VALIDITY AND RELIABILITY OF THE MALAY TRANSLATED VERSION OF THE CYBERBULLYING SCALE AMONG SECONDARY SCHOOL ADOLESCENTS IN MUAR, JOHOR

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LIST OF ABBREVIATIONS

CFA	Confirmatory Factor Analysis
CFI	Composite Fix Index
CI	Confidence Interval
CLS	Children's Loneliness Survey
CR	Construct Reliability
DASS-21	Depression, Anxiety and Stress Scale - 21
df	Degree of Freedom
EFA	Exploratory Factor Analysis
JEPeM	Jawatankuasa Etika Penyelidikan Manusia USM
KMO	Kaiser-Mayer-Olkin
KPM	Kementerian Pelajaran Malaysia
MAP	Minimum Average Partial
MI	Modification Indices
ML	Maximum likelihood
MLR	Robust Maximum Likelihood
PAF	Principal Axis Factoring
RCADS-SF	Revised Children Anxiety and Depression Scale-Short Version
RMSEA	Root Mean Square Error of Approximation
SR	Standardized Residual
SRMR	Standardized Root Mean Square Residuals
TLI	Tucker-Lewis Index
VSS	Very Simple Structure
WHO	World Health Organization
WLSMV	Robust Weighted Least Squares Estimator

LIST OF SYMBOLS

df	-	Degree of freedom
p-value	-	Probability value
n	-	Sample size
%	-	Percentage
α	-	Alpha/ level of significance
b	-	Regression coefficient
≤	-	Less than or equal
>	-	More than
r	-	Correlation
X^2	-	Chi-square

ABSTRAK

Kesahan dan Kebolehpercayaan Skala Buli Siber Versi Bahasa Melayu Dalam Kalangan Pelajar/Remaja Sekolah Menengah di Muar, Johor

Pengenalan: Buli siber memberi kesan negatif kepada remaja dan masih kurang dilaporkan di Malaysia. Skala buli siber (SBS) digunakan untuk mengukur buli siber; namun demikian, kerana perbezaan budaya, bahasa dan persekitaran antara penduduk barat dan timur, kesahan dan kebolehpercayaan perlu ditentukan sebelum dapat digunakan. Objektif: Untuk menilai kesahan dan kebolehpercayaan skala buli siber versi Bahasa Melayu (SBS-M) di kalangan pelajar sekolah menengah di Johor, serta untuk menentukan korelasi dengan DASS-21 dan Perilaku Perlindungan Dalam Talian. Kaedah: Ini adalah kajian keratan rentas yang melibatkan soal selidik kendiri yang dilakukan dalam dua fasa, fasa analisis faktor eksploratori (AFE) dan fasa analisis faktor pengesahan (AFP). Peserta direkrut menggunakan kaedah pensampelan kluster pelbagai peringkat. Statistik deskriptif, AFE dan AFP diterapkan dengan menggunakan RStudio Versi 1.2.5033. Keputusan: Sebanyak 401 responden mengambil bahagian dalam kajian ini, fasa AFE terdiri daripada 138 responden dan fasa AFP terdiri daripada 263 responden. Untuk fasa AFE, majoriti responden adalah perempuan (65.9%) dan Melayu (89.9%). Keputusan AFE menunjukkan pemberatan faktor untuk semua item berada di antara 0.3 ke 0.7, dan nilai komunaliti berada di antara 0.08 ke 0.56. Semua item SBS-M kekal dalam model semasa fasa AFE dan kebolehpercayaan pengukuran oleh Cronbach's alpha adalah 0.87. Penilaian AFP menunjukkan model akhir SBS-M dengan model satu faktor dengan 14 item, dengan nilai indeks padanan: CFI = 0.946, TLI = 0.932, SRMR =0.055, RMSEA =0.049. Indeks padanan berada dalam lingkungan yang boleh diterima. Komposit kebolehpercayaan berada pada 0.832. Terdapat hubungan korelasi positif yang signifikan di antara SBS-M dengan tekanan, kegelisahan dan kemurungan. Kesimpulan: SBS-M terdiri daripada satu faktor dengan 14 item dan mempunyai korelasi yang baik dengan DASS-21. Soal selidik ini adalah sah dan boleh dipercayai untuk digunakan di kalangan remaja di Malaysia.

Kata kunci: Skala buli siber, pelajar sekolah, Malaysia, kesahan, kebolehpercayaan

ABSTRACT

Validity and Reliability of The Malay Translated Version of The Cyberbullying Scale among Secondary School Adolescents in Muar, Johor

Introduction: Cyberbullying gives negative impacts on adolescent and still under-reported in Malaysia. Cyberbullying Scale (CBS) is used to measure cyberbullying; nonetheless, due to the cultural, language and environmental differences between western and eastern population, the validity and reliability need to be established before it can be used. Objectives: To evaluate the validity and reliability of Cyberbullying Scale in Malay version (CBS-M) among secondary school students in Johor, as well as to determine the correlation with DASS-21 and Online Protection Behavior. Methods: This is a cross-sectional study which involved self-administered questionnaire was conducted in two phases, exploratory factor analysis (EFA) phase and confirmatory factor analysis (CFA) phase. Participants were recruited using a multistage cluster sampling method. Descriptive statistics, EFA and CFA and correlation analysis were applied by using RStudio Version 1.2.5033. Results: A total of 401 respondents participated in this study, EFA phase consisted 138 respondents and CFA phase consisted 263 respondents. For EFA phase, the majority of the respondents were female (65.9%) and Malay (89.9%). Results for EFA showed factor loading of all the items ranged from 0.3 to 0.7, and communalities ranged from 0.08 to 0.56. All items of CBS-M were remaining in the model during the EFA phase and the measuring reliability by Cronbach's alpha was 0.87. CFA assessment reported the final model of CBS-M with a one factor model with all 14 items remaining, with the value of fit indices CFI = 0.946, TLI = 0.932, SRMR = 0.055 and RMSEA = 0.049. The fit indices were within the acceptable range. The composite reliability was 0.832. There was a significant positive correlation between CBS-M with stress, anxiety and depression. Conclusion: CBS-M consisted of one factor with 14 items and has good correlation with DASS-21. The questionnaire is a valid and reliable tool to be used among young adolescents in Malaysia.

Keywords: Cyberbullying Scale, school children, Malaysia, validity, reliability

CHAPTER 1

INTRODUCTION

1.1 Introduction

1.1.1 Internet Access

In this modern era, everyone can access to the internet. The number of internet user in 2019 was 4.13 billion, increasing from 3.92 billion in 2018 (Clement, 2020). In the first month of 2020, there were 4.57 billion internet users worldwide (Internet World Stats, 2020d). Asia has the highest internet users with 2.3 billion, followed by Europe with 727 million users and Latin America (423 million) (Internet World Stats, 2020d). China was the highest country with 854 million internet users, followed by United states with 754 million internet users, and India with 560 million internet users (Internet World Stats, 2020a, 2020c).

Internet users were increasing in Malaysia, as it was reported that there was an increase of 76.9% in 2016 to 87.4% in 2018 (Malaysian Communications and Multimedia Comission, 2018). In Malaysia, there are 17.5 million internet users and one of the highest in South-East Asian. Malaysia recorded 26 million internet users by January 2020 (Internet World Stats, 2020b).

Study showed that 70% has started used the internet since primary schools or less than 12 years old (Mohd Isa et al., 2016). In the United States, it was reported that 92% of the age group between 13 to 17 year-old was going online daily, with 73% of them having smartphones which allow them to be online instantly (UNICEF, 2017). Malaysia internet users aged from 15 to 24 years old were 38.1% in 2014 and decreasing a bit in 2018 to

25.2%. In another part of the world, frequent internet use in children as young as seven and eight has been reported in European countries, with 93% of 9 to 16 years old users go online at least weekly and 60% go online every day or almost every day, and up to 80% online daily for age 15 to16 years old (Livingstone et al., 2010.

In January 2019, worldwide duration of internet use per day was 6.42 hours per day. The country with longest hour per day was Philippine with 10.02 hours per day, followed with Brazil 9.29 hours per day. Malaysia was ranked 8th in the world, with 8.05 hours per day of internet usage (Kemp, 2019). In Malaysia, a study reported 37% Malaysian youth using the internet for 6 to 12 hours (moderate user) and 17% used the internet for 12 to 18 hours (at-risk-users) (Kapahi et al., 2013). This was also found in a study among 148 secondary school students, where the mean average for students to use the internet were 8.3 hours per day (Mohd Isa et al., 2016). The duration was increasing from 2014 which showed the average duration of internet users per day of that year was 2.65 hours per day (weekdays) and 4.31 hour per day (weekends) (Mak et al., 2014). There was about 44% adolescent in Malaysia used the internet at least once daily (Mak et al., 2014).

Some of the cause for the increasing internet users were social media and mobile phones. Facebook users alone was recorded to be 2.3 billion worldwide (Kırcaburun, 2016; Roser et al., 2020). Most platforms were 97.3% Facebook users and 56.1% Instagram users among Malaysians. The highest activity online was seeking information (85.5%) followed with streaming or downloading online videos on Youtube, Facebook or other platforms (77.6%) (Malaysian Communications and Multimedia Comission, 2018).

1.1.2 Effects of the Internet

There were a lot of positive effects from the internet. Their positive learning experiences increased from interaction with the internet. Among children and adolescents, the internet provides a channel in which they can acquire relevant skills, seek out and exchange information, create blogs, make and publish photographs and films, and also sharing their abilities with others (Segatto, 2012).

Along the positive side of internet, there were also negative consequences of internet as they can access the internet world easily too, without parental monitoring, which may increase the potential risks caused by the internet. Internet potential risks include visiting pornographic websites, unwanted sexual contents, violent in online video games, internet addiction and cyberbullying (Elity and Keong, 2018; Livingstone et al., 2017; Masrom et al., 2013). In Europe, about 14% of children 9 to 16 years old reported having sexual images online, and 15% children of 11 to 16 years old had received sexual messages, and 70% to 90% had experience cyberbullying (Lobe et al., 2012).

1.1.3 Prevalence of Cyberbullying

In Europe, about 6% of children age 9 to 16 years old had experienced online bullying, 20% in United States and 24.3% in Germany (Bergmann and Baier, 2018; Hinduja and Patchin, 2012; Lobe et al., 2012).

In Germany, the prevalence was as high as 24.3% of the adolescents involved in psychological cyberbullying (Bergmann and Baier, 2018). In Turkey, the prevalence was reported as 17.9% among middle schools students (Yilmaz, 2011) compared with South Korea prevalence 5.3% to 5.4% for cyberbullying victims (Mak et al., 2014).

Students as young as 11 to 18 years old have been reported as victims to cyberbullying as much as 20%, and 17% had cyberbullied others in a review of 35 published articles (Hinduja & Patchin, 2012). In Turkey, the prevalence of cyberbullying was reported as 17.9% among middle school students (Yilmaz, 2011). In Europe, it is reported for online bullying, 6% of 9 to16 years old have been sent nasty or hurtful messages online, and 3% have sent such messages to others (Livingstone et al., 2011).

While in Malaysia, 39% admitted has been bullied online, with 30% become the online bullies (Group, 2020). While among youth, 62.3% had reported being victims of cyberbullying in 2015 (Institut Penyelidikan Pembangunan Belia Malaysia, 2017). These cases of cyberbullying in Malaysia may have been underreported. Malaysia also had jumped to sixth place among 28 other countries in a survey on cyberbullying and ranked the second worst in Asia, better than India but worse than Saudi Arabia, China, South Korea and Japan (Rosli, 2018).

In the year of 2010, the prevalence of cyber harassment in Malaysia was reported as 419 in 2010 (Cybersecurity, 2010a, 2010b) compared to 356 in 2018 Cybersecurity report (Cybersecurity, 2019). In a study among 393 respondents age 17 to 35 years old, (60.3%) reported never been cyberbullied within the last six months, while the remaining 39.7% claimed had been cyberbullied (Balakrishnan, 2015). A survey in 2014 among school children, reveals that 26% of children reported being bullied online, with 70% of them experienced online harassment. It was alarming that 47% of children responded that they are bullied online (Telenor Group, 2020).

1.1.4 Burden of Cyberbullying

Cyberbullying gives negative impacts on children, such as social anxiety (Gopalakrishnan & Sundram, 2014). Other negative psychosocial difficulties cause by cyberbullying are depression and also loneliness (Slonje et al., 2012). There is also a significant association between experience of cyberbullying and difficulties in academic achievement (Álvarez-García et al., 2015). Suicidal ideation and attempt were also reported to have a significant association with cyberbullying (Hinduja & Patchin, 2010). In Malaysia, the impacts of cyberbullying were reported as become sensitive to the environment (30.2%), emotionally changes/unstable (25.96%), anxiety when receiving messages and emails (19.27%), self-isolation (14.51%) and suicidal attempt (1.21%) (Institut Penyelidikan Pembangunan Belia Malaysia, 2017).

A study that interviewed nine students identify a variety of emotions caused by cyberbullying impacts, such as helplessness, anger, sadness, worrying, loneliness and frustration. The students claimed that the emotions could have a long-lasting impact; as long as one and a half years after the cyberbullying occurred (Slonje et al., 2012). A study of 1963 respondents age 10 to 16 years old in the United States has shown that youth had more suicidal thoughts and were more likely to attempt suicide than those who had not experienced traditional bullying or cyberbullying, as either an offender or a victim of bullies. They also found out that victimization was more strongly related to suicidal thoughts and behaviour than the offender of bullies (Hinduja and Patchin, 2010). Social anxiety was also reported to have a significant correlation with cyberbullying in a study done among 150 students in India (Gopalakrishnan and Sundram, 2014). They also found out male students has more social anxiety (44.89%) the female students (40.82%).

A qualitative study done among 27 participants in Malaysia age 20 to 30 years old had findings of suicide, stress and conflicts can be influenced by cyberbullying (Ghazali et al., 2017). This was also found on a qualitative study among eight victims of a cyberbully, which stated the impacts they had were suicidal thoughts, low self-esteem, feelings of embarrassment, and negative social relationships (Simon, 2017). In a quantitative study of 712 university students, the impacts of cyberbullying were the development of over-sensitive behaviour towards their surroundings (49.4%), development of emotional changes (44.7%) such as difficulty in controlling emotion and easily get angry over little things. In Malaysia, there were 34 reported cases of suicide in less than ten years that has been linked to cyberbullying among teenagers below the age of 18 years old (Abu Bakar, 2013). Attempt to commit suicide were also seen among respondents although very small with 1.5% (Lai et al., 2017).

1.2 Problem Statement

Cyberbullying is a severe global problem. Due to the impact and severity of cyberbullying, a systematic assessment of cyberbullying has become important to determine and detect the events of cyberbullying. There are validated instruments that have been developed to assess cyberbullying worldwide. However, none of them had been validated in the Malay version. Therefore, this study emphasis on validation of Cyberbullying Scale Malay translated version (CBS-M) among adolescents.

This CBS measurement was developed in the United States, with 16 items with a single factor design to measure cyberbullying victimization which tested in their western population with language, culture and demographic different from our country. For that

reason, a translated version of CBS was required to assess our local population in Malaysia. The translation process from English to Malay need to be precise and accurate before the questionnaires can be used as a measurement tool. The validation process is important in the translation of questionnaires to another language and questionnaires used in different populations as the language differences may change the meaning and understanding of the terms or phrases.

1.3 Justification of the Study

It is crucial to recognize the level of cyberbullying in Malaysian especially among the adolescent population. This due to the current phenomenon that show children and adolescents under 18 was one in three internet users around the world (UNICEF, 2017). The increasing internet users among this group may increase the rate of cyberbullying. Under-reported cases of cyberbullying might happen as no valid and reliable tool for measurement of cyberbullying victimization especially in the Malay language. This will give difficulties to recognize the cyberbullies and cyber-victims. Hopefully, with development cyberbullying tool development, better prevention might be implemented to reduce the cyberbullying in Malaysia. Therefore, this study was performed to develop a validated cyberbullying scale in the Malay language which can be used in our Malaysian population.

Besides that, few studies had shown an emotional impact due to cyberbullying. DASS-21 and Online Protection Behavior were used to see the impact of cyberbullying with emotional health and relation with perception and protection action. DASS-21 was a measurement tool for stress, anxiety and depression, while Online Protection Behavior measures the risk perception and protection action when using the internet. The

correlations of these two questionnaires with CBS will be the researchers to see the impact.

Johor and Selangor are the highest states with crimes in Malaysia, whereby in 2018, there were 1440 cases involving students (Malaysia Jabatan Perangkaan, 2018). Currently, no data reported for cyberbullying and online risks for adolescents in Johor. As the highest state with a crime involving students, Johor is deemed suitable for this study.

1.4 Research Question, Objectives and Hypotheses

1.4.1 Research Question

1. What is the construct validity of CBS-M among secondary school students using exploratory factor analysis (EFA)?

2. What is the internal consistency of CBS-M among secondary school students using Cronbach's alpha?

3. What is the construct validity of CBS-M among secondary school students using confirmatory factor analysis (CFA)?

4. Is there any correlation between CBS-M with DASS-21 (depression, anxiety and stress) and Online Risks Scale?

1.5 Objectives

1.5.1 General Objective

To evaluate the validity and reliability of CBS-M among secondary school students in Muar, Johor.

1.5.2 Specific Objectives

a) To assess the content validity of CBS Malay version.

b) To explore the construct validity of CBS-M among secondary school students using EFA.

c) To determine the internal consistency of CBS-M among secondary school students using reliability analysis.

d) To confirm the construct validity of CBS-M among secondary school students using CFA.

e) To determine the correlation between CBS-M with DASS-21 (depression, anxiety and stress) and Online Protection Behavior.

1.6 Research Hypothesis

1) CBS-M has good construct validity using EFA among secondary school students.

2) CBS-M has good internal consistency using Cronbach's Alpha among secondary school students.

3) CBS-M has good construct validity using CFA among secondary school students.

4) There is a correlation between CBS-M with DASS-21 and Online Risks Scale.

CHAPTER 2

LITERATURE REVIEW

2.1 Definition of Cyberbullying

The definition of cyberbullying is an aggressive, intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and overtime against a victim who cannot easily defend him or herself (Smith et al., 2008). Another definition of cyberbullying is bullying on the internet or mobile phone, while online bullying as bullying on the internet only (Hasebrink et al., 2011).

Few studies to differentiate between cyberbullying and traditional bullying has been done to define between the two forms of bullying clearly. In a study to distinguish between traditional bullying and cyberbullying among school students, a series of two studies were conducted. They found out that in traditional bullying, students would interpret as bullying or victimization. But in cyberbullying, students would not explain between the role of bully or victim, but distinguish the methods for cyberbullying (Law et al., 2012). This demonstrates that there were differences between the interpretation of traditional bullying and cyberbullying.

In another study, they found out that the differences of cyberbullying and traditional bullying are it can easily happen on their mobile or computer, the number of the audience (it can be infinite) and the bully's invisibility. The duration (the harassment content may be permanent), as well as the speed and ease with which it is carried out can differ between those two type of bullying (Gámez-Guadix et al., 2014; Garaigordobil, 2015). This had shown that cyberbullying is different from traditional bullying as the finite number of

people it can reach and the visibility of the bullies and the longevity of the bullying and the effects to the victims.

There was also a finding from a study that about half of victims who experienced cyberbully were also victims of traditional bullying (Ybarra and Mitchell, 2004). Someone who engaged in traditional bullying was also more than twice likely to be both the targets and the perpetrators of cyberbully compared to someone who did not engage in traditional bullying, with the victims of traditional bullying were 2.7 times more likely become the victim of cyberbullying (Hinduja and Patchin, 2008). They also found out that about three-quarters of students were admitted being cyberbullies were also admitted bullying others at schools in the previous month (Hinduja and Patchin, 2012). Thus, cyberbullying and traditional bullying can be the same victims and perpetrators but there were differences between the two as mention above.

2.2 Platforms Used for Cyberbullying

Cyberbullying consists of using information and communication technologies mainly internets such as email, short text message [SMS], websites, blogs, online videogames and etcetera, and also mobile phones to carry out psychological peer harassment (Smith et al., 2008). The common platforms of cyberbullying are Facebook, Twitter and other media socials as investigated by Lai et al (2017).

A study of 177 middle schools students in Canada showed that 22.7% of the cyberbully victims had been bullied by email, 36.4% in chat rooms only, and another 40.9% by multiple sources including email, chat-room, and mobile phone (Li, 2005). In the UK, phone call and text message bullying were most common reported medium of cyberbullying among school students (Smith et al., 2008). In a study of 712 Malaysian