

Reliability and Validity of Adapted Ireland Drug Related Knowledge, Attitude and Beliefs Scale among Adolescents in Malaysia

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Abstract

Studies on public's awareness level about drug addiction seem to be imperative to bring forth the concerned society that have knowledge on how to deal with drug addicts and open to accept and support drug addicts' recovery process. This research was aimed to study the methodological procedures of instrumentation of scale in which to develop an adapted instrument from Ireland Drug Related- Knowledge, Attitude and Belief Scale (KAB) into Malaysians' context. Face validity of this instrument was undertaken through drug addiction counselling experts' assessment on English and Malay Language (back-to-back- translation) and the content of the items structured. A total of 310 university students were involved answering the questionnaire for reliability test through random sampling technique. Reliability test was recorded high and reliable which was 0.824. This signifies that the adapted Ireland Drug Related-Awareness (Knowledge, Attitude and Beliefs) Scale is highly reliable and applicable to be used among the Malaysian adolescents population.

Keywords: Drug-Related Knowledge, Attitude, Beliefs, Adolescents, Reliability and Validity

Introduction

Drug addiction is considered as a substance use disorder that is illegally depended on drug (Ahmad Bhat, Rahi & Sidiq, 2015). Keane, Reynolds, Williams & Wolfe (2006) on the same note add that drug addiction as a maladaptive pattern of substance use that could cause clinical significant impairment shown through repeated substance intake despite the grim withdrawal symptoms if halted as well as the failure of performing the daily tasks for an individual. In Malaysia as in 2017, drug addiction prevalence among adolescents (those aged 13-24) amounts to 23.45 % of the total case which is recorded amounting to 25,922 cases for the whole population (National Anti-Drug Agency, NADA, 2017). This total number of adolescents' involvement in drug addiction is definitely worrying and necessitates immediate efforts either from preventive or interventional perspectives.

According to United Nations Office on Drugs and Crime (2004), a study conducted in India revealing that the level of drug-related knowledge among youths was higher in urban area (84.6%) compared to the rural area with 61.5%. In Kamaruddin, Abd. Majid & Abdul Halim (2007), students in higher institution were actually having low knowledge in relation to the effect of drugs after randomly conducting a study upon 3,558 first-year students in higher learning institutions in Malaysia. The contributing factors for adolescents getting involved in illicit drug use are due to peer influence, personal curiosity to trying out drug and pursuing conformity in the social group they are in (Tam & Foo, 2012).

Talking about the preventive perspective, drug-related awareness of public must be put in concern as one of the ways to increase the advocacy of public on drug addiction. The importance of tracing the level of awareness about drug addiction would help to recognize the risk factors and protective factors of the group of people concerned as so suitable preventive programs and contents can be implemented effectively and fulfil the needs of the group (Chakravarthy, Shah & Lotfipour, 2013).

In the year 2000, there was a scale developed to measure the level of drug-related awareness by the researchers from Ireland concerning the constructs of knowledge, attitude and belief about drug addiction (Bryan, Moran, Farrell & O'Brien, 2000). This instrument measures the aspects that cover perceptions about the extent of the drug problem in society; perceived prevalence of drug use among young people; the perceived dangers associated with drug use; fear and rejection of drug addicted individuals; sympathy/lack of sympathy for drug addicted individuals; attitudes to drug prevention; attitudes to drug treatment; and attitudes to drug control, law enforcement and drug policy (Bryan et.al, 2000). This instrument has been widely used by researchers in drug addiction arena such Kamaruddin et.al (2007) in his research on KAB among university's students in Malaysia as well as Balsam et.al (2016) in their research on this matter among Pahang Matriculation Students in Malaysia.

Therefore, this paper is written to present the procedural process of this Ireland KAB scale in term of its reliability and validity value that forms the adapted version specifically in Malaysian context and language. Reliability value and instrument validity are to be presented to ensure the instrument is applicable to be used among Malaysian population.

Methodology and Findings

Sample and Sampling Technique

Sample is defined as a portion of a population or universe (Tailor, 2005). According to Collis & Hussey (2003), it is necessary to clearly define the target population of a study and they define population as a set of people or collection of items under a few steps of considerations. Determining the right sample size in a reliability test is very important. If the sample size is too small, not much information can be obtained from the test in order to draw meaningful conclusions; on the other hand, if it is too large, the information obtained through the tests will be beyond that needed, thus time and money are wasted (Gerokostopoulos, Guo & Pohl, 2015). Therefore, 310 university students were administered with this scale to evaluate its reliability value. Moreover, sampling technique used in this study was purposeful technique. The purposive sampling technique or better known as judgment sampling is the deliberate criteria of a participant due to the qualities the participants have (Etikan, Sulaiman & Rukayya, 2016). Due to the context of this research being focused on the awareness among adolescents, the sample of this study was focused on university students in Negeri Sembilan, Malaysia. The students aged from 20-25 years old coming from two different faculties in the same university.

Items

This study adapted the Ireland Drug Related Knowledge, Attitude and Beliefs Scale (KAB) by Bryan *et.al*(2000). The aspects changed were in term of language (which was from English Language to Malay Language) and the omitted structure of the origin instrument in question one. The adapted version still remains the structures of this instrument which consists of 39 questions with 3 parts; (Part A: Demographic information of the respondents), (Part B: Drug-Related Knowledge) and (Part C: Drug-Related Attitude and Belief). Table 1.0 and 2.0 below outline the items of the Adapted Ireland Drug Related-Awareness (Knowledge, Attitude and Beliefs) Scale.

Table 1.0 Item with 5-Likert Scale

	ITEMS
1	All illegal drugs are equally harmful to your health. <i>Semua jenis dadah terlarang adalah berbahaya kepada kesihatan anda.</i>
2	Our society is too tolerant towards drug users. <i>Masyarakat kita terlalubertolak ansur kepada penagih dadah.</i>
3	If you try drugs even once, you are hooked. <i>Jika anda mencubadadah sekali, sudah pasti anda akan terus bergantung dengannya.</i>
4	I would see drug addicts more as criminals than victims. <i>Saya melihat penagih dadah sebagai orang penjenayah.</i>
5	Most young people today try out cannabis. <i>Kebanyak golongan belia hari ini cuba menghisap ganja.</i>
6	Alcohol abuse causes more problems in society than drug abuse. <i>Penyalahgunaan alkohol menyebabkan lebih banyak masalah kepada masyarakat berbanding penyalahgunaan dadah.</i>
7	Treatment should only be given to drug addicts who intend to give up drugs for good. <i>Rawatan hanya diberikan kepada penagih dadah yang berhasrat untuk berubah.</i>
8	I would tend to avoid someone who is a drug addict. <i>Saya cenderung untuk mengelak seseorang yang ketagih dengan dadah.</i>
9	I would be nervous of someone who uses illegal drugs. <i>Saya akan gementar apabila ada seseorang terlibat dalam penyalahgunaan dadah.</i>

10	Money spent on the prevention of drug use, is money well spent. <i>Wang yang dibelanjakan dengan baik adalah wang yang digunakan untuk pencegahan penyalahgunaan dadah</i>
11	The use of cannabis should not be against the law. <i>Penggunaan ganja tidak sepatutnya menyalahi undang-undang.</i>
12	Drug addicts are not given a fair chance to get along in society. <i>Penagih dadah tidak diberi peluang yang saksama untuk bergaul dengan masyarakat.</i>
13	Occasional use of cannabis is not really dangerous. <i>Penggunaan ganja sekali-sekala tidaklah begitu bahaya.</i>
14	People who end up with a drugs problem have only themselves to blame. <i>Orang yang patut dipersalahkan dalam masalah dadah adalah penagih dadah itu sendiri.</i>
15	Most young people today try out ecstasy. <i>Kebanyakan golongan belia lebih mendorong terhadap ketagihan ecstasy.</i>
16	Drugs are not really a problem to us here in this neighborhood. <i>Dadah sebenarnya tidak begitu memberima salah terhadap jiran tetangga di sini.</i>
17	Treatment should be available to all drug addicts, according to their needs. <i>Rawatan yang disediakan kepada penagih sewajarnya mengikut keperluan penagih tersebut.</i>
18	Drug addicts really scare me. <i>Penagih dadah benar-benar menakutkan saya.</i>
19	Tougher sentence for drug misusers is the answer to the drugs problem. <i>Hukuman yang lebih berat kepada pengguna dadah adalah cara penyelesaian kepada masalah berkaitan dadah.</i>
20	Most people are concerned about the drug problem in Malaysia. <i>Kebanyakan masyarakat Malaysia bimbang terhadap masalah penyalahgunaan dadah.</i>
21	Occasional use of ecstasy is not really dangerous. <i>Penggunaan ecstasy sekali-sekala tidaklah berbahaya.</i>
22	Many drug addicts exaggerate their troubles to get sympathy. <i>Kebanyakan penagih dadah membesar-besarkan masalah untuk mendapat simpati.</i>
23	It is normal that young people will try drugs at least once. <i>Adalah sesuatu yang normal jika anak mudabelia mencubadadah sekurang-kurangnya sekali.</i>
24	The drug problem in Malaysia is out of control. <i>Masalah dadah di Malaysia adalah tidak terkawal.</i>
25	Medically prescribed heroin substitutes such as methadone should be available to drug addicts. <i>Dadah-dadah yang didaftarkan seperti Methadone seharusnya mudah diakses oleh kelompok penagih dadah.</i>
26	Almost all drug addicts are dangerous. <i>Kebanyakan penagih dadah adalah berbahaya.</i>
27	Drugs education in school should start at primary level. <i>Pendidikan pencegahan dadah sewajarnya bermula di sekolah rendah.</i>
28	Drug related crime is a major problem in Malaysia today. <i>Jenayah berkaitan dadah adalah masalah utama di Malaysia pada masa kini.</i>
29	Occasional use of heroin is not really dangerous. <i>Penggunaan heroin sekali-sekala adalah tidak begitu berbahaya.</i>
30	Reports about the extent of drug usage amongst young people are exaggerated by the media. <i>Pihak media sering membesar-besarkan isu penyalahgunaan dadah dalam kalangan belia.</i>
31	Society should provide syringes and needles free of charge to drug addicts to avoid the spread of HIV. <i>Masyarakat seharusnya menyediakan jarum suntikan yang bersih secara percuma kepada penagih dadah untuk mengelakkan penyebaran penyakit berjangkit seperti HIV.</i>
32	Drug addicts charged with petty offences should be given a choice between treatment and prison service. <i>Penagih dadah yang dihukum atas kesalahan kecil harus diberi pilihan antara rawatan atau penjara.</i>
33	It would bother me to live near a person who is a drug addict. <i>Hidup saya akan terganggu apabila berhadapan dengan seseorang penagih dadah.</i>
34	Regular use of cannabis is just as dangerous to your health as regular use of heroin. <i>Penggunaan ganja secara berterusan adalah berbahaya kepada kesihatan seseorang samaseperti kesan yang samadengan heroin.</i>
35	The availability of illegal drugs poses a great threat to young people nowadays. <i>Dadahterlarang yang senang didapati menyebabkan ancaman yang sangat hebat bagi generasi belia hari ini</i>

Table 2.0 Items with 2-Likert Scale (Yes/No)

	ITEMS
36	I personally know someone who smokes cannabis. <i>Sayamengenaliseorang yang menghisap ganja.</i>
37	Have you ever taken cannabis? <i>Pernahkahandambil ganja.</i>
38	I personally know someone who has/had a drug problem. <i>Sayamengenaliseorang yang mempunyaimasalahdadah.</i>
39	I am aware about the effect of drug misuse. <i>Sayasedaraknesanterhadapnyalahgunaadadah.</i>

Instrument Reliability*Alpha Cronbach's Value***Table 3.0 Reliability Value for Adapted Ireland Drug Related-Awareness (Knowledge, Attitude and Beliefs) Scale**

Cronbach's Alpha	Cronbach's Alpha Based on N of Items	Standardized Items
.824	.810	39

(Source from SPSS Version 20.0)

Table 3.0 shows the reliability value of this 40 items-adapted-instrument with the value of Cronbach's Alpha, 0.824 while value 0.810 is recorded based on Cronbach's Alpha based on standardized items.

*Split-Half Reliability Test***Table 4.0 The Split- Half Reliability Test for Adapted Ireland Drug Related-Awareness (Knowledge, Behaviours and Beliefs) Scale among Adolescentss.**

Reliability Statistics			
Cronbach's Alpha	Part 1	Value	.760
		N of Items	20 ^a
	Part 2	Value	.759
		N of Items	19 ^b
	Total N of Items		
Correlation Between Forms			.791
Spearman-Brown Coefficient	Equal Length		.781
	Unequal Length		.781
Guttman Split-Half Coefficient			.758

(Source from SPSS Version 20.0)

Table 4.0 shows the value of split-half value for this instrument. The Cronbach's Alpha for the first 20 items (Part1) is 0.760 whereas the last 19 items is 0.759. The correlation between the two parts recorded the Cronbach Alpha for 0.791. This depicts the high value of reliability for this instrument and valid to be used. *Cronbach's Alpha if Item Deleted*

Table 5.0 The value of mean, standard deviation and Cronbach Alpha if deleted

Item Statistics				
ITEMS	Mean	Std. Deviation	N	Cronbach's Alpha if Item Deleted
Item 4	6.25	1.450	310	0.823
Item 5	4.25	1.799	310	0.824
Item 6	5.54	1.747	310	0.825
Item 7	4.85	1.688	310	0.819
Item 8	4.96	1.437	310	0.821
Item 9	5.74	1.468	310	0.822
Item 10	3.84	1.983	310	0.824
Item 11	5.52	1.596	310	0.819
Item 12	5.49	1.515	310	0.820
Item 13	5.03	1.733	310	0.823
Item 14	2.72	2.067	310	0.828
Item 15	4.12	1.775	310	0.824
Item 16	2.68	1.869	310	0.829
Item 17	4.56	1.803	310	0.820
Item 18	4.87	1.475	310	0.821
Item 19	2.10	1.569	310	0.827
Item 20	5.23	1.540	310	0.824
Item 21	5.58	1.513	310	0.819
Item 22	5.16	1.640	310	0.821
Item 23	2.55	1.704	310	0.828
Item 24	5.98	1.295	310	0.822
Item 25	4.25	1.652	310	0.820
Item 26	2.19	1.788	310	0.826
Item 27	5.12	1.571	310	0.823
Item 28	3.63	1.638	310	0.825
Item 29	5.30	1.685	310	0.819
Item 30	6.43	1.106	310	0.822
Item 31	5.84	1.408	310	0.821
Item 32	2.25	1.600	310	0.830
Item 33	4.16	1.816	310	0.825
Item 34	3.71	2.271	310	0.827
Item 35	4.77	1.760	310	0.827
Item 36	6.16	1.246	310	0.818
Item 37	6.27	1.229	310	0.819
Item 38	1.64	.480	310	0.820
Item 39	1.99	.113	310	0.829

(Source from SPSS Version 20.0)

Based on Table 5.0 above, the values of the reliability scale of this adapted instrument are all in the range of constantly stable if one of the items is deleted. This instrument will be highly reliable at Cronbach Alpha 0.83 when Item 32 is deleted.

Instrument Validity

Back-to-Back Translation Process

Due to the cultural background differences, the adaptation of cross-cultural was employed in translating the psychological testing particularly in bringing out the very meaning of each item in the scale available in this instrument. Therefore, the back translation technique was made possible in this study. First, the actual instrument was translated by the two appointed experts in English Language and Addiction Counselling from English to Malay version. The need of undergoing the translation from English to Malay was because it is the respondents' native language, thus, the depth and breadth of respondents' understanding to each item would possibly being captured. However, as to ensuring the semantically accuracy of the translation that has been made, the back translation was

undergone from English to Malay version to put both versions in accordance with the meaning of each item intended in the original counterpart.

This has been done in tandem with the guidelines of instrumentation useful for writing new items and modifying existing items propounded by (Brislin, Lonner & Thorndike, 1973) saying that it is to assure that translators should have a clear understanding of the original language item, possess a high probability of finding a readily available target language equivalent as so they are not necessary to employ convoluted terms and capable of producing the readily understandable target language item by the eventual set of respondents who are involved in data-gathering stage of research. Chiefly, back translation has been suggested as a quality-control check because the process takes a few stages to be done. Generally, back translation is functioning to detect errors in translation and it involves the extensive checking, pretesting of the translation and also debriefing, crucial to make sure a reliable and accurate translation (Douglas & Craig, 2007).

The translator that fully proficient in both languages is needed in back translation to ensure that it has the same understanding of the subject domain measured. And to gain the best translation, the translator usually will avoid literal translation which is word by word being translated alone and combine it at the end as a sentence. It is crucial for the translator to use such a different word but carry the same meaning across languages (Sireci, Yang, Harter & Ehrlic, 2006).

On the same note, Pym (2010) connotes that back-translation is when a translated document is translated (back) into the original language. The idea is that the author can then verify whether the translation encompasses all aspects of the original. According to Behling & Law (2000), back translation is considerably a well-renowned method in preserving the very meaning of the original version. The researchers of this study who are all learned in the area of counselling have also established the face validity technique in this research. After preparing this instrument in both versions, the face validity was imposed. Two counsellors are approached to undergo the face validity upon the instrument that is in Malay version to obtain their insights on the subject matter assigned. *Face Validity*

Researchers also underwent face validity process upon the instrument. The researchers appointed 2 experts in drug abuse counselling to give assessment on the content and context of the scale particularly in line with Malaysians' level of awareness in drug. Patton (1997) defines face validity as the extent to which an instrument looks as if it measures what it is intended to measure. If one can look at an instrument and understand what is being measured, it has face validity. Face validity is indeed a complex and multidimensional construct that are helpful for measuring how test items are appeared to respondents and others (Suzanne, Donna, Kristopher & Arheart, 1992). As opined by Brickman, Rabinowits, Karuza, Coates, Cohn & Kidder (1982), face validity is well-known as the simplest assessment of validity technique because it does not involve any statistical or numerical technicality in implementing it whereas Engel & Schutt (2013) affirm that face validity is believed to be very casual, soft and often being perceived as passive measure of validity. Another celebrated view on face validity propounded by Sangoseni, Hellman & Hill (2013) is that face validity seeks the experts to inspect the items provided in questionnaire and endorse the test as valid in tandem with the concept involved that is being measured just on the face of it, thus experts are expected to measure whether each item matches any conceptual domain of the concept.

Discussion

Cronbach Alpha Value

Reliability of a research instrument can be defined as the extent to which repeat measurements with the instrument under the same conditions produce the same results (Bryn *et al.* 2000). One of the ways to evaluate the reliability of an instrument is through Cronbach Alpha value. This adapted version of Ireland Drug Related-Awareness (Knowledge, Attitude and Beliefs) Scale is 0.824 meaning that it has high reliability value. This is in accordance with the opinion given by Piaw in Amin Al Haadiet *al.* (2017) mentioned that correlation values ranging from 0.75 to 0.95 indicates the satisfactory reliability.

Split Half Reliability Test

Split- Half reliability technique was used to assess the validity consistency of the scale. According to Nugent (2013), split-half reliability correlates responses from one half of a test with the other half. In Amin, Zuria, Salleh, Amla, Kamaruzaman & Mizan Adiliah (2011), Piaw (2006) noted that split-half technique is one way to measure the reliability of a quantitative research. This technique is done by splitting the items of the scale into two groups and computing and analysing the correlation values. In this study, the Cronbach's Alpha for the first 20 items (Part1) is 0.760 whereas the last 19 items is 0.759. The correlation between the two parts recorded the Cronbach Alpha, 0.791. This depicts the high value of reliability for this instrument and valid to be used. The reliability is considered high if the items in both groups are highly correlated.

Rudner and Schafer (2001) also mention that split-half reliability coefficient is obtained by dividing the test into half, correlating the score by each half and correcting for length. The split is based on odd versus even items numbers, randomly selected items, or manually balancing content and difficulty. The advantage of this approach is that it only needs a single test administration. Piaw (2006) also mentioned that correlation values ranging from 0.75 to 0.95 indicate satisfactory reliability.

Cronbach Alpha's Value Items if Deleted

This analysis touches on the value of Cronbach's Alpha that shows the internal consistency of an instrument. In this study, the stable internal consistency values have been recorded through this analysis in which the values of Cronbach's Alpha are ranged from 0.719 to 0.830. The highest value as at 0.830 Cronbach Alpha value, this instrument is possible to reach when item 32 is deleted.

In this sense, this instrument has less need to be improved in term of its reliability value. According to Raykov (2008), if we are using an accepted scale obtained from a published source, we do not need to worry about improving reliability. We should use the whole scale, even if it has problems, because if we start changing the scale, we will be unable to compare our results to the results of others who have used the scale. This shows that the act of improving reliability value is only applicable for self-developed instrument and not that of adapted one to promote comparative study between researches that utilizing the same instrument.

Conclusion

In conclusion, the Ireland Drug Related-Awareness (Knowledge, Attitude and Beliefs) Scale by Bryn *et.al* (2000) was applicable to be used in Malaysia because it has attained the high value of reliability and internal consistency through simple reliability test and split half test respectively. The face validity conducted enhanced the validity of the scale that really measures the level of awareness of the adolescents in drug abuse with respect to knowledge, attitude and beliefs.

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