighting the objectives and intent of the study. After developing a questionnaire, the researcher should validate it through a pilot study to ensure that the intended respondents can understand and interpret the questions appropriately. Besides, in addition to verifying the instrument used to evaluate the variables, this pilot study aims to affirm the idea of investigating the relationship between mindful eating and mental well-being among sports science students (Mazlan & Mohamed, 2023).

## Validation

### *Content Validity Index (CVI)*

The most commonly used method for content validity in instrument development reports was the Content Validity Index (CVI) in evaluating the design of the items, including "Relevance" and "Clarity". The CVI was a proportion agreement process that let several raters in the expert field independently analyse and evaluate the relevance of a sample of items to the area of

content represented in an instrument. The objective of this is to construct and validate the appropriate questionnaires for the purpose of the study (Hanis et al., 2023). The experts would rate the instrument items on a 4-point ordinal scale in terms of "relevance" and "clarity" as per the theoretical definition of the construct. Relevance was proved by an item's ability to reflect the content domain that was stated in the theoretical definition. As shown in Table 1, from "not relevant" to "highly relevant" on a scale of 1 to 4. Besides, the clarity of an item was evaluated on the basis of how clearly an item was worded. The ratings were again from "not clear" to "very clear" on a scale of 1 to 4, as stated in Table 2.

Table 1

Likert Scale of Relevance

1	=	Not Relevant
2	=	Somewhat Relevant
3	=	Quite Relevant
4	=	Highly Relevant

Table 2

Likert Scale of Clarity

1	=	Not Clear
2	=	Item Needs Some Revision
3	=	Clear But Need Minor Revision
4	=	Very Clear

Moreover, the item-level (I-CVI) was calculated by the number of experts providing a score of 3 or 4 divided by the total number of experts (Lynn, 1986). Values could range from 0 to 1. The calculated I-CVI of 0.79 or more indicated the items were relevant and acceptable, and 0.70 to 0.79 indicated the item should be revised. In contrast, less than 0.70 suggested that the items were not acceptable and would be eliminated. With more than 5 experts, the acceptable value for I-CVI was 0.78 (Lynn, 1986; Polit & Beck, 2006).

$$I-CVI = \frac{\text{Number of experts agreeing on each item (Nc)}}{\text{Total number of experts (n)}}$$

Figure 1: Calculation of I-CVI

Furthermore, based on Polit and Beck (2006), the scale-level (S-CVI) was calculated using two methods: universal agreement (UA) by experts (S-CVI/UA) and the average of the I-CVI scores for all items across all experts (S-CVI/Ave). The S-CVI/UA was sensitive to the number of experts engaged because the more experts involved, the greater the probability of obtaining a low S-CVI. This was due to the fact that the UA score had been stated as 1 when the item achieved all experts in agreement. Otherwise, the UA score was given as 0. However, the S-CVI/Ave was more liberal and was also preferred by Polit and Beck (2006). The S-CVI value higher than 0.8 was considered acceptable (Polit & Beck, 2006).

$$S-CVI/UA = \frac{\text{Proportion of item agreeing of each expert } (\sum P)}{\text{The total number of items (p)}}$$

Figure 2: Calculation of S-CVI/UA

$$S-CVI/Ave = \frac{\text{The sum the I-CVI scores of all items } (\sum I-CVI)}{\text{The total number of items } (p)}$$

Figure 3: Calculation of S-CVI/Ave

### Number Of Experts

This phase consisted of authorization by a specific number of experts, demonstrating that instrument items and the complete instrument had content validity. Several panels of experts had been appointed for this purpose. According to Lynn's (1986) suggestion of a minimum of 3. However, a minimum of 5 experts and a maximum of 10 experts were suggested for content evaluation (Newman et al., 2013). In the opinion of Grant and Davis (1997), the number of panel experts was determined by the desired level of expertise and variety of knowledge. As a result, a sample size of 5 was obtained. Using a larger number of experts may result in more knowledge on the measure.

Moreover, in order to calculate the validity of the qualitative content, 5 experts in sports science and linguists who were knowledgeable about the psychometric procedure were requested to submit their CVI evaluation form on the accuracy of item and item position content. Besides, expertise in English would be helpful in verifying grammar and the usage of proper words in sentences. Since there was a translation in "*Bahasa Melayu*" on this questionnaire, competence in the *Melayu* language was required to ensure that the phrases were intelligible and understandable. After determining an expert panel, data was collected and analysed to determine their quantitative and qualitative perspectives on the relevancy or representativeness, clarity, and comprehensiveness of the items to measure the construct operationally defined by these items to ensure the content validity of the instrument (Lynn, 1986; Wynd et al., 2003; Yaghmaie, 2003).

## Results

### Relevance

In the context of a CVI, "relevance" referred to the extent to which the items in the research instrument were appropriate and applicable to the specific context of the study. The experts evaluated the relevance of each item in the instrument by determining if the items were relevant and appropriate for the context under assessment. In other words, a high relevance score indicated that the items in the instrument were well-suited and applicable to the characteristics, conditions, or circumstances of this study. To gauge the relevance, the experts typically assessed how well each item aligned with the research's objectives and population.



Table 3  
CVI For Relevance of Demographic Information

Items	Expert					Number in Agreement	I-CVI
	1	2	3	4	5		
1. Age (years) / <i>Umur (tahun)</i>							
18 – 20 years old / <i>tahun</i>							
21 – 23 years old / <i>tahun</i>	4	4	4	4	4	5	1
24 – 26 years old / <i>tahun</i>							
27 and above / <i>dan ke atas</i>							
2. Gender / <i>Jantina</i>							
Male / <i>Lelaki</i>	4	4	4	4	4	5	1
Female / <i>Perempuan</i>							
3. Course Information / <i>Maklumat Kursus</i>							
Diploma in Sports Studies (SR113) / <i>Diploma Pengajian Sukan (SR113)</i>	4	4	2	4	4	4	0.8
Bachelor of Sports Science (Hons.) (SR243) / <i>Sarjana Muda Sains Sukan (Kepujian) (SR243)</i>							
4. Weight (kg) / <i>Berat (kg)</i>	4	4	4	4	4	5	1
5. Height (cm) / <i>Tinggi (cm)</i>	4	4	4	4	4	5	1
6. Household Income (RM) / <i>Pendapatan Isi Rumah (RM)</i>							
Less than / <i>Kurang daripada</i> RM 3169							
RM 3170 – RM 4849	3	4	4	4	4	5	1
RM 4850 – RM 7099							
RM 7110 – RM 10 959							
Above than / <i>Lebih daripada</i> RM 10 960							
7. Cumulative Grade Point Average (CGPA) / <i>Purata Nilai Gred Kumulatif (PNGK)</i>							
< 2.99	4	4	2	3	4	4	0.8
3.00 – 3.49							
3.50 – 4.00							
						<b>S-CVI/Ave</b>	0.942
						<b>Total Agreement</b>	7
						<b>S-CVI/UA</b>	1

Table 4  
CVI For Relevance of Mindful Eating Questionnaire (MEQ)

Items	Expert					Number in Agreement	I-CVI
	1	2	3	4	5		
1) I stop eating when I'm full even when eating something I love. <i>Saya berhenti makan apabila sudah kenyang walaupun saya sedang makan makanan yang saya gemari.</i>	4	4	4	4	4	5	1
2) When a restaurant portion is too large, I stop eating when I'm full.	4	4	3	4	4	5	1

<i>Apabila saiz hidangan makanan di restoran/gerai terlalu besar, saya berhenti makan apabila sudah kenyang.</i>							
3) When I eat at “all you can eat” buffets, I tend to overeat. <i>Saya cenderung untuk terlebih makan apabila saya berada di jamuan buffet.</i>	4	4	4	4	4	5	1
<hr/>							
4) If there are leftovers that I like, I take a second helping even though I’m full. <i>Jika terdapat saki baki makanan yang saya gemari, saya akan makan lagi walaupun sudah kenyang.</i>	4	4	3	4	4	5	1
<hr/>							
5) If there’s good food at a party, I’ll continue eating even after I’m full. <i>Jika terdapat makanan yang lazat di jamuan keramaian, saya akan terus makan walaupun sudah kenyang.</i>	4	4	4	4	4	5	1
<hr/>							
6) When I’m eating one of my favourite foods, I don’t recognize when I’ve had enough. <i>Saya tidak sedar yang saya sudah kenyang apabila saya makan makanan yang saya gemari.</i>	4	4	4	4	4	5	1
<hr/>							
7) When I’m at a restaurant, I can tell when the portion I’ve been served is too large for me. <i>Apabila saya berada di restoran/gerai makanan, saya dapat mengagak sekiranya saiz hidangannya terlalu besar bagi saya.</i>	4	4	2	4	4	4	0.8
<hr/>							
8) If it doesn’t cost much more, I get the larger size food or drink regardless of how hungry I feel. <i>Saya akan mengambil makanan/minuman bersaiz hidangan besar tanpa mengira tahap kelaparan saya jika ia tidak melibatkan tambahan kos.</i>	4	4	3	4	4	5	1
<hr/>							
9) I notice when there are subtle flavours in the foods I eat. <i>Saya dapat kenalpasti jika terdapat sedikit perasa di dalam makanan saya.</i>	4	4	4	4	4	5	1
<hr/>							
10) Before I eat, I take a moment to appreciate the colours and smells of my food. <i>Saya akan mengambil sedikit masa untuk menghargai warna dan bau makanan sebelum saya makan.</i>	4	4	3	4	4	5	1
<hr/>							
11) I appreciate the way my food looks on my plate. <i>Saya menghargai rupa makanan yang dihidangkan di dalam pinggan saya.</i>	4	4	2	4	4	4	0.8
<hr/>							
12) When eating a pleasant meal, I notice if it makes me feel relaxed. <i>Saya akan berasa tenang apabila saya makan</i>	4	4	2	4	4	4	0.8



<i>makanan yang menyenangkan/menggembirakan.</i>							
13) I taste every bite of food that I eat. <i>Saya menikmati setiap kunyahan makanan yang saya makan.</i>	4	4	3	4	4	5	1
14) I notice when the food I eat affects my emotional state. <i>Saya perasan jika sesuatu makanan itu memberi kesan kepada emosi saya.</i>	4	4	2	4	4	4	0.8
15) I notice when foods and drinks are too sweet. <i>Saya dapat kenalpasti jika sesuatu makanan dan minuman itu terlalu manis.</i>	4	4	4	4	4	5	1
16) I recognize when food advertisements make me want to eat. <i>Saya sedar iklan makanan akan membuatkan saya ingin makan.</i>	4	4	4	4	4	5	1
17) I notice when I'm eating from a dish of candy just because it's there. <i>Saya perasan saya makan sesuatu gula-gula/kerepek/makanan ringan hanya kerana ia berada berhampiran saya.</i>	4	4	4	4	4	5	1
18) I recognize when I'm eating and not hungry. <i>Saya sedar apabila saya sedang makan dan tidak berasa lapar.</i>	4	3	4	4	4	5	1
19) I notice when just going into a movie theatre makes me want to eat candy or popcorn. <i>Saya ada keinginan untuk makan bertih jagung/makanan ringan apabila pergi menonton di pawagam.</i>	4	4	4	4	4	5	1
20) When I eat a big meal, I notice if it makes me feel heavy or sluggish. <i>Saya akan merasa lesu selepas makan hidangan yang besar.</i>	4	1	4	4	4	4	0.8
21) At a party where there is a lot of good food, I notice when it makes me want to eat more food than I should. <i>Saya mempunyai keinginan untuk makan berlebihan sekiranya terdapat makanan yang lazat di sesebuah jamuan keramaian.</i>	4	4	3	4	4	5	1
22) When I'm sad, I eat to feel better. <i>Saya akan makan untuk menghilangkan kesedihan saya.</i>	4	4	3	4	4	5	1
23) When I'm feeling stressed at work, I'll go find something to eat. <i>Saya akan mencari makanan untuk dimakan sekiranya saya merasa tertekan di tempat kerja.</i>	4	4	3	4	4	5	1
24) I have trouble not eating ice cream, cookies, or	4	2	3	4	4	4	0.8

chips if they're around the house.

*Saya tidak dapat mengawal kemahuan untuk makan makanan ringan (spt, aiskrim, biskut, kerepek) sekiranya makanan tersebut ada di rumah.*

25) I snack without noticing that I am eating. <i>Saya mengudap tanpa saya sedari.</i>	4	4	3	4	4	5	1
26) My thoughts tend to wander while I am eating. <i>Fikiran saya cenderung melayang jauh/menerawang ketika sedang makan.</i>	4	2	3	4	4	4	0.8
27) I think about things I need to do while I am eating. <i>Saya memikirkan hal-hal lain yang saya perlu lakukan ketika sedang makan.</i>	4	4	2	4	4	4	0.8
28) I eat so quickly that I don't taste what I'm eating. <i>Saya makan dengan cepat sehingga saya tidak rasa apa yang saya makan.</i>	4	3	2	4	4	4	0.8
	<b>S-CVI/Ave</b>						0.935
	<b>Total Agreement</b>						28
	<b>S-CVI/UA</b>						1

Table 5

*CVI For Relevance of Warwick-Edinburgh Mental Well-Being Scale (WEMWBS)*

Items	Expert					Number in Agreement	I-CVI
	1	2	3	4	5		
1. I've been feeling optimistic about the future. <i>Saya berasa optimistik tentang masa depan.</i>	4	4	4	4	4	5	1
2. I've been feeling useful. <i>Saya berasa berguna.</i>	4	3	4	4	4	5	1
3. I've been feeling relaxed. <i>Saya berasa tenang.</i>	4	4	4	4	4	5	1
4. I've been feeling interested in other people. <i>Saya berasa berminat dengan orang lain.</i>	4	4	2	4	4	4	1
5. I've had energy to spare. <i>Saya mempunyai tenaga yang terluang.</i>	4	4	4	4	4	5	1
6. I've been dealing with problems well. <i>Saya menangani masalah dengan baik.</i>	4	4	4	4	4	5	1
7. I've been thinking clearly. <i>Saya berfikir dengan jelas.</i>	4	3	3	4	4	5	1
8. I've been feeling good about myself. <i>Saya berasa baik tentang diri saya sendiri.</i>	4	4	3	4	4	5	1
9. I've been feeling close to other people. <i>Saya berasa rapat dengan orang lain.</i>	4	4	2	4	4	4	0.8
10. I've been feeling confident. <i>Saya berasa yakin.</i>	4	4	4	4	4	5	1
11. I've been able to make up my own mind about things.	4	4	4	4	4	5	1

*Saya dapat membuat keputusan sendiri tentang  
sesuatu perkara.*

12. I've been feeling loved. <i>Saya berasa disayangi.</i>	4	4	2	4	4	4	0.8
13. I've been interested in new things. <i>Saya berminat dengan perkara baru.</i>	4	4	4	4	4	5	1
14. I've been feeling cheerful. <i>Saya berasa ceria.</i>	4	4	3	4	4	5	1
	<b>S-CVI/Ave</b>						0.971
	<b>Total Agreement</b>						14
	<b>S-CVI/UA</b>						1

### Clarity

In the context of a CVI, "clarity" refers to the degree of clarity or understandability of the items included in a research instrument. The experts assessed the clarity of each item by evaluating how well the wording and presentation of the items communicated the intended meaning to the respondents. The clarity aspect of CVI was essential because unclear or ambiguous items may be misinterpreted by participants and affect the validity of the data obtained. Thus, the clear and well-formulated items enhanced the reliability and validity of the research instrument, ensuring that participants could accurately comprehend and respond to the survey or measurement.

Table 6

*CVI For Clarity of Demographic Information*

Items	Expert					Number in Agreement	I-CVI
	1	2	3	4	5		
1. Age (years) / <i>Umur (tahun)</i>							
18 – 20 years old / <i>tahun</i>							
21 – 23 years old / <i>tahun</i>	4	4	4	4	4	5	1
24 – 26 years old / <i>tahun</i>							
27 and above / <i>dan ke atas</i>							
2. Gender / <i>Jantina</i>							
Male / <i>Lelaki</i>	4	4	4	4	4	5	1
Female / <i>Perempuan</i>							
3. Course Information / <i>Maklumat Kursus</i>							
Diploma in Sports Studies (SR113) / <i>Diploma Pengajian Sukan (SR113)</i>	4	3	4	4	4	5	1
Bachelor of Sports Science (Hons.) (SR243) / <i>Sarjana Muda Sains Sukan (Kepujian) (SR243)</i>							
4. Weight (kg) / <i>Berat (kg)</i>	4	4	4	4	4	5	1
5. Height (cm) / <i>Tinggi (cm)</i>	4	4	4	4	4	5	1
6. Household Income (RM) / <i>Pendapatan Isi Rumah (RM)</i>							
Less than / <i>Kurang daripada</i> RM 3169							
RM 3170 – RM 4849	3	3	4	4	4	5	1
RM 4850 – RM 7099							
RM 7110 – RM 10 959							

Above than / Lebih daripada RM 10 960							
7. Cumulative Grade Point Average (CGPA) / Purata Nilai Gred Kumulatif (PNGK)							
< 2.99	4	3	4	4	4	5	1
3.00 – 3.49							
3.50 – 4.00							
						<b>S-CVI/Ave</b>	<b>1</b>
						<b>Total Agreement</b>	<b>7</b>
						<b>S-CVI/UA</b>	<b>1</b>

Table 7

## CVI For Clarity of Mindful Eating Questionnaire (MEQ)

Items	Expert					Number in Agreement	I-CVI
	1	2	3	4	5		
1. I stop eating when I'm full even when eating something I love. <i>Saya berhenti makan apabila sudah kenyang walaupun saya sedang makan makanan yang saya gemari.</i>	4	4	4	4	4	5	1
2. When a restaurant portion is too large, I stop eating when I'm full. <i>Apabila saiz hidangan makanan di restoran/gerai terlalu besar, saya berhenti makan apabila sudah kenyang.</i>	4	3	4	4	4	5	1
3. When I eat at "all you can eat" buffets, I tend to overeat. <i>Saya cenderung untuk terlebih makan apabila saya berada di jamuan buffet.</i>	4	3	4	3	4	5	1
4. If there are leftovers that I like, I take a second helping even though I'm full. <i>Jika terdapat saki baki makanan yang saya gemari, saya akan makan lagi walaupun sudah kenyang.</i>	4	4	4	3	4	5	1
5. If there's good food at a party, I'll continue eating even after I'm full. <i>Jika terdapat makanan yang lazat di jamuan keramaian, saya akan terus makan walaupun sudah kenyang.</i>	4	3	4	3	4	5	1
6. When I'm eating one of my favourite foods, I don't recognize when I've had enough. <i>Saya tidak sedar yang saya sudah kenyang apabila saya makan makanan yang saya gemari.</i>	4	3	4	3	4	5	1
7. When I'm at a restaurant, I can tell when the portion I've been served is too large for me. <i>Apabila saya berada di restoran/gerai makanan, saya dapat mengagak sekiranya saiz hidangannya terlalu besar bagi saya.</i>	4	3	4	3	4	5	0.8
8. If it doesn't cost much more, I get the larger size food or drink regardless of how hungry I feel. <i>Saya akan mengambil makanan/minuman bersaiz hidangan besar tanpa mengira tahap kelaparan saya jika ia tidak melibatkan tambahan kos.</i>	4	3	4	3	4	5	1
9. I notice when there are subtle flavours in the foods I eat. <i>Saya dapat kenalpasti jika terdapat sedikit perasa di dalam makanan saya.</i>	4	2	4	3	4	4	1

10. Before I eat, I take a moment to appreciate the colours and smells of my food. <i>Saya akan mengambil sedikit masa untuk menghargai warna dan bau makanan sebelum saya makan.</i>	4	4	4	3	4	5	1
11. I appreciate the way my food looks on my plate. <i>Saya menghargai rupa makanan yang dihidangkan di dalam pinggan saya.</i>	4	4	4	3	4	5	0.8
12. When eating a pleasant meal, I notice if it makes me feel relaxed. <i>Saya akan berasa tenang apabila saya makan makanan yang menyenangkan/menggembirakan.</i>	4	2	4	3	4	4	0.8
13. I taste every bite of food that I eat. <i>Saya menikmati setiap kunyahan makanan yang saya makan.</i>	4	3	4	3	4	5	1
14. I notice when the food I eat affects my emotional state. <i>Saya perasan jika sesuatu makanan itu memberi kesan kepada emosi saya.</i>	4	4	4	3	4	5	0.8
15. I notice when foods and drinks are too sweet. <i>Saya dapat kenalpasti jika sesuatu makanan dan minuman itu terlalu manis.</i>	4	4	4	3	4	5	1
16. I recognize when food advertisements make me want to eat. <i>Saya sedar iklan makanan akan membuatkan saya ingin makan.</i>	4	3	4	3	4	5	1
17. I notice when I'm eating from a dish of candy just because it's there. <i>Saya perasan saya makan sesuatu gula-gula/kerepek/makanan ringan hanya kerana ia berada berhampiran saya.</i>	4	3	4	3	4	5	1
18. I recognize when I'm eating and not hungry. <i>Saya sedar apabila saya sedang makan dan tidak berasa lapar.</i>	4	3	4	3	4	5	1
19. I notice when just going into a movie theatre makes me want to eat candy or popcorn. <i>Saya ada keinginan untuk makan bertih jagung/makanan ringan apabila pergi menonton di pawagam.</i>	4	3	4	3	4	5	1
20. When I eat a big meal, I notice if it makes me feel heavy or sluggish. <i>Saya akan merasa lesu selepas makan hidangan yang besar.</i>	4	2	4	3	4	4	0.8
21. At a party where there is a lot of good food, I notice when it makes me want to eat more food than I should. <i>Saya mempunyai keinginan untuk makan berlebihan sekiranya terdapat makanan yang lazat di sesebuah jamuan keramaian.</i>	4	3	4	3	4	5	1
22. When I'm sad, I eat to feel better. <i>Saya akan makan untuk menghilangkan kesedihan saya.</i>	4	4	4	3	4	5	1
23. When I'm feeling stressed at work, I'll go find something to eat. <i>Saya akan mencari makanan untuk dimakan sekiranya</i>	4	4	4	3	4	5	1

<i>saya merasa tertekan di tempat kerja.</i>							
24. I have trouble not eating ice cream, cookies, or chips if they're around the house. <i>Saya tidak dapat mengawal kemahuan untuk makan makanan ringan (spt, aiskrim, biskut, kerepek) sekiranya makanan tersebut ada di rumah.</i>	4	2	4	3	4	4	0.8
25. I snack without noticing that I am eating. <i>Saya mengudap tanpa saya sedari.</i>	4	4	4	3	4	5	1
26. My thoughts tend to wander while I am eating. <i>Fikiran saya cenderung melayang jauh/menerawang ketika sedang makan.</i>	4	3	4	3	4	5	0.8
27. I think about things I need to do while I am eating. <i>Saya memikirkan hal-hal lain yang saya perlu lakukan ketika sedang makan.</i>	4	4	4	4	4	5	0.8
28. I eat so quickly that I don't taste what I'm eating. <i>Saya makan dengan cepat sehingga saya tidak rasa apa yang saya makan.</i>	4	3	4	3	4	5	0.8
						<b>S-CVI/Ave</b>	0.971
						<b>Total Agreement</b>	28
						<b>S-CVI/UA</b>	1

Table 8

CVI For Clarity of Warwick-Edinburgh Mental Well-Being Scale (WEMWBS)

Items	Expert					Number in Agreement	I-CVI
	1	2	3	4	5		
1. I've been feeling optimistic about the future. <i>Saya berasa optimistik tentang masa depan.</i>	4	4	4	3	4	5	1
2. I've been feeling useful. <i>Saya berasa berguna.</i>	4	2	4	3	4	4	0.8
3. I've been feeling relaxed. <i>Saya berasa tenang.</i>	4	4	4	3	4	5	1
4. I've been feeling interested in other people. <i>Saya berasa berminat dengan orang lain.</i>	4	4	4	3	4	5	1
5. I've had energy to spare. <i>Saya mempunyai tenaga yang terluang.</i>	4	3	4	3	4	5	1
6. I've been dealing with problems well. <i>Saya menangani masalah dengan baik.</i>	4	4	4	3	4	5	1
7. I've been thinking clearly. <i>Saya berfikir dengan jelas.</i>	4	3	4	3	4	5	1
8. I've been feeling good about myself. <i>Saya berasa baik tentang diri saya sendiri.</i>	4	3	4	3	4	5	1
9. I've been feeling close to other people. <i>Saya berasa rapat dengan orang lain.</i>	4	4	4	3	4	5	1
10. I've been feeling confident. <i>Saya berasa yakin.</i>	4	4	4	3	4	5	1
11. I've been able to make up my own mind about things. <i>Saya dapat membuat keputusan sendiri tentang sesuatu perkara.</i>	4	4	4	3	4	5	1
12. I've been feeling loved. <i>Saya berasa disayangi.</i>	4	4	4	3	4	5	1
13. I've been interested in new things. <i>Saya berminat dengan perkara baru.</i>	4	4	4	3	4	5	1
14. I've been feeling cheerful.	4	3	4	3	4	5	1



*Saya berasa ceria.*

S-CVI/Ave	0.985
Total Agreement	14
S-CVI/UA	1

### Discussion

The findings indicate that the CVI for relevance in all instruments was acceptable and appropriate. The values of 7 items in the demographic information were relevant and acceptable since the calculation of the I-CVI was above 0.78 (Lynn, 1986; Polit & Beck, 2006). All items achieved high I-CVI scores, ranging from 0.8 to 1. In addition, the S-CVI/Ave stated a high value of 0.942, which was considered acceptable. Furthermore, the S-CVI/UA was 1 with the item achieved by all experts in agreement, with a total agreement of 7. Likewise, all 28 items in the MEQ were relevant and acceptable, ranging from 0.8 to 1, and the values achieved high I-CVI scores. The S-CVI/Ave was considered acceptable at 0.935, which stated high values. Also, for a total agreement of 28, it stated that all the items were agreed upon and relevant, and the S-CVI/UA was 1, with the item achieved by all experts in agreement. The instrument of WEMWBS, with all 14 items, stated that it achieved high I-CVI scores, ranging from 0.8 to 1, which was relevant and acceptable for each item. Besides, the score of S-CVI/Ave was also considered acceptable since it stated a high value, which was 0.971. Furthermore, the S-CVI/UA was 1 with the item achieved by all experts in agreement, with a total agreement of 14 items, thus making all items in WEMWBS appropriate.

Besides, the findings indicate that the CVI for clarity in all instruments was also acceptable and appropriate. The demographic information, in which the I-CVI values of all items achieved at 1, which was a high CVI score, demonstrated that the items were clear and acceptable. Also, the S-CVI/Ave indicated a high value of 1, which was considered acceptable. Moreover, the S-CVI/UA was 1 with the item achieved by all experts in agreement, with a total agreement of 7, thus indicating all items were appropriate. The MEQ instrument indicated that I-CVI values were all relevant and acceptable, ranging from 0.8 to 1, and the values achieved high scores. As well, the S-CVI/Ave was 0.971, which was considered acceptable. Also, for a total agreement of 28, it stated that all the items were clear and understanding, and the S-CVI/UA was 1, with the item achieved by all experts in agreement. Additionally, the findings of the WEMWBS instrument stated that the I-CVI values achieved high scores, ranging from 0.8 to 1, which was relevant and acceptable for each item. Additionally, the score of S-CVI/Ave was also considered acceptable since it stated a high value, which was 0.985. Furthermore, the S-CVI/UA was 1, with the item achieved by all experts in agreement. Also, with a total agreement of 14, it is shown that 14 items in WEMWBS are clear and comprehensible.

### Conclusion

In conclusion, the CVI served as a strong tool for ensuring the relevance and clarity of a measurement instrument of demographic information, MEQ and WEMWBS. Through the expert evaluation process, the CVI provided a quantitative measure of the agreement among sports science experts regarding the appropriateness of individual items. As demonstrated in this study, the CVI not only improved the content validity of research instruments but also strengthened the overall reliability and quality of research outcomes. Consequently, a high CVI indicated a consensus among experts, affirming that the content of the instrument aligned well with the intended construct and was suitable for investigating the relationship

between mindful eating and mental well-being among sports science students in UiTM Sarawak.

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