Psychometric Properties of the Self-Consciousness Scale-Revised: A Malay Translation

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The Self-Consciousness Scale was originally constructed by Fenigstein, Scheier, and Buss to assess individual differences in self-consciousness. To date, the instrument has not been validated for usage in the Malaysian population. For this research, the revised version of the Self-Consciousness Scale was translated into Malay – the national language of Malaysia. Therefore, the study aimed to measure the psychometric properties of the Malay translation of the SCS (M-SCS), specifically among adults in Malaysia. The translated instrument was administered to a sample of 700 adults aged 18 years old and above through random sampling. Participants were recruited via social media and the questionnaires were distributed in Google Form. The questionnaire consists of an informed consent form, demographic questions, the M-SCS, Self-Absorption Scale, a debriefing, and an appreciation note. Data were analysed via internal consistency, concurrent validity as well as convergent validity against the SAS using the SPSS v.27. It was concluded the M-SCS is reliable and valid for the Malaysian adult population, with a total of 20 items yielding scores for three subscales (public self-consciousness, private self-consciousness, social anxiety).

Keywords: Self-Consciousness Scale-Revised, Malaysia, Malay, validity, reliability

Self-awareness, according to Arai and Takeno (2018), is the state when individuals are aware of their actions and behaviours which demands the involvement of explicit consciousness such as the state of being aware in a concentrated manner. Self-consciousness, on the other hand, is a sub-concept of self-awareness that is defined as a trait that directs attention either inwards or outwards. Simply put, self-awareness is a state concept whereas self-consciousness is a corresponding dispositional concept (Plant & Ryan, 1985).

Self-consciousness is defined by Tordjman, Celume, Denis, Motillon, and Keromnes (2019) as a multidimensional concept of which one acknowledges the self with their own identity through awareness of one's own body and image. Fenigstein, Scheier, and Buss, the author of the Self-Consciousness Scale (SCS) (1975), proposed that the concept of self-consciousness is composed of two 2 major components, private self-consciousness (PrSC) and public self-consciousness (PuSC).

High levels of PuSC show a higher tendency for individuals to build a façade and restructure their social identities and orientation to obtain approval from others, which in turn leads them to high scores in social anxiety (SA) scales and worry regarding their public image (Tetlock, Skitka, & Boettger, 1989; Doherty & Schlenker, 1991).

On the contrary, individuals who possess high PrSC are inclined to act according to beliefs, values, feelings, and inner convictions of their own (Scheier, Buss & Buss, 1978). Consequently, these individuals have a higher tendency to hold out against social and external pressure as they stand firmly by their principles as well as beliefs and behave accordingly.

The authors of the original SCS then pointed out the relationship between the two components to social anxiety, which was regarded as the result of the processes undergone by the components (Fenigstein et al., 1975). Socially anxious individuals tend to openly steer clear of social situations or subtly apply avoidance as a means to regulate their emotions such as by keeping away from making eye contact and making themselves an outcast in social gatherings (Panayiotou, Karekla & Panayiotou, 2014).

According to Gotter (2017), excessive or negative self-consciousness may lead to unhealthy results even to the extreme ends with researchers finding proof of worsening symptoms in mental health conditions such as anxiety, depression, social anxiety, and borderline personality disorder. Thus, self-consciousness should be considered with high regard, especially with Malaysia showing an increase in the prevalence of 29.2% for mental illness in 2015 compared to a 10.7% figure in 2010 according to The National Health and Morbidity Survey (2015).

Huang, Lin, and Wang (2018) found that the experience caused by the chain of self-consciousness and anxiety was associated with aggressive behaviour and anger, in which their study showed a relation of the experience to dangerous driving behaviours. According to a survey in 2017, approximately 284 million people in the world were diagnosed with anxiety disorders, with one of them being SA (Ritchie & Roser, 2018).

With regards to the above, it is clear that the topic of self-consciousness is a crucial issue to study as it revolves around the growth of an individual further into their life and future. However, to date, self-consciousness in Malaysia has not been a focus of research compared to other aspects of the self. Some of the psychometric studies conducted in other countries include the Greek translation (Panayiotou & Kokkinos, 2006), Turkish translation (Ruganci, 1995), and Swedish translation (Nystedt & Smari, 1989) of the SCS. The issue may be due to the lack of instrument translations of such topics in Malay.

There have not been any translations or used specifically on the most recent version of the SCS, the Self-Consciousness Scale-Revised, that have been found so far on the Malaysian population despite its acknowledged reliability and validity.

Therefore, the objective of the current research was to produce a Malay version of the instrument, the M-SCS, whilst simultaneously determining the reliability and validity of the translation among adults in Malaysia. With hope, the translation of the instrument may stimulate further research on the issue of self-consciousness thus providing better insight and awareness to the community.

Method

Participants

A total of 700 Malaysian participants were recruited through random sampling. The participants' demographic background consisted of males and females, three different age groups (18-35 years, 36-55 years, 56 years and above), as well as

employment status (employed, self-employed, students, retired, unemployed).

The participants were based anywhere in Malaysia with sufficiently stable Internet connections to respond to the online questionnaire. The questionnaire was distributed via social media (WhatsApp, Instagram, Twitter). The foreword of the questionnaire consisted of a brief introduction to the research as well as an informed consent, to which only with the participant's agreement will the questions be accessed, and data stored.

Instruments

Malay translation of self-consciousness scale-revised

The Self-Consciousness Scale-Revised by Scheier and Carver (2013), is a revised version of the Self-Consciousness Scale (1975) by Fenigstein, Scheier, and Buss. The revised version consisted of 22 items and three subscales (public self-consciousness, private self-consciousness, social anxiety) marked by a 4-point rating scale.

The revised scale possessed reasonable stability over time with Cronbach's alpha value of α = .76 (PrSC), .74 (PuSC) and .77 (SA). In this research, the revised scale was translated into the Malay translation of the Self-Consciousness Scale (M-SCS), in the Malay language by an English-Malay translator. Items 8 and 11 were reversed for scoring procedures. As for computing the subscales, the items for each subscale were summed (PrSC = items 1, 4, 6, 8, 12, 14, 17, 19 and 21; PuSC = items 2, 5, 10, 13, 16, 18 and 20; SA = items 3, 7, 9, 11, 15 and 22).

Malay translation of self-absorption scale

The Self-Absorption Scale (SAS) by McKenzie and Hoyle (2008) was implemented in the research for the measurement of convergent validity. The construction of the SAS was contributed by the concept and distinction of the SCS, therefore, justifying its relevant use in the research. SAS was also translated into the Malay language by an English-Malay translator for the standardization of language in the questionnaire.

The reliability of the SAS was simultaneously tested for the research, to guarantee its usage and relevance for the measurement of convergent validity with M-SCS. Results of the test indicated high reliability for both the instrument and its subscales, with Cronbach's alpha value of .930 (SAS), .869 (PrSA) and .915 (PuSA). Therefore, the SAS was deemed highly qualified and appropriate for testing MSCS's convergent validity.

The instrument consisted of 17 items (PrSA = items 4, 5, 6, 9, 11, 12, 14, 15, PbSA = items 1, 2, 3, 7, 8, 10, 13, 16 and 17) and two subscales which were the private self-absorption (PrSA) and the public self-absorption (PuSA), calculated by a 5-point scale rating and a reversed item (item 14).

Data analysis

For the analysis of data obtained from the research, the Statistical Package of Social Science (SPSS v.27) software was used for testing the reliability and validity of the M-SCS. Internal consistency was performed to determine the reliability of the translation, between subscales and inter-item. The concurrent validity – for validity between subscales and the convergent validity – which was done

with the SAS, was analysed using the Pearson correlation method.

Results

The research had gained a total of 700 respondents from all over Malaysia. Three demographic profiles were computed for descriptive statistics, namely gender, age range, as well as employment status. From the sample, 50% (n = 350) of the respondents identified as male whereas the other 50% (n = 350) identified as female.

As for the age range, 76.6% of the respondents were from the age group of 18-35 years old (n = 536), 20.9% were of 36-55 years old (n = 146) whereas the remaining 2.6% were from the 56 years and above age group (n = 18). Results of analyses on the respondents' employment status indicated 33% (n = 231) were employed, 8.0% (n = 56) were self-employed, 54% (n = 378) identified as students, 1.4% (n = 10) identified as retired whereas the remaining 3.6% (n = 25) were unemployed.

To measure the reliability via internal consistency of the M-SCS and its subscales, the Cronbach's alpha, α were labelled according to Taber's (2017) description whereas the item-total correlation r values were assessed according to Salkind (2012) along with Liu, Batchelor, and Williams (2020). Item-total correlation r values that were not in the range of .20 to .80 were removed when necessary with proper justifications.

Primarily, all 22 items of M-SCS were analysed as a whole instrument. The results depicted relatively significant r values between .204 to .502 except for two items, SCS8 (r = -.030) and SCS11 (r = .041). Upon dropping the two items from the instrument, there was a significant increase of α from .81 to .837. Therefore, SCS8 and SCS11 were dropped and the reliability of the instruments was declared as reliable.

The subscales were then individually analysed with the same method. The PrSC subscale consisted of nine items of which when performed an item-total correlation on the items, the values showed the range from .094 to .525 with a reasonable α value of .677. However, the removal of item SCS8 (r = .094), which was significantly lower than .20, was found to increase the α value to .714 which demonstrated relatively high reliability. To enhance the reliability of the PrSC subscale, item SCS8 was dropped.

As for the PuSC subscale, it was found that the subscale possessed an α value of .735 which showed fairly high reliability. With regards to the items in the subscale, all items demonstrated r values of .256 to .580, which was within the range deemed acceptable by Lie et al. (2020). Consequently, all items were retained in the subscale.

Analysis of the SA subscale resulted in an α value of .795 which indicated relatively high reliability for the subscale. Test of item-total correlation indicated the values ranging from .339 to .692 which was in the acceptable range according to Liu et al. (2020). Although item SCS11 had an acceptable value of r =.339, the α value of the subscale showed a significant increase from .795 to .812 when the item was removed. Therefore, item SCS11 was dropped from the subscale to enhance the reliability of the subscale from relatively high to significantly reliable.

Table 1
Cronbach's alpha reliability coefficient before and after item removal

Subscale	Cronbach's alpha coefficient of subscale	Cronbach's alpha coefficient of subscales after item removal	Cronbach's alpha coefficient of M-SCS	Cronbach's alpha coefficient of M-SCS after item removal
PrSC	.677	.714	.810	.837
PuSC	.735	.735		
SA	.795	.812		

The validity of the M-SCS was measured using Pearson's correlation method, in which the concurrent and convergent validity were assessed. The concurrent validity for the instrument was calculated against all three subscales, namely PrSC, PuSC, and SA. On the contrary, the convergent validity was computed by measuring the correlation between the M-SCS and SAS, as well as with relevant subscales of both instruments.

On a general note, the analysis on both the concurrent and convergent validity demonstrated a highly significant and positive correlation between M-SCS, subscales of M-SCS, SAS as well as subscales of SAS. M-SCS showed significant and strong relationships with the subscales, to which the *r* values ranged from .675 (SA) to .789 (PrSC), $p < .01$. On the other hand, the *r* values between the subscales of M-SCS indicated a significant but relatively weak relationship between the subscales, ranging from .186 to .559, $p < .01$.

With regards to the convergent validity between M-SCS and SAS, the *r* value calculated was .556, $p < .01$, which demonstrated a significant and adequate correlation between the two instruments. Corresponding subscales of both instruments were also assessed against each other, which resulted in significant but weak *r* values of .284 between PrSC and PrSA, as well as .418 between PuSC and PuSA.

Table 2
Correlation between M-SCS, subscales of M-SCS, SAS and subscales of SAS

	M-SCS	PrSC	PuSC	SA	SAS	PrSA	PuSA
M-SCS	-						
PrSC	.789**	-					
PuSC	.775**	.559**	-				
SA	.657**	.186**	.227**	-			
SAS	.556**	.342**	.372**	.512**	-		
PrSA	.410**	.284**	.247**	.367**	.899*	-	

PuSA	.593**	.338**	.418**	.555**	.937**	-

Notes. ** $p < 0.01$

Discussion

Before the elaboration and justification on the psychometric properties of the Malay version of the instruments used in this research, the methodology implemented in the research ought to be addressed to clarify the possibilities of inaccuracy and provide opportunities for improvement in the future.

The most fundamental aspect of the research was the translation of the instrument which was done by a professional English-Malay translator with the assistance of a few Malaysians who were fluent Malay speakers through the method of simple forward and back translation.

Albeit obtaining substantial evidence on the instrument's psychometric properties, it is worth noting that such methods have been found to contribute to issues of translation quality. Therefore, modifications and rectification in future research are highly encouraged to ensure accurate depiction in the meaning and context of the instrument.

There were several other rooms for errors present, particularly with the absolute reliance on the Internet to reach the participants, difficulties in gaining male participants, and the possibility of bias as well as imbalance in data collection for each state in Malaysia. For future references, it will be beneficial to the instrument's credibility to consider wider aspects of demographic characteristics of participants and the approach of execution.

Data collected were then analysed regarding the instrument's psychometric properties. The reliability of the instrument was measured through internal consistency. The instrument, which originally comprised 22 items, was deduced to a total of 20 items.

Both items removed (SCS8, SCS11) were the only negative items present in the instrument. The presumption for the item's low item-total correlation values was that although the translation had seemed to be depicted accurately, the translation may have not been a clear and direct statement, which consequently could have momentarily confused the participants.

Research by van Sonderen et al. (2013) found that the implementation of negative items was found to be inutile and counterproductive, finding that its presence led to higher risks of errors caused by inattention or confusion, and it had no contribution to the prevention of acquiescence. For further research, it is recommended that the translation of the two negative items be worded as direct and as clear to ensure excellent comprehension by respondents.

Based on the assessment done for the association between PrSC and PuSC, it was found that the subscales reported significant, positive, and moderate correlation with an r value of .559, $p<$ .01. The authors of the SCS had emphasised repeatedly the distinction between the two domains, with empirical evidence of factorial analysis and moderate correlation during the initial construction of the instrument (Fenigstein et al., 1975).

Froming and Carver (1981) found that the strength of PrSC can attenuate the effects that contribute to PuSC, which indicated the relationship between the private and public domains was

constituted of a more complex relationship than expected with multiple other partial correlations that influenced the domains.

On another note, the relationship between PrSC and SA was proven to be the weakest amongst other subscales with an *r* value of .186, *p*< .01. Sandelands and Stablein (1986) elaborated on the concept of PrSC which primarily revolved around the internal states and thoughts on self which corresponded to its representation of the self in asocial and non-social aspects hence its general weak correlation with SA.

Scheier and Carver (1983) expressed the comprehensive process involving individuals with high private self-consciousness and states of social anxiety, whereby one will focus on the aspects of self internally, select relevant and valid information regarding a certain condition or situation, perform a mental comparison between one's expectations and reality of their actions, which then may lead to impairment in such performance.

The concurrent validity between PuSC and SA reported an *r* value of .227, *p*< .01, which indicated a significant, positive, and weak correlation between the subscales. Fenigstein et al. (1975) stated that the domains are often portrayed as consisting of similar context, although the continuous factorial analysis was constantly reported otherwise. The weak correlation between the domains was also addressed to which the authors elaborated the relationship as a sequence – PuSC preceding SA.

By way of explanation, the presence of public self-consciousness indicates an individual's predominant thoughts on others' evaluation of them, which then leads to a significant increase in their social goals and the means needed to achieve such goals. The elevation in motivation then contributes to one's social anxiety, although not all individuals experience discomfort in such situations.

Unfortunately, the hypothesized sequence has not been proven in current studies as there has been a notable lack of research regarding the matter. More studies on the relationship between public self-consciousness and social anxiety should be done to further validate the sequence proposed.

On the other hand, the convergent validity of the M-SCS was determined via Pearson's correlation method with the Self-Absorption Scale by McKenzie and Hoyle (2008) which was priorly translated to the Malay language. Results obtained from the analysis indicated a significant and moderate relationship between the two instruments, whereas the corresponding domains of both instruments demonstrated a significant but weak and moderate relationship for the private and public subscales respectively.

The indirect derivation of the concept of private and public self-consciousness into the hypothetical concept of self-absorption, literature of psychopathology, and self-consciousness, as cited in DaSilveira, DeSouza, and Gomes (2015), warrants for the adequate yet significant correlation between the two instruments. The relationship depicts the similarities in certain key features and concepts, primarily through its definition and aspects, yet proving the difference in the overall issue each concept measured.

Conclusively, the objectives for the research were attained with the M-SCS being a reliable and valid instrument for use on the adult population in Malaysia. The Malay translation of the Self-Consciousness Scale-Revised, M-SCS,

was concluded with three subscales (PrSC, PuSC, and SA), and a total of 20 items.

Self-consciousness has been proven in multiple types of research to be advantageous in the understanding of certain behaviours and conditions such as Asperger's Disorder and pervasive developmental disorder not otherwise specified (Yoshimura & Toichi, 2014), schizophrenia (Motillon et al., 2018), social anxiety disorder (Stein, 2015), moral self-concept and altruism (Lu & Chang, 2011), as well as acts of internalizing and externalizing problems (Nie et al., 2014), among many others.

The translation of the instrument, with the necessary modifications and addressed limitations, may not only shed more light on the disorders and issues in the Malaysian context but also help therapists and healthcare professionals to provide the best interventions relevant to the culture and norms.

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