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Participatory Mechanisms to Build Digital Resilience against Cyberbullying in Higher Education: A Mixed-Methods Study in Chiang Mai

กลไกแบบมีส่วนร่วมเพื่อเสริมสร้างภูมิคุ้มกันในโลกดิจิทัลต่อไซเบอร์บูลลี่ ในสถาบันอุดมศึกษา: การวิจัยแบบผสมในจังหวัดเชียงใหม่

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Abstract

The objectives of this study were to 1) evaluate the effect of participatory workshops on students' knowledge of cyberbullying prevention, and 2) develop participatory mechanisms for building protective networks against Cyberbullying within higher education institutions. This research employed a mixed-methods approach, using questionnaires and interview protocols to collect data. The data were analyzed by using descriptive statistics and content analysis. The sample group for this study consisted of 412 undergraduate students from higher education institutions in Chiang Mai. The research findings revealed that the majority of respondents to the questionnaires had experienced low levels of cyber threats while most of the participants who participated in in-depth interviews reported having been threatened on social media. It was also found that participants demonstrated a statistically significant improvement in knowledge and understanding of cyberbullying after attending the participatory workshops ($t(100) = 17.13, p < .001, d = 1.98$). These findings provide valuable implications for higher education institutions in policy and curriculum design for developing digital resilience among undergraduate students. In addition, the current data highlight the importance of psychological workshops for helping undergraduate students to deal with cyberbullying effectively.

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หน่วยงาน: คณะบริหารธุรกิจและศิลปศาสตร์ มหาวิทยาลัยเทคโนโลยีราชมงคลล้านนา ประเทศไทย

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บทคัดย่อ

วัตถุประสงค์ของงานวิจัยเรื่องนี้ คือ 1) เพื่อประเมินผลของการอบรมเชิงปฏิบัติการแบบมีส่วนร่วมที่มีต่อความรู้ของนักศึกษาในการป้องกันไซเบอร์บูลลี่ และ 2) เพื่อพัฒนากลไกแบบมีส่วนร่วมเพื่อสร้างเครือข่ายป้องกันไซเบอร์บูลลี่ภายในสถาบันอุดมศึกษา งานวิจัยเรื่องนี้ใช้รูปแบบการวิจัยแบบผสมผสาน และใช้แบบสอบถามและแบบสัมภาษณ์ในการเก็บรวบรวมข้อมูล วิเคราะห์ข้อมูลด้วยสถิติเชิงพรรณนาและการวิเคราะห์เนื้อหา กลุ่มตัวอย่างของการวิจัยครั้งนี้ประกอบด้วยนักศึกษาระดับปริญญาตรีของสถานศึกษาในจังหวัดเชียงใหม่ จำนวน 412 คน ผลการวิจัยพบว่า กลุ่มตัวอย่างที่ตอบแบบสอบถามส่วนใหญ่ เคยถูกข่มขู่คุกคามทางไซเบอร์ในระดับต่ำ และกลุ่มตัวอย่างส่วนใหญ่ที่ถูกสัมภาษณ์เชิงลึก เคยถูกคุกคามบนสื่อสังคมออนไลน์ รวมทั้งพบว่า กลุ่มตัวอย่างมีความรู้ความเข้าใจเกี่ยวกับไซเบอร์บูลลี่เพิ่มขึ้นหลังการเข้าร่วมการอบรมเชิงปฏิบัติการแบบมีส่วนร่วมอย่างมีนัยสำคัญทางสถิติที่ระดับ .01 ($t(100) = 17.13$, $p < .001$, $d = 1.98$) ข้อค้นพบนี้เป็นประโยชน์ในการกำหนดนโยบาย และหลักสูตรของสถาบันอุดมศึกษา เพื่อพัฒนาภูมิคุ้มกันในโลกดิจิทัลของนักศึกษา และข้อค้นพบจากงานวิจัยนี้ยังเน้นย้ำถึงความสำคัญของการอบรมเชิงปฏิบัติการด้านจิตวิทยาในการช่วยให้นักศึกษาสามารถจัดการกับการข่มขู่คุกคามทางไซเบอร์ได้อย่างมีประสิทธิภาพ

คำสำคัญ: ภูมิคุ้มกันในโลกดิจิทัล กลไกแบบมีส่วนร่วม สุขภาวะในระดับอุดมศึกษา

Introduction

In today's digital age, online platforms have fundamentally changed how we connect with each other. While these tools make communication easier and more immediate, they also bring new challenges—one of the biggest being cyberbullying. Around the world, many young people face harassment or hurtful comments online. This can have serious consequences, including mental health issues like depression, anxiety, and in some cases, thoughts of self-harm or suicide. For example, in the United States, nearly 29% of teens reported having being cyberbullied, and about 16% admitted to participating in cyberbullying themselves (Hinduja & Patchin, 2024). Recent studies indicate that cyberbullying is associated with increased risks of depression, anxiety, and suicidal ideation, emphasizing its serious mental health impacts (Kowalski et al., 2023). These figures are alarming and underscore how urgent it is to find effective ways to prevent and address online abuse.

In Southeast Asia, the situation is similarly concerning. In Thailand, reports suggest that roughly 80% of children and teenagers have experienced some form of bullying, whether at school or online, according to data from Mahidol University's National Institute for Child and Family Development (2019). Even more troubling, 59% of Thai youth acknowledged having engaged in cyberbullying themselves; 39% found it amusing while 28% viewed it as a frequent occurrence. This widespread issue demands solutions that are tailored to the social and cultural realities of Thai youth, especially considering how they engage and interact online.

Most existing research has focused on younger students in primary and secondary school, but there is less knowledge about what is happening at the university level. College students are at a different stage in their lives, being more independent and self-reliant, but still vulnerable to online risks that can impact their mental health and academic success. Unfortunately, current strategies tend to be reactive or centered on individuals, rather than taking a broader view or involving students in designing solutions that work for their communities.

By applying Resilience Theory and Social Cognitive Theory, we can gain a better understanding of how cyberbullying occurs and what strategies might be effective to prevent it. These frameworks show us that online behavior is not shaped only by individual choices, but it is also influenced by family, friends, school environments, and wider social norms. Moreover, they highlight the importance of developing protective mechanisms, like social support and digital skills, to help young people navigate online spaces more safely. Similarly, Barlett (2023) proposed that cyberbullying is a social behavior that is shaped by observation, reinforcement and cognitive-emotional association rather than personality traits. He also indicated that online violence is attained and restored through destructive social norms, parental modeling, and positive reinforcements from friends (Barlett, 2023). Furthermore, UNESCO Office Bangkok and the Regional Bureau for Education in Asia and the Pacific (2023) investigated the relationship between teacher and student digital citizenship competencies in the Asia-Pacific Region and how member countries may assist teachers in encouraging students to learn digital citizenship principles and skills. They also proposed a Digital Kids Asia-Pacific Framework for Education, which consists of five digital citizenship competency domains (digital literacy, digital safety and resilience, digital participation and agency, digital emotional intelligence, and digital creativity and innovation). Nevertheless, the effect of participatory workshops on Thai students' knowledge of cyberbullying prevention has remained unclear. This study aims to fill the knowledge gap about how cyberbullying operates among university students in Chiang Mai. We wanted to develop participatory programs that help students build resilience, and foster networks that promote respectful and safe online behavior. By focusing on these systemic and community-based approaches, we hope to have found practical ways to prevent cyberbullying and support young people in becoming responsible digital citizens.

Objectives

1. To evaluate the effect of participatory workshops on students' knowledge of cyberbullying prevention.
2. To develop participatory mechanisms for building protective networks against cyberbullying within higher education institutions.

Research Questions

1. What are students' experiences with cyberbullying?
2. How do students perceive participatory mechanisms for building resilience?

Literature review

Cyberbullying involves harmful actions like harassment, intimidation, and targeting that happens through digital platforms. Usually, these actions are repeated and intentional, and their goal is to make someone feel scared, ashamed, or emotionally hurt. Researchers have identified different forms of cyberbullying, such as impersonation, cyberstalking, flaming, outing, trolling, and social exclusion (Archaphet, 2017; Child and Youth Media Institute, 2018; Dhoray, 2023). The variety shows just how complicated online aggression can be. Still, most of the current classifications tend to look at each type of behavior separately, without considering how they might overlap or influence each other in different situations. This makes it harder to really understand what causes cyberbullying, especially among university students, where peer relationships and social dynamics can be quite different from those in primary or secondary schools.

The idea of Digital Intelligence (DQ), introduced by the DQ Institute (2020), offers a broad way to understand the skills and knowledge needed to navigate the digital world responsibly. DQ covers seven key areas, such as Digital Safety, Digital Security, and Digital Emotional Intelligence, all aimed at helping young people learn to act responsibly online. Although this model highlights important skills for building resilience to online harm, it has mostly been used with younger groups or in prevention programs. This leaves a big question unanswered: how does DQ apply to university students and their online behaviors and values? There is surprisingly little research connecting digital literacy, emotional intelligence, and cyberbullying among college students, even though understanding these links could help us develop better ways to prevent online abuse.

The term "resilience" has been used in varied situations to refer to the positive ability of individuals to withstand, adjust, and recover from the difficulties in their lives. Richardson (2002) proposed that there are three waves of resilience development. They comprise Resilient Qualities (first stage), The Resiliency Process (second stage), and Innate Resilience (third stage). Over time, conceptualizations of resilience have evolved from emphasizing deficits to highlighting an individual's strengths. Asnicar (2024) described that Seligman's 3Ps Model of Resilience consists of the beliefs that an individual himself is a cause of problems, which relate to guilt and self-blame (Personalization), the belief that a difficulty in one aspect of life represents the negative circumstances in all aspects of life (Pervasiveness), and the belief that the difficulties will last forever (Permanence). This model is beneficial for identifying the strategies that participants use when they encounter cyberbullying. Furthermore, Resilience Theory helps us understand how young people deal with the challenges of cyberbullying. Some students, even when they face online harassment or aggression, show strong resilience and adaptability. They often have protective factors like strong social support, good emotional awareness, and solid digital skills, which help them recover from negative experiences and avoid becoming aggressive online themselves (Luthar et al., 2021). Instead of just reacting to problems, a resilience-based approach

focuses on helping students build the skills they need to handle online challenges before they get worse. This is especially important in colleges and universities, where students face complicated social situations as well as many types of digital environments. When schools give students the right tools and support, they can help them feel safer and more confident online. Using Resilience Theory in this way shows how important it is to help young adults build protective factors and develop coping skills. By making these stronger, we can reduce the harm caused by cyberbullying and support students' digital wellbeing. This approach also aligns with the broader goal of education: preparing students for a digital world by helping them develop not only technical skills, but also emotional and social resilience online.

Most research on cyberbullying looks at younger students in primary or secondary schools. But there is still a lot we do not know about how it affects university students. They are more independent, but they still face online pressures and risks that can harm their mental health, and affect their academic success (Ali & Shahbuddin, 2022; Aparisi et al., 2021; Gohal et al., 2023). Because of this gap, we need to learn more about how college students can build resilience, and how group or community efforts might help prevent online aggression.

Originally, Bandura (1977) proposed Social Learning Theory, which explains that people learn new behaviors by watching others or experiencing things directly. In this view, modeling is key to learning. However, Bandura later expanded this idea into Social Cognitive Theory (Bandura, 1986). This newer framework adds an important focus on cognitive factors—how people think and process information. In the context of cyberbullying, these theories help explain why online aggression happens and how to stop it. Young people often see bullying behavior online. Because they see it frequently, it can grab their attention and become 'normalized' in their minds. Under Social Learning Theory, they might simply copy what they see. However, Social Cognitive Theory helps us go deeper. It explains that students are not just copying machines; their behavior is also influenced by their internal thoughts and their environment. By using this framework, we can understand how to build digital resilience—helping students use their own thinking skills (self-regulation) to reject negative online behaviors instead of copying them. The Social Cognitive Theory helps explain how and why these behaviors can be learned and continued in the digital world.

Research Methodology

1. Population and Sample

The population for this study comprised 87,816 undergraduate students enrolled in Chiang Mai province's higher education institutions during the second semester of the 2023 academic year. Overall, 412 undergraduate students took part in this study. The sample consisted of 311 students who completed the questionnaires, 15 of which also took part in subsequent in-depth interviews, and 101 students who participated in the psychological workshops.

A convenience sampling method was employed. Students were invited to participate voluntarily after class. If they were interested in taking part in this project, they were able to arrange a time to do the questionnaires and/or the interview. The research objectives, data collection methods, participant confidentiality, and opportunities for questions were clearly explained. Appointments were scheduled for questionnaire completion, interviews, and workshop participation. Faculty members at participating

universities assisted in publicizing the study to encourage participation across various departments. The study received a positive response from students at three universities within Chiang Mai province. The inclusion criteria for this study were undergraduate students who studied in Chiang Mai province's higher education institutions during the second semester of the 2023 academic year, and were provided with detailed information according to the information sheets and the Generic Informed Consent Form. The exclusion criteria were undergraduate students who did not complete all items in the questionnaires, or could not answer more than 30 percent of the required information during the interviews.

2. Research Instruments

Data were collected using the following instruments:

2.1 Cyberbullying and Online Aggression Survey Instrument (2021 version)

This survey, adapted from Hinduja and Patchin (2021), was translated with permission into Thai. The backward translation was applied to translate it into Thai. The 18-item survey is divided into two sections: Section 1 assesses participants' experiences of cyberbullying victimization (nine items), and Section 2 assesses their experiences of cyberbullying offending (nine items). The researchers did a pilot study by asking 37 students to complete the questionnaires. Cronbach's alpha reliability coefficients for a pilot study were 0.87 (Section 1) and 0.89 (Section 2). Then, the researchers edited some items in the questionnaires before the data collection. The results showed that Cronbach's alpha reliability coefficients were 0.94 and 0.97 for Sections 1 and 2, respectively. Each item used a four-point Likert scale. The score for each item ranged between 0 and 3 (never = 0; once = 1; a few times = 2; many times = 3). The researchers took the score of each subscale and computed a total score. The higher scores the participants obtained, the more experience in cyberbullying victimization or cyberbullying perpetration.

2.2 Semi-Structured In-Depth Interview Protocol

This protocol explored participants' understanding of participatory mechanisms to build digital resilience against cyberbullying within educational institutions in Chiang Mai. The interviews, guided by Bandura's Social Cognitive Theory (1986) and Carver & Scheier's (1994) framework on coping strategies and styles, utilized open-ended questions to allow for in-depth exploration of participants' experiences and perspectives. Interviews took approximately 40 minutes. To test the validity of the interview questions, five experts were invited to review and give some comments on them, and the Item-Objective Congruence Index (IOC) was subsequently calculated. It was found that the IOC value of the interview questionnaire was 0.97. Additionally, the researchers did a pilot study by interviewing five students and editing some questions that were unclear before interviewing the participants.

2.3 Cyberbullying Knowledge and Understanding Questionnaire

This questionnaire consisted of two sections: Section 1 assessed the participants' knowledge of cyberbullying (10 items), and Section 2 measured the participants' satisfaction with psychology workshop (four items).

2.4 Workshop Manual

A manual was developed to enhance participants' skills in managing cyberbullying, and to facilitate the creation of support networks to prevent and mitigate these issues within educational institutions.

This research received ethical approval from Rajamangala University of Technology Lanna Human Research Ethics Committee (RMUTL-IRB 099/2023).

3. Data Analysis

3.1 Quantitative Data Analysis

The quantitative data were analyzed using IBM SPSS Statistics. Frequencies, percentages, and descriptive statistics were calculated for the overall sample and for scores related to online threats and violence. The researchers assumed that students will show a significant increase in cyberbullying prevention knowledge post-intervention. Therefore, a t-test was used to compare cyberbullying knowledge scores before and after participation in the workshop. As hypothesized, participants demonstrated significantly greater knowledge and understanding of cyberbullying after the workshops compared to before the workshops, $t(100) = 17.13$, $p < .001$, $d = 1.98$, 95% CI [1.67, 2.29].

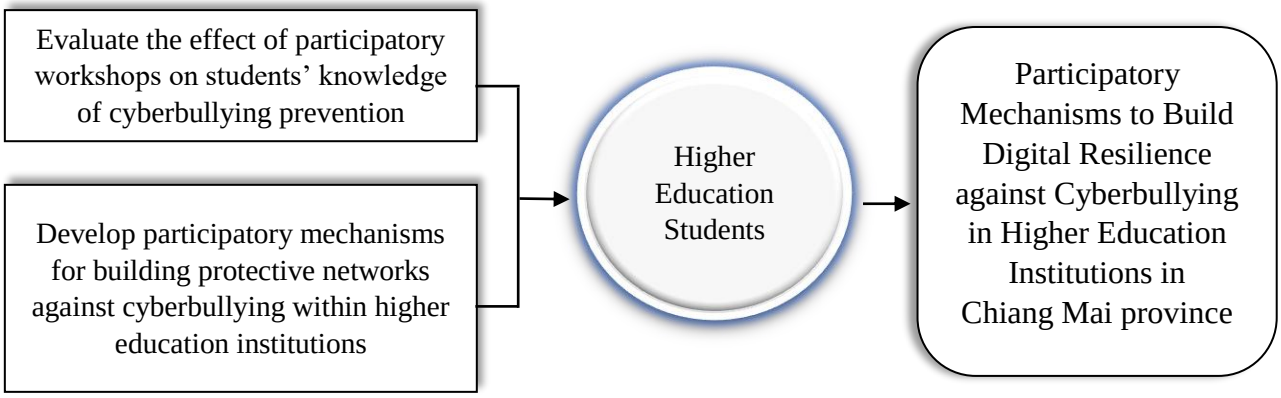
3.2 Qualitative Data Analysis

The qualitative data were analyzed using content analysis. At the beginning, the researchers determined the units of analysis and divided the data into three categories: students' experiences of cyberbullying, effects of cyberbullying, and participatory mechanism to deal with cyberbullying. Next, the researchers developed a coding scheme, tested the coding scheme, and coded all data that had been collected from participants. Then, the researchers rechecked all codes before analyzing the data and interpreting the findings.

To summarize, the researchers applied an explanatory sequential design in this study because the researchers collected the quantitative data to identify the patterns of cyberbullying among undergraduate students, and then the researchers collected the qualitative data to explore students' experiences of cyberbullying, their perception of participatory mechanisms for building resilience, and their strategies to deal with cyberbullying in detail (see Figure1).

Figure 1

Conceptual Framework



Research Findings

1. Students' experiences with cyberbullying

For this section, there were 311 participants, who were undergraduate students with different years of college experience (freshmen to senior). There were 110 males, 197 females, and four LGBTQ+ identifications. Their ages ranged between 18 and 30 years ($M = 20.59$, $SD = 1.72$). The analysis of participants' responses to the questionnaire items employing the above-mentioned Likert scale (ranging from 0 to 3) revealed the following findings regarding experiences with online victimization and offending:

1.1 Cyberbullying Victimization

Participants responded on a scale ranging from 0 (never), 1 (once), 2 (a few times) to 3 (many times). It was found that the most frequently reported form of cyberbullying victimization was experiencing online threats ($M = 0.71$, $SD = 0.92$). Other forms of victimization, in descending order of frequency, included: Receiving offensive comments ($M = 0.57$, $SD = 0.91$), receiving offensive images ($M = 0.41$, $SD = 0.84$), receiving offensive videos ($M = 0.35$, $SD = 0.77$), identity theft and impersonation with subsequent negative behavior ($M = 0.24$, $SD = 0.61$), the creation of a negative website about oneself ($M = 0.17$, $SD = 0.52$), the spreading of rumors ($M = 0.17$, $SD = 0.54$), threats of physical harm online ($M = 0.17$, $SD = 0.51$), and threats of physical harm via text message ($M = 0.16$, $SD = 0.51$).

1.2 Cyberbullying Offending

It was indicated that the most common cyberbullying offending behavior was spreading rumors or gossip ($M = 0.39$, $SD = 0.83$). Other behaviors, in descending order of frequency, included: Posting negative or hurtful comments ($M = 0.33$, $SD = 0.71$), creating fake news ($M = 0.08$, $SD = 0.39$), posting inappropriate images ($M = 0.07$, $SD = 0.32$), threatening others online ($M = 0.07$, $SD = 0.36$), threatening others via text message ($M = 0.07$, $SD = 0.38$), posting inappropriate videos ($M = 0.06$, $SD = 0.30$), identity theft and impersonation with subsequent negative behavior ($M = 0.05$, $SD = 0.28$),

and creating a negative website about someone else (M = 0.05, SD = 0.30). Furthermore, the results showed that there was no evidence that gender had an influence on online victimization (p = .81). In addition, no significant differences were found between gender and online offending (p = .09).

2. Cyberbullying Awareness Workshop Outcomes

The participants included 101 undergraduate students who attended the workshops. They comprised 49 males, 50 females, and two LGBTQ+ identifications. They were between the ages of 18 and 25 (M = 20.11, SD = 1.51). The analysis of the cyberbullying awareness workshop outcomes revealed the participants demonstrated significantly higher mean scores on the cyberbullying knowledge questionnaires after the workshop (M = 42.48, SD = 7.20) compared to before the workshop (M = 28.65, SD = 6.75).

Table 1

Mean Scores, Standard Deviations, and t-test Results for Cyberbullying Knowledge (Pre- and Post-Workshop)

Item	N	M	SD	DF	t	p
Pre-Workshop Knowledge	101	28.65	6.75	100	17.13	< .01**
Post-Workshop Knowledge	101	42.48	7.20			

Note: **p < .01

As shown in Table 1, there was a statistically significant difference (p < .01) in cyberbullying knowledge scores between the pre- and post-workshop assessments, t(100) = 17.13, p <.001, d = 1.98, 95% CI [1.67, 2.29]. Therefore, these findings indicated a substantial increase in cyberbullying knowledge among the participants following the workshop.

3. Cyberbullying Behaviors Among Thai Youth

Overall, there were 15 participants who took part in the in-depth interviews. There were seven males and eight females. Their ages ranged from 18 to 22 years. According the data analysis, the findings were divided into three categories. They comprised of students' experiences of cyberbullying, effects of cyberbullying, and participatory mechanism to deal with cyberbullying.

3.1. Experiences of Cyberbullying

The qualitative data from interviews revealed that most students had experienced cyberbullying. Some illustrative examples include:

Student A reported having their Facebook account hacked, likely due to insecure login practices. The hacker posted inappropriate content and insulted her friends, causing embarrassment and fear of attending school. She said, "I once got my Facebook hacked, probably because I was logged in in a public place. When I checked, I found that my hacked Facebook only had posts about 18+ content, insulting friends, which made me embarrassed and unwilling to go to school."

Student B described receiving sexually explicit images and videos via private messages, resulting in significant distress. She said, "Someone using a fake account sent a picture and video of their genitals in the chat, and I was shocked. I felt really bad."

Several students also reported that their family members or friends had experienced similar forms of cyberbullying. Student M recounted a case where a fake Facebook account impersonating their mother was used to defraud others. He reported the account and it was taken down. He mentioned, "There is a fake Facebook account using my mother's picture to trick other people into giving money. But my mother and I saw it first, so we reported it to the administrators to take action."

Student C described a situation where a friend was ostracized from an online group. She helped her friend cope with this. She indicated, "I once saw a friend being pushed out of their group. I felt sorry for them, so I took them in, and they got better."

Based on the analysis of the interview data and the classification framework by Dhoray (2023), nine distinct categories of cyberbullying were identified within Chiang Mai's higher education institutions. These categories and their definitions are presented in Table 2.

Table 2

Nine categories of cyberbullying in higher education institutions in Chiang Mai

Categories of cyberbullying	Definition
1. Cyberstalking	The persistent online monitoring and tracking of a target, including real-world surveillance, with the intention of causing harm, intimidation, or exploitation (financial or sexual).
2. Flaming	The use of aggressive, abusive, and insulting language online, often in public forums or chat spaces, to provoke conflict and distress.
3. Outing	The unauthorized dissemination of a victim's private information online, often with the intention of causing humiliation or damage to their reputation.
4. Trickery	Deceptive tactics used to manipulate a target into divulging personal information, often employed by someone known to the victim, with the goal of exploitation or embarrassment.
5. Harassment	Repeated and persistent online harassment, involving threatening, insulting, or offensive messages, often designed to cause ongoing distress and fear.
6. Trolling	Provocative and often inflammatory online communication intended to incite strong reactions and disrupt online environments, typically for the amusement of the perpetrator.

Categories of cyberbullying	Definition
7. Catfishing / Impersonation	Creating a false online persona, sometimes accessing a victim's account without permission, to deceive and manipulate others, frequently used for malicious purposes.
8. Denigration / Gossip	The online spreading of false or damaging rumors and gossip about a target, aiming to harm their reputation and standing within their social circles.
9. Exclusion	The deliberate and coordinated exclusion of a target from online groups or communities, leading to feelings of isolation, marginalization, and rejection.

3.2 Effects of Cyberbullying

Participants largely recognized the negative impacts of cyberbullying. For example,

Student D reported feelings of distress, shock, shame, and reluctance to attend school. She said "... I feel bad, shocked, and ashamed. I don't want to go to school..."

Student E expressed feelings of discomfort and dislike as a result of cyberbullying.

Student F conveyed his feelings of anger, stating, "I want to know who he is. I want to get back at them."

Student G revealed, "When it happens often, it becomes really stressful and makes me feel sad."

3.3. Participatory mechanism to deal with cyberbullying: Participants employed diverse coping strategies when faced with cyberbullying:

Student H described ignoring minor incidents, blocking harassers, or reporting severe instances to authorities (although he expressed skepticism about successful prosecution due to the ease of creating fake online accounts). He mentioned, "If it's not something damaging, I don't pay attention to it and just let it go—don’t engage or block them. But if it causes significant harm, I would have to report it to the police for assistance. However, I think it would be difficult because, on social media, it's easy to fake accounts, and it’s probably hard to catch them since they can create new ones once the old ones are shut down."

Student I advocated for self-reliance, suggesting that changing one's own mindset was crucial. If the harasser didn't change, the victim should adjust their perspective, remain calm, and choose to ignore the bullying. He said, "It has to start with him; he needs to change his mindset. But if he doesn't change, we have to change ourselves—shift our mindset, be mindful, and not pay attention."

Student J emphasized preventative measures such as regularly changing passwords and enabling two-factor authentication for increased security. She indicated, "Change your Facebook password often to prevent people from hacking in, or use two-factor authentication for security."

Student K highlighted the importance of seeking support from trusted individuals. She described, "... So, I went to consult others, and they told me to ignore it and let it go. So, I let it go because whatever they do reflects on themselves..."

Discussion

Forms of cyberbullying in Chiang Mai higher education institutions are based on the analysis of surveys, questionnaires, and in-depth interviews. Nine distinct categories of cyberbullying were identified within Chiang Mai's higher education institutions (see Table 2). The research findings are consistent with previous research indicating that 15% of Thai youth aged 12-18 (14,945 respondents) had experienced cyberbullying (Tanta-atipanit, 2020). Other studies show high rates of verbal abuse, defamation, ostracism, and the sharing of private information online. These findings also align with Patchin and Hinduja (2024) in highlighting the importance of understanding youth motivations to harm themselves online (digital self-harm or self-cyberbullying) and help them to learn more coping strategies and resolutions to achieve their psychological needs. Furthermore, they are in accord with another study indicating how the continuous nature of cyberbullying, coupled with the potential for widespread dissemination, amplifies these negative effects. Victims may experience ongoing distress due to the persistent nature and wide reach of the attacks (Chainwong, Skulphan, & Thapinta, 2020).

1. The effect of participatory workshops on students' knowledge of cyberbullying prevention

Analysis revealed a statistically significant improvement ($p < .01$) in cyberbullying knowledge and understanding following the workshop. Pre-workshop mean scores on a knowledge assessment were 28.65 ($SD = 6.75$), while post-workshop scores increased to 42.48 ($SD = 7.20$). This aligns with research by Surat (2018), which highlighted emotional coping (seeking support, engaging in distracting activities, managing stress, and suicide prevention) and avoidant coping (blocking online interactions, temporarily disconnecting, shifting focus, distancing oneself from the bully, and ignoring the behavior) as effective strategies for addressing bullying. This study's results are consistent with those of Doungthai and Promsit (2022), who suggested that prevention and intervention strategies should include digital literacy training for users, strong parent-child relationships, school-based discussions and presentations, verification of online user identities

by internet service providers, and public awareness campaigns by media outlets regarding the impact of cyberbullying. Moreover, the findings are in line with another previous study which revealed that resilience was a protective factor in preventing cyberbullying. This study also found that resilience training and intervention was helpful in identifying the possibility of cyberbullying and boosting the students' wellbeing (Gabrielli et al., 2021).

2. Protective networks against Cyberbullying within higher education institutions

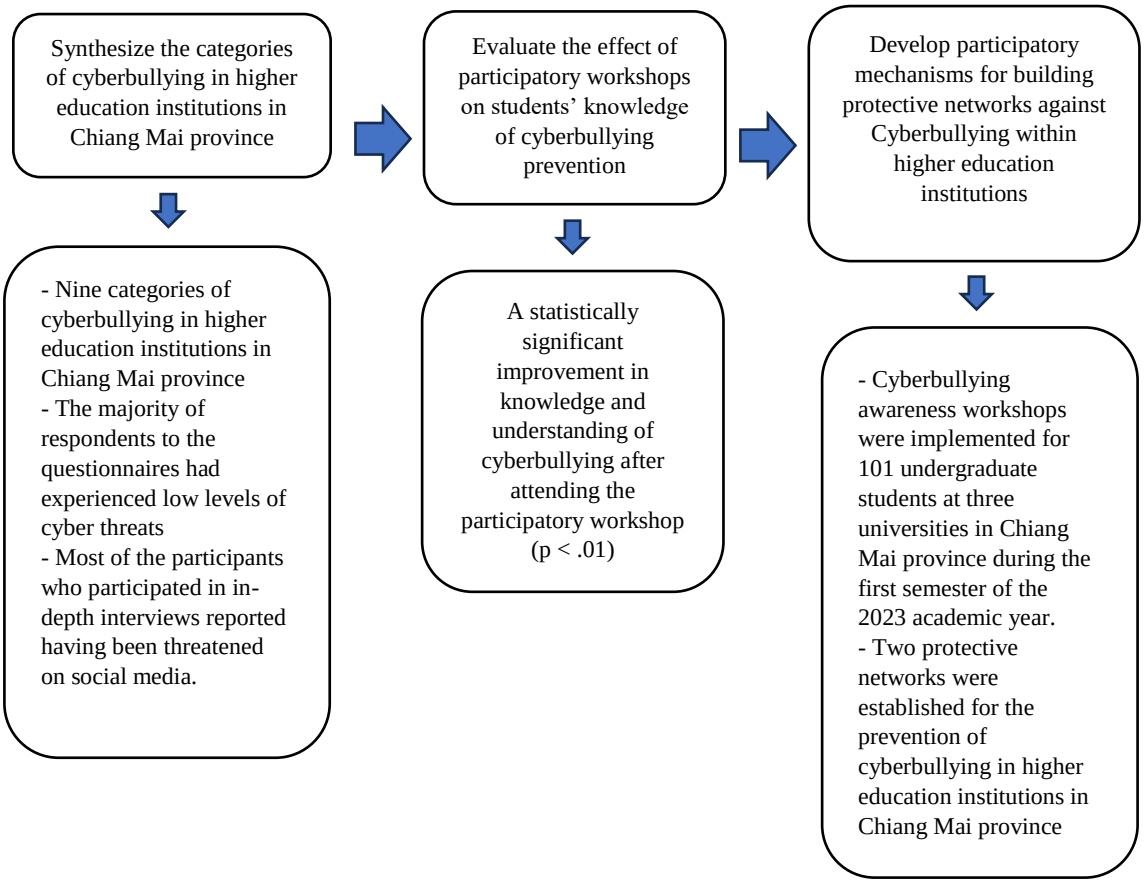
The cyberbullying awareness workshops were implemented for 101 undergraduate students at three universities in Chiang Mai province (Rajamangala University of Technology Lanna, Chiang Mai University, and North-Chiang Mai University) during the first semester of the 2023 academic year. Post-workshop scores on a cyberbullying knowledge assessment (M = 42.48, SD = 7.20) were significantly higher ($p < .01$) than pre-workshop scores (M = 28.65, SD = 6.75). As a result of these actions, two collaborative networks were established for the prevention of cyberbullying in higher education institutions. These networks consist of groups of students and faculty members from North-Chiang Mai University and Chiang Mai University who participated in the program. These findings corroborate Saengcharoensap's research (2020), which emphasized the broad impact of cyberbullying and underscored the need for multi-sectoral collaboration (government, private sector, civil society, educational institutions, and families) to raise awareness, promote digital literacy, foster empathy and respect, and develop emotional regulation and ethical digital citizenship skills. This is further supported by the work of Archaphet (2017), which advocates for institutional policies (regulations), training programs, and curriculum integration to promote empathy, respect, and digital safety among students and staff. Kuankaew et al. (2021) similarly emphasized the development of digital literacy skills through innovative pedagogical approaches to improve digital learning environments and to prevent cyberbullying. This aligns with Hinduja and Patchin's (2019) recommendations for fostering respect, empathy, self-regulation, emotional management, and digital literacy skills to empower individuals to protect themselves from and respond to cyberbullying, and also with Hinduja and Patchin (2024) who mentioned that the digital resilience could help youth to deal with cyberbullying successfully.

Figure 2 presents the summary findings for this study. Interestingly, the majority of respondents to the questionnaires had experienced low levels of cyber threats, while most of the participants who participated in the in-depth interviews reported having been threatened on social media. The findings further support Seligman's 3Ps Model of Resilience due to the fact that participants responded to cyberbullying differently. To clarify, some participants believed that they were a main cause of cyberbullying or it happened because of their characteristics (Personalization), whereas some of them believed that cyberbullying affected their relationships with other people and personal lives (Pervasiveness). Some participants also thought that the cyberbullying had not really ended and would happen again (Permanence). The findings are also in agreement with Bandura's Social Cognitive Theory (1986), which proposed that both personal and environmental factors impact and are influenced by a person's behavior (Reciprocal Determinism). Firstly, the behavior of cyberbullying victims was a result of the interaction among

emotions, cognition and the online environment. Secondly, through both observational and enactive learning, some participants tended to respond with anger, whereas others developed self-regulation skills to manage their emotions productively. Overall, these findings illustrate a form of social learning that reflects the growth of self-regulation and prosocial behavior within the online context.

Figure 2

Conceptual Diagram to illustrate integrated findings



Finally, it is worth noting that most students who participated in the in-depth interviews had protective mechanisms because they received social support from friends and family members when they were cyberbullied. They also adopted avoidance coping strategies or sought to disengage from conflict.

According to Barlett and Chamberlin (2017), interventions could be developed or reformulated to prevent cyberbullying behavior by comprehending the mechanisms by which it arises. In this study, the researchers used these fundamental findings to develop a psychological workshop due to the fact that some students bullied other people unintentionally, while some of them were bullied by the others and did not know how to deal with the situation. It is vital to develop productive strategies to prevent cyberbullying and encourage students to respond to these negative circumstances appropriately. The

data analysis showed that after attending the participatory workshops, students' knowledge and comprehension of cyberbullying increased significantly at the $p = 0.01$ level. After that, the researchers developed participatory mechanisms for building protective networks against cyberbullying within higher education institutions. Finally, two protective networks were established for the prevention of cyberbullying in higher education institutions in Chiang Mai province.

Conclusion and Recommendations

The findings indicate that even though a majority of participants obtained low scores in the cyberbullying victimization scale and cyberbullying offending scale, some participants had experienced cyberbullying in their lives and realized the negative effects of cyberbullying. The empirical findings in this study contribute to our understanding of the phenomenon of cyberbullying in university students and how they become involved in cyberbullying (perpetrators or victims). Moreover, there was a statistically significant difference ($p < .01$) in cyberbullying knowledge scores between the pre- and post-workshop assessments. In addition, two protective networks against cyberbullying within higher education institutions were established for the prevention of cyberbullying in higher education institutions in Chiang Mai province. These findings were the empirical evidence to emphasize the importance of applying Resilience Theory and Social Cognitive Theory to deal with cyberbullying. They also provide the applicable and practical participatory workshops and meaningful network to prevent cyberbullying in higher education students in Chiang Mai province.

This study is one of the first mixed-methods studies to develop participatory digital-resilience workshops for Thai undergraduates. The current data highlights the importance of psychological programs and students' protective networks to facilitate having the digital literacy for dealing with cyberbullying appropriately and creatively. In addition, these findings suggest several courses of action for scholars, principals, and lecturers to develop the curriculum to enhance students' digital wellbeing and set varied activities which are based on the Resilience Theory for helping the students who suffer from cyberbullying as well as preventing the students who tend to be new cyberbullies. These findings can be beneficial to develop university-wide reporting and peer-support networks. Another important practical implication is the dissemination of this workshop in educational institutions (incorporating the digital resilience workshop into first-year orientation programs) and the expansion of the network to other provinces in Thailand (cross-institutional collaboration).

Limitations

The study's findings are limited to undergraduate students in Chiang Mai province. Therefore, caution should be exercised when generalizing these results to other populations or contexts. An additional uncontrolled factor is the possibility that some participants had a self-report bias when they participated in this study.

Future Research

Future research should expand the sample to include diverse populations and geographical settings to assess the generalizability of these findings. Longitudinal studies or cross-provincial comparisons are also needed to evaluate the long-term effectiveness of the interventions employed in this research and to refine these approaches. Additionally, a further study could evaluate the long-term effectiveness of protective programs in preventing cyberbullying behaviors. Such studies would be beneficial for improvements or refinements of the programs in the future.

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