Transcultural Translation and Reliability of Cyberbullying and Online Aggression Survey Instrument: Thai Version

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Abstract

This study aims to translate a screening instrument for cyberbullying, Cyberbullying and Online Aggression Survey (COAS), to Thai, then test for its internal consistency and report the prevalence of cyberbullying. The COAS is an original instrument self-report Likert-scale questionnaire consisting of 18 questions with two subscales (9 items each), including Cyberbullying Victimization (CV) and Cyberbullying Offending (CO) scales. The COAS was transculturally translated into a Thai version by forward-backward processes then the content validity was evaluated by six child and adolescent psychiatrists. The internal consistency was explored with secondary school students aged 12 to 18 years in Khon Kaen, a province in Northeastern Thailand. The results showed that the content validity index of the COAS-Thai was 1, and the index of item-objective congruence was 0.67–1.00. From 234 participants, Cronbach's Alpha was 0.82, with 0.77 for CV and 0.69 for CO subscales. As high as 44.87% reported being involved in a cyberbullying incidence. In conclusion, the COAS-Thai had acceptable reliability, and almost half of the participants reported being involved in cyberbullying. However, future studies are required to improve the quality of the cyberbullying survey in the context of Thai society.

Keywords

Cyberbullying; content validity; internal consistency; translation; questionnaire

Introduction

Traditionally, bullying is defined as a subset of aggressive behavior, which includes three characteristics between the perpetrator and the victim: intention to harm, repetition, and power imbalance (Olweus, 2013). On most occasions, cyberbullying has the agreed-upon definition of traditional bullying. Patchin and Hinduja (2006) defined cyberbullying as willful and repeated harm inflicted by using a computer, a mobile phone, or other electronic devices. Similarly, Kowalski et al. (2014) described cyberbullying as using digital technology to do harm or bully. However, there is no consensus on the definition of cyberbullying. In the digital world, the harmful act may occur without the specific intention of the aggressor being identified (Englander et al., 2017). Additionally, a single incidence of cyberbullying may have lasting negative consequences if the incidence leaves an online trace or is actively spread by people. There are no apparent differences in power between the perpetrator and the victim in the online world compared with offline reality (Ojanen et al., 2015).

Moreover, a subset of cyberbullying has been defined by several terms, including digital or online bullying, electronic aggression, online or internet harassment, and online aggression. Different terms reflect different aspects of the phenomenon being emphasized. For example, online aggression is a form of aggression when mobile phones and the internet are used to make threats without mentioning the repetition or the power imbalance (Pornari & Wood, 2010).

As cyberbullying can occur at any time and place and can be easily widespread in society (Dooley et al., 2009; Patchin & Hinduja, 2006), cyberbullying can result in numerous mental health problems, particularly depression, anxiety (Hinduja & Patchin, 2010; Skilbred-Fjeld et al., 2020), self-harm, suicide (Boonchooduang et al., 2019; Hinduja & Patchin, 2010; Skilbred-Fjeld et al., 2020), low self-esteem (Patchin & Hinduja, 2010), anti-social behaviors (Hinduja & Patchin, 2010), substance abuse (Mitchell et al., 2007), and poor academic performance and functioning at school (Ybarra et al., 2007). Interestingly, it was also noted that a victim of cyberbullying could subsequently become an offender (Kowalski et al., 2014; Patchin & Hinduja, 2006).

Prevalence of cyberbullying ranges from 6.5% to 35.4% in many countries (Bottino et al., 2015). The prevalence of perpetration varied from 3% to 39%, victimization from 1 % to 61%, and both offenders and victims from 2% to 72% (Brochado et al., 2017). In Thailand, studies remain scarce in terms of definition, search terms, and prevalence of cyberbullying (Sittichai, 2014; Sittichai & Smith, 2013). In schools, the prevalence of cyberbullying was 14.9% and 17.4% in the Southern and Northern parts of Thailand, respectively (Boonchooduang et al., 2019; Sittichai, 2014). Regarding a previous study among Grade 7–9 students in Bangkok, the prevalence of cyberbullying victimization was 7.7%, and perpetration was 5.2% (Atsariyasing et al., 2019).

Several cyberbullying measurement strategies have been reported (Berne et al., 2013). However due to different instruments that have been used in correlation to the different definitions (Vivolo-Kantor et al., 2014), the interpretations and applications of cyberbullying research including the prevalence, are somehow limited (Englander et al., 2017).

There has been only one validated questionnaire on cyberbullying in Thailand, known as the Cyber-Aggression Perpetration and Victimization Scale, developed by Anuroj and Pityaratstian

(2019). The original questionnaire, designed for 11 to 13-year-old Canadian students, was translated into Thai and validated with good consistency and reliability in 295 middle-school students.

Appropriately, the Cyberbullying and Online Aggression Survey (COAS), developed by Hinduja and Patchin and published by the Centers for Disease Control and Prevention (CDC) in the United States of America (Hamburger et al., 2011), consisted of the Cyberbullying Victimization Scale (CV) and the Cyberbullying Offending Scale (CO). The latest version of COAS had good internal reliability with Cronbach's Alpha of CV and CO of 0.867–0.935 and 0.793–0.969, respectively, and all inter-item correlations were exemplary (Hinduja & Patchin, 2015; Robinson et al., 1991). This questionnaire measures the components of cyberbullying as an intention to cause harm, repetition, aggressive behaviors, and the victim's experiences of harm. The scoring strategies included summed score, which was a continuous outcome where higher scores predicted higher levels of perpetration or victimization, and a dichotomous subscale. (Vivolo-Kantor et al., 2014).

Due to the heterogeneity of the translated questionnaires and COAS in terms of sectioning, the number of questions, and the detail of questions, this study aimed to generate the Thai version of the COAS as a screening instrument for cyberbullying and evaluated its internal consistency by Thai adolescent population. In addition, the prevalence of cyberbullying in the study population was reported.

Materials and Methods

Study population

Grade 7–12 Thai students in public schools in Khon Kaen province were recruited for the study. Inclusion criteria included being 12 to 18 years old and able to read and write Thai and received informed consent from the students and parents. The students who did not use electronic devices or media in the past 30 days were excluded. Each participant was asked to complete the Thai version of the COAS questionnaire.

Measurement and interpretation

The COAS questionnaire (2019 version) is a self-report survey consisting of 18 questions with two sections: nine questions for the CV scale and nine questions for the CO scale. All items are scored using a four-point Likert-type scale to assess participants' opinions: Never (0); Once (1); A few times (2); Many times (3).

A forward-backward method was applied to translate the COAS questionnaire from English (Source Language [SL]) into Thai (Translated Language [TL]). During forward translation, the questionnaire was translated into Thai by one medical personnel and a non-medical personnel language expert to obtain the two versions of TL. The third translator then assessed both TL versions to generate the preliminary initial translated language (PI-TL) version. Subsequently,

the PI-TL questionnaire was translated backward by another independent expert (one medical personnel and a non-medical personnel language expert) for the original language (BTL) version (Beaton et al., 2001; Sousa & Rojjanasrirat, 2011). The PI-TL version was evaluated by six child and adolescent psychiatrists to assess the content validity index. The questionnaire adjustment was required until the content validity index was 0.8 or more. The final translated (FTL) version was produced and tested for reliability. Seven questions, including gender, age, grade, use of electronic devices or social media in the past 30 days, number of using hours per day, type of device, and social media program, were added to obtain individual information.

Statistical analysis

The sample size was calculated using a sample size calculator (Arifin, 2022; Bonett, 2002). The number of items (k) was 18 with a minimum acceptable Cronbach's Alpha (H0) of 0.7, expected Cronbach's alpha (H1) of 0.8, and significance level (α) of 0.05 with power (1-ß) of 80%. Thus, the effective sample size was 104, including Grade 7–12 Thai students in public schools in Muang District, Khon Kaen province. For each grade, students in one classroom were randomly recruited in the study and well-informed before data collection.

Descriptive statistics were applied, including percentage, mean and standard deviation (SD), median, and interquartile range (IQR). The reliability of the questionnaire was assessed by internal consistency (Cronbach's Alpha). Statistical analysis was performed using the IBM SPSS Statistics, Version 26 (IBM SPSS Statistics, IBM Corporation).

Results

The final translated version was generated after testing for content validity by six child and adolescent psychiatrists. The index of item-objective congruence of the COAS-Thai version was 0.67–1.00, with a content validity index of 1. The final translated version was then evaluated by Thai adolescents.

A total of 234 participants were included in the study. The mean (SD) age was 15.4 (1.775) years, range 12 to 18 years, and the majority were female (76.1%). The mean (SD) number of hours per day using electronic devices or media was 9.41(4.32) hours. The mobile phone was the most prevalent device (99.1%), while the desktop computer was used by 17.9% of participants. The most commonly-used social media program was YouTube (97.4%), followed by Facebook Messenger (94.9%), Facebook (91.9%), LINE (88.9%), Instagram (84.6%), Twitter (50%), and massively multiplayer online games (41.5%), as shown in Table 1.

Table 1: Demographic Data of the Students

Characteristic	N (%)
Gender	
Male	56 (23.9%)
Female	178 (76.1%)
Age, years (mean, range)	15.4 (12–18)
Number of hours per day using electronic devices or media (mean, range)	9.41 (1–24)
Type of device	
Mobile phone	232 (99.1%)
Laptop computer	89 (38.0%)
Tablet	44 (18.8%)
Desktop computer	42 (17.9%)
Others, e.g., Smart television	4 (1.7%)
Social media program	
YouTube	228 (97.4%)
Facebook Messenger	222 (94.9%)
Facebook	215 (91.9%)
Line	208 (88.9%)
Instagram	198 (84.6%)
Twitter	117 (50.0%)
Massively multiplayer online games	97 (41.5%)
Online games	16 (6.8%)
Snapchat	14 (6.0%)
TikTok	9 (3.8%)
Virtual reality	7 (3.0%)

Note: N = 234

In addition, the high internal consistency reliability of the COAS-Thai questionnaire was demonstrated by Cronbach's Alpha of 0.82, which were 0.77 for the CV scale and 0.69 for the CO scale. Tables 2 and 3 show internal consistency reliability and inter-item correlation, respectively.

Table 2: Reliability of COAS-Thai Questionnaire

Item	Cronbach's Alpha	Cronbach's Alpha if Item Deleted	Corrected Item-Total Correlation	Item	Cronbach's Alpha	Cronbach's Alpha if Item Deleted	Corrected Item-Total Correlation
Overall (COAS-Thai)	0.82						
CV				**CV**	0.77		
CV-1		0.80	0.67	CV-1		0.71	0.62
CV-2		0.80	0.59	CV-2		0.71	0.64
CV-3		0.81	0.54	CV-3		0.73	0.53
CV-4		0.82	0.36	CV-4		0.76	0.30
CV-5		0.83	0.12	CV-5		0.77	0.13
CV-6		0.81	0.43	CV-6		0.75	0.41
CV-7		0.81	0.44	CV-7		0.74	0.47
CV-8		0.82	0.40	CV-8		0.74	0.47
CV-9		0.81	0.46	CV-9		0.75	0.46
CO				**CO**	0.69		
CO-1		0.81	0.57	CO-1		0.63	0.56
CO-2		0.81	0.53	CO-2		0.61	0.55
CO-3		0.81	0.48	CO-3		0.60	0.60
CO-4		0.82	0.43	CO-4		0.64	0.52
CO-5		0.82	0.32	CO-5		0.66	0.38
CO-6		0.82	0.19	CO-6		0.70	0.07
CO-7		0.82	0.27	CO-7		0.69	0.10
CO-8		0.82	0.22	CO-8		0.69	0.25
CO-9		0.82	0.28	CO-9		0.68	0.30

Note: The COAS-Thai questionnaire is shown in Appendix A

Table 3: Inter-Item Correlation of the COAS-Thai Questionnaire

Overall (COAS)		Cyberbullying Victimization Scale (CV)									Cyberbullying Offending Scale (CO)								
		CV-1	CV-2	CV-3	CV-4	CV-5	CV-6	CV-7	CV-8	CV-9	CO-1	CO-2	CO-3	CO-4	CO-5	CO-6	CO-7	CO-8	CO-9
Cyberbullying Victimization Scale (CV)	CV-1	1.00																	
	CV-2	0.55	1.00																
	CV-3	0.47	0.50	1.00															
	CV-4	0.24	0.32	0.48	1.00														
	CV-5	0.11	0.15	0.00	0.02	1.00													
	CV-6	0.35	0.31	0.22	0.10	0.17	1.00												
	CV-7	0.35	0.33	0.19	0.03	0.06	0.25	1.00											
	CV-8	0.33	0.33	0.17	-0.02	0.07	0.23	0.77	1.00										
	CV-9	0.35	0.35	0.27	0.02	0.07	0.37	0.30	0.38	1.00									
Cyberbullying Offending Scale (CO)	CO-1	0.51	0.31	0.35	0.33	0.15	0.18	0.17	0.13	0.31	1.00								
	CO-2	0.39	0.40	0.27	0.23	0.12	0.20	0.16	0.15	0.26	0.46	1.00							
	CO-3	0.35	0.23	0.35	0.30	-0.06	0.07	0.17	0.10	0.12	0.47	0.52	1.00						
	CO-4	0.30	0.21	0.23	0.35	-0.04	0.15	0.09	0.07	0.08	0.36	0.41	0.60	1.00					
	CO-5	0.22	0.12	0.06	0.05	-0.03	0.39	0.17	0.05	0.09	0.25	0.20	0.28	0.26	1.00				
	CO-6	0.09	0.06	0.06	-0.04	-0.02	0.38	0.30	0.30	0.16	0.07	-0.06	-0.00	-0.04	0.19	1.00			
	CO-7	0.20	0.18	0.22	-0.04	-0.02	0.23	0.33	0.36	0.35	0.13	-0.07	-0.02	-0.04	0.17	0.49	1.00		
	CO-8	0.08	0.02	0.24	0.27	-0.01	0.09	0.24	-0.02	-0.02	0.11	0.16	0.19	0.16	0.35	-0.01	-0.01	1.00	
	CO-9	0.16	0.06	0.18	0.05	-0.01	0.35	0.04	-0.03	0.37	0.28	0.31	0.08	0.12	0.24	-0.01	-0.02	0.28	1.00

Note: Criteria Rating; Exemplary = average of 0.30 or better, Extensive = average of 0.20 to 0.29, Moderate = average of 0.10 to 0.19, Minimal = average below 0.10 (Robinson et al., 1991)

The summary scale was used to demonstrate the association and frequency of cyberbullying. The median scores on the CV and CO scales were 1 (ranged, 0–20, IQR 4) and 0 (ranged, 0–13, IQR 2). Notably, a dichotomous scale was recoded from a summary scale that 0 or 1 = 0 and 2 or above = 1. This measure gives a binary measure that indicated the participation of cyberbullying in 105 participants (44.87%) consisting of 92 victims (39.32%), 55 offenders (23.50%), and 42 both offenders and victims (17.95%), as shown in Figure 1.

Figure 1: Percentages of Participation in Cyberbullying
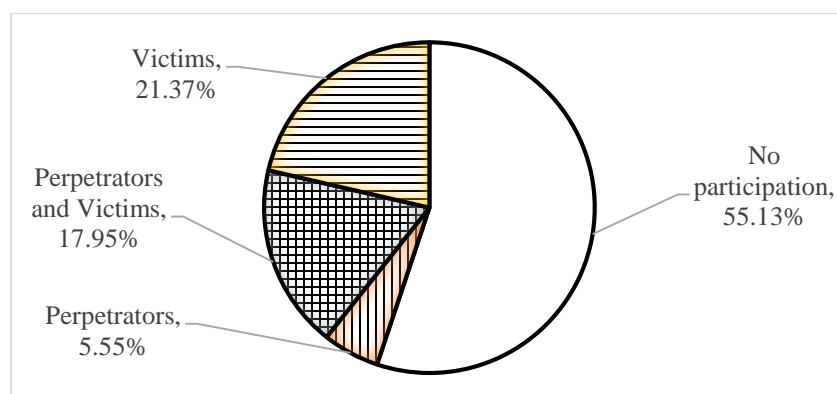
Note: N = 234

Discussion

This study is a transcultural translation of the COAS questionnaire (2019 version). The comprehensive translational process was performed by language experts, consisting of medical and non-medical personnel, using a forward-backward translation method. The content validity was then tested by six child and adolescent psychiatrists to determine the relevance of cyberbullying definition. The high consistency and performance of the questionnaire were demonstrated by the content validity index of 1 and the item-objective congruence index of 0.67–1.00.

After testing the COAS-Thai questionnaire in Grade 7–12 Thai students in public schools in Mueang District, Khon Kaen province, high internal consistency reliability was found by Cronbach's Alpha of 0.82. The Cronbach's Alpha of 0.77 for the CV scale and 0.69 for the CO scale were acceptable but lower than the original version. The different internal consistency might be partly due to cultural differences, affecting the children's behavior and the nature of cyberbullying. A study among secondary school students in three southern provinces of Thailand defined cyberbullying behaviors as defamation, gossiping, impersonation, and exclusion by removing or blocking off groups on cyberspace (Tudkuea et al., 2019). However, in the COAS, the act of exclusion by removing or blocking from groups is not included. Moreover, in the CV section, the reliability was improved when the CV-5 (Someone created a mean or hurtful web page about me) was removed. The item analysis with inter-item correlation also showed that CV-5 was not correlated with other questions. According to a previous study, cyberbullying by creating a web page was not popular among Thai students.

For the CO section, the reliability was improved when CO-6 (I threatened to hurt someone online) question was removed. In addition, the inter-item correlation among CO-6, CO-7 (I threatened to hurt someone through a cell phone text message), and CO-8 (I created a mean or hurtful web page about someone) had a relatively low correlation with other questions. The possible explanation was that threatening someone is a harsh behavior, so the participants might be uncomfortable to answer and tended to under-report the incident.

Interestingly, Samoh et al. (2019) reported that Thai youth were likely to misperceive the action of cyberbullying as a play for fun, especially if the victim and the offender had a close relationship. Furthermore, regarding information from the Electronic Transactions Development Agency (2020), alternative ways of communication such as Facebook Messenger and Line were more popular, partly because they are cheaper and more convenient, so a cell phone text message (CO-7) was less favored. Moreover, as previously mentioned, cyberbullying by creating a webpage (CO-8) was not popular among Thai students. Our results demonstrated that the COAS-Thai had acceptable reliability. However, future studies are warranted to improve the quality and performance of the survey in the context of Thai society.

For continuous outcomes, the total scores may be used to determine the level of perpetration and victimization. However, for binary outcomes, the measure may instead be used to define the presence of cyberbullying by its characteristics actions of intention to cause harm, repetition, aggressive behaviors, and victim's experiences of harm. Of the 234 students, 105 participants (44.87%) were involved in cyberbullying. The prevalence of victim and offender in cyberbullying were 39.32% and 23.50%, respectively, and 17.95% were both victim and perpetrator.

Conclusion

The Cyberbullying and Online Aggression Survey: Thai version (COAS-Thai) was translated and had acceptable internal consistency reliability with Cronbach's Alpha of 0.82, which were 0.77 for the CV scale, and 0.69 for the CO scales. Almost half of the participants (44.9%) reported involving in an action of cyberbullying. Further studies are required to improve the quality and performance of the survey on cyberbullying in the context of Thai society.

Ethical approval

The study protocol was approved by the Khon Kaen University Ethics Committee for Human Research, Thailand (HE631388).

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Appendix A

The Original Cyberbullying and Online Aggression Survey (COAS) and Cyberbullying and Online Aggression Survey (COAS): Thai Version

Cyberbullying and Online Aggression Survey (COAS)	แบบสำรวจการกลั่นแกล้งกันบนโลกออนไลน์และความก้าวร้าวทางออนไลน์ (COAS-Thai)
Cyberbullying Victimization Scale (CV) In the last 30 days, I have been cyberbullied in these ways…	แบบประเมินการถูกกลั่นแกล้งบนโลกออนไลน์ ในช่วง 30 วันที่ผ่านมา ฉันโดนกลั่นแกล้งบนโลกออนไลน์ด้วยวิธีการต่าง ๆ ดังนี้
CV-1 I have been cyberbullied	CV-1 ฉันเคยโดนกลั่นแกล้งบนโลกออนไลน์
CV-2 Someone posted mean or hurtful comments about me online	CV-2 มีคนเคยโพสต์ความเห็นต่อตัวฉัน ซึ่งเป็นการทำร้ายจิตใจและทำให้ฉันเจ็บปวด
CV-3 Someone posted a mean or hurtful picture online of me online	CV-3 มีคนเคยโพสต์รูปฉัน ซึ่งเป็นการทำร้ายจิตใจและทำให้ฉันเจ็บปวด
CV-4 Someone posted a mean or hurtful video online of me online	CV-4 มีคนเคยโพสต์วิดีโอเกี่ยวกับฉัน ซึ่งเป็นการทำร้ายจิตใจและทำให้ฉันเจ็บปวด
CV-5 Someone created a mean or hurtful web page about me	CV-5 มีคนเคยสร้างเว็บเพจเกี่ยวกับฉัน ซึ่งเป็นการทำร้ายจิตใจและทำให้ฉันเจ็บปวด
CV-6 Someone spread rumors about me online	CV-6 มีคนเคยปล่อยข่าวลือเกี่ยวกับตัวฉันลงในโลกออนไลน์
CV-7 Someone threatened to hurt me through a cell phone text message	CV-7 ฉันเคยโดนส่งข้อความขู่ทำร้ายทางโทรศัพท์มือถือ
CV-8 Someone threatened to hurt me online	CV-8 ฉันเคยโดนขู่ทำร้ายบนโลกออนไลน์
CV-9 Someone pretended to be me online and acted in a way that was mean or hurtful	CV-9 มีคนเคยปลอมตัวหรือแอบอ้างเป็นฉันบนโลกออนไลน์ แล้วทำสิ่งที่ทำร้ายจิตใจและทำให้ฉันเจ็บปวด
Cyberbullying Offending Scale (CO) In the last 30 days, I have cyberbullied others in these ways...	แบบประเมินการกลั่นแกล้งผู้อื่นบนโลกออนไลน์ ในช่วง 30 วันที่ผ่านมา ฉันกลั่นแกล้งคนอื่นบนโลกออนไลน์ด้วยวิธีการต่าง ๆ ดังนี้
CO-1 I cyberbullied others	CO-1 ฉันเคยกลั่นแกล้งคนอื่น ๆ บนโลกออนไลน์
CO-2 I posted mean or hurtful comments about someone online	CO-2 ฉันเคยโพสต์ความเห็นเกี่ยวกับใครบางคน ซึ่งเป็นการทำร้ายจิตใจหรือทำให้เขาเจ็บปวด
CO-3 I posted a mean or hurtful picture online of someone	CO-3 ฉันเคยโพสต์ภาพของใครบางคน ซึ่งเป็นการทำร้ายจิตใจหรือทำให้เขาเจ็บปวด
CO-4 I posted a mean or hurtful video online of someone	CO-4 ฉันเคยโพสต์วิดีโอของใครบางคน ซึ่งเป็นการทำร้ายจิตใจหรือทำให้เขาเจ็บปวด
CO-5 I spread rumors about someone online	CO-5 ฉันเคยปล่อยข่าวลือเกี่ยวกับใครบางคนบนโลกออนไลน์
CO-6 I threatened to hurt someone online	CO-6 ฉันเคยขู่ทำร้ายใครบางคนบนโลกออนไลน์
CO-7 I threatened to hurt someone through a cell phone text message	CO-7 ฉันเคยส่งข้อความทางโทรศัพท์มือถือไปขู่ทำร้ายใครบางคน
CO-8 I created a mean or hurtful web page about someone	CO-8 ฉันเคยสร้างเว็บเพจเกี่ยวกับใครบางคน เพื่อทำร้ายจิตใจหรือทำให้เขาเจ็บปวด
CO-9 I pretended to be someone else online and acted in a way that was mean or hurtful to them	CO-9. ฉันเคยปลอมตัวหรือแอบอ้างเป็นใครบางคนบนโลกออนไลน์ แล้วทำสิ่งที่ทำร้ายจิตใจหรือทำให้เขาเจ็บปวด