

THE INFLUENCE OF ATTACHMENT STYLES ON CYBERBULLYING EXPERIENCES AMONG UNIVERSITY STUDENTS IN THAILAND, MEDIATED BY SENSE OF BELONGING: A PATH MODEL

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Abstract: The widespread proliferation of technology-driven electronic interactions among humans in recent years has led to a new sense of connectedness. There is also an increasing number of reports of harmful online behavior against other people and negative consequences on users who are involved in such behaviors. *Cyberbullying* has become a frequently used term in current research of online aggression and victimization. This study attempted to investigate the prevalence of cyberbullying experiences among university students in Thailand. Based on a theoretical framework of attachment theory and the belongingness hypothesis, this study also explored whether or not cyberbullying experiences could be predicted by experiences from attachment and belongingness. 249 students at an international university in Bangkok, Thailand participated in the study by completing a survey questionnaire using the Cyberbullying and Online Aggression Instrument (COAI), the Sense of Belonging Instrument-Psychological (SOBI-P), and the Relationship Scales Questionnaire (RSQ).

Results revealed rates of cyberbullying victimization and cyberbullying perpetration that exceeded rates found in similar studies from the United States. Tests of hypothesized relationships through a proposed path model showed a significant direct predictive relationship between secure attachment orientation and cyberbullying victimization and indirect predictive relationships between insecure attachment orientation and cyberbullying victimization and cyberbullying perpetration mediated by sense of belonging. The study's results, limitations, implications, and future recommendations were discussed.

Keywords: Cyberbullying, Aggression, Victimization, Attachment, Sense of Belonging, Thailand

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Introduction

The human need to interact and form attachments with others and establish a sense of belonging has been identified as a fundamental interpersonal motive and is associated with a wide range of effects on health, adjustment, and well-being (Baumeister & Leary, 1995). While this opportunity to get connected with others is massively appealing to humans, there is also an increasing number of reports and studies on harmful online behavior against other people and negative consequences on users who are involved in such behavior.

Recent literature also explains how technology use is associated with behavioral addiction. Many forms of electronic interactions provide feedback that is linked to activation of the neural reward system and dopamine release in the brain, which is associated with pleasure, as a result of human evolution (Alter, 2017). The combination of access to people via technology virtually anywhere or anytime and tapping into the neural reward system of users seem to represent a way of interaction that is new in the history of humanity. In recent years, the increased number of studies across scientific fields on electronic communication and its consequences reflect a need to understand more about how human behavior is being conducted via communication technology along with its impact. One aim of the present study is to contribute to the body of research by exploring how harmful electronic interaction can be linked to certain personal and relational variables through psychological measurements.

Although an increasing number of studies show that harmful electronic interaction exists, there is ongoing debate about the definition and measurement of the phenomenon. Cyberbullying seems to be the most frequently used term in current research and will also be used in the current study. Other terms such as cyber-harassment, Internet harassment, electronic bullying, and electronic harassment (Kowalski, Schroeder, Giumetti, & Lattanner, 2014) can be found in literature studying expressions of roughly the same phenomenon. Problems regarding the lack of scientific consensus on the conceptualization of peer-to-peer abuse in the online context have been discussed by several authors.

Definitions of traditional bullying typically include intent to harm, repetition, and imbalance of power, but these criteria may be difficult to identify in the online context. Corcoran, Mc Guckin, and Prentice (2015) affirmed the need to look at aggression more broadly, rather than build on the core elements of traditional bullying in cyberbullying research. Furthermore, the traditional definition of bullying has come under criticism based on recent empirical and theoretical research. Recent studies demonstrated that the phenomenon of

bullying functions similarly to general aggression in an evolutionary context, and that this perspective has largely been absent in traditional bullying research.

Cyberbullying research which began around 2010 indicates that this form of aggression and victimization is occurring among today's youth and adults at rates varying from below 10% to 75% as in the case of school children. Cyberbullying has been linked to several negative outcomes such as anxiety, depression, substance abuse, school problems, and even murder and suicide (Kowalski et al., 2014). A qualitative study on the impacts of cyberbullying on students, faculty, and administrators from four universities in Canada found a multitude of serious, negative outcomes. More specifically, students reported that cyberbullying negatively affected their grades and relationships inside and outside the university as well as their self-concept and sense of self-worth. Since relatively little attention has been paid to cyberbullying among adults, the researchers emphasized the importance of paying greater attention to developing effective research-based cyberbullying policies (Cassidy, Faucher & Jackson, 2017).

In order to identify factors that contribute to the risk of getting involved in cyberbullying behavior, attachment theory offers a developmental psychological framework as to how early attachment experiences with caregivers can be related to feelings of safety, resilience, and vulnerability internalized in social interactions later in life. Disrupted lines of communication between children and caregivers have been found to produce feelings of anxiety, anger, and sadness in older children and adults who experience situations similar to those in early childhood (Kobak & Madsen, 2008).

Objectives

The current study aims to examine the following:

1. The prevalence of cyberbullying experiences (perpetration and victimization) among international university students in Thailand.
2. The direct influence of attachment styles (secure and insecure) on cyberbullying experiences.
3. The indirect influence of attachment styles on cyberbullying experiences, being mediated by sense of belonging.

Literature Review

Attachment theory offers a framework in which aggression can be understood as hyperactivated power-oriented behavior associated with non-optimal outcomes. According to Mikulincer and Shaver (2011), the feeling of anger

can be viewed as a functional reaction in the case of separation from an attachment figure in children, since it may lead to more attention from the attachment figure, and anger may be functional among adults who experience unfair treatment and other frustrating situations, when the intention is to solve problems and restore a positive state of mind. Expression of anger that is viewed as functional, adaptive behavior is, hence, associated with the internal working model of securely attached individuals. Insecure attachment, however, can be associated with more non-constructive aggressive behavior, based on the lack of success from expression of functional anger during times of distress. Hence, attachment insecurity may lead to more rumination and destructive expression of anger and aggression. Dutton (2011) argued that secure attachment reduces fear and anger, while insecure attachment increases both, and even extreme violence can have roots in attachment. Insecure attachment in children can affect neural development and emotion regulation based on experiences that the insecurely attached individuals cannot recall and process with words later in life. Therefore, regulating painful and destructive emotions may appear in adult life, which lead to more anger and aggression.

Several studies indicate associations between insecure attachment orientation and forms of anger and aggression. In a study of adolescents' emotion regulation during a difficult problem-solving situation, Zimmermann, Maier, Winter, and Grossmann (2001) found that less cooperation, more negative emotions, and aggressive behavior during a frustrating task were associated with participants identified by insecure attachment representations. This longitudinal study of adolescents supports the idea that emotion regulation is linked to lasting effects of early attachment experiences.

Mikulincer (1998) conducted a study of the relationship between adult attachment styles and experience of anger among undergraduate students. Attachment styles and various aspects of anger were measured. It was found that secure individuals would react to anger-triggering situations with functional anger, including more positive, controlled, and non-hostile affect aimed at problem-solving behavior, compared to insecurely attached individuals. Insecurely attached individuals showed results compatible with the hypothesis that they would react with more dysfunctional anger than secure individuals. Anxious-ambivalent attachment style was associated with more feelings of intense anger and lack of control over anger expressions. Avoidant individuals did not self-report more intense anger than secure individuals, but they showed more hostility and physiological signs of anger that can be labeled as disassociated anger. The study suggested that avoidant individuals have the tendency to suppress negative emotions and attempt to create barriers against threats while presenting themselves in a positive

manner but may eventually become overwhelmed by anger in ways similar to anxious individuals.

Attachment styles were found to be linked to involvement in bullying and victimization among elementary school children in a study by Kokkinos (2007). Children classified as securely attached reported less bullying and victimization than children classified as avoidant and ambivalent. Positive links between insecure attachment styles and involvement in bullying and victimization among young students were also reported in a study by Walden and Beran (2010). In a study on giving and receiving emotional abuse and attachment styles among college students in romantic relationships, O'Hearn and Davis (1997) found that female individuals with high scores in preoccupied (anxious) attachment style were more likely to inflict as well as receive emotional abuse. Higher attachment security, however, was associated with less risk of inflicting and receiving emotional abuse.

Varghese and Pistole (2017) conducted a study on cyberbullying and possible relationships with self-esteem, depression, loneliness, and attachment style among college students in the United States. Results revealed that maternal attachment anxiety explained 8% of unique variance in cyberbullying victimization and 10% of unique variance in cyberbullying offending, suggesting that anxiously attached individuals may be relatively more vulnerable to involvement in cyberbullying than others in social interactions online. Although the mechanisms involved in mediating the relationship between attachment anxiety and cyberbullying experiences are not clear, the researchers put forward for consideration that anxiously attached students may have less effective social skills and social support and difficulties forming new relationships in college which can lead to vulnerability for victimization and attachment-related anger and aggression.

Sense of belonging can be defined as the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment (Hagerty, Lynch-Sauer, Patusky, Bouwsema, & Collier, 1992). Belonging ranks third in Maslow's hierarchy of needs above physiological and safety needs and represents the fundamental human interpersonal need to belong to and be accepted by social groups. Maslow (1954) saw the sense of belonging as an important health factor to consider especially as societies change from traditional forms into more technologically advanced and materialistic oriented forms. According to the belongingness hypothesis developed and evaluated by Baumeister and Leary (1995), human beings have a pervasive drive to form and maintain at least a minimum of lasting, positive, and significant interpersonal relationships. The human need to form interpersonal bonds is central to several theorists

including Bowlby (1969). While Bowlby's attachment theory primarily concerns relationships based on the child's need for security from an attachment figure (typically the mother), the belongingness concept is based on the evolutionary drive for humans to establish and sustain belongingness in groups for purposes of survival and reproduction. The belongingness hypothesis takes into account the premise that adults who form long-term attachment relationships will be protected from harm and receive help for survival through group cooperation, and be more likely to reproduce than those who fail to form such relationships. Studies on evolution supports the argument that living in groups is a basic and universal survival strategy by humans, and the need to belong is, hence, part of the human biological inheritance (Baumeister & Leary, 1995).

The processes by which people develop a sense of belonging remain unclear, but attachment theory and object relations theory are psychosocial frameworks that have been used to suggest that childhood experiences and child-parent interactions are associated with the development of the adult's sense of belonging (Hagerty, Williams, & Hiroaki, 2002).

From an evolutionary perspective, attachment theory and the need to belong theory are linked since they both assume that the fundamental importance of interdependence for human survival has evolved into internal mechanisms that motivate formation and maintenance of social bonds and social groups. A satisfactory sense of belonging may be the result of secure attachment experiences. Lack or loss of interpersonal relationships and social exclusion will consequently lead to negative outcomes, according to both theories (Carvallo & Gabriel, 2006).

Rankin, Saunders, and Williams (2000) conducted a study on the relationship between certain interpersonal relatedness variables and partner abuse in which sense of belonging seemed to act as a mediator between attachment styles and partner abuse. The model suggested that insecure attachment leads to low sense of belonging which, ultimately, leads to partner abuse. The analysis showed that insecure attachment style had an indirect effect on violence while sense of belonging was the strongest direct predictor of violence. One possible explanation might be that insecurely attached individuals are less likely to form interpersonal bonds and less likely to develop a strong sense of belonging to a social group that might have a regulatory function against aggressive behavior through social sanctions against the perpetrator.

No study linking cyberbullying, in particular, with belongingness has been identified. On the other hand, there have been a few studies that support a link between bullying behaviors and the sense of belonging. For example, one study attempted to examine the link between bullying behavior and perception

of belonging among secondary school students. The study found that students involved in bullying reported lower sense of belonging, compared to those who were not involved (Goldweber, Waasdorp, & Bradshaw, 2013). Another study on bullying and the need to belong among early adolescents found that bullying involvement in boys was related to the desire to be accepted by other antisocial boys and being rejected, in general. For girls, bullying behavior was related to the desire to be accepted by boys, in general (Olthof & Goosens, 2007).

Research on cyberbullying among university students is relatively scarce. In the meta-analysis by Kowalski et al. (2014), only about 10 of 131 studies on cyberbullying examined participants of university student age, whereas the vast majority of studies contained data from middle and high school students. However, Kowalski, Giumetti, Schroeder, and Reese (as cited in Kowalski et al., 2014) conducted a study among undergraduate students and found that almost one-third of the participants had been cyberbullied in the past six months, and over 30% had their first experience with cyberbullying in college. Moreover, 43% of the cybervictims who had been cyberbullied in middle and high school reported majority of the cyberbullying they experienced had occurred during college, thereby establishing cyberbullying among university students as a matter of concern.

Previous studies of cyberbullying in college in North America has found prevalence rates of victimization ranging from 10% to 27.8% and in Turkey at 22%, according to a review by Zalaquett and Chatters (2014). The authors also found that approximately 19% of college students reported being victims of cyberbullying, while 5% of the college students self-identified as cyberbullies. Research on cyberbullying conducted among young adults aged 17-25 years in Australia revealed that 62% of participants identified as being both perpetrators and victims of cyberbullying, 11% as cyberbullies, 10% as cybervictims, and 17% uninvolved (Brack & Caltabiano, 2014). The Australian study found no difference in involvement in cyberbullying between participants at the lower and higher end of the age range. In the same vein, no gender difference was demonstrated.

In a study conducted by Xiao and Wong (2013) among university students in Hong Kong, it was found that 71.9% of the respondents had experienced cyberbullying, 60.2% had engaged in cyberbullying, and 51.7% had experience in both roles. Among the variables analyzed in this study, *motivation* was identified as the strongest predictor of cyberbullying perpetration. This variable was associated with the desire of power, attention, increased self-worth, and/or peer approval leading to acts of aggression via the Internet. Internet *self-efficacy* was found to be a significant predictor of

cyberbullying perpetration, indicating that students with more Internet experience were more likely to engage in cyberbullying. Previous *cybervictimization experience* was also found to be a significant predictor of perpetration, as well as *social norm*, suggesting that a peer environment in which there are positive normative beliefs about cyberbullying significantly increases the likelihood of someone becoming a perpetrator.

Although studies on cyberbullying in Thailand have been few and far between, the prevalence of cyberbullying has been documented. Sittichai and Smith (2013) reviewed research on bullying and cyberbullying in Thailand and found only three reports that explicitly discussed cyberbullying. Notwithstanding the fact that these early studies were somehow difficult to interpret and compare with their international counterparts, it had been established that between 43% and 59% of Thai students of various ages had experienced some form of cyberbullying more than once per month. Songsiri and Musikaphan (as cited in Ojanen et al., 2014) found that 52.4% of 1,200 high school students in Bangkok had experienced online harassment during the past year. Based on comparative studies of traditional bullying versus cyberbullying, Ojanen et al. (2014) suggested that a larger proportion of Thai youths seem to have experienced cyberbullying than those who have experienced traditional bullying. According to Sittichai and Smith (2013), several words in the Thai language are similar to the term *bullying* in English, although no term is quite the equivalent. Such linguistic differences represent a challenge in cross-cultural studies that researchers should be aware of.

In the current study, *cyberbullying* will be operationalized as willful and repeated harm inflicted through computers, cell phones, and other electronic devices (Patchin & Hinduja, 2015). Cyberbullying can be understood as an extension of traditional bullying with three extra elements: First, perpetrators are provided with the opportunity to hide their true identity and the inability to see the responses of their targets. Second: there is a lack of supervision that can regulate behaviors via electronic communication. Third, the increased accessibility makes it more difficult for targets to escape from bullying behavior (Forssell, 2016).

In this study, cyberbullying comes in two forms: *cyberbullying perpetration* and *cyberbullying victimization*. Operationally, cyberbullying experiences will be measured by means of the *Cyberbullying and Online Aggression Instrument* (COAI) developed by Patchin and Hinduja (2015)

Conceptual Framework

Based on theoretical links and empirical evidence of related studies, a conceptual framework was developed (Figure 1).

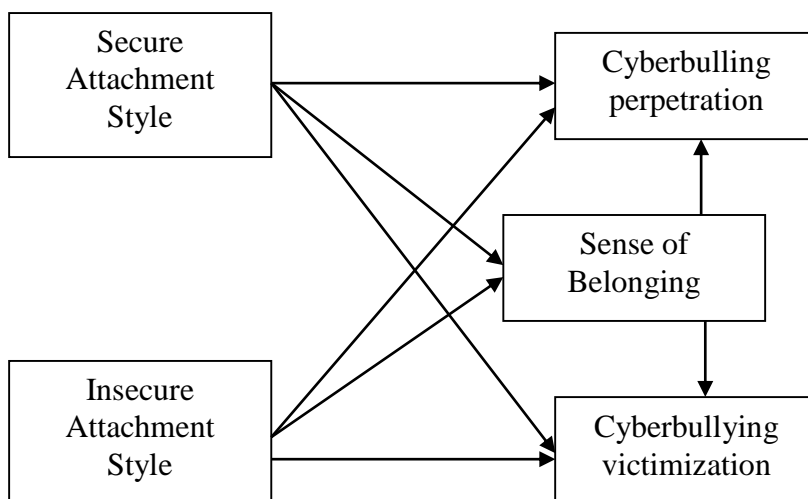


Figure 1: Conceptual Framework of the Investigation the Influence of Attachment Styles on Cyberbullying Experiences Mediated by Sense of Belonging

The following hypotheses were generated for testing:

H1. Rates of cyberbullying perpetration and victimization among international university students in Thailand fall within the range of results found in published studies.

H2. Attachment styles influence cyberbullying experiences directly, such that higher measures of insecure attachment orientation lead to higher measures of cyberbullying perpetration and victimization, while higher measures of secure attachment orientation lead to lower measures of cyberbullying perpetration and victimization.

H3. Attachment styles influence cyberbullying experiences indirectly, such that higher measures of insecure attachment orientation lead to lower measures of sense of belonging which, subsequently, lead to higher measures of cyberbullying perpetration and victimization, while higher measures of secure attachment orientation lead to higher measures of sense of belonging which, subsequently, lead to lower measures of cyberbullying perpetration and victimization.

Method

The study utilized a correlational design as it aimed to investigate the influence of attachment styles on cyberbullying experiences, mediated by sense of belonging. The study employed a quantitative approach, utilizing descriptive and inferential statistical tools to analyze research data collected through a set of questionnaires specific to the core variables of the study. The data was collected by convenience sampling from 249 university students (141 females and 108 males) from a selected international university in Bangkok, Thailand. The majority ($n=221$) were in the age range of 18-22, and 71% ($n=177$) were Thai nationals. The test battery consisted of (1) a demographic questionnaire to collect personal information, (2) the Relationship Scales Questionnaire (RSQ) to measure adult attachment (secure and insecure prototypes), (3) the Sense of Belonging Instrument-Psychological (SOBI-P) to measure sense of belonging, and (4) the measure that in some studies has been referred to as the Cyberbullying and Online Aggression Instrument (COAI - 2015 revision) consisting of two subscales to measure cyberbullying victimization and perpetration. The self-report questionnaires were presented in English, which is the official language of instruction at the university.

Results

The analyses conducted and the results obtained are presented in the following sequence:

1. Demographic profile of respondents

The sample consisted of 249 respondents; 43.4% ($n=108$) were males and 56.6% ($n=141$) were females. There were 88.86% ($n=221$) belonging to the age range of 18-21, 9.6% ($n=24$) belonged to the age group of 22-25, 0.8 % ($n=2$) were in the age range of 26-29, and 0.2% ($n=18$) were in the age range of 30 years above. Of the respondents, the majority were Thai which comprises of 71% ($n=177$), and the rest were mixed nationalities.

2. Exploratory Factor Analysis for RSQ

Exploratory Factor analysis was done for the RSQ to investigate and clarify the factor structure underlying the aforementioned RSQ questionnaire. The scale comprises of 30 items. Factor analysis, via principal component analysis with Varimax (orthogonal) rotation yielded two factors explaining a total 30.59% of the scale's variance. 18 items loaded into Factor 1, while 9 items loaded into Factor 2. Item number 2, 19 and 6 did not load into any of the factors. Item number 9 loaded in both factors. All factor loadings were positive and relatively good (.335 to .684).

3. Reliability Analysis of Scales Employed

Prior to computing the scales of attachment styles (secure attachment style and insecure style), sense of belonging, cyberbullying victimization and cyberbullying perpetration, reliability analysis was conducted on the items that represent the five scales. The purpose of the reliability analysis was to maximize the internal consistency of the five measures by identifying those items that are internally consistent (i.e., reliable), and to discard items that are not. The criteria employed for retaining the items are: (1) any item with 'Corrected Item-Total Correlation' (I-T) $\geq .33$ will be retained (.33² represents approximately 10% of the variance of the total scale accounted for), and (2) deletion of an item will not lower the scale's Cronbach's alpha.

The computed Cronbach's alpha coefficients for secure attachment scale was 0.71. The Cronbach's alpha for insecure attachment style was .86. The Cronbach alphas for cyberbullying victimization and cyberbullying perpetration were good and was reported as 0.91 and 0.92 respectively. Each of the factors of attachment styles (secure attachment style and insecure style), sense of belonging, cyberbullying victimization and cyberbullying perpetration was then computed by summing across the items that make up that factor, and their means and standard deviations calculated.

4. Means and Standard Deviations for the Five Computed Factors

Table 1 presents the means and standard deviations for the five computed factors.

Table 1: *Means and standard deviations for the Computed Factors of Secure Attachment Style, Insecure Attachment Styles, Sense of Belonging, Cyberbullying Victimization, and Cyberbullying Perpetration*

	Mean	SD	Midpoint
Secure attachment style	2.99	0.60	3.00
Insecure attachment styles	3.02	0.52	3.00
Sense of belonging	2.14	0.55	2.50
Cyberbullying victimization	0.52	0.69	3.00
Cyberbullying perpetration	1.28	0.55	3.00

As can be seen from Table 1, the participants of the research reported the mean scores closer to mean for secure attachment style and insecure attachment styles. At the same time, the participants reported slightly lower on sense of belonging and very low on cyberbullying victimization and perpetration.

5. Rates of cyberbullying victimization and perpetration among international university students in comparison to the range of results in the published studies

The study used the frame of reference of the published research by Varghese and Pistole (2017), and the reference rates were 9% to 30% for victimization and 5- 20% for cyberbullying perpetration. Their results indicated that 15% reported being victims and 8% reported being perpetrators. The results showed that the range of victimization was above the range in the published studies, with 41.4 % of students being victimized in the present research, of which 18.9% were victimized at least once, 18.9% were victimized a few times, 3.6% were victimized several times and 0.4% were victimized many times. The percentage of perpetration was also above the range in the published studies. 23.3 % of students reported experiences of cyberbullying perpetration in the present research. Among the 23.3% offenders 12.4% bullied others at least once, 8% bullied others a few times, 2.4% bullied others several times, and 0.4% bullied others multiple times.

6. Path Analysis to Test the Hypothesized Path Model (Hypothesis 2 and 3)

In order to test the hypothesized direct and indirect relationships represented by the path model (Figure 1), path analysis via regression analysis was conducted. The analysis involved: (1) regressing the dependent variable of cyberbullying victimization on the predictor variables secure attachment style, insecure attachment style and sense of belonging. (2) regressing the dependent variable of cyberbullying perpetration on the predictor variables secure attachment style, insecure attachment style and sense of belonging. (3) regressing the mediator variable of sense of belonging on the predictor variables secure attachment style, insecure attachment style and sense of belonging. The results of path analyses are presented in Figure 2. In order to aid the interpretation of results, only path coefficients that are statistically significant ($p < .05$) were included in the cited figures.

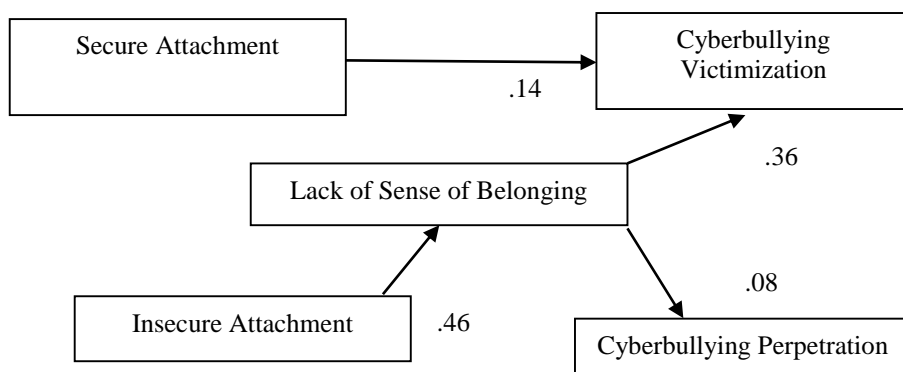


Figure 2: Path Model of Cyberbullying Victimization and Perpetration as a Function of the Direct and Indirect Influences of Attachment Styles (Secure and Insecure), Being Mediated by Lack of Sense of Belonging

For H2, the results showed that secure attachment style had a direct influence on cyberbullying victimization. ($\text{Beta}=.14$; $p<0.05$). The more secure attachment orientation the respondents had, the higher were their measures of cyberbullying victimization. Secure attachment styles did not directly influence the cyberbullying perpetration. Insecure attachment style did not have a direct influence on cyberbullying victimization or perpetration. Results for H3 showed that there is an indirect influence of insecure attachment styles on cyberbullying victimization and perpetration. The more insecure the respondents were, the sense of belonging was lower ($\text{Beta}=0.46$, $p<0.01$) and their cyberbullying victimization were higher ($\text{Beta}=0.36$, $p<0.01$). The higher scores on the sense of belonging scale represent low sense of belonging. The more insecure the respondents were, the lower was their sense of belonging ($\text{Beta}=0.46$, $p<0.01$) and the higher were their cyberbullying perpetration ($\text{Beta}=0.08$, $p<0.05$). The secure attachment style did not have an indirect influence on cyberbullying victimization or perpetuation mediated by sense of belonging.

Discussion

Hypothesis 1 stated that the rates of cyberbullying perpetration and victimization among international university students would fall within the range of results found in published studies. The reference rates were 5% to 20% for cyberbullying perpetration and 9% to 30% for cyberbullying victimization in accordance with a recent study on university student cyberbullying in the United States by Varghese and Pistole (2017). Both the measured rate of cyberbullying perpetration (23.3%) and cyberbullying victimization (41.4%) were above the reference rates. Thus, hypothesis 1 was not supported by the current study. The unexpected results showing that the rates of cyberbullying experiences exceeded those in similar studies in other countries are important findings from the current study.

In attempting to find an explanation for the relatively higher prevalence of cyberbullying experience among university students in a predominantly Thai sample, it might be worthwhile to explore cultural and linguistic differences compared to the Western environments from which the reference rates originate from. The identification of bullying as a social problem of overall importance in societies, creating bullying studies as a field of academic research, and establishing policies to prevent bullying have mostly been a phenomenon taking place in Western countries. According to several reviews of bullying research, bullying is an understudied phenomenon in Southeast Asia and Thailand (Ojanen et al., 2014, Sittichai & Smith, 2013). It seems reasonable to hypothesize that less focus on bullying as a problem would be linked to overall less awareness of the problem and therefore higher prevalence rates might be expected. It can also be noted that the concept of

bullying has a clearly negative perception in the English language, describing harmful behaviors that are prohibited by law in some countries and intervened by government backed policies and campaigns. In Thailand, however, no word directly equivalent to the concept of bullying has been identified in its language. Moreover, the focus on bullying research beginning in Western countries in the 1970's did not spread into Asia to the same extent as it did in Europe and North-America. Eastern practice follows its own trajectories.

The general aggression model (GAM) integrates several theories of aggression that includes biological processes, personality development, social processes, cognitive processes and decision processes into a framework that from which observed aggression can be interpreted (DeWall & Anderson., 2011). The GAM can therefore be a helpful framework for the analysis of cyberbullying in the current study by providing a wide range of perspectives. In order to find an explanation for the prevalence rates of aggression in a sample from Thailand in the current study, it might be useful to take into account some culture-specific factors. The study of bullying behaviors against lesbian, gay, bisexual, or transgender secondary school students in a Thai context, conducted by Mahidol University, Plan International Thailand, and UNESCO Bangkok Office (2014) sheds some light upon conceptualization and terminology issues that seem relevant for attitudes toward bullying specific to a Thai context. While the term *kan rangkae* (การรังแก) is the commonly used term to describe bullying in academic Thai language, this term was used infrequently by both students and teachers in the study, and they understood the term differently than the bullying research team. Students tended to use the terms *kan yok lo* (การหยอกล้อ) and *kan klaeng* (การแกล้ง) to describe behaviors of teasing and relationship seeking not intended to cause harm, but these behaviors might still be classified as bullying behaviors from the perspective of the research team.

The Thai terms used by students had positive dimensions and this is a striking difference compared to the negative dimension of the term *bullying* in English. Hence, since there is no directly equivalent conceptual-linguistic notion of bullying in the Thai language, it may be possible that this shapes the cognitions and behaviors through top-down information processing to produce different outcomes in studies that compare bullying behaviors in Thailand compared to other cultures. The study by Mahidol University, Plan International Thailand, and UNESCO Bangkok Office (2014) suggests that the three conceptually ambiguous Thai terms used to describe teasing and bullying behaviors lead to a lack of recognition of problem behaviors and the perception of harmful behaviors as less harmful than they indeed are. The study found that many teachers thought that bullying only referred to physical fights, while ignoring

other forms of aggression, such as cyberbullying. The lack of awareness of harm caused by behaviors perceived as mere playfulness, seems to be a cultural problem in the Thai schools. The results from the current study could be linked to the above findings that suggests that forms of aggression other than physical, need to be taken more seriously in Thailand.

In a wider perspective, perhaps the higher prevalence of cyberbullying experiences found in the current study can be understood as an expression of differences in safety culture. Public safety and security is a wide concept in which basic ideas from common dictionary descriptions include public protection from threats and creating safe conditions. Worldwide studies of traffic safety may not seem to be directly relevant to a study of cyberbullying, but may still contribute to the understanding of differences found by comparing research in various countries. Traffic both via roads and the Internet are modern phenomena in which humans are subject to technological challenges requiring learning new skills. Sucha, Viktorova, and Risser (2016) found that the number of deaths in traffic accidents is about 30 times higher in developing countries than in high-income countries, and road user behavior is the most important contributing factor for traffic accidents. Interestingly, their study of attitudes toward traffic safety across different countries worldwide found no correlation between the level of economic development of the country and the importance which the people in the country assign to traffic safety. However, traffic safety culture (norms, attitudes, and opinions) vary between countries, and country-specific issues of risk perception seems to be crucial for traffic safety. Examples of elements of traffic safety culture that are linked to higher traffic risk are acceptability of unsafe traffic behaviors and insufficient enforcement of traffic rules. In road safety, Thailand has the second highest traffic fatality rate in the world, and road traffic injuries were found to be the leading cause of death among Thais in the age group 15-24 years. Few of the laws addressing road safety to protect people, especially children, in traffic in Thailand meet international recommended standards, according to the World Health Organization (2016). WHO (2016) found that Thailand has a weak road safety management system and that road safety laws are ineffective and poorly enforced. There is also a need for more public awareness and understanding of road safety laws.

One may speculate if there are similarities between Thailand's challenges in traffic safety and the domain of school bullying, as public perceptions of health and safety tend toward relatively less awareness of potentially harmful behaviors. Thus, such differences might contribute to explaining the higher prevalence of cyberbullying experiences found in the current study. An important first step towards a safer environment in both cases is to fully recognize that the problem exists.

Results from regression analyses showed that the hypothesized direct relationships between insecure attachment style and cyberbullying victimization and perpetration were not supported by the data. However, there was support for the hypothesized indirect relationship between insecure attachment style and cyberbullying victimization and perpetration mediated by sense of belonging. In other words, insecure attachment style was found not to predict cyberbullying experiences significantly by itself, but there is an indirect influence of insecure attachment style mediated by sense of belonging such that higher measures of insecure attachment lead to lower sense of belonging which then lead to higher measures of cyberbullying victimization and perpetration. These results can be interpreted such that the indirect effect of insecure attachment style mediated by sense of belonging more accurately predicts the significance of insecure attachment style in cyberbullying experiences. These results are somewhat in accordance with previous research on the links between low sense of belonging leading to social exclusion, negative self-perception and risk of involvement in bullying (see for example Goldweber et al., 2013; Twenge, Baumeister, Tice & Stucke, 2001; Rankin et al., 2000). Insecurely attached individuals may be less likely to form interpersonal bonds and less likely to develop a strong sense of belonging to a social group that might have a regulatory function against aggressive behavior through social sanctions against the perpetrator, according to Rankin et al. (2000).

Next, the results from the regression analyses found that secure attachment orientation predicted cyberbullying victimization directly, contrary to the hypothesized relationship, such that higher measures of secure attachment orientation lead to higher measures of cyberbullying victimization. The results showed no direct influence of secure attachment orientation on cyberbullying perpetration. Secure attachment style had no significant influence on cyberbullying victimization or perpetration mediated by sense of belonging. Hence, the only significant relationship between secure attachment style and cyberbullying experience identified in the current study was the direct relationship to cyberbullying victimization, regressing the dependent variable of cyberbullying victimization.

Research has often shown that people reporting more secure attachment style typically do not stand out as being targets of bullying behavior (Köiv, 2012). However, other studies have not supported the notion that attachment security make people less likely to be victimized (Monks, Smith, & Swettenham, 2005). Hence, research on this relationship is inconclusive. In the case of cyberbullying securely attached people may still be vulnerable to victimization due to the characteristics that are specific to aggression in an online context. Secure attachment is typically associated with personal

qualities such as confidence and the ability to explore the environment. Securely attached individuals tend to expect harmonious and satisfying interpersonal interactions (Berlin et al., 2008). In electronic interactions, given risk factors such as high availability of technology, limited supervision of behavior, the ability of aggressors to act anonymously, and high prevalence of aggressive behaviors, securely attached individuals who are likely to explore the online environment with confidence, may therefore well be at risk of becoming targets of aggression. The online environment represents risks that can be avoided in the physical world. It is worth noting that attachment theory propose that securely attached individuals are more likely to achieve relief in the case of threatening situations (Mikulincer & Shaver, 2007). Thus, the experience of the victimization of securely attached individuals may be less severe than the experience in insecurely attached individuals.

It is important to keep in mind that research in many areas covered in this study is in an early stage, and research is inconclusive about the associations between attachment orientation, sense of belonging and cyberbullying experiences. According to a meta-analysis of studies exploring the relationship between attachment orientation and peer victimization among children and youth in Canada, the authors acknowledged the existence of a relationship between these variables, but found indications that the relationship as likely to be indirect. Other variables are thought to mediate the relationship between attachment orientation and bullying (Ward, Clayton, Barnes & Theule, 2018).

Overall, the results of the current study show prevalence rates of cyberbullying perpetration and victimization among university students in Thailand that are higher than expected when compared to results from similar studies in the United States. Further, the results show that attachment theory and the belongingness hypothesis can be helpful in understanding cyberbullying experiences.

There are several limitations regarding conceptualization, methodology and generalizability in the current study. The lack of consensus on operational definitions in bullying research is a well-known phenomenon and makes it difficult to approach and evaluate studies of bullying comparatively. As an attempt to address this issue, the current study was partly modeled in agreement with design elements from previous studies of cyberbullying conducted in the United States. Furthermore, any previous studies employing the theoretical framework including the specific variables and instrumentation proposed for the current study has not been identified. This means that any possible critical and helpful insights from previous similar studies are lacking. Although the English language may be assumed to be the universal language of science, another limitation pertains to the possibility that there may be

studies published in other languages than English, such as Thai, and any such studies would not have been included in the literature review of the present study. Consequently, there are potentially missed opportunities in that valuable information from previous studies might have been left out from the present study.

In order to ensure cross-cultural reliability and validity, the English language versions of the instruments employed to collect data could be translated and pre-tested in a context of Thai university students. Whether or not all assumptions underlying the instruments developed in a Western context are applicable in a Thai context, can be debated. If constructs that are central to the current study differ across cultures, then the current study might produce unexpected results. Some studies argue that attachment theory should be treated with caution regarding individualist versus collectivist cultures. While people in collectivist cultures tend to prioritize collective goals over personal goals and see their identity in close context with the in-group, people in individualist cultures tend to place their own identity and goals above the collective in-group (Triandis, 2000). Different types of collectivist cultures have also been identified. Variations in the distribution of adult attachment orientation across ethnicities, countries, and religions have been found in studies, and optimal attachment orientation may also vary. Although attachment theory has its roots in biology, differences in social learning across cultures such as in the view of the self and the other might impact adult attachment orientation, but the implications of such differences for research purposes are not well understood (Agishtein & Brumbaugh, 2013).

Further questions may be asked regarding the applicability of attachment theory in different contexts. In Buddhism, for example, being attached to other people can indicate a mistaken view of reality as fixed or permanent (Sahdra, Ciarrochi & Parker, 2016). Sahdra and Shaver (2013) conducted a study of similarities and differences between attachment theory and Buddhist psychology and found that the two systems differ in their conception of adult security. While Buddhist psychology involves challenging mental representations of adult attachment, there is no indication in attachment theory that optimal security depends on such challenges. Given that the release of idealized attachment representations is central to the Buddhist view of the self and optimal functioning, it is possible that differences in the view of the nature of reality can then influence how individuals in different cultures will respond to questions about attachment experiences developed in a Western context. Research that might further clarify this issue has not been identified.

Generalizability of the results from the current study is questionable. Due to limited resources, the sampling strategy involved selecting students by

convenience at an international private university in Bangkok, Thailand using English language versions of measurement instruments. The degree to which instrument items in English language have been well understood by participants whose first language is not English, is unknown. Issues can be raised as to whether or not this sample represents university students in Thailand in general. Socio-economic backgrounds may differ from those of students at other Thai universities, and the current study may not capture any regional variations across the country. Employing a sampling procedure to include participants from other universities in other parts of Thailand would have provided a more representative sample to the study.

Self-reported data through questionnaires have inherent limitations. The data may be influenced by biases, such as selective memories and socially desired responses, and cannot be verified by any others than the participants themselves. Despite the limitations, the present study may provide valuable information for those who are interested in the research questions.

In order to investigate cyberbullying experiences and links to other variables in Thailand, researchers would benefit from translating the instruments into Thai language and perform tests to establish more evidence of reliability and validity. Qualitative and longitudinal studies would also deepen and widen the knowledge about the phenomena in question.

While the path model employed in the current study assumes certain unidirectional relationships, those relationships might well be bidirectional. The experience of being a victim of bullying might for example lead to loss in the sense of belonging. Thus, future researchers could investigate the possible bidirectional relationships in order to establish more certainty about the interaction between the variables.

The present study aimed to investigate the relationships between cyberbullying and a number of variables in a limited framework. For a more comprehensive understanding of factors that are associated with cyberbullying experiences, a larger number of variables, both psychological and demographic should be included in order to gain a better overview of the phenomenon.

Since the present study was limited to a sample from one international university in Bangkok, future research would benefit from a wider sampling procedure that would include other geographical areas in Thailand. This would contribute to a more accurate description of the situation in the whole country.

The results from the present study show that cyberbullying experiences among university students in Thailand exist at rates that are higher than the rates found

in similar studies conducted in the United States, although this single study does not provide enough data to draw conclusions on the population of university students in Thailand in general.

Further, this study demonstrates that human needs explained from an evolutionary perspective can be linked to outcomes from modern, technology-driven processes, with implications for mental health. Cyberbullying perpetration and victimization can be associated with experiences of interpersonal relations based on the framework of attachment theory and the belongingness hypothesis. The interplay between insecure attachment orientation and lower sense of belonging is associated with higher risk of becoming a victim or perpetrator of cyberbullying. The results also suggest that more securely attached individuals are at risk of becoming victims of cyberbullying.

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