VALIDITY AND RELIABILITY OF VIETNAMESE VERSION OF CYBERBULLYING COPING STYLES SCALE FOR STUDENTS

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Abstract

Based on the self-report coping scale (22 items) of Kochenderfer-Ladd and Skinner (2002), we have established and tested the validity and reliability of a Vietnamese version of the cyberbullying coping styles scale for students. The sample is 162 students from Hue University. Item discrimination analysis, item analysis, exploratory factor analysis, confirmatory factor analysis, and internal consistency reliability analysis were performed to assess the reliability and validity of the scale. The results show that the Vietnamese version of the cyberbullying coping styles scale had 21 items and 5 dimensions (problem solving, cognitive distance, looking for social support, externalization, and internalization). Analysis results showed that the Vietnamese version of the cyberbullying coping styles scale has good reliability and validity.

Keywords: Cyberbullying coping styles scale; Reliability; Self-report coping scale; Validity.

1.   INTRODUCTION

Cyberbullying is becoming a new research area and a worrisome issue in the twenty-first century. Instead of bullying only taking place at school, students have started using technological devices like computers and mobile phones to bully each other (Beran & Li, 2008). Hinduja and Patchin (2008) have defined cyberbullying as repetitive behavior that deliberately harms others through the use of electronic devices such as mobile phones, smartphones, computers, tablets, sound recorders, pagers, etc. (Aabo et al., 2010).

In recent years, cyberbullying among college students has been on the rise. According to the statistics of Schenk and Fremouw (2012), about 55.3% of college students were bullied with electronic devices, and about 10.0% to 21.9% of college students used electronic devices to bully others. In Taiwan (R.O.C), 58.0% of students participated in cyberbullying, and 68.0% of college students were bullied using electronic devices (Leung et al., 2018). In Myanmar, Khine et al. (2020) indicated that more than 50.0% of female college students and more than 40.0% of males suffered from cyberbullying. In New Zealand, 94.9% of university psychology students reported experiencing cyberbullying (Phizacklea & Sargisson, 2018). Peled (2019) found that 57.0% of Israeli university students suffered cyberbullying victimization. However, in a recent US study, Webber and Ovedovitz (2018) showed that only 4.3% of college students were cyberbullied and that 7.5% of college students participated in cyberbullying others. According to MacDonald and Roberts-Pittman (2010), text messages and social networks are often used to cyberbully by college students. For college students, the internet is the most popular means of communication (Ellison et al., 2007) and they seek emotional intimacy with friends, lovers, and relatives through cyberspace more than direct communication (Horrigan, 2008). Consequently, they can become victims of cyberbullying, which leads to the risk of low self-esteem, anxiety, depression, suicidal thoughts, and suicide in students (Fekkes et al., 2004). In Vietnam, 99.0% of college students use social networks (Trần & Bùi, 2015). Thus, cyberbullying is inevitable in the use of social networks.

In the twentieth century, people were aware of the dangers of traditional bullying, and many researchers focused on how to deal with it. With the development of technology and communication, cyberbullying appeared and became increasingly common, so researchers are also turning their attention to strategies for dealing with cyberbullying. Coping strategies are defined as continuous processes and as an individual's awareness and behavior to govern a stressful situation (Folkman & Lazarus, 1985). According to Kochenderfer-Ladd and Skinner (2002), avoidance and approach are the main styles of coping with stressful situations. In this study, coping styles have been determined by the way victims of cyberbullying assess and manage their experiences. The approach coping style is an attempt to change the circumstances of cyberbullying and consists of looking for social support and problem solving. The avoidance coping style is an attempt to avoid cyberbullying circumstances and consists of cognitive distance, internalization, and externalization (Na et al., 2015). The approach style is considered a positive coping style; its opposite, avoidance, is considered a negative coping style. Many studies have shown that if the victim uses avoidance when being cyberbullied, it becomes easier to experience

depression (Völlink, Bolman, Dehue, & Jacobs, 2013; Völlink, Bolman, Eppingbroek, & Dehue, 2013). In addition, the negative effects of cyberbullying, such as anxiety, depression, and low self-esteem, can be minimized if the victim has positive coping strategies (Hensler-McGinnis, 2008; Machmutow et al., 2012; Lodge & Frydenberg, 2007; Völlink, Bolman, Eppingbroek, & Dehue, 2013). However, if college students use negative coping strategies, cyberbullying situations will persist, leading to low self-esteem, anxiety, stress, depression, and even suicide (Na et al., 2015). Therefore, coping strategies play an important role in reducing the negative effects of cyberbullying (Parris et al., 2012). Up to now, most cyberbullying behavior and coping style studies have focused on adolescents. The cyberbullying behavior and coping styles of college students have seldom been reported.

Several studies on cyberbullying and how to deal with it have been conducted in Vietnam, with the main subjects of study being middle and high school students (Cong et al., 2018; Trần et al., 2015). However, the measurement tools for coping with cyberbullying are inadequate. Moreover, there are very few publications on the reliability and validity of a Vietnamese version of the cyberbullying coping styles scale for college students. Thus, in this study, we have established and evaluated the validity and reliability of a Vietnamese version of the cyberbullying coping styles scale for college students.

2.   METHOD

2.1.   Participants

The study population consisted of 162 students enrolled in the Hue University of Education. Participants were college students, aged 18 to 25, who have been bullied through electronic devices such as computers, mobile phones, tablets, and so on. Characteristics of the sample are as follows: 82.1% were female, 71.6% were freshmen, 26.5% were sophomores, 1.9% were juniors, 84% were from the majority Kinh ethnic group, and 16.0% were from minority groups (Table 1).

Table 1. Sample characteristics of the participants ($N = 162$)

	Participants
Gender	
Female, n (%)	133 (82.1)
Male, n (%)	29 (17.9)
Age, $M \pm SD$	18.350 ± 0.528
Grade	
Freshman, n (%)	116 (71.6)
Sophomore, n (%)	43 (26.5)
Junior, n (%)	3 (1.9)
Ethnic group, n (%)	
Kinh ethnic group, n (%)	136 (84.0)
Minority groups, n (%)	26 (16.0)

This study has been approved by the university leadership. It has also received the consent of academic advisors in all grades and from all study participants.

2.2. Procedure

2.2.1. Translation of the cyberbullying coping styles scale

First, the Vietnamese version of the cyberbullying coping scale was prepared based on the self-report coping scale (SRCS) in several steps: (a) The original SRCS was translated from English into Vietnamese by two English lecturers at the University of Foreign Languages, Hue University, (The lecturers are Vietnamese who are good at English). (b) Any inconsistencies in the first translation (English–Vietnamese) were analyzed by another interpreter and a joint document was prepared. (c) This document was translated from Vietnamese into English by a translator whose native language is English and who is fluent in Vietnamese, and then this version was compared to the original SRCS. For using the SRCS to measure and evaluate the frequency with which cyberbullying coping strategies are used, we added verbal instructions to the scale as follows: "The following describes some coping strategies commonly used by cyberbullying victims. When you are cyberbullied, how do you use a coping strategy? Please read each description carefully and circle the numbers 0 or 1 or 2 or 3 or 4 that you think are most appropriate (never = 0, hardly ever = 1, sometimes = 2, most of the time = 3, always = 4)." Second, according to the translation process, a pilot study was conducted with college students ($n = 37$). As a result of the pilot study, all 22 SRCS sections have been translated directly into Vietnamese without cultural adjustment.

2.2.2. Study design

After successful translation of the cyberbullying coping styles scale, we prepared a questionnaire that consists of two components: background information and the cyberbullying coping styles scale. The questionnaire was completed by 162 students of the Hue University of Education (Vietnam). The recovery rate of the questionnaire was 100%. Finally, we used the answers and personal information of the 162 college students who were victims of cyberbullying to analyze the validity and reliability of the Vietnamese version of the cyberbullying coping styles scale.

2.2.3. Instruments

This study uses the self-report coping scale and the cyberbullying victimization scale (CVS).

- The Self-Report Coping Scale (SRCS):

The SRCS was developed by Causey and Dubow (1992) and modified by Kochenderfer-Ladd and Skinner (2002). The SRCS consists of 22 items on two main styles of coping: a 10-item approach coping style, which includes 5 items looking for social support and problem solving, and a 20-item avoidance coping style, which includes

cognitive distance, externalization, and internalization. Participants indicated the frequency of using each type of coping strategy on a five-point scale (never = 0, hardly ever = 1, sometimes = 2, most of the time = 3, always = 4). The mean of the items for each subscale is from 0 to 4. The higher score represents the more frequent use of a particular coping strategy (Kochenderfer-Ladd & Skinner, 2002).

- The cyberbullying victimization scale (CVS):

The CVS was developed by Patchin and Hinduja (2010) and modified by Phạm and Trần (2016). Initially, Patchin and Hinduja's CVS had nine items. After being revised by Pham and Tran, the CVS only has six items to evaluate the frequency of participants' experiences with six styles of cyberbullying (I was teased online or by phone, I received a vulgar message/picture online or by phone, I was isolated by my team online, someone has spread personal rumors about me online or by phone, someone posted photos/videos/messages that are harmful to me online, and someone threatened to hurt me online or by phone). Each item of the CVS is answerable through a 5-point Likert scale (never = 1, once or twice = 2, a few times = 3, many times = 4, every day = 5). The total score ranges from 0 to 30, with higher scores indicating more cyberbullying experiences (Phạm & Trần, 2016). Cronbach's alpha for the CVS ranged from 0.74 to 0.93 in the study by Patchin and Hinduja (2010) and was 0.71 for university students in the study by Na et al. (2015). Cronbach alpha for Ho, Li, and Gu's sample of Vietnamese college students is acceptable (Ho et al., 2020). Cyberbullying is a relatively new concept for Vietnamese students, so in this study, Cronbach's alpha is 0.62. A Cronbach's alpha of 0.6 or higher can be used in two cases: (a) a new research concept or (b) a new research context (Peterson, 1995).

2.2.4. Data analysis

This study used SPSS software version 20 and Amos software version 20.0 to analyze the data. To analyze the validity of the Vietnamese version of the cyberbullying coping styles scale for college students, the following analytical methods are used: Firstly, exploratory factor analysis (EFA) was used to reduce a set of k variables to a set of F ($F < k$) more meaningful factors and to explore the underlying theoretical structure of the phenomena. Principal component analysis (PCA) was used to explain the variance–covariance structure of a set of variables through linear combinations. Varimax rotation was used to clarify the relationship among factors. Secondly, confirmatory factor analysis (CFA) was used to verify the factor structure of a set of observed variables. Confirmatory factor analysis was performed using Amos software. To assess the fit of each model, Hair et al. (2010) suggested evaluating the following indicators: First, the chi-square/df ratio (X^2/df) to examine the degree of fit between the theoretical model and the observed model. $X^2/df > 10$ means that the model cannot be accepted, $X^2/df \leq 5$ means that the model can be accepted, and $X^2/df \leq 2$ means that the model is good. Second, the goodness of fit index (GFI) is between 0.00 and 1.00, and the GFI values are above 0.90, indicating a good model fit (Hair et al., 2010). However, according to some researchers, if the GFI value is below 0.90 but 0.80 or above, it is still acceptable (Baumgartner & Homburg, 1996; Doll et al., 1994). Third, a CFI value above 0.90 indicates a good model fit, CFI ≥

0.95 indicates the model fits very well, and CFI ≥ 0.80 indicates the model fit is acceptable (Hair et al., 2010). Finally, a root mean square error of approximation (RMSEA) ≤ 0.08 can be considered a good fit, and a RMSEA ≤ 0.03 is considered a very good fit (Hair et al., 2010). In addition, this study also used the criterion validity to check the correlation between the test score and the criterion.

In order to analyze the reliability of the Vietnamese version of the cyberbullying coping styles scale for college students, Cronbach's alpha and split-half testing were used to identify the internal consistency of the scale.

3.   RESULTS

3.1.   Item discrimination

Table 2. Comparison between the high and low groups ($M \pm SD$)

Item	Low group	High group	t	p
1. I tried to think of different ways to solve it	0.93 ± 0.99	3.13 ± 0.97	-1.57	< 0.001
2. I changed something to make things work out	0.70 ± 0.77	2.47 ± 1.12	-8.65	< 0.001
3. I did something to make up for it	0.50 ± 0.87	2.20 ± 1.25	-7.40	< 0.001
4. I went over in my mind what to do or say	1.18 ±1.20	3.42 ± 0.75	-1.54	< 0.001
5. I could do something to change this situation	0.82 ± 0.84	2.93 ± 0.94	-11.18	< 0.001
6. I told a friend or family member what happened	0.86 ± 1.05	2.73 ± 1.23	-7.71	< 0.001
7. I talked to somebody about how it made me feel	0.98 ± 0.87	2.51 ± 1.16	-7.03	< 0.001
8. I got help from a friend	0.89 ± 0.92	2.64 ± 1.09	-8.21	< 0.001
9. I asked a family member for advice	0.86 ± 1.03	2.87 ± 1.27	-8.17	< 0.001
10. I got help from a family member	0.66 ± 0.91	2.98 ± 1.34	-9.52	< 0.001
11. I made believe nothing happened	0.73 ± 1.11	1.91 ± 1.28	-4.67	< 0.001
12. I forgot the whole thing	1.14 ± 1.25	2.18 ± 1.27	-3.90	< 0.001
13. I told myself it didn't matter	1.16 ± 1.06	2.51 ± 1.16	-5.75	< 0.001
14. I refused to think about it	0.80 ± 1.05	2.11 ± 1.34	-5.17	< 0.001
15. I would say I didn't care	0.95 ± 1.14	2.13 ± 1.34	-4.46	< 0.001
16. I yelled to let off steam	0.36 ± 0.94	1.84 ± 1.38	-5.90	< 0.001
17. I swore out loud	0.25 ± 0.53	1.58 ± 1.29	-6.33	< 0.001
18. I got mad and threw or hit something	0.32 ± 0.91	1.64 ± 1.30	-5.57	< 0.001
19. I worried about it	0.57 ± 0.79	2.36 ± 1.30	-7.82	< 0.001
20. I just felt sorry for myself	0.57 ± 0.95	2.62 ± 1.23	-8.80	< 0.001
21. I worried that others would think badly of me	1.16 ± 1.06	3.31 ± 1.06	-9.59	< 0.001
22. I got mad at myself for doing something that I shouldn't have done	0.55 ± 0.76	2.56 ± 1.37	-8.51	< 0.001

Item discrimination refers to the ability of a test item to distinguish the psychological characteristics of the study. The total scores of the scales are ranked from high to low. The high group is composed of the 27% of the subjects with the highest scores, and the low group is composed of the 27% of the subjects with the lowest scores. The difference between the high and low groups is compared with an independent sample t test and each item on the scale will find a "critical ratio." The items with no statistical significance are removed. According to the results shown in Table 2, the value of all 22 items is statistically significant, indicating that the 22 items can be retained and used for further analysis.

3.2. Item analysis

Item analysis is an analytical method to assess the relationship between each item and total item scores (Yıldırım, 2015). This approach is important in removing ambiguous or misleading items in a single test, and it also plays an important role in improving items that will be reused in later tests.

Table 3 shows the correlations between the item-dimension scores and between the dimension-total scores. In order to ensure the reliability and validity of the scale, MacCallum and Tucker (1991) suggested deleting items with a correlation coefficient less than 0.300 with the total score of the questionnaire. According to this criterion, the 12th item was excluded from the scale. Therefore, the correlation coefficient between the items and dimensions varied between 0.597 and 0.720 for Dimension 1, between 0.646 and 0.737 for Dimension 2, between 0.241 and 0.784 for Dimension 3, between 0.462 and 0.603 for Dimension 4, and between 0.587 and 0.693 for Dimension 5. The correlation coefficient between the dimensions and the total score varied between 0.347 and 0.670 (Table 3).

Table 3. Correlation between item-subscale (dimension) scores and between subscale-total scale scores

Item	Correlation Item - Dimension 1	Correlation Item - Dimension 2	Correlation Item - Dimension3	Correlation Item - Dimension 4	Correlation Item - Dimension 5	Correlation Dimension - Total score
1	0.680					
2	0.664					
3	0.597					0.670
4	0.720					
5	0.708					
6		0.714				
7		0.649				
8		0.646				0.503
9		0.737				
10		0.723				

Table 3. Correlation between item-subscale (dimension) scores and between subscale-total scale scores (cont.)

Item	Correlation Item - Dimension 1	Correlation Item - Dimension 2	Correlation Item - Dimension3	Correlation Item - Dimension 4	Correlation Item - Dimension 5	Correlation Dimension - Total score
11			0.570			
12			0.241			
13			0.784			0.347
14			0.702			
15			0.655			
16				0.462		
17				0.497		0.576
18				0.603		
19					0.587	
20					0.645	
21					0.693	0.626
22					0.611	

3.3. Validity findings of the Vietnamese version of the cyberbullying coping styles scale for students

3.3.1. Exploratory factor analysis

Based on the results of the item analysis, the remaining 21 items were used in exploratory factor analysis to test the structural validity of the scale.

Table 4. KMO and Bartlett's test of cyberbullying coping styles scale for students

Kaiser-Meyer-Olkin Test (KMO)		0.830
Bartlett's Test of Sphericity	Approx. Chi-Square	1689.961
	df	210.000
	p	< 0.001

Table 4 shows that the Kaiser-Meyer-Olkin (KMO*)* coefficient of the cyberbullying coping styles scale for students is 0.83. Furthermore, in the Bartlett's test of sphericity, the chi-square value was 1,689.961 with $p < 0.001$. We performed factor analysis according to the principal components with varimax rotation. The results show that the 21 observed variables were initially grouped into 5 groups. The value of the total variance extracted (67.024% > 50.000%) meets the requirement. The eigenvalues of all factors are high (> 1.00), and the 5th factor has the lowest eigenvalue of 1.15 > 1.00.

According to Yildirim (2015), the factor loading of items in the scale higher than 0.30 can be accepted in factor analysis.

Table 5 shows that the factor loading of the items of the Vietnamese version of the cyberbullying coping styles scale for students range from 0.639 to 0.874. Therefore, no items were deleted. Thus, the Vietnamese version of the cyberbullying coping styles scale for students is composed of 5 factors and 21 items. Factor 1, "looking for social support," has 5 items and a load value between 0.709 and 0.835. Factor 2, "problem solving," has 5 items and a load value between 0.672 and 0.771. Factor 3, "cognitive distance" has 4 items and a load factor between 0.681 and 0.874. Factor 4, "internalization," has 4 items and a load factor between 0.639 and 0.804. Factor 5, "externalization," has 3 items and a load factor between 0.650 and 0.769 (Table 5).

Table 5. Factor load matrix of the cyberbullying coping styles scale for students

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Item 9	0.835				
Item 10	0.806				
Item 6	0.799				
Item 7	0.717				
Item 8	0.709				
Item 2		0.771			
Item 5		0.731			
Item 4		0.729			
Item 1		0.709			
Item 3		0.672			
Item 13			0.874		
Item 14			0.833		
Item 15			0.806		
Item 11			0.681		
Item 21				0.804	
Item 19				0.728	
Item 22				0.694	
Item 20				0.639	
Item 18					0.769
Item 16					0.710
Item 17					0.650

3.3.2. Confirmatory factor analysis

Table 6 presents the fitting index of the confirmatory factor analysis for the Vietnamese version of the cyberbullying coping styles scale.

Table 6. Fitting index of confirmatory factor analysis for the Vietnamese version of the cyberbullying coping styles scale

X^2	df	p	X^2/df	GFI	CFI	RMSEA
300.396	177	< 0.001	1.697	0.904	0.921	0.068

As can be seen in Table 6, the five-factor model of the cyberbullying coping styles scale fits well with the observed data. The X^2/df = 1.697 ($\leq$ 2.00), GFI = 0.904, CFI = 0.921 (> 0.90), and the RMSEA = 0.068 ($\leq$ 0.08) showed a perfect fit. It can be said that the 5-dimensional model of the Vietnamese version of the cyberbullying coping styles scale for students has a good fit.

3.3.3. Criterion validity analysis

The criterion validity, also called criterion-related validity, is used to test the correlation between the test score and the criterion. This validity is mainly to find evidence from the outside, usually expressed by concurrent validity and predictive validity. It may also refer to when one test replaces another test. This study used concurrent validity to estimate the criterion validity.

In this study, the cyberbullying victimization scale (CVS) was selected as the criterion to examine the concurrent validity. The relationship between the Vietnamese version of the cyberbullying coping styles scale and the CVS was calculated with the Pearson correlation coefficient to determine the criterion validity of the Vietnamese version of the cyberbullying coping styles scale for students. Criterion validity analysis results are presented in Table 7.

Table 7. The Vietnamese revised version of the criterion validity

Subscale	CVS
Problem solving	0.397**
Looking for social support	0.114
Cognitive distance	0.391**
Externalization	0.295**
Internalization	0.276**
Total scale	0.417**

Note: ** Correlation is significant at the 0.01 level (2-tailed).

As can be seen from Table 7, except for the "looking for social support" subscale, the remaining four subscales and the total scale show a medium positive correlation with the CVS score. The subscale correlations with the CVS scores are for "problem solving"

($r = 0.397$, $p < 0.01$), for "cognitive distance" ($r = 0.391$, $p < 0.01$), for "externalization" ($r = 0.295$, $p < 0.01$), and for "internalization" ($r = 0.276$, $p < 0.01$). The total scale also showed a positive correlation with the CVS score ($r = 0.417$, $p < 0.01$). However, the "looking for social support" subscale is not significantly correlated with the CVS score ($r = 0.114$, $p > 0.05$).

3.4. Reliability findings of the Vietnamese version of cyberbullying coping styles scale for students

3.4.1. Internal Consistency

To test the internal consistency reliability coefficient of the Vietnamese version of the cyberbullying coping styles scale for students, our study analyzed the split-half reliability coefficient and Cronbach's alpha coefficient of this scale. Table 8 shows that the Cronbach's alpha coefficient of the problem solving, looking for social support, cognitive distance, externalization, and internalization subscales were 0.86, 0.87, 0.83, 0.71, and 0.81, respectively. The alpha coefficient for total scale (21 items) is 0.89, suggesting that the items have good internal consistency and reliability. The split-half reliability coefficient of the problem solving, looking for social support, cognitive distance, externalization, and internalization subscales were 0.92, 0.91, 0.86, 0.66, and 0.80, respectively. Except for the "externalization" dimension, the split-half reliability coefficients of the other dimensions are higher than 0.70, indicating reliable data. The split-half reliability coefficients of the "externalization" dimension are lower than those of the other dimensions, which may be because the "externalization" dimension has only three items. According to Liuyan (2013), the Spearman-Brown coefficient and the Cronbach's alpha coefficient depend on the number of items in the dimensions. The split-half reliability coefficient of the total scale is 0.95, which means the data are reliable.

Table 8. The reliability findings of the Vietnamese version of the cyberbullying coping styles scale for students ($N = 162$)

Subscale	Cronbach's α coefficient	Spearman-Brown coefficient
Problem solving	0.86	0.92
Looking for social support	0.87	0.91
Cognitive distance	0.83	0.86
Externalization	0.71	0.66
Internalization	0.81	0.80
Total scale	0.89	0.95

3.4.2. Intercorrelations of the subscales

Subscale scores are calculated based on the average item score. As shown in Table 9, the subscale scores showed high correlations with the total scale score, with the correlation coefficient ranging from 0.765 to 0.790 ($p < 0.01$), medium correlations with

the total scale score, with the correlation coefficient ranging from 0.547 to 0.712 ($p < 0.01$), and low and medium intercorrelations between each subscale ($0.153 < r < 0.545$; $p < 0.01$).

Table 9. Intercorrelations of the Vietnamese version of cyberbullying coping styles subscales

Subscale	1	2	3	4	5	6
1. Problem solving	1.000					
2. Looking for social support	0.476**	1.000				
3. Cognitive distance	0.311**	0.153	1.000			
4. Externalization	0.425**	0.364**	0.216**	1.000		
5. Internalization	0.545**	0.345**	0.240**	0.533**	1.000	
6. Total scale	0.790**	0.680**	0.547**	0.712**	0.765**	1.000

Note: ** Correlation is significant at the 0.01 level (2-tailed).

4. DISCUSSION

In this study, when the cyberbullying coping styles scale of college students was revised, 162 Hue University students were selected as research subjects. The results found that the Vietnamese version of the cyberbullying coping scale included 21 items divided into five subscales: problem solving, looking for social support, cognitive distance, externalization, and internalization.

The results of item analysis show that except for the 12th item, which has a correlation coefficient < 0.30, the remaining 21 items have correlation coefficients > 0.30. As Table 3 shows, the correlation coefficient between the dimensions and total score are > 0.30. To ensure the reliability and validity of the scale, MacCallum and Tucker (1991) suggested deleting items having a correlation coefficient with total items below 0.30. According to this standard, the 12th item "I forgot the whole thing," was deleted and 21 items were retained (Table 3).

The results of the KMO test show that KMO = 0.83 (> 0.05). Kaiser (1974) reported that $0.80 \le KMO < 0.90$ means the data are good for factor analysis. The Bartlett test of sphericity shows that chi-square = 1,689.961 and $df = 210$ with significance value $p < .001$ (Table 4), so that the correlation matrix is not an identity matrix. Thus, two tests indicate that a factor analysis is useful with our data.

Table 5 shows that the factor loads of the 21 items are greater than 0.30, so they can be accepted in factor analysis. The factor loads of the various subscales varied between 0.709 and 0.835 for "looking for social support," between 0.672 and 0.771 for "problem solving," between 0.681 and 0.874 for "cognitive distance," between 0.639 and 0.804 for "internalization," and between 0.650 and 0.769 for "externalization." Thus, no items were excluded (Table 5).

Principal component analysis and the varimax rotation method were used for exploratory factor analysis. Exploratory factor analysis shows that 21 items are divided into 5 factors. Eigenvalues of 5 factors are greater than 1, and the value of the total variance extracted is greater than 50%. Thus, the Vietnamese version of the cyberbullying coping scale suits the five-factor structure.

Confirmatory factor analysis shows that $X^2/df = 1.697$, GFI = 0.904, CFI = 0.921, and RMSEA = 0.068 (Table 6). According to Hair et al. (2010), $X^2/df \leq 2.000$ means that the model is good, GFI and CFI values above 0.900 indicate a good model fit, and RMSEA ≤ 0.030 is considered to be a very good fit. Therefore, the X^2/df, CFI, GFI, and RMSEA indicators of our study indicate that the 5-dimensional model of the Vietnamese version of the cyberbullying coping styles scale for students has a good fit.

Criterion validity analysis results indicate that the problem solving, cognitive distance, externalization, and internalization subscales, and the total scale show medium correlation with the CVS score, with the correlation coefficient ranging from 0.276 to 0.417 (p < 0.010). These results demonstrate that the Vietnamese version of the cyberbullying coping scale is measuring what it is intended to measure. The results are consistent with the findings of Völlink, Bolman, Dehue, and Jacobs (2013), Völlink, Bolman, Eppingbroek, and Dehue (2013), and Na et al. (2015) that the avoidance coping strategies/emotion-focused cyber-specific coping were positively correlated with the CVS score/cyberbullying questionnaire score.

However, Na et al. (2015), Völlink, Bolman, Dehue, and Jacobs (2013), and Völlink, Bolman, Eppingbroek, and Dehue (2013) reported that the approach coping strategies/problem-focused cyber-specific coping did not significantly correlate with the CVS score/cyberbullying questionnaire score. The discrepancies in these results may be due to the studies using different research tools and subjects.

In addition, the internal consistency reliability coefficient (Cronbach's alpha coefficient) and the split-half reliability coefficient were used to analyze the reliability of the college students' cyberbullying coping scale. To determine the homogeneity and internal consistency of items, researchers often use Cronbach's alpha value analysis methods (Ercan & Kan, 2004). Higher alpha values show that the items are more consistent and that scales include items measuring the same features. Cronbach's alpha value must be between 0.700 and nearly 1.000 for scale types with multiple levels of selection, such as Likert scales (Ercan & Kan, 2004; Hair et al., 2006). Split-half testing is also a method of internal consistency analysis used to assess the contribution of test components to the measured construct. According to the basic principle of measurement, a split-half reliability coefficient above 0.700 indicates reliable data. Table 8 shows that the split-half reliability and Cronbach's alpha coefficients of the Vietnamese version of the cyberbullying coping styles scale are 0.894 and 0.948, respectively. This indicates that the Vietnamese version of the cyberbullying coping styles scale has good internal consistency and reliability.

Table 9 shows that the subscale scores showed high correlations with the scale total score ($r > 0.75$, $p < 0.01$), medium correlations with the scale total score ($r > 0.25$; $p < 0.01$), and low and medium intercorrelations between each subscale ($r < 0.25$ and $r < 0.75$, respectively; $p < 0.01$). A reasonably high intercorrelation between subscales, and between subscales and total scales, shows the relationship between them can be distinguished, if necessary.

5. CONCLUSION

The Vietnamese version of the cyberbullying coping styles scale for students consists of five dimensions (solving problems, looking for social support, cognitive distance, internalization, and externalization) and 21 items. According to statistical indicators, the scale has high reliability and validity and can be further used to determine the current situation of cyberbullying among Vietnamese college students. This study enriches the measurement tools for studying cyberbullying coping strategies in Vietnam and is applicable for subsequent research. The results show that the revised version of the Vietnamese cyberbullying coping styles scale has good validity and reliability and can be an effective measurement and evaluation tool for studying cyberbullying coping styles. However, since this study only uses college students as samples, the stability of the factor structure needs to be extended to other types of samples.

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