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University Students' Perspectives of Visual-based Cyberbullying on Instagram

Li-Min Huang
University of Tennessee, Knoxville, lhuang23@vols.utk.edu

To the Graduate Council:

I am submitting herewith a dissertation written by Li-Min Huang entitled "University Students' Perspectives of Visual-based Cyberbullying on Instagram." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Information Sciences.

Dania Bilal, Major Professor

We have read this dissertation and recommend its acceptance:

Devendra Potnis, Courtney Childers, Chris Elledge

Accepted for the Council:

Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

University Students' Perspectives of Visual-based Cyberbullying on Instagram

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ABSTRACT

Researchers have been investigating the cyberbullying phenomenon since the early 21st century. There is a substantial body of cyberbullying studies focused on text-based formats. However, studies revealed that visual-based social media platforms are more powerful than text-based platforms in affecting people's emotions, causing significant psychological impact. Young adults ages 18-29 use visual-based social media heavily in their daily lives; therefore, visual cyberbullying on various sites has become a critical issue for this generation. Yet, the majority of existing cyberbullying studies focused on age groups under 18. The studies that did investigate this phenomenon among young adults focused mainly on text-based types of cyberbullying. Few studies have investigated visual-based cyberbullying of the adult population. Thus, this dissertation study explored university students' perspectives of visual-based cyberbullying, with a specific focus on Instagram, because of its popularity.

A Holistic Theoretical Framework was proposed to guide the study. This framework is grounded in the Social Ecological Model and the Cognitive-Affective-Behavioral frameworks. This study applied a mixed-method approach to collect data using four techniques: surveys, interviews, visual narrative inquiry, and scans of policy documents.

Findings reported in this study have disclosed the nature of visual-based cyberbullying on Instagram as experienced by university students, revealed students' perspectives of visual-based cyberbullying, unveiled the visual elements from actual incidents narrated by students, generated a novel definition of visual cyberbullying, and illuminated the gap between current university policies and real-world practices regarding the visual-based cyberbullying issue.

This study contributes to the cyberbullying theoretical foundation, especially in exploring visual cyberbullying from cognitive, affective, and behavioral perspectives. Furthermore, the study collected visual cyberbullying cases that were crafted and narrated by study participants who witnessed cyberbullying incidents in real life. Future studies and practitioners may benefit from this study by applying the visual cases participants created to inform the design of research instruments and literacy educational materials. In addition, policymakers in higher education may learn from this study about the need to address cyberbullying more effectively in policy documents targeting undergraduate students. This study may also serve as a reference for the definition and examples of visual cyberbullying.

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CHAPTER ONE
INTRODUCTION AND GENERAL INFORMATION

Rationale

When I was about to begin my doctoral program, I learned that a young female actress in my hometown committed suicide after suffering persistent bullying online, a phenomenon known as cyberbullying. I have subsequently encountered many similar sad stories from across the world. One prominent example was Amanda Todd's tragedy in 2012. Amada was a cyberbullying victim who hanged herself at 15 years old, after her nude photo was shared by perpetrators and she experienced both cyberbullying and school bullying afterwards (Dean, 2012). Over time, I became aware of how prevalent cyberbullying has become, and the dire consequences it has had for its many victims. Given the fact that cyberbullying has harmed so many people, I developed a passion for researching this important topic for my dissertation. As a researcher in the discipline of Information Science, I feel it is necessary to explore this injurious misuse of information and communication technologies (ICT) that were intended to enhance people's lives, not destroy them.

Background

"No one knows for certain how much impact they have on the lives of other people."
Hannah Baker, *13 Reasons Why*

From portrayals in Netflix films to incidents from real life, bullying is an issue that causes sad and severe consequences. In many cases, a bad word may take away one human life. In the academic field, bullying has been extensively discussed and researched. Near the end of the 20th century, Olweus (1994) defined bullying as the exposure of the victim to repeated, intentional harmful actions by one or more other people.

As information and communication technology (ICT) has become a more common tool in everyday life, bullying behaviors have gradually transferred to the online environment. This phenomenon is called "cyberbullying." Other terms with a similar meaning include online bullying, online perpetration, and Internet bullying, among others (De Bourdeaudhuij et al., 2015). Pioneering cyberbullying research was conducted over a decade ago (e.g., Servance, 2003; Strom & Strom, 2006), and this issue has recently become a public concern. Scholars across disciplines and nations are paying attention to different aspects of cyberbullying. For example, López-Meneses et al.'s 2020 bibliometric study observed that scholarly articles on cyberbullying have appeared in the fields of the social sciences (28.51%), psychology (23.71%), medicine (14.81%),

computer science (11.26%), arts and humanities (7.45%), and other ten subject areas. These articles are authored by scholars from all over the world, including the USA (27.66%), Spain (14.1%), the UK (8.69%), Australia (7.09%), Canada (6.03%), and many other countries.

Earlier studies indicated that cyberbullying occurs through the use of cell phones, computers, and personal digital devices (Li, 2006; Smith et al., 2008). Harmful messages are transmitted via e-mails, instant messages, chat rooms, dashboards, websites, and voting booths (Beale & Hall, 2007; Brady, 2010; Shariff, 2008). The format of cyberbullying messages is usually verbal (e.g., text, voice). In the age of social media, cyberbullying has gradually infiltrated social networking sites and social media apps, such as Facebook, Twitter, WhatsApp, and Instagram.

Given that an increasing number of people use social media as a tool to connect with one another, it is not surprising that more and more cyberbullying incidents occur on social media. In the 2021 social media report published by the Pew Research Center, over 70% of Americans used at least one type of social media. For the current generation of young adults (ages 18-29), the most popular social media sites include YouTube (95%), Instagram (71%), Facebook (70%), Snapchat (65%), and TikTok (48%) (Pew Research Center, 2021). Except for Facebook, which is a hybrid (i.e., text-visual-mixed) platform, the most-used social media sites/apps among the young adult generation are mainly visual-based.

In fact, visual communication has been a mainstream in this era and has shaped the way young people perceive the world (Russmann & Svensson, 2017). With a smartphone in hand, everyone easily becomes a photographer and can take a picture or selfie, record a video, and post them to social media sites. This technology has encouraged young people to self-disclose online through images or videos (Morgan et al., 2010) and share their feelings about visual posts (Zappavigna, 2016).

Research has found that information presented in a visual format tends to last longer in a person's memory, as compared to a textual format. For example, in Dale's Cone of Experience Model (1969), people remembered 10% of what they read (i.e., text) and 30% of what they saw (i.e., picture, video). Other studies indicated that images have a more powerful impact on people's cognitive and affective reactions and may influence their behaviors (Baloglu, 2000). Sometimes the influence of visuals may trigger problematic behaviors, such as self-harm (Jacob, et al., 2017) and drinking alcohol (Morgan et al., 2010). Currently, cyberbullying has moved beyond texts to include visuals as well (Steinmetz. 2019). For example, young people may be targeted by appearance-related cyberbullying because of photos of themselves that they have posted on social media that could result in lower self-esteem and negative feelings (Berne et al., 2014).

Problem Statement

Researchers began to pay attention to cyberbullying in the early 21st century (López-Meneses et al., 2020), which generated a rich body of studies. These studies have investigated various aspects of cyberbullying, such as the digital nature of this phenomenon (Peter & Petermann, 2018), the role of demographic variables (e.g., age, gender), and the physical, mental, and technological components related to perpetration and victimization (Guo, 2016; Marciano et al., 2020). It can be observed that scholars have paid more attention to cyberbullying targeting children and teens (i.e., under age 18) (Chen et al., 2017) than to other populations. Although cyberbullying has been experienced by adult age groups, this demographic has not been researched as extensively. Some studies have reported that university students do, in fact, experience or witness cyberbullying incidents (see for example, Chadha et al., 2020; Martínez-Monteagudo et al., 2019; Sobba et al., 2017). Most of the cyberbullying research that involved university students has focused on individuals' general cognitive viewpoints of cyberbullying (see for examples, Abaido, 2020; Crosslin & Golman, 2014; Sobba et al., 2019), perpetration behaviors (see for examples, Lee, 2017; Ozden & Icellioglu, 2014; Rachoene & Oyedemi, 2015), or various approaches for behavioral coping strategies (see for examples, Byrne, 2021; Davis et al., 2015; Francisco et al., 2015).

Given that the young adult generation, aged 18 to 29, uses social media heavily in their daily lives (Pew Research Center, 2021), cyberbullying on various social media sites has become a critical issue (Chan et al., 2020). For example, visual-based social media platforms have gained much more attention from researchers in recent years. Studies have revealed that Instagram is more powerful than text-based platforms (e.g., Twitter) in affecting young people's emotions (Pittman & Reich, 2016), causing significant psychological impact (Soni & Singh, 2018).

While there is a rich body of cyberbullying literature focusing on text-based platforms, only a handful of studies have investigated cyberbullying on visual-based platforms. These studies (Kumar & Sachdeva, 2021; Singh et al., 2017; Soni & Singh, 2018; Vishwamitra et al., 2021) examined visual-based cyberbullying, for the purpose of developing machine learning (ML) models to detect cyberbullying. To fulfill the need for training models, researchers in these studies spent a considerable amount of time and effort to extract visual features. For example, a large data set of visual data was first extracted from social media Application Programming Interfaces (APIs) and search engines, then was evaluated by crowdsourced workers, such as Amazon Mechanical Turk (http://mturk.com). Given that the crowdsourcing approach can only determine cyberbullying features based on visual data, it may lack context and interpretation from the victims' or witnesses' perspectives. As indicated by Vishwamitra et al. (2021), while the traditional notions of offensive images (e.g., violence) are easier to identify without context, visual factors that constitute cyberbullying are highly contextual. Vishwamitra and his colleagues indicated the need for research on visual-based cyberbullying scenarios from the victims' or witnesses' perspectives. Understanding first-hand

experiences from victims or witnesses may add insights into capturing potential visual cyberbullying patterns within their contexts. In addition, Soni and Singh (2018) indicated that future cyberbullying research focused on visual-based social media might be limited, because of the limited access to data collected by social media APIs. For example, the Instagram API only provides access to basic data[1] (e.g., profile information), so that authentic cyberbullying cases cannot be accessed by researchers.

This study focused on Instagram because of its popularity. As was mentioned earlier, Instagram is the most popular visual-based platform among young people ages 18 to 29 (Pew Research Center, 2021), and they use Instagram extensively to connect with peers (Oladimeji & Kyobe, 2021). Instagram provides various of features, such as posting and sharing different types of visual content (e.g., images, short video clips, and Livestream). It also provides the unique interaction approach of Story;[2] which disappears 24 hours after posting. Instagram's combination of these features and its common usage among young adults provide an environment conducive to cyberbullying.

There is a substantial body of literature on cyberbullying that has focused on individual factors, such as demographic attributes of perpetrators and victims, personal knowledge, peers, family, and school. Only a handful of studies have examined cyberbullying within the broader university context, such as the reporting system (Abaido, 2020; Cunningham et al., 2015; Smith et al., 2012) or cyberbullying-related policies (Baldasare et al., 2012; Faucher et al., 2015; O'Connor et al., 2018). To gain a holistic understanding of visual-based cyberbullying, this dissertation examined the current University of Tennessee system-wide policies, practices, and procedures, as well as the university students' awareness and perspectives of these policies and practices, to identify gaps between existing policies and the real-world practices, as the technology evolves.

Theoretical Frameworks

A Holistic Theoretical Framework was proposed in this study. This framework was grounded in the Social Ecological Model (SEM) initially developed by Bronfenbrenner (1977). SEM explores elements that impact human development. It has been applied in many bullying-related studies of various populations, including children and emerging adults. The model includes five levels related to human development, from the individual view to the macro environment. It was applied as the literature review structure in this study and was effective for identifying research gaps regarding cyberbullying of the university population.

The second theoretical approach applied in this study was the Cognitive-Affective-Behavioral Framework proposed by Ostrom (1969), particularly the notion of "attitude."

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[1] https://developers.facebook.com/docs/instagram-basic-display-api/
[2] https://help.instagram.com/1660923094227526

The third theoretical approach was the General Strain Theory proposed by Agnew (1992), especially focusing on the Cognitive-Emotional-Behavioral coping mechanisms. The Cognitive-Affective-Behavioral framework is commonly used to investigate individuals' attitudes towards a phenomenon, in order to unveil their related thoughts, feelings, as well as possible actions. These components were examined in this study to develop an understanding of undergraduate students' perspectives of visual-based cyberbullying on Instagram.

Finally, the Five Cs framework of online interaction that Cross, et al. (2015) adopted into the SEM from Valcke et al.'s (2011) work was applied in this study. The Five Cs include context, contact, content, conduct, and confidentiality. Using this framework unveiled different aspects of visual cyberbullying perpetration. Details of each model/framework are described in the following sections.

Social-Ecological Model (SEM)
The Social Ecological Model was introduced by Urie Bronfenbrenner in the early 1970s. Bronfenbrenner states that human development is embedded with the enduring environment that is impacted by various factors. In 1977, he proposed the five-layer nested model that aims to generate interrelationships among the factors of child development within a dynamic environment. Based on the model, an individual's behaviors are shaped on five levels within the whole ecological system (Figure 1): 1) Individual level: consists of demographic features, personal attitude, and knowledge; 2) Microsystem level: the people with whom the individual interacts or builds relationships, such as peers, parents, and teachers; 3) Mesosystem level: the interaction of personnel in the Microsystem, such as the communication between teachers and parents (represented as red arrows in the orange circle in Figure 1); 4) Exosystem level: the indirect contacts that have impacts on the individual, such as school climate and mass media; and 5) Macrosystem level, the overall factors that influence the individual's life, such as social norms and regulations and laws.

The SEM has been applied in a wide variety of research fields. For example, the Center for Disease Control and Prevention (CDC) applies the model as a violence prevention framework that consists of four levels: individual, relationship, community, and societal. The factors at each level may reveal the risky influences on an individual's violent behavior. The CDC suggests that violence intervention practices considering four levels concurrently may enhance their efforts much more than by focusing on only a specific level (CDC, 2021).
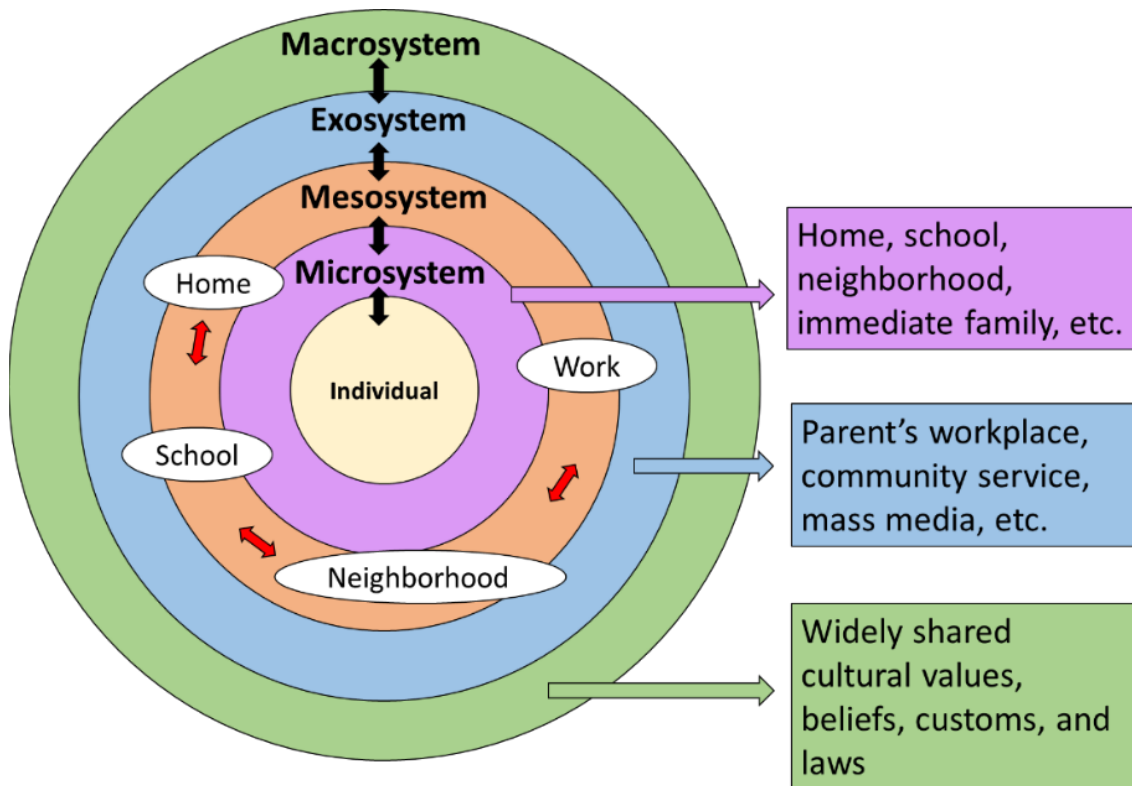
Figure 1. Bronfenbrenner's (1977) original social-ecological model
(Image reproduced from https://psychology.wikia.org/wiki/Bioecological_model)

Cross, et al. (2015) applied the SEM to integrate cyberbullying mediation factors for adolescents, using a literature review approach. Their model consists of five levels that may influence an individual's cyberbullying behaviors. However, they modified the original Social Ecological Model, and changed the names of each level. In the original SEM, the five levels are Individual, Microsystem, Mesosystem, Exosystem, and Macrosystem, while in Cross, et. al. (2015), the names of the five levels are Individual, Family, Peer, Online, Community (Figure 2).

In addition, Cross and her colleagues adopted Valcke et al.'s (2011) "Five Cs" framework to describe adolescents' interaction with the online environment (e.g., social media). The Five Cs consists of 1) context (i.e., the virtual platform environment); 2) contact (i.e., social relationships); 3) confidentiality (i.e., privacy); 4) conduct (i.e., online technical skills and self-regulation); and 5) content (i.e., information access, use, and file uploads).

This dissertation applied the original Social Ecological Model developed by Urie Bronfenbrenner (Figure 1) to investigate how students' perspectives on visual cyberbullying were shaped by factors in the five levels (i.e., Individual, Microsystem, Mesosystem, Exosystem, and Macrosystem). To be noted, in Bronfenbrenner's (1977) model, factors at the five levels interact together to configure an individual's developing environment. Given that the participants in this study were undergraduate students, and the major empirical data was collected from them (which was the main factor at the individual level), this study focused only on investigating how factors at each level independently influence students' perspectives of visual cyberbullying. The interrelationships between factors and how these interrelationships impact individuals were beyond the scope of this study. Furthermore, this dissertation incorporated the Five Cs framework (Cross, et al.,2015) (i.e., outlined by the red rectangle in Figure 2) into the individual level to examine visual cyberbullying perpetration. To be noted, this dissertation did not use the level names from Cross, et al. (2015) (i.e., Individual, Family, Peer, Online, Community).

In summary, this dissertation study was guided by the Social Ecological Model. It focused on university students' perspectives on visual-based cyberbullying at five levels (See Figure 3): 1) Individual level: age, gender, Instagram usage, online interactions (i.e., the Five Cs), general attitude, and coping mechanisms (see the next section); 2) Microsystem level: students' relationships with other personnel in the university (e.g., peers); 3) Mesosystem level: collaboration between offices within the university systems (i.e., the intervention or prevention practices across offices); 4) Exosystem level: university policy; 5) Macrosystem level: social media norms.
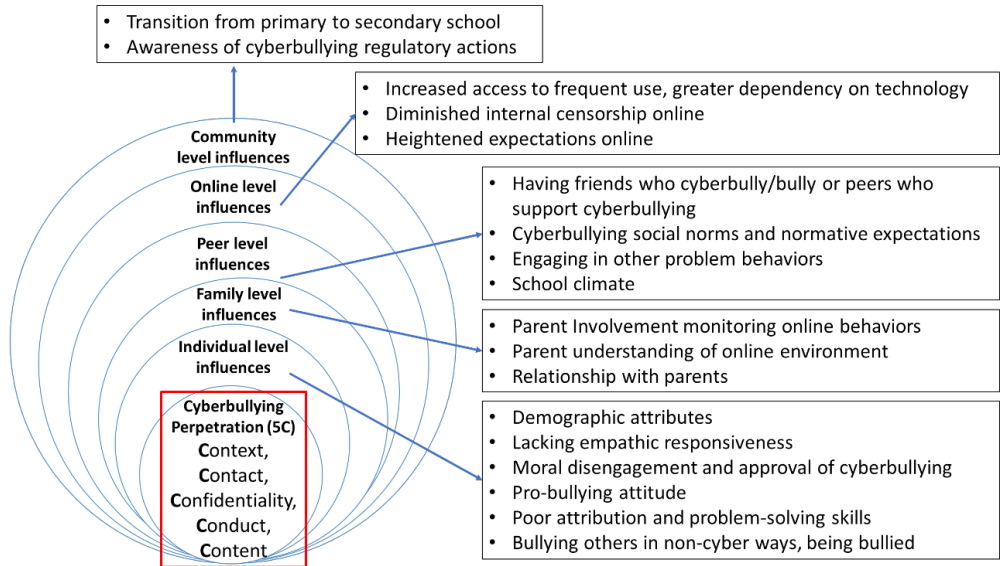
Figure 2. The Five C's framework
Individual, family, peer, online, and community influences on cyberbullying perpetration among adolescents (Image reproduced from Cross, et al., 2015, p.111)
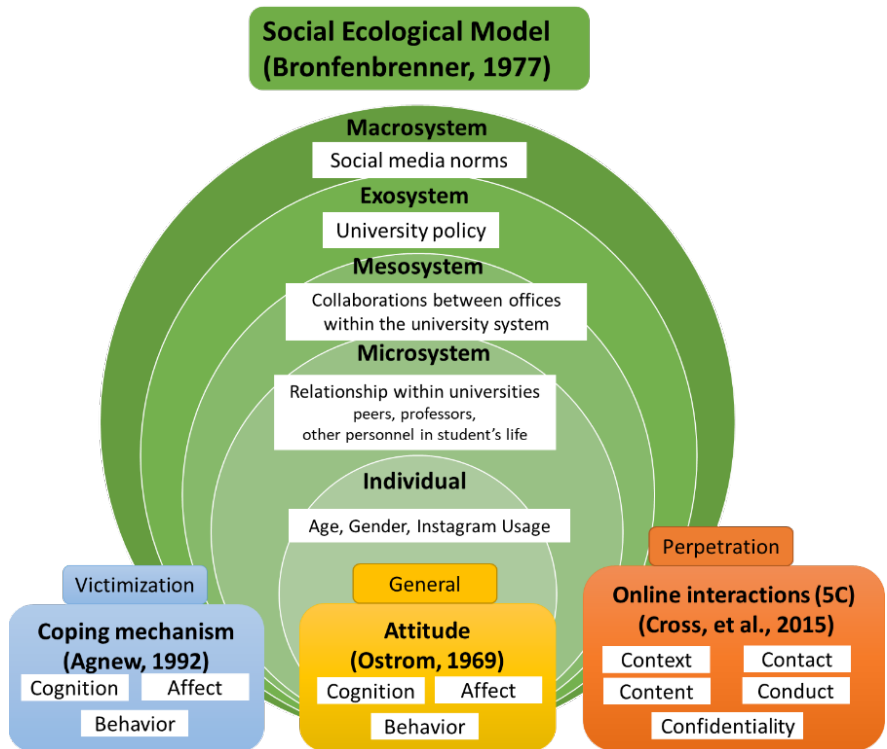
Figure 3. Huang's proposed Holistic Theoretical Framework

Although the Social Ecological Model was first introduced to describe factors influencing child development, past studies also applied it to examine adults' risky behaviors, such as the relationship between college students' physical exercise and binge drinking (Dinger et al., 2018). In another study, Crosslin and Golman (2014) used SEM to analyze first- and second-year college students' perceptions of cyberbullying. Crosslin and Golman mapped students' suggestions for cyberbullying intervention into individual, organizational, community, and policy levels. In their study, the authors mainly focused on text-based cyberbullying. In other words, this study contributes by adding new insights on visual-based cyberbullying beyond this existing knowledge from the social-ecological viewpoint.

Cognitive-Affective-Behavioral Framework
In the research domain of the social sciences, it is common for researchers to investigate individuals' thoughts, emotions, and reactions to phenomena (e.g., Chi et al., 2018). That is, cognition, affect, and behavior, respectively, are key components influencing how human beings interpret and interact with the world around them (Martzoukou, 2005; Nahl & Bilal, 2007). For example, in the Library and Information Science field, one of the most cited models, the Information Search Process model, revealed the dynamic of users' affective, cognitive, and physical behaviors during their information seeking process. (Kuhlthau, 1991). In this dissertation, these three factors were examined in investigating visual-based cyberbullying.

This dissertation focused on university students' general attitudes, and their coping strategies, related to visual-based cyberbullying. The two frameworks with Cognitive-Affective-Behavioral dimensions were adopted. Ostrom's (1969) notion of "attitude" was utilized to elicit witnesses' perspectives. Agnew's (1992) coping mechanism, a component of General Strain Theory, was adopted to identify victims' coping strategies.

First, Ostrom (1969) considers "attitude" to be a combination of cognition, affect, and behavior, including "*desirable to undesirable thoughts*," "*favorable to unfavorable feelings*," and a description of "*past action, future intentions, and predicted behavior in hypothetical situations*." (Ostrom, 1969, p.16). When experiencing a particular situation, how individuals think may impact their feelings. Interchangeably, how they feel may impact their cognition, and actions or behaviors can influence their actions in specific situations. These components guided the analysis of university students' general perspectives of cyberbullying, especially if a student witnessed an incident.

Second, Strain Models were developed from a sociological perspective in the 1930s. In 1992, Robert Agnew proposed a more detailed framework for the social-psychological level. Agnew's General Strain Theory (1992) explains how "strain" relates to a negative relationship with others. Strain is defined as the obstacle between an individual and a positive outcome. A strained individual may have some degree of negative emotions, such as anger, fear, depression, or disappointment, that could potentially cause criminal actions, such as bullying behaviors. Moreover, Agnew proposed a coping mechanism that

strained individuals may use for managing strained situations. This mechanism consists of cognitive, emotional, and behavioral aspects. Cognitive coping strategies include ignoring the adversity (e.g., *It's not important*), minimizing the negative outcome/maximizing the positive outcome (e.g., *It's not that bad*), and putting the responsibility on oneself (e.g., *I deserve it*). (Agnew, 1992, p.66). Behavioral coping strategies include minimizing the negative outcome/maximizing the positive outcome and revenge behaviors. Emotional coping means reducing the negative feelings but not *"Cognitively reinterpreting or behaviorally altering the situation that produced those emotions by acting directly on the negative emotions that result from adversity"* (Agnew, 1992, p.70).

These three aspects were employed to identify the cyberbullying coping strategies mentioned by participants in this study. To be noted, the term "affective" was used instead of "emotional" in adopting Agnew's (1992) coping mechanism, in order to be consistent with Ostrom's (1969) framework. Furthermore, according to the Merriam-Webster dictionary, "emotion" is "a conscious mental reaction.[3]" It is under the umbrella of "affect," which is defined as "a set of observable manifestations of an experienced emotion[4]". Since the participants in this study were bystanders and described victims' coping mechanisms based on their own observations, they were unable to precisely describe the victims' emotions. Thus, using "affect" is appropriate in this study.

To explore holistically the understanding of university students' perspectives on visual-based cyberbullying, I combined the previously mentioned model and frameworks into one model, the Holistic Theoretical Framework (Figure 3). This Holistic Theoretical Framework informed the structure of the literature review in Chapter Two, the research questions, and the research design, and guided the data analysis in Chapter Three and the discussion of the findings in Chapter Five.

Research Questions

Four main research questions and their sub-questions guided this study. The research questions were designed based on the Holistic Theoretical framework. Each question was mapped to one or two data collection techniques. Details about the research questions are provided in Chapter Three.

RQ1: What is the nature of visual-based cyberbullying on Instagram experienced by undergraduate university students?
   RQ1a: To what extent do university students experience visual-based cyberbullying incidents on Instagram?
   *RQ1b***:** What relationship exists between university students' Instagram usage and visual cyberbullying experiences?

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[3] https://www.merriam-webster.com/dictionary/emotion
[4] https://www.merriam-webster.com/dictionary/affect

RQ2: What are undergraduate university students' perspectives of visual-based cyberbullying incidents on Instagram?

RQ2a: What definitions or meanings do students attach to visual-based cyberbullying?

RQ2b: Informed by Ostrom's (1969) attitude components, what are students' cognitive, affective, and behavioral reactions toward cyberbullying?

RQ3: How do undergraduate university students create and describe visual-based cyberbullying scenarios based on incidents they witnessed on Instagram?

RQ3a: Informed by the Five Cs model, what elements do these scenarios reflect?

RQ3b: Informed by the coping mechanism in Agnew's (1992) General Strain Theory, how do students describe the coping strategies of the victims or witnesses exposed to visual-based cyberbullying incidents in the created scenarios?

RQ4: How do current university policies in the University of Tennessee system address visual-based cyberbullying?

RQ4a: What are undergraduate students' perspectives and how aware are they of these policies?

Significance of the Study

The significance of this dissertation study is rooted in the following aspects. First, findings from this dissertation provided empirical evidence of university students' cognitive, affective, and behavioral aspects related to visual cyberbullying on Instagram. These findings add knowledge to existing cyberbullying studies, with this study's focus on the visual context, and provide new insights into the university context, which extends the cyberbullying research paradigm. This study also generated a definition of visual cyberbullying from the collected data. Scholars who are interested in the visual cyberbullying issue may benefit from this study by using this definition as a theoretical foundation while they conduct further research into this issue, and continue to validate the definition.

Second, this study collected real visual cyberbullying cases that were crafted and narrated by students who witnessed cyberbullying incidents in real life. These cases are novel and unprecedented. The narrative of the stories as described by the students raises serious safety and privacy issues, as well as concerns about the well-being of the victims. Future studies may benefit from this study by applying or adopting these visual cases in research instruments. Practitioners may also be inspired by these cases to design cyberbullying literacy educational materials.

Third, this study scanned cyberbullying-relevant university policies of the University of Tennessee system, as well as investigating UTK students' awareness of the policies. The

university personnel and policymakers in higher education may learn from this study's findings about the need to address cyberbullying in policy documents that expressly target undergraduate students and potential intervention/prevention practices for visual cyberbullying-related issues.

Definition of Terms

Cyberbullying

In this study, I use Peter and Petermann's (2018, p.359) definition to conceptualize cyberbullying: *"Cyberbullying is using information and communication technologies (ICT) to repeatedly and intentionally harm, harass, hurt and/or embarrass a target."* To be more specific, the ICT in this study is Instagram. A more detailed description can be found in the "Overview of Cyberbullying Research" section in Chapter Two.

Perpetrator/Perpetration

According to the *Merriam-Webster Dictionary*, "perpetrate" is defined as *"[an action] to bring about or carry out (something, such as a crime or deception[5].)"* In this study, a perpetrator is defined as an individual who performs cyberbullying behavior(s) toward others, and perpetration is defined as performing the action(s) of cyberbullying.

Victim/Victimization

According to the *Merriam-Webster Dictionary*, "victim" is defined as *"one that is acted on and usually adversely affected by a force or agent.[6]"* In this study, a victim is defined as an individual who receives cyberbullying perpetration from others; and "victimization" is defined as the experiences that a cyberbullied victim endures.

Witness/Bystander

According to the *Merriam-Webster Dictionary*, "witness" is defined as *"attestation of a fact or event,[7]"* and "bystander" is defined as *"one who is present but not taking part in a situation or event.[8]"* In this study, these two terms represent an individual who observes cyberbullying incident(s) that happened to others.

Perspective

According to the *Merriam-Webster Dictionary*, "perspective" is defined as *"[A] mental view or prospect.[9]"* In the *Cambridge Dictionary*, "perspective" is *"[A] particular way of considering something"* or *"[A] feeling or opinion about something or someone.[10]"* In this dissertation, the perspective was investigated through the cognitive, affective, and behavioral aspects.

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[5] https://www.merriam-webster.com/dictionary/perpetrator
[6] https://www.merriam-webster.com/dictionary/victim
[7] https://www.merriam-webster.com/dictionary/witness
[8] https://www.merriam-webster.com/dictionary/bystander
[9] https://www.merriam-webster.com/dictionary/perspective
[10] https://dictionary.cambridge.org/us/dictionary/english/perspective

Instagram Features

Instagram is a free visual-sharing social media platform. It has a mobile app version that enables all of its features and a web version that only enables limited functions. Instagram allows users to post content in different visual formats. Below are the features that were mentioned in this study.

1) Feed[11]: The space where users can post visual content. Content that is posted on Feed is a "post" and usually includes one or multiple images. Some users include a short description and hashtags in their posts. An example of a post is presented in Figure 4.

2) Reel[12]: Users can create or upload multi-clip videos up to 30 seconds in length and can also insert text, augmented reality (AR) filters, and audio. See the example in Figure 5.

3) Story[13]: Users can add one or multiple pieces of visual content (e.g., live stream) with various elements (e.g., degree of feelings) to their "Story." Each piece of steady content (e.g., a photo) will last four seconds, while dynamic content (e.g., video) varies in length. The story will disappear in 24 hours. Other users can interact with the story, but only the person who posts the story can see the interactions. See the example in Figure 6.

4) Direct message[14](DM): Private chat between two users. On Story and Reel, audiences can react to (e.g., Like or put emojis) and comment on the visual content posted by the content creator, then these reactions and comments go directly as a private message to only the content creator.

5) Livestream[15]: Users can broadcast a live video on their Instagram account, and the Livestream is accessible to their followers. During the Livestream, users can interact with audiences simultaneously, just like a video conference.

6) Interactions with other users: Users can "like" or comment on a post, story, or reel, as well as share the post, story, or reel to other people's Instagram chat orto the user's reel or story, and users can also save the post, story, or reel to their own account. See the examples in Figure 4 and Figure 6.

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[11] https://help.instagram.com/1986234648360433
[12] https://help.instagram.com/270447560766967/?helpref=hc_fnav
[13] https://help.instagram.com/1660923094227526/?helpref=hc_fnav
[14] https://help.instagram.com/1750528395229662/?helpref=hc_fnav
[15] https://help.instagram.com/272122157758915/?helpref=hc_fnav
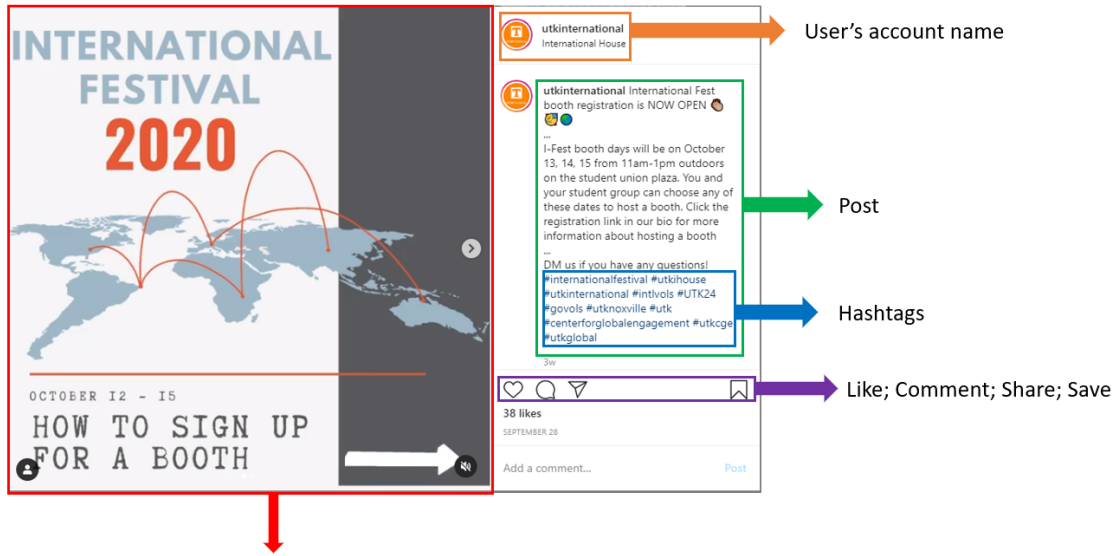
Figure 4. An example of an Instagram post on the Feed
(Image source: https://www.instagram.com/utkinternational/?hl=en)

Figure 5. An example of an Instagram Reel
(Image source: https://about.instagram.com/blog/announcements/introducing-instagram-reels-announcement)
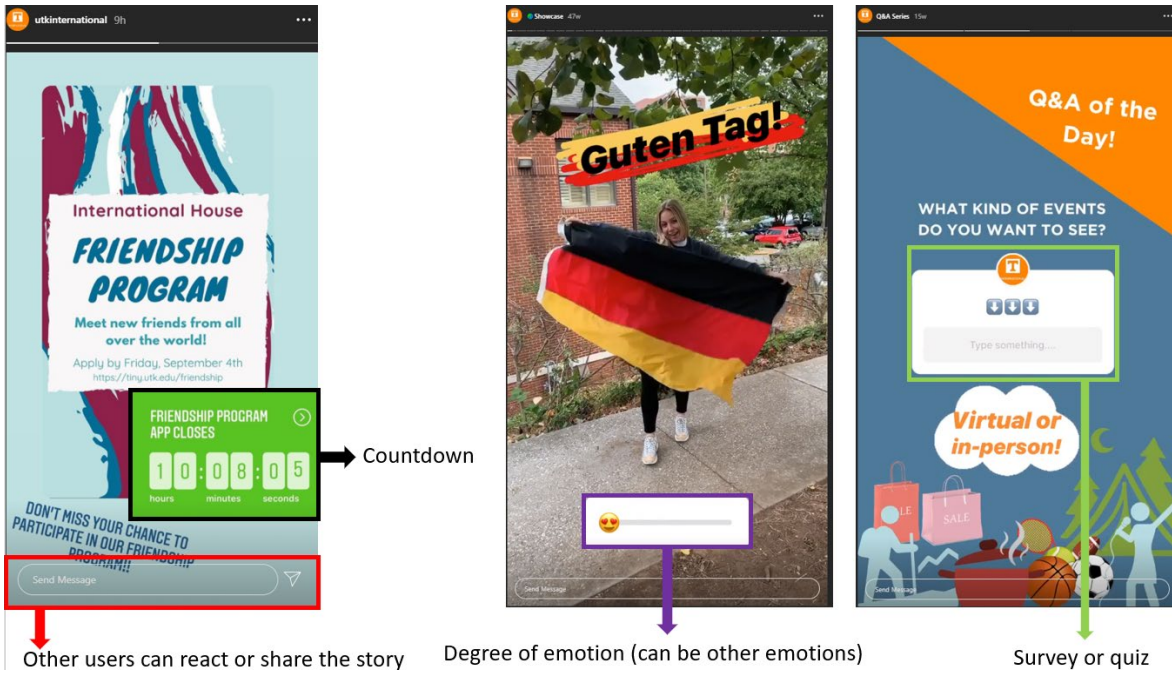
Figure 6. Examples of Instagram stories with various elements
(Image source: https://www.instagram.com/utkinternational/?hl=en)

Summary

Cyberbullying has received scholarly attention globally and across disciplines. From the social-ecological viewpoint, there is a rich body of cyberbullying literature at both the individual level and the microsystem level, focusing on young populations (i.e., children and teens), but less cyberbullying research has focused on university students. Additionally, studies have investigated cyberbullying extensively regarding factors at the individual and microsystem level, per the Social Ecological Model. However, the factors at the mesosystem and exosystem level have not been sufficiently examined to identify their depth and breadth in preventing cyberbullying or for suggesting interventions. Moreover, the majority of existing studies have either focused on text-based cyberbullying or sought to develop auto-detection models for cyberbullying based on using multimedia formats. The latter type of study does not view cyberbullying holistically, from the cognitive, affective, and behavioral aspects of university students. This study filled these gaps by exploring university students' perspectives of visual-based cyberbullying on Instagram, addressing cognitive, affective, and behavioral aspects, using a holistic approach. In order to address the existing research gap that little examination has been done on cyberbullying factors at the mesosystem and exosystem levels, this study also enriched the context of its findings by investigating the current policies on cyberbullying within the University of Tennessee system, as well as identifying the extent to which students were aware of these policies.

CHAPTER TWO
LITERATURE REVIEW

This dissertation aimed to explore undergraduate university students' perspectives of visual-based cyberbullying on Instagram. The literature review covers three main parts. First, to provide an overview of cyberbullying research, I briefly synthesize the topics of and findings from past cyberbullying studies. Second, I use the proposed Holistic Theoretical Framework to structure my review on cyberbullying research involving university students, including general attitude, preparation behaviors, coping strategies, reporting, and policies. Third, I review existing research on visual-based cyberbullying.

Literature Search Approach

I used Academic Search Complete by EBSCOhost and Web of Science Core Collection by Clarivate, accessed through the University of Tennessee Knoxville (UTK) library, as well as Google Scholar,[16] to search and access the full-text documents. The search queries and parameters I applied are presented in Table 1. I scanned search results by title to determine potentially relevant articles on the topic. For those, I downloaded the full-text versions and scanned the abstracts to identify relevant ones. I also identified relevant articles by chaining respective articles' references. This process resulted in a total of 67 relevant studies (Table 1).

Overview of Cyberbullying Research

Research on cyberbullying started in the early 21st century. To provide an overview of the trends and major findings of cyberbullying research, I synthesized the meta-analysis literature review studies published in the past five years, focusing on the themes of trends, definitions, age, gender differences, perpetration, consequences, and victimization. Research trends on cyberbullying are reported in a bibliometric study by López-Meneses et al. (2020), who analyzed 1,128 studies on cyberbullying in the educational context, that were published from 2004 to 2019. López-Meneses and his colleagues analyzed the keywords used in these studies, concluding that seven key research lines have emerged, roughly in this sequence: 1) general studies on the cyberbullying topic, in particular, the digital nature of cyberbullying; 2) general investigation of the cyberbullying phenomenon among the adolescent population; 3) psychological factors that impact perpetrators and victims, such as antisocial behaviors and depressive symptoms; 4) academic and school-related factors concerning students, such as perceptions of the school; 5) characteristics of victims; 6) crime-related investigations, such as child abuse and self-harming behaviors; and 7) new research trends on more diverse aspects, such as cyberbullying of minority groups and cyberbullying-associated theories.

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[16] https://scholar.google.com/

Table 1. Literature search queries and parameters across databases

Topic: Overview of cyberbullying research (Reviewed articles **n=6**)	
Google Scholar	(cyberbully* OR "cyber bully*") AND "meta-analysis"
Academic Search Complete	(cyberbully* OR "cyber bully*") in Subject Terms OR Abstract AND "meta-analysis" in Abstract
Web of Science	(cyberbully* OR "cyber bully*") in Topic OR Abstract AND "meta-analysis" in Abstract
Topic: Cyberbullying research about university students (Reviewed articles **n=44**)	
Google Scholar	(cyberbully* OR "cyber bully*") AND ("university student*" OR "college student*" OR undergraduate)
Academic Search Complete	(cyberbully* OR "cyber bully*") in Subject Terms OR Abstract AND ("university student*" OR "college student*" OR undergraduate) in Abstract
Web of Science	(cyberbully* OR "cyber bully*") in Topic OR Abstract AND ("university student*" OR "college student*" OR undergraduate) in Abstract
Topic: Research about cyberbullying on visual-based social media and visual cyberbullying (Reviewed articles **n=17**)	
Google Scholar	(cyberbully* OR "cyber bully*") AND (Instagram OR "social media" OR visual OR image OR video)
Academic Search Complete	(cyberbully* OR "cyber bully*") in Topic OR Abstract AND (Instagram OR "social media" OR visual OR image OR video) in Abstract
Web of Science	(cyberbully* OR "cyber bully*") in Topic OR Abstract AND (Instagram OR "social media" OR visual OR image OR video) in Abstract

*Truncated words

In terms of the definition of cyberbullying, Peter and Petermann (2018) stated that there are various definitions and conceptualizations of cyberbullying, which makes it hard for researchers to follow a universally accepted definition. Thus, they applied a concept analysis approach to examine the definitions and attributes of cyberbullying presented in 24 scholarly publications published between 2012 and 2017. Focusing on cyberbullying and cyber victimization, they identified the five most frequently addressed attributes, resulting in the following definition, *"Cyberbullying is using information and communication technologies (ICT) to repeatedly and intentionally harm, harass, hurt and/or embarrass a target."* (p. 359). Given the frequent rapid advances that occur in social media technology, it is almost impossible to include every potential platform and all online interaction behaviors (e.g., posting information) in the definition of cyberbullying. Thus, in their definition of cyberbullying, ICTs generally refer to "*electronic forms to contact*" (p.359). To be noted, "repeated" and "intentional" actions are elements that have been addressed in the traditional definition of "bullying" (Olweus, 1994), and have been adopted by most cyberbullying researchers. Peter and Petermann (2018) provided new insights into the meaning of "repeated action." Although we may see an incident happening once, the reposting of the incident by others constitutes a repeated action.

Regarding the effect of age groups and gender differences, Guo (2016) analyzed 77 empirical studies published from 2004 to 2013. They found that over 80% of the studies included participants aged 9 to 17, and only 12% involved young adults (aged 18 to 24). Guo pointed out that males have a greater tendency to be cyberbullying perpetrators, while females are more likely to be victims. In addition, older adolescents (i.e., ages closer to 18) or young adults are more likely to be perpetrators. In a later meta-analysis study, Marciano et al. (2020) examined 56 longitudinal studies on cyberbullying perpetration and victimization of adolescents up to age 18. They found that males are more likely to become perpetrators at an older age, while females have a higher tendency to have negative consequences after being victimized.

Perpetration and victimization have been researched extensively. In Guo's (2016) and Marciano et al.'s (2020) study findings, the factors they found to be significantly associated with both perpetrators and victimization include engaging in more online activities than others, possessing an antisocial personality (e.g., narcissism), and having negative relationships with family, peers, and in school. Adolescents (i.e., under age 18 in Marciano et al., 2020) who engaged in cyberbullying perpetration/victimization in the past also have a higher risk of experiencing victimization/perpetration in the future. As for *perpetration* tendencies, being a traditional school bully, and having problematic behaviors (e.g., substance use), as well as possessing a high level of moral disagreement and a lower level of empathy are related to cyberbullying. On the other hand, cyber *victimization* is associated with traditional bullying victimization, long-term psychological problems (e.g., depression, loneliness), and negative self-perceptions (e.g., low self-satisfaction).

The consequences of cyberbullying experiences may lead victims to engage in risky behaviors in the future, such as self-harm. Kwan et al. (2020) reviewed eleven meta-analysis studies and eight summative synthesis studies focusing on the mental health of children and young people[17]. The data corpus consisted of 832 primary empirical studies published between 2010 to 2018. They found that the most measured mental health outcomes of cyberbullying are depression, suicidality, anxiety, hostility, and aggression, while the most measured psychosocial outcomes include peer problems/traditional bullying, self-esteem, substance (mis)use, and stress/distress. In addition, they reported that cyberbullying studies that used qualitative approaches are much less common than those that applied quantitative approaches.

Besides those traditional factors associated with cyberbullying that were mentioned in Guo (2016) and Marciano et al., (2020), Chen et al. (2017) identified technology-related factors. They analyzed 81 empirical studies that were published from 2004 to 2015. The majority (88.8%) focused on teens and children and only nine studies (11.1%) had participants over age 18. Chen and his colleagues statistically tested 14 predictors of cyberbullying perpetration and eleven predictors of victimization, revealing that media exposure factors (i.e., *risky ICT use* and *frequency of ICT use)* were significantly and positively correlated with both cyberbullying perpetration and victimization, particularly the use of social media sites. It is not surprising that people who spend more time online and engage in risky behaviors online (e.g., sharing personal photos unconsciously) are more likely to be engaged in cyberbullying.

The findings of the reviewed meta-analysis studies on cyberbullying showed that the majority focused on populations under age 18, with only a few studies involving university students. A review of the cyberbullying literature involving university students follows.

Cyberbullying Research Related to University Students

This section reviews the 44 most relevant empirical studies. In this section, I first report on the research methods, sample characteristics[18], and cyberbullying prevalence rates (i.e., the percentage of victimization, perpetration and witnessing) noted in these studies (Table 4). Then, I report the findings of these studies from the perspective of the proposed Holistic Theoretical Framework, consisting of five levels: the individual level, microsystem level, mesosystem level, exosystem level, and macrosystem level.

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[17] The authors used *children*, *young people* and *young adults* as search queries but did not clarify their ages.
[18] Since a study may be cited in multiple sections in the literature review, I provided the detailed information in Table 2 but did not report the information in each narration associated with a citation.

Table 2. Summary of the reviewed studies related to university students

	Research Method		Sample Characteristics			Prevalence			
Study	Method	Approach	Sample size	% of Male/Female	Age or Grade	%V[19]	%P[20]	%V/P[21]	%W[22]
Involving human subjects									
Abaido (2020)	Quan	Survey	200	46.5/53.5	18-25+				
Alipan et al. (2021)	Qual	Focus Group	39	36/64	18-25, M=21.33				
Baldasare et al. (2012)	Qual	Focus Group	30	26.7/73.3	18-28, M=20.47				
Balta et al. (2020)	Quan	Survey	507	45.6/54.4	18-44, M=21.37				
Barlett & Gentile (2012)	Quan	Survey Longitudinal	507	46/54	M=19.42				
Byrne (2021)	Quan	Survey	459	31.4/59.9/1.7[23]	1st-4th grade				
Cénat et al. (2019)	Quan	Survey	4626	19.9/80.1	15-23, M=20.08	19			
Chadha et al. (2020)	Qual	Interview	23	0/100	18-24	83			
Cho & Yoo (2017)	Quan	Survey	1200	51.8/48.3	10-39[24]				
Çimke & Cerit (2021)	Quan	Survey	518	17/83	M=20.1				
Crosslin & Golman (2014)	Qual	Focus Group	54	14.8/85.2	19-27, M=19				
Cunningham et al. (2015)	Quan	Survey	1004	27.1/72.9	1st- beyond 4th grade	5.7	4.5	4.9	45.7
DiLmaç (2009)	Quan	Survey	648	32.9/67.1	18-22, M=19.29	35.7	3	19.5	
Doane et al. (2014)	Quan	Survey	375	34.1/65.6	18-23, M=19.05				
Finn (2004)	Quan	Survey	339	35.1/64.9	1st-4th grade	15; 58.7[25]			
Francisco et al. (2015)	Mixed	Interview Survey	519	22.4/77.6	19-24	27.94	8		45.7
Gahagan et al. (2016)	Mixed	Survey (Close/open ended)	196	20.9/79.1	18-25	19			46
Gibb & Devereux (2014)	Quan	Survey	297	39.1/60.9	M=22.7				
Goodboy et al. (2016)	Quan	Survey	149	48.3/51.7	18-25, M=18.25				
Goodboy & Martin (2015)	Quan	Survey	227	45.8/49.3/4.8[26]	18-40, M=20.97	8.5	14.3	37.1	
Ho & Gu (2021)	Quan	Survey	606	23.8/76.2	18-25, M=21.03				
Johnson et al. (2016)	Quan	Survey	170	26.9/73.1	18-above 25	36.28	6.1		
Kırcaburun et al. (2019)	Quan	Survey	760	40/60	18-40, M=21.48				
Kokkinos et al. (2014)	Quan	Survey	430	42.1/56.7	18-22, M=20.3	11	14	33	

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[19] Percentage of victimization

[20] Percentage of perpetration

[21] Percentage of engaging in both victimization and perpetration

[22] Percentage of witnesses

[23] Percentage of participants with other sex identities

[24] This study is a cross-age study that includes middle school students, university students and working adults

[25] Harassment: 10-15%; Unwanted pornography: 58.7%

[26] Percentage of participants with other sex identities

Table 2. (Cont.) Summary of the reviewed studies related to university students

	Research Method		Sample Characteristics			Prevalence			
Study	Method	Approach	Sample size	% of Male/Female	Age or Grade	%V[27]	%P[28]	%V/P[29]	%W[30]
Involving human subjects									
Lee (2017)	Quan	Survey	321	48.9/51.1	M=21.52				
Marr & Duell (2021)	Quan	Experiment	176	47.7/52.3	18-25	63	15		
Martínez-Monteagudo et al. (2019)	Quan	Survey	1282	46.3/53.7	18-46, M=21.65	18.6	19.4		
Mishna et al. (2018)	Mixed	Survey Focus group	1373	38.3/61.7	M=22.3	54.4; 57.4[31]			Over 1/3
Na et al. (2015)	Quan	Survey	121	N/A	18-25, M=19.68	54; 37[32]			
O'Connor et al. (2018)	Quan	Survey	184	34.2/65.8		3			15
Orel et al. (2017)	Quan	Survey	282	27.7/72.3	18-25, M=19.73				
Ozden & Icellioglu (2014)	Quan	Survey	136	39/61	18-29				
Peled (2019)	Quan	Survey	638	24/76		57.4			
Rafferty & Vander Ven (2014)	Qual	Survey	221	44.3/55.7	18-24, M=19.77				
Rivituso (2014)	Qual	Interview	4	25/75					
Schenk et al. (2013)	Quan	Survey	799	28.4/71.6	1st- beyond 4th grade	8.6			
Schenk & Fremouw (2012)	Quan	Survey	799	28.4/71.6	1st- beyond 4th grade		7.5	2.4	
Smith et al. (2012)	Mixed	Survey (Close/open ended)	340	37.9/62.1	1st-4th grade	16.7	2.9		37.2
Sobba et al. (2019)	Quan	Survey	248	56.5/43.5	M=24.95	21.4	9.2		59.7
Sobba et al. (2017)	Quan	Survey	248	56.5/43.5	18-68, M= 24.95	21.4	9.2		59.7
Wang et al. (2019)	Quan	Survey	476	30.9/69.1	1st-4th grade	M=14.9			
No human subjects									
Davis et al. (2015)	Quan	Content analysis	Blog posts that consisted of 1,094 comments about Amanda Todd's suicide						
Faucher et al. (2015)	Quan	Document analysis	465 cyberbullying related policies retrieved from 74 universities in Canada						
Rachoene & Oyedemi (2015)	Qual	Digital ethnography Content analysis	6 Facebook pages that university students and township youth subscribed to						

[27] Percentage of victimization

[28] Percentage of perpetration

[29] Percentage of engaging in both victimization and perpetration

[30] Percentage of witness

[31] Male=57.4%; Female=54.4%

[32] Victimization via online interactions=54%; Victimization via cell text=37%

Methods
Among the 44 reviewed studies, 41 involved human subjects (see the citations presented in Table 2), of which 31 studies applied quantitative methods, such as scientific experiments and survey approaches, and six employed qualitative methods, such as focus groups, interviews, and open-ended surveys. Four studies used mixed methods, such as open- and close-ended surveys, or a combination of surveys and interviews or focus groups. Of the three studies that did not involve human subjects, one study applied a content analysis of comments on a cyberbullying story, one performed document analyses of university policies on cyberbullying, and one employed digital ethnography and content analysis techniques, using six Facebook pages to which university students and township youth subscribed.

Sample Characteristics
Of the 41 studies that involved human subjects, participant numbers ranged from four to 4,626 students. In most of the studies that included both males and females, the percentage of female participants tended to be higher than male participants (43.5%-85.1% vs. 14.8%-56.5%, respectively). One study had only females and two studies included other sex identities. The age of participants ranged from 18 to 68 years, with a mean age range of 19 to 24.95 years. Three studies reported the participants' class levels as first-year to fourth-year college students, while the other three studies involved students from first year to beyond the fourth year. To be noted, Cho and Yoo (2017) included cross-age participants, consisting of middle school students, university students, and working adults. Given that the focus of this dissertation study is on university students, I concentrated on the findings pertaining to this population demographic.

Prevalence of Cyberbullying.
Table 2 shows the prevalence of four types of cyberbullying. Twenty-three studies reported the percentage of victimization (%V) (5.7% to 83%); eleven reported the percentage of perpetration (%P) (2.9% to 19.4%); five mentioned the percentage of engagement in both perpetration and victimization (%V/P) (2.4% to 37.1%); and eight studies indicated the percentage of witnesses (%W) (15% to 59.7%).

Individual Level
At this level, I report findings from the literature in relation to five factors: 1) age and gender; 2) technology usage; 3) cyberbullying perpetration, as informed by the Five Cs framework; 4) general attitude about cyberbullying, as informed by Ostrom's model; and 5) coping mechanisms for victimization, as informed by Agnew's Strain Theory.

1. Gender and Age
In general, studies revealed that male students are more likely than females to cyberbully others (DiLmaç, 2009; Kritsotakis et al., 2017; Lee, 2017; Mishna et al., 2018) or to be involved in both perpetration and victimization (Çimke & Cerit, 2021; Kokkinos et al., 2014) than female students are (DiLmaç, 2009). Female students are more likely to be aware of cyberbullying incidents (Cho & Yoo, 2017; Cunningham et al., 2015; Smith et

al., 2012), and are more commonly perceived to be victims than male students (Abaido, 2020). As for a specific type of cyberbullying behavior, spreading mean or embarrassing rumors, male students are more likely to be perpetrators (Ozden & Icellioglu, 2014) and victims (Cénat et al, 2019). In terms of age, engagement in cyberbullying decreases as students grow older (Gibb & Devereux, 2014; Kritsotakis et al., 2017; Mishna et al., 2018), and older students tend to consider cyberbullying to be a serious problem (Sobba et al., 2017).

2. Technology Usage in Daily Life
Studies revealed that victims of cyberbullying tend to spend more time online than non-victims (Çimke & Cerit, 2021; Schenk et al., 2013; Sobba et al., 2019). As Cho and Yoo (2017) reported on social networking sites, students who read less, write more, and have more friends, tended to have more experiences with both perpetration and victimization. Surprisingly, students who spent less time online were found to have a stronger intention of perpetration; however, the authors did not mention the possible reasons for this finding. In addition, students who engaged in more "information use" (e.g., information searches, news, email, and community) on the Internet than others were more likely to report victimization. Cho and Yoo noted that greater exposure to content on the Internet might increase students' vulnerability to cyberbullying.

3. Cyberbullying Perpetration Behaviors (Informed by the Five Cs Framework)
Using the reviewed literature on cyberbullying university students, I categorized the cyberbullying perpetration behaviors using Willard's (2007, p.265-267) categories (see Table 3). However, given that the categories were developed about a decade ago and that recent studies have reported perpetration behaviors related to both *sexual* content and the use of *visual* content, I added these two sub-categories (see Table 3. Cont.). Applying the Five Cs framework to the findings from the reviewed literature resulted in the conceptual map shown in Figure 7, which includes Context, Contact, Confidentiality, Conduct, and Content. *Context*, i.e., the virtual platform environment, refers to the online contexts that cyberbullying occurs within, as reported by university students, including traditional ICTs, social networking sites and apps, other virtual spaces, and web-based instructional platforms. *Contact*, i.e., one's social relationships, acknowledges that among most cyberbullying behaviors, the perpetrators have some sort of relationship and contact with the victims. *Confidentiality,* i.e., the extent to which one manages the privacy settings, reflects the fact that in some scenarios, the victims are unaware of their personal information settings or privacy safeguard features. Therefore, perpetrators use content such as contacts information to cyberbully the victims. *Conduct*, i.e., self-regulation and technical skills, addresses the reality that most cyberbullying content is relatively negative, malicious, or threatening. In addition, some behaviors may require a higher level of technical skill, such as stealing one's personal information or pretending to be someone else. *Content,* i.e., information access, use, and upload, speaks to the variety of content types used in cyberbullying. While the most common content format is textual, visual content has recently become popular, and cyberbullying behaviors in vocal (i.e., voice or audio) format and sexually-related content are also mentioned.

Table 3. Cyberbullying perpetration behaviors investigated in the literature

Perpetration behaviors investigated in the literature	Citations
Denigration: *Sending or posting gossip or rumors about a person to damage his or her reputation or friendships* (Willard, 2007, p.266).	
Posting demeaning/insulting/name calling posts to target someone	Byrne, 2021; Gahagan et al., 2016; Kokkinos et al., 2014
Posting demeaning/insulting/name calling comments under posts to target someone	Abaido, 2020; Gahagan et al., 2016; Mishna et al., 2018
Spreading negative/derogatory/offensive/ malicious content about someone to others	Kokkinos et al., 2014
Spreading rumors to hurt someone's reputation	Abaido, 2020; Byrne, 2021; Baldasare et al., 2012; Francisco et al., 2015; Lee, 2017; Mishna et al., 2018; Ozden & Icellioglu, 2014
Ridiculing/joking/mocking of someone	Baldasare et al., 2012; Crosslin & Golman, 2014; Francisco et al., 2015; Lee, 2017
Flaming: *Online fights using electronic messages with angry and vulgar language* (Willard, 2007, p.265).	
Sending mean/negative/hate messages to someone	Abaido, 2020; Gahagan et al., 2016; Kokkinos et al., 2014; Lee, 2017; Mishna et al., 2018; Ozden & Icellioglu, 2014
Harassment: *Repeatedly sending nasty, mean, and insulting messages* (Willard, 2007, p.266).	
Harassing/threatening/coercing/intimidating/cyber sanctioning someone	Baldasare et al., 2012; Byrne, 2021; Finn, 2004; Francisco et al., 2015; Kokkinos et al., 2014
Harassing/threatening someone devoted to a partner in a romantic relationship	Ozden & Icellioglu, 2014
Harassing/threatening someone by demonstrating to have one's private information	Francisco et al., 2015
Cyberstalking: *Repeated, intense harassment and denigration that includes threats or creates significant fear* (Willard, 2007, p.267).	
Anonymous calls	Ozden & Icellioglu, 2014
Sending spam mails or viruses	Ozden & Icellioglu, 2014
Making unwanted contact with someone	Doane et al., 2014
Stalking/continuously posting or messaging someone	Abaido, 2020
Exclusion: *Intentionally and cruelly excluding someone from an online group* (Willard, 2007, p.266).	
Deliberately excluding someone from an online group	Baldasare et al., 2012; Kokkinos et al., 2014; Lee, 2017; Mishna et al., 2018
Outing and trickery: *Sharing someone's secrets or embarrassing information or images online, and talking someone into revealing secrets or embarrassing information, then sharing it online* (Willard, 2007, p.266).	
Sharing someone's secrets/compromising information without permission	Kokkinos et al., 2014

Table 3. (Cont.) Cyberbullying perpetration behaviors investigated in the literature

Perpetration behaviors investigated in the literature	Citations
Impersonation: Pretending to be someone else and sending or posting material to get that person in trouble or danger or to damage that person's reputation or friendships (Willard, 2007, p.266).	
Posting fake portfolio/creating fake page of someone	Byrne, 2021; Ozden & Icellioglu, 2014
Impersonating /masquerading/pretending to be someone	Byrne, 2021; Crosslin & Golman, 2014; Francisco et al., 2015; Kokkinos et al., 2014; Mishna et al., 2018
Hacking to someone's ICT devices or accounts to cause trouble	Lee, 2017; Ozden & Icellioglu, 2014
Unwanted sexual content	
Sending request for sexual intercourse	Ozden & Icellioglu, 2014
Sending sexual content	Finn, 2004
Harassing/threatening someone with sexual content	Francisco et al., 2015
Inappropriate use of visual content	
Taking pictures/recording videos while a group laughs and forces another person to do something humiliating or ridiculous	Lee, 2017
Taking pictures/recording videos while someone hits or hurts another person	Lee, 2017
Taking pictures/recording videos of someone that contain a sexual nature	Lee, 2017
Posting embarrassing/mean photos/videos to shame someone	Abaido, 2020; Byrne, 2021; Gahagan et al., 2016; Kokkinos et al., 2014
Posting mean/negative/derogatory/offensive/ malicious comments on pictures/videos to target someone's intelligence/physical appearance	Gahagan et al., 2016; Rachoene & Oyedemi, 2015
Using emojis as a form of ridicule	Abaido, 2020
Using someone's personal picture/video without permission	Francisco et al., 2015
Sharing/forwarding/spreading someone's embarrassing photos/videos to others to ridicule someone	Gahagan et al., 2016; Kokkinos et al., 2014; Mishna et al., 2018; Ozden & Icellioglu, 2014
Sharing/forwarding/spreading someone's photos/videos that contain a sexual nature	Lee, 2017; Rachoene & Oyedemi, 2015
Sending (links to) humiliating images/videos	Lee, 2017
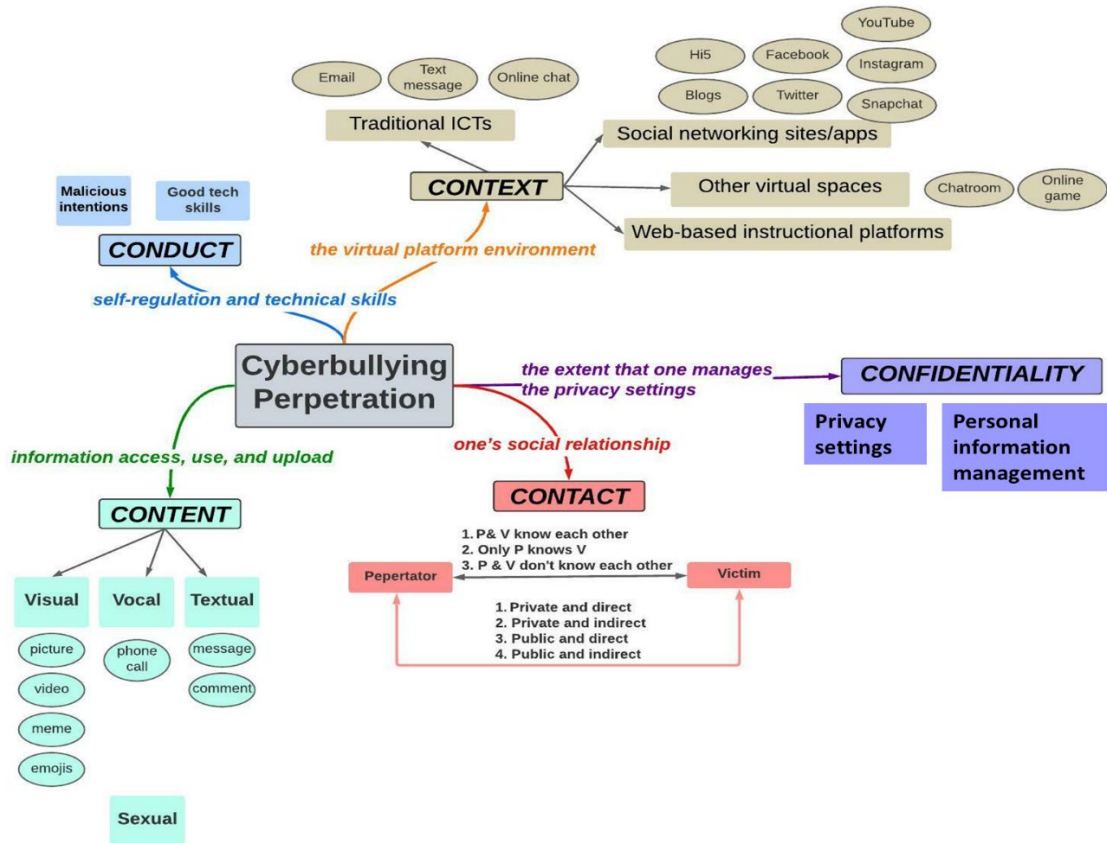
Figure 7. A concept map of elements in cyberbullying perpetration behaviors
(As represented in the Five Cs Framework)

4. General Attitude of Cyberbullying

As described in Chapter 1, Ostrom (1969, p.16) defined cognitive attitude as "*desirable to undesirable thoughts,*" affective attitude as "*favorable to unfavorable feelings,*" and behavioral attitude as "*past action, future intentions, and predicted behavior in hypothetical situations.*" The reviewed studies explored in the next section are reported within the context of Ostrom's Cognitive-Affective-Behavioral Framework.

Cognitive Aspect

In general, most university students consider cyberbullying to be a serious problem, just like bullying in the real world, and feel it should be considered illegal or criminal (Abaido, 2020; Sobba et al., 2019). In particular, females (Marr & Duell, 2021; Sobba et al., 2019) and those who witnessed or experienced cyberbullying perceived a higher level of severity of cyberbullying, compared with males or those who had no direct related experiences (Sobba et al., 2019). In the digital era, almost everyone has access to the online world, and it makes some people less aware of proper manners (Baldasare et al., 2012; Crosslin & Golman, 2014). Conversely, some students may think that cyberbullying is normal in the world of social media (Abaido, 2020), and even have a more accepting attitude toward cyberbullying, and possibly even underrate its consequences (Lee, 2017). For example, Crosslin and Golman (2014) found that, when asked if cyberbullying is a significant problem at their university, only a small percentage (13.2%) of students thought that cyberbullying did occur, but they ignored it, while other students believed cyberbullying does not occur at their college (20.7%), or that it is more dependent on the environment of a university (26.4%).

Existing research indicates that university students believe that cyberbullying is very subjective in a broad scope. Simply speaking, when an action is interpreted by the information receivers or audiences as *intending to harm*, it can be cyberbullying, no matter whether the sender's behavior is actually intentional or was unintentional. However, miscommunication sometimes happens on the part of senders who did not intend to cause harm, because of the lack of nonverbal expressions online. For example, sarcasm and joking words online, without the benefit of hearing vocal tones or seeing facial expressions, are sometimes misinterpreted as cyberbullying by a receiver, even if the sender unintentionally hurt the receiver (Baldasare et al., 2012). On the other hand, when a sender repeatedly or continuously sends/posts harmful content, it is considered cyberbullying (Gahagan et al., 2016). Interestingly, Crosslin and Golman (2014) found that some students believe the term "cyberbullying" is outdated, because the term "bully" may hearken back to traditional school bullying they experienced at a younger age (Gibb & Devereux, 2014) and, therefore, they believe that using "cyber-attack" or "online harassment" is a more appropriate terminology than "cyberbullying" (Byren, 2021).

Students consider cyberbullying to be hostility or a threat that causes mostly negative consequences (Gahagan et al., 2016). But some students also consider it to be a chance for a challenge that could empower victims to confront cyberbullying (Na et al., 2015) and to identify truly supportive friends (Baldasare et al., 2012). Students believe that both

relationships and content matter. That is, the closer the relationship a victim has with a perpetrator, the greater the impact of cyberbullying. If the incident contains sensitive content, such as personal photos or sex-related pictures, the impact is even greater (Baldasare et al., 2012; Mishna et al., 2018). On the other hand, Baldasare and colleagues (2012) found that students believe that perpetrators may experience both positive outcomes (e.g., satisfaction, empowerment, attention, and a boost in confidence) and negative ones (e.g., guilty feelings, regret, decreases in self-esteem and others' respect, or legal consequences).

In terms of the motivation of perpetrators, students suggested many possible reasons for cyberbullying: revenge or self-empowerment, dislike/hatred against the target, personal or mental issues (e.g., jealousy, frustration, feelings of insecurity, feelings of exclusion), a desire to be popular, discrimination based on differences, gossip, the victim's behaviors (e.g., a belief that he/she probably deserves it), and social norms (i.e., because other people do it, so can I) (Abaido, 2020; Baldasare et al., 2012; Francisco et al., 2015; Johnson et al., 2016).

Affective Aspect
As previously indicated, students feel that perpetrators may be motivated by various emotions, and they intend to impact the victims' feelings. In Gahagan et al. (2016, p.1101), for example, a student said, "*When I think of cyberbullying, I think of extremely cruel, emotionally-driven comments posted in the hopes of hurting another person.*" Gahagan et al. also indicated that, from the students' point of view, intentional perpetrators usually aim to cause embarrassing, harmful, or painful feelings, while unintentional cyberbullying often originates from attempts at being humorous, which turn out to be perceived as offensive.

Most students said they are not willing to see someone being cyberbullied (e.g., around 88% in Johnson et al., 2016). Students with a higher level of empathy or emotional reactivity usually have negative feelings toward cyberbullying (Doane et al., 2014; Kokkinos et al., 2014). However, about 17% of participants in Crosslin and Golman's study (2014) still felt cyberbullying is simply immature or even humorous, as one student (p. 41) mentioned: "*You just feel like it is funny... I know it's not funny but* [it] *just like seems a little more childish to me.*" (Crosslin & Golman, 2014, p. 41).

Behavioral Aspect
The behavioral aspect concerns how students act toward or will react to cyberbullying in general, which is from a witness' perspective. Related literature in this section overlaps with studies that discussed behavioral coping strategies for victims and bystanders. Thus, in the next section, studies about the coping mechanisms of the cyberbullying behavioral aspect are reported, in the context of Agnew's (1992) coping mechanism.

5. Coping Strategies for Cyberbullying

Agnew (1992) proposed that a strained individual (i.e., a cyberbullying victim in this case) may generate a coping mechanism from the cognitive, emotional (referred to as "affective" here), and behavioral aspects of their circumstances. As mentioned earlier in Chapter One, cognitive coping strategies include ignoring the adversity (e.g., It's not important), minimizing the negative outcome/maximizing the positive outcome (e.g., It's not that bad), and putting the responsibility on oneself (e.g., I deserve it). (Agnew, 1992, p.66). Behavioral coping strategies include minimizing the negative outcome/maximizing the positive outcome and revenge behaviors. Emotional coping means reducing the negative feelings but not *"[C]ognitively reinterpreting or behaviorally altering the situation that produced those emotions by acting directly on the negative emotions that result from adversity*" (Agnew, 1992, p.70).

Cognitive Aspect

In Alipan et al.'s (2021) study, university students mentioned strategies that the researchers recognized as cognitive reframing, which is a "*reappraising or restructuring [of] the situation in a different or more positive way*," (p.27) in order to cope with cyberbullying. Alipan and colleagues, as well as other researchers, have noted evidence of university students' engaging in distinct types of cognitive reframing as a coping mechanism for cyberbullying. Examples of this strategy include: 1) Moving forward and leaving negative thoughts behind, such as by saying, "*Let it go; who cares what people say about me*?" (Byrne, 2021, p.169); 2) Normalizing cyberbullying as being commonplace, reminding themselves, "*It's just a part of normal life.*" (Chadha et al., 2020, p. 248); 3) Attributing the responsibility back onto the perpetrator, recognizing that "*[H]e has just done this because [of] this and this, and [I] think I'm a lot better than that...*" (Alipan et al., 2021, p.26); 4) Employing self-deprecating humor by accepting the cyberbullying situation, asserting that "*…[T]he bad photos, I think they're hilarious ... and I like to think I'm pretty funny ... and if I didn't, I would be perceiving it as bullying.*" (Alipan et al., 2021, p.28).

Students considered the cognitive coping approach to be effective in regaining cognitive control of their minds and reducing stress (Alipan et al., 2021; Davis et al., 2015; Na et al., 2015) and recommended this strategy to cyberbullying victims. However, some students did not agree with this approach because they believed that the victims should not cognitively accept the teasing and cyberbullying to please others.

Affective Aspect

Having negative emotions is a natural reaction to being cyberbullied, which may increase the risk of depression and social anxiety (Wang et al., 2019). Schenk and Fremouw (2012) reported that victims feel frustrated, stressed, hurt, and angry. Rivituso (2014) mentioned that victims have feelings of vulnerability and fear because of safety concerns, and that they feel stressed, depressed, and embarrassed because they perceive there is no escape from the perpetrators and acquaintances. The victimization experiences also make victims feel disappointed and distrustful of their peers at college. In Cénat and

colleagues' 2019 study, the female victims of online harassment expressed their feelings by using terms like *"upset," "bothered," "disturbed," "confused," "violated," "horrible,"* and *"angry."* Peled (2019) noted that female and sexual minority cyberbullying victims have a greater tendency to experience anxiety and depression than their male or sexual non-minority counterparts.

In terms of coping with these negative emotions, students in Alipan et al.'s (2021) study mentioned that they might try to reduce the bad feelings and protect their emotions. However, if the practical situation does not change, this coping method seems limited in its ability to help victims. For example, if the offensive photo was already being spread, the victim is unlikely to feel better until all the shared photos were removed. Thus, victims may instead turn to friends and peers to seek emotional support. Rivituso's (2014) study emphasizes the significance of friendship in college. All participants who experienced victimization in this study mentioned that friends' comforting them might reduce their negative feelings and strengthen their self-esteem.

Behavioral Aspect
Behavioral coping mechanisms are the most investigated aspect in the cyberbullying literature. Various strategies involve behavioral actions. In the section below, I cover two categories of behavioral-oriented coping: traditional approaches and technological approaches.

a. Traditional Coping Approaches
Victims may passively cope with the incident, such as by ignoring it, while some people may actively fight back or report the incident. Based on the reviewed studies, traditional coping strategies encompass five types of behavior: seeking social support, ignoring it/doing nothing, avoiding contact with the cyberbully in real life, responding to or confronting the bully, and reporting the incident to the university and/or law enforcement.

a-1. Seeking social support. This is the most frequently mentioned traditional strategy. This behavior differs from seeking emotional comfort, because victims usually seek practical help by talking to someone they trust (Byrne, 2021; Davis et al., 2015; Francisco et al., 2015; Na et al., 2015; Orel et al., 2017), or by sharing the story online to seek advice (Byrne, 2021). In Davis et al.'s study, around one-third of cyberbullying victims reported using this strategy; in other studies, however, it seems a much smaller percentage of students were willing to talk to others (e.g., only 8.2% in Byrne, 2021).

a-2. Ignoring it/doing nothing. This is another frequently mentioned traditional strategy (Abaido, 2020; Davis et al., 2015; Francisco et al., 2015; Mishna et al., 2018; Orel et al., 2017; Rachoene & Oyedemi, 2015). Around one-third of the victims in Abaido's 2020 study reported that they ignored the harmful content. Mishna et al.'s 2018 study showed that over half of victims used this strategy to deal with their concerns about "being excluded." Notably, Rachoene and Oyedemi (2015) found that a single individual victim is more likely to cope with cyberbullying by ignoring it. In addition, much like its

victims, other people who witness cyberbullying may choose to ignore it as well (e.g., 27% of students in Abaido, 2020).

a-3. Avoiding contact in real life. Victims may feel too vulnerable to face the perpetrators and too embarrassed to face their friends. Some students (e.g., 22% of students in Francisco et al., 2015) chose not to contact the perpetrators in real life, and a few students (8%) even avoided attending face-to-face events (Byrne, 2021). Francisco et al. (2015) reported that over 20% of the victims stopped answering anonymous phone calls they might receive.

a-4. Responding to/confronting the bully. Compared with the aforementioned strategies, this coping method is more proactive and has been investigated by many scholars (Abaido, 2020; Alipan et al., 2021; Byrne, 2021; Chadha et al., 2020; Francisco et al., 2015; Ho & Gu, 2021; Mishna et al., 2018; Orel et al., 2017; Rachoene & Oyedemi, 2015; Schenk et al., 2013). Some researchers call this strategy "Approach Coping" (e.g., Alipan et al., 2021).

Some victims may ask the perpetrators to stop the behavior or delete the content, while a few victims, usually male, may seek revenge (Orel et al., 2017; Schenk et al., 2013). To be noted, the likelihood that victims will adopt this strategy varies across different scenarios. For example, Rachoene and Oyedemi (2015) found that if the victimized target is a group of people, the group is more likely to confront the perpetrator. In Mishna et al.'s 2018 study, more victims (14%) fought back after receiving rude or intimidating messages, while fewer victims (3%) confronted the perpetrators when their private videos or photos were shared with others. In addition, this proactive strategy was found to effectively reduce symptoms of depression (Ho & Gu, 2021). However, some female victims in Chadha et al.'s 2020 study perceived that fighting back was "*not worth it*" and "*not really productive*" (p. 248) because the same episodes persisted.

a.5. Reporting incidents to university/law enforcement. This strategy was investigated in a few studies (Byrne, 2021; Francisco et al., 2015; Johnson et al., 2016; Mishna et al., 2018; Orel et al., 2017). Some participants (9.76%) in Johnson et al.'s study (2016) said they would file an abuse report if they experienced cyberbullying. However, only a small percentage of victims (between 1% to 8% across four of the cited studies above) or bystanders (1.6%) chose to report to the university personnel (i.e., lecturer, staff) or law enforcement. The suggestions that students provided to improve the reporting system are described in the "Exosystem Level" section below.

b. Technological Coping Approaches.
These approaches refer to dealing with cyberbullying incidents virtually through ICTs. Based on the reviewed literature, seven distinct approaches employed by victims were revealed, including blocking/unfriending the perpetrator, reporting the cyberbullying account/content on the social media site, changing their account settings, leaving the

online group/platform, deleting their accounts, stopping their online activities, and paying attention to the use of ICTs.

b-1. Blocking/unfriending the perpetrator. This is the most frequently mentioned and applied technological strategy, in general. For example, 55% of the victims in Byrne's 2021 study, 37% of the bystanders in Abaido's 2020 study, and 61.59% of the participants in Johnson et al. (2016) reported that they would block or unfriend the perpetrator. Interestingly, in Orel et al.'s (2017) study, non-victims showed a greater propensity than victims to block the perpetrators, because victims tend to believe that there are always other ways to be victimized if the perpetrators really want to target someone. Still, this strategy requires the least amount of effort by victims to prevent themselves from being bothered (Chadha et al., 2020).

b-2. Reporting the cyberbullying account/content on the social media site/Contacting the social media site manager. "Reporting" here means to report the perpetrator's account or the harmful content to the social media site so that the account/content will be removed from the platform. Many victims applied this strategy (e.g., 39.1% in Abaido, 2020; and 22% in Byrne, 2021). However, Alipan et al.'s (2021) participants noted that this approach might not be effective because people can always create new accounts on social media. Even if the harmful content has been removed, the hurt has already been inflicted on the victim.

b-3. Changing visibility access/privacy settings/personal information. Byrne (2021) reported that 44% of victims used this strategy. To be noted, Francisco et al. (2015) indicated that students who were victimized by visual usage (i.e., using images without their permission) reported a higher likelihood of changing their privacy settings than those who experienced intimidation. In general, this is an effective technological coping strategy, yet participants in Alipan et al. (2021) mentioned that, on social media sites, perpetrators can still locate the victims based on their friends, followers, and email address, and it is hard for victims to escape entirely.

b-4. Leaving the online group/platform with cyberbullying incidents. If victims seek to avoid most perpetrations, the coping strategy might need to be extreme. For example, In Byrne's study (2021), 20.2% of victims reported that they stopped using the platforms, and 15.7% withdrew from the online forum. Similarly, in Abaido's (2020) study, 13.5% of bystanders said they would leave the platforms where cyberbullying occured.

b-5. Deleting their account permanently or temporarily. A more extreme strategy to escape is to delete accounts, usually on social media sites (Chadha et al., 2020). Byrne (2021) reported 14.2%, and Francisco et al. (2015) indicated that less than 10% of victims chose this approach. Compared with the aforementioned strategies, students felt this approach might not be ideal because they did not want to isolate themselves from friends on social media sites (Alipan et al., 2021). It is noteworthy that, similar to the *changing privacy* strategy, Francisco et al. (2015) found that victims of visual-based

incidents were twice as likely to delete their Facebook pages than were those victimized by intimidation.

b-6. Stopping going online or posting online. Students in Alipan et al.'s (2021) study stated, "*Don't go online if you don't like to be cyberbullied.*" But students also admitted that this strategy might be unrealistic for university students and may even lead to further distress from online isolation. Using a more moderate strategy, over one-third of victims in Byrne's (2021) study tried not to post particular kinds of content online. Similarly, some participants in Chadha et al.'s study (2020) stopped posting on sensitive or controversial topics, such as politics and feminism.

b-7. Paying attention to the use of ICTs. Being more aware of technology usage (e.g., a webcam) seems to be a fundamental way of minimizing the chances of being victimized. Yet, only a few victims (4.2%) mentioned this approach in Francisco et al.'s (2015) study.

Microsystem Level
In the original SEM, the Microsystem includes home/family, peers, school, and neighborhoods. In this section, I focus on peers and academic university personnel (e.g., faculty, academic counselors).

1. Peers and Friends
As described in the "coping mechanism" section, friendship plays a vital role for university students who experience cyberbullying. For example, Smith et al. (2012) found that 95% of the victims choose to talk to a friend. Compared with other university personnel, friends and peers may have more chances to become aware of cyberbullying incidents and can provide emotional support and backup to the victims in confronting the perpetrator. In addition, students who have more friends and receive more social support in the real world are less likely to become either perpetrators or victims (Baldasare et al., 2012; Martínez-Monteagudo et al., 2019; Sobba et al., 2019).

However, not all types of friendship are positive. Those who have more friends online and perceive more substantial support from the "weak ties formed in anonymous online environments[33]" (Cho & Yoo, 2017, p.1476) are more likely to become involved in perpetration. Moreover, if students perceive that their peers have a higher level of tolerance for cyberbullying, they are more likely to engage in unwanted contact (e.g., sending a pornographic picture to others who do not want to receive it) and mean behaviors. Similarly, Doane et al. (2014) found a relationship between peers' cyberbullying engagement and students' involvement in mean behaviors and humiliation. Given the strong influence of peers, researchers suggest providing peer education and bystander intervention training in the university environment (Smith et al., 2012; Sobba et al., 2019).

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[33] For example, if someone is a friend of yours on Facebook, maybe the two of you join the same Facebook group, but do not know each other's real identities offline.

2. Academic University Personnel

Unlike talking with peers, only a few victims may be willing to talk with university personnel about cyberbullying incidents. For example, Abaido (2020) found that only 1.5% of the victims chose to speak to a professor or an academic counselor about it. However, in Orel et al.'s (2017) study, when asked if they did/would reach out to academic university personnel for consultation, victims (mean number=1.9) [34]are more willing to seek help from lecturers, compared with non-victims (mean number=1.6). Thus, Baldasare et al. (2012) suggested that faculty who teach online should incorporate online etiquette into their courses and that all faculty members should be trained to deal with cyberbullying.

Mesosystem Level

The Mesosystem level addresses the interactions between the factors at the Microsystem level. In this dissertation, the Mesosystem level includes the interconnection of personnel within the university who are responsible for attending to cyberbullying, including intervention. In the section below, I review studies that investigated university students' perceptions of existing intervention programs and their suggestions for implementing new programs.

Intervention Practices

Rowe (2014) investigated university students' perspectives on how a university should monitor inappropriate content on non-university social media sites that are run by university students. "Students feel very strongly that this is an invasion of privacy" (Rowe, 2014, p.250), and that the person affected by the site contents should report it to the social media site or police. Similarly, in Baldasare et al.'s study (2012), participants in focus groups initially said that universities should not be involved in controlling cyberbullying on campus. They considered universities to be "powerless" against it, mainly because of the anonymity of the online environment, limited human resources, and the "constitutional protections for free speech." They suggested providing training and educational resources, such as informative workshops on cyberbullying, and resources at freshmen orientations. In addition, students suggested that special training programs be offered to various levels of personnel (e.g., student health and counseling center, the Dean of Students office, and residence hall personnel) to support prevention and intervention. As for the counseling services, students mentioned that the information should be visible, for example, via posters, links on university webpages, and through other creative techniques such as an online cyberbullying quiz.

In Smith et al.'s (2012) study, students were surveyed about their opinions on how the university should address cyberbullying. The authors categorized several suggestions from students. First, there is a need for intervention and informative websites, especially on confronting perpetrators that are acquaintances, and coping strategies for anonymous perpetrators. Second, the university may consider promoting different forms of campaigns and programs, such as activities for residence hall communities, speeches by

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[34] The authors in this study only provided the mean.

past victims, group discussions, or even public forums or debates. Third, information technology offices and specialists could be involved in the intervention from several approaches. For instance, they can guide victims to adjust the privacy settings on their web browsers and also block unwanted contacts. And in a more proactive way, the university could monitor or even ban the gossip websites from the campus network.

Cunningham et al. (2015) investigated students' preferences in different roles (i.e., victim, perpetrator, victim/perpetrator, witness, non-involved) in a cyberbullying prevention program. Interestingly, students had similar suggestions, regardless of their role. First, programs should inform students about the impacts of cyberbullying on victims. Second, programs could consider the role famous actors, rock stars, and athletes might play in combatting cyberbullying. Third, programs should encourage the reporting of cyberbullying, either anonymously or identifiably. Fourth, the "loss of university internet" privileges seem to be the most effective punishment for those engaging in cyberbullying. In addition, compared with other roles, victims are more willing to participate in the anti-cyberbullying program.

Exosystem Level
This level includes the indirect contacts of the individual that still impact the individual in general, such as the school climate and mass media. In this section, I report key study findings related to cyberbullying report systems and policies at universities, as these shape the social climate in these academic institutions. Given that social media sites can be classified as mass media, I also synthesize the safety policy of Instagram from its official site[35].

1. Reporting System
Looking back almost two decades, Finn's (2004) study showed that only 6.8% of victims had reported the harassment incident to the university internet provider, residence hall advisor, or related student offices. However, nearly half of those who reported cyberbullying said that the situation was not satisfactorily resolved. Other victims did not report the issue, mainly because they just preferred to deal with it by themselves, but around 12.5% said they did not know to whom they should report it.

Recent studies show a positive signal on students' perceptions of reporting cyberbullying. Around 61.6% of students in Abaido's (2020) study replied that they would report it if they were being cyberbullied. And around 48% of students in O'Connor et al.'s (2018) study knew where to report cyberbullying incidents. However, when students actually face cyberbullying, their willingness to report the incident may be much lower, as revealed by Byrne (2021), where only 22% of the victims reported the incident to the university's online service. As for students who witnessed cyberbullying, 18.2% reported the incident (Sobba et al., 2019). One reason for this may be that students feel less comfortable reporting cyberbullying to university personnel that offer psychological or

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[35] https://about.instagram.com/

legal guidance (Smith et al., 2012). Thus, universities may need to design a reporting system that is in line with students' preferences (Cunningham et al., 2015). For example, the information technology office at a university could develop an anonymous reporting system with a feature that enables students to flag inappropriate content in the online learning environment anonymously (Baldasare et al., 2012). Other anonymous methods could be to establish a hotline, and/or create a mobile app, for reporting cyberbullying incidents (Abaido, 2020).

2. University Policies
In Baldasare et al.'s (2012) study, students in most focus groups reported their dissatisfaction with their university policy on cyberbullying and considered it outdated. As one student mentioned, "*Everyone gets the school policies or the student handbook when you first come to the university, and there is not a word, not one word on social behavior on the Internet.*" (p.146).

However, students may overestimate their knowledge of the university's policy, and universities may overestimate students' knowledge of it as well. A majority (70%) of participants in O'Connor et al. (2016)[36] were unaware of the social media-related policy within their university, especially younger students and those who care less about privacy protection. Similar to Rowe's (2014)[37] study findings, O'Conner and colleagues indicated that around half of students agreed that people posting culturally insensitive content should be disciplined, but there was still about one-third of the students who believed that their private social media posts were protected by the First Amendment. In a later study, O'Connor et al. (2018) investigated university students' awareness of cyberbullying related policies and reporting procedures. They found that only 45% of the students thought that there was an anti-cyberbullying policy in their university, and only 21% had been trained on the policy. In addition, only 42% of the students believed that perpetrators were actually punished under the policy.

In Faucher et al.'s (2015) content analysis study on 465 cyberbullying policies at 74 Canadian universities, they found that, on average, each university had 6.3 policies related to cyberbullying. The most documented types of policies are codes of student conduct and discipline (32%), electronic communications (21.5%), and harassment or discrimination (17%). The authors further analyzed the policy content in relation to specific aspects of cyberbullying, including the definition of cyberbullying (45.4% contained a definition and 92.5% provided examples); types and context of behaviors (35.7%), cyberbullying because of demographic attributes (e.g., gender, sexual orientation) (41.9%), possible penalties (73.5%), information about the complaint procedure (22.8%), and prevention practices (21.7%). Overall, Faucher and colleagues stated that the majority of the policies were lagging far behind the rapidly-developing ICT environment, in that they had insufficient information describing cyberbullying

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[36] This study is listed in the References but are not included in Table 2.
[37] This study is listed in the References but are not included in Table 2.

behaviors, coping strategies, reporting, and guidance for students when cyberbullying happens.

3. Safety Policy of Instagram
Users can access the platform's safety policy from the Instagram Help Center webpage. There are three main categories of safety tips provided: 1) Privacy/visibility control: this is how a user can manage who can view your account information, posts, story, etc.; 2) Harmful content/message reporting system: this provides information about how to block someone, where and how to report inappropriate visual content (e.g., suicide images) or messages that include threatening content, such as asking you to share sexual images; 3) Safety issues addressed: this provides resources about addressing abuse and cyberbullying, including the Cyberbullying Research Center (https://cyberbullying.org/) and information for law enforcement.

Macrosystem Level
The Macrosystem level in SEM encompasses factors that may influence the individual's life in a grand view, such as regulations/laws and social norms. Very little cyberbullying scholarly research focuses on factors at this level. Patchin et al. (2020) and Willard (2012)[38] discussed the legal aspect of cyberbullying, in general. However, to the best of my knowledge, there are no existing cyberbullying studies that have investigated university students' knowledge of and perspectives on cyberbullying-related laws. As for another factor at this level, "social norm," I consider this concept to be the same as the "social media norm" in the context of my study. Since not all reviewed studies of the social media norm are focused on both cyberbullying and the university student population, I address this part in the next section (visual-based cyberbullying and cyberbullying on visual-based social media).

Summary
In this section, I reviewed cyberbullying studies that focus on university students. The majority of these studies used quantitative approaches. The number of participants ranged from four to 4,626 students and their mean age range was from 19 to 25 years. The prevalence of cyberbullying of any sort of engagement (i.e., perpetration, victimization, or witnessing) ranges from 2.4% to 59.7%.

At the individual level, male students and younger students are more likely to engage in cyberbullying, compared with female students and their older counterparts. In general, students who are more exposed to the online environment tend to be more vulnerable to cyberbullying. Nine categories of cyberbullying behaviors were measured or reported in the review studies for which I reported aspects in the context of the Five Cs framework. As for the general attitude, students consider cyberbullying to be a severe problem that can cause negative consequences. Students also provided various coping strategies from the cognitive, affective, traditional, and technological viewpoints.

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[38] These two studies are listed in the References but are not included in Table 2.

At the Microsystem level, research findings related to peer/friends and academic university personnel were reviewed. Peers serve a crucial role in cyberbullying engagement, while fewer students were willing to consult with university academic personnel when facing cyberbullying. At the Mesosystem level, scholars investigated students' perspectives of university intervention practices and provided suggestions to improve their effectiveness. At the Exosystem level, several researchers examined students' perceptions of university policies and reporting practices on cyberbullying. At the Macrosystem level, there is a dearth of studies that have investigated cyberbullying regulations and laws. As for the social norm, it is addressed in the next "social media norms" section.

Visual Cyberbullying and Cyberbullying on Visual-based Social Media

The Social Media Norm of the Young Generation
In this section, I synthesized past studies[39] of university students' usage of different types of social media. Smith et al. (2012) reported that many students' (65%) usage of online media and social media sites had increased, as compared to when they were in high school. This study found that 28.2% of them spent less than two hours, 46.6% spent two to four hours, and 24.9% of students spent more than four hours using social media daily. Five years later, another study reported that 18.6% of university students spent less than two hours daily online, 48.1% spent three to seven hours, and 32.7% spent more than seven hours (Lee, 2017).

University students reported having accounts on various social media sites, such as YouTube, Instagram, Facebook, and Twitter (Aparicio-Martínez et al., 2020; Johnson et al., 2016; Lee, 2017; Shane-Simpson et al., 2018; Thomas et al., 2020). To investigate students' preferences for social media sites, Shane-Simpson et al. (2018) surveyed 663 college students aged 18 to 25. Overall, Instagram was more popular than Facebook and Twitter. To look at the gender differences, the percentage of males who preferred Facebook and Twitter (28% vs. 22%, respectively) is higher than females' preferences for these sites (20% vs.15%, respectively), because of the greater capability for online connections and social capital. Conversely, females tended to prefer Instagram (64%) more than males (50%) did, because of its visual affordances.

Usage of text-based and visual-based sites not only differed by gender, but also by affective states. Pittman and Reich (2016) investigated 253 undergraduates' affective perceptions and usage of social media (i.e., Instagram and Snapchat), text-based media (i.e., Twitter and YikYak), and mixed media (i.e., Facebook). They found that students who used image-based platforms more (i.e., used them more frequently or used more types of image-based platforms) showed a lower degree of loneliness, a higher degree of happiness, and higher levels of satisfaction with life. The authors explained the results

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[39] Some cited studies in this section are already included in Table 2. For these studies, I did not report detailed information on their sample population.

based on students' replies to one open-ended survey question. First, seeing visuals can help them feel close to each other's lives, and second, visual content gives a sense of a friend's physical presence. In another study of a visual-based site, Kim (2020) investigated 321 female college students' usage of Instagram. On average, these students reported using Instagram for 30 minutes to an hour every day. The results showed that students' selfie-posting behavior decreased their dissatisfaction with their body appearance because their self-esteem was enhanced through the posting.

Although visual-based sites have positive influences, they could also result in problematic behaviors, such as reinforcement of narcissistic personality traits (Pittman & Reich, 2016), or increasing behaviors of escaping from the world of reality. Kırcaburun et al. (2019) investigated the use of Instagram and escapism among 333 users aged 14 to 23. They found that young people who watched livestream videos and who "like" or comment on posts more frequently, display a greater degree of escapism. This means that some people seek a feeling of social presence on Instagram in order to escape their loneliness in real life. In another study, Moon et al. (2016) examined self-promotion behaviors on Instagram among 239 users aged 20-39. They found that users who rated themselves with a higher level of narcissism on the Narcissism Personality Inventory tended to report spending more time on Instagram per day.

In addition, the content on visual-based social media sites may impact an individual's cognitive and affective states. For example, Morgan et al. (2010) surveyed 314 university students about their perceptions of posting images or videos about alcohol drinking and marijuana use on MySpace, Facebook, and YouTube. Almost all participants (97%) reported that they had seen or posted such content. In general, students felt more positive about images and videos related to alcohol drinking on social media sites, while they were more negative about substance use images. In Jacob et al.'s (2017) interview of 21 young adults aged 16 to 24 who had engaged in self-harming behaviors, participants admitted that they use self-harming images online to reinforce or encourage themselves. The power of the retrieved images provided a sense of self-harm in the real world, which encouraged young adults to reflect on their previous self-harming experiences, or even be triggered by others' actions (Jacob et al., 2017).

Cyberbullying Research on Visual-based Social Media Sites
Recently, researchers have paid attention to cyberbullying on visual-based social media sites. Hosseinmardi et al. (2014), for example, collected a large data set of 32,000 public Instagram profiles, and examined the relationships between cyberbullying and using positive words, negative words, and non-standard writings (e.g., wtf) in profile narrations. Their findings revealed that Instagram users who were considered to be the most vulnerable cyberbullying victims had the following features on their profiles: more negative words, a greater number of negative posts, and few positive interactions with others. The authors mentioned that future studies may need to specify the negative terms associated with cyberbullying, because some words might not actually be intended as negative, such as saying, "That's f**king amazing."

Arslan et al. (2019) examined the context of cyberbullying, emotion, and sentiment of 1,000 Instagram comments. They found that cyberbullying comments are significantly correlated to angry emotions and negative sentiments, while joy, no-emotion, positive, and natural sentiments are less likely to be considered as cyberbullying.

Kao et al. (2019) examined user behaviors on Instagram and their role in cyberbullying (i.e., perpetrator, victim, and witness). They collected 14,063 Instagram accounts with 1,738,850 images/videos posted by users, and 6,816,844 associated comments. Using a machine learning detection model, they classified aggressive content related to sexual, body, swear, and "*power words that target someone in addition to large sentences with a lot of upper-case words and internet language*" (p.185). They found that a user may receive aggressive comments from 8,445 users at the maximum, while a user may send aggressive comments to 487 users at the most. The authors also found that perpetrators and victims tend to stay in a consistent role. In comparison, witnesses develop more complicated behavior patterns. For example, they may support a particular victim, but also perpetrate cyberbullying against another person; as the author stated, this dual behavior requires further investigation.

Hassan et al.'s (2018) study investigated witnesses' behaviors toward cyberbullied celebrities. They observed online behaviors on 30 selected celebrities' Instagram accounts and interviewed seven celebrities and ten followers. They found that followers who tended to be active bystanders who support the victims are usually avid fans, or have a high degree of empathy. However, those who chose not to support victims said that, if they were unsure of the cyberbullying context, or if they had no offline relationship with the victims, they would keep silent. Additionally, bystanders may worry about becoming victims themselves if they confront the perpetrators.

It should be noted that, although the reviewed studies above focused on cyberbullying on visual-based social media sites, they analyzed "textual" content. Research that examined cyberbullying content associated with visuals has emerged in the past five years. For example, in their cyberbullying detection project, Singh et al. (2017) and Soni and Singh (2018) aimed to identify cyberbullying incidents in multimedia that are not easily detected by purely textual information. The data set used in these two studies was provided by Rafiq et al. (2015). This data set was generated from Vine[40]. Vine was a social media platform that enabled users to record short video clips using its in-app camera. This data set includes media sessions (i.e., short videos with comments) consisting of textual, audio, and visual content. Rafiq et al. (2015), the media sessions had been labeled by crowdsourcing workers on CrowdFlower.[41]

Singh and his colleagues (Singh et al., 2017; Soni & Singh, 2018) selected 165 cyberbullying-labeled media sessions from Rafiq et al.'s (2015) data set as their sample to demonstrate perpetration directly in audio-video posts (i.e., audio refers to the vocal

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[40] Vine was shut down and is no longer available now. https://help.twitter.com/en/using-twitter/vine-faqs
[41] https://visit.figure-eight.com/People-Powered-Data-Enrichment_T

content in the media session, and video refers to the visual content) and associated textual comments. Next, they analyzed the potential cyberbullying features (i.e., in textual, visual, and audio formats) in the sample. The analysis of visual features represented in cyberbullying-labeled media sessions showed several tendencies. First, the cyberbullying-labeled videos had more people in the videos than the non-cyberbullying-labeled ones. Second, these videos included content that was controversial, explicit, or suggestive. Third, videos involving inappropriate content were more likely to trigger negative comments. The authors applied the analyzed features to the auto-detection model. They tested three types of models: textual only, audio plus visual, and textual plus audio plus visual. They found that the model with all three features (i.e., textual plus audio plus visual) performed the most accurately (90%) in detecting cyberbullying. However, the authors indicated that the audio plus visual model still needs to be improved.

In a recent study, Vishwamitra et al. (2021) examined potential elements in real-world cyberbullying images and designed a detection model of visual cyberbullying. The authors extracted cyberbullying-related keywords from 30 self-reported stories from the website of the Cyberbullying Research Center[42]. These keywords were applied in image searching through online search engines and social media sites, resulting in 19,300 images. Next, they recruited 104 participants through Amazon mTurk[43] to annotate the images. In total, 4,719 images were identified as cyberbullying images. Next, they used current detectors to detect offensive images and reported the precision of each detector: 77.4% precision on Amazon Rekognition[44], 69.4% for DeepAI,[45] 42.9% for Clarifai NSFW,[46] 36.27% for Yahoo Open NSFW,[47] and 35.7% for Google API[48]) (Vishwamitra et al., 2021, p.4).

Vishwamitra and his colleagues characterized four common features in cyberbullying images: 1) Body pose factor: images with a person directly posing towards the viewer are considered more threatening; 2) Hand gesture factor: hand gestures in the images, in particular the "loser" hand sign and the middle-finger sign, were highly correlated with cyberbullying; 3) Object factor: objects such as guns, knives, and nooses are considered to be threatening or intimidating to viewers; and 4) Social factor: symbolism of anti-LGBT, "black-face," and historical references to hanging are also considered as strong elements of cyberbullying. They also indicated that visual cyberbullying is highly contextual and complicated in nature. For example, scenarios with both images and text, or videos, need to be further investigated to enhance the auto-detection capability.

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[42] https://cyberbullying.org/stories
[43] http://mturk.com
[44] https://aws.amazon.com/rekognition/
[45] https://deepai.org/
[46] https://clarifai.com/clarifai/main/models/nsfw-recognition
[47] https://github.com/yahoo/open_nsfw
[48] https://cloud.google.com/apis/docs/overview

Kumar and Sachdeva (2021) developed a cyberbullying detection model for three types of information presentations: textual, visual, and infographic (i.e., text embedded along with an image). They trained the detection model using 10,000 comments and posts that included text, images, and infographics, from YouTube, Instagram, and Twitter. In their training sample, they found that cyberbullying occurs more in info-graphic samples than in image-only samples. In addition, Kumar and Sachdeva identified the growing use of various information presentations, such as creative spellings, emojis, videos, and GIFs, which need to be investigated as well.

Summary

In this section, the reviewed studies that investigated the young generation's social media usage revealed that visual-based platforms seem to be more popular and powerful in terms of impacting people's emotions and behaviors, both positively and negatively. In the past five years, researchers have developed auto-detection models using algorithms and artificial intelligence (AI) models to detect visual-based cyberbullying and cyberbullying on visual-based social media sites.

Summary and Research Gap

In this chapter, I reviewed three bodies of relevant literature on cyberbullying, including an overview of cyberbullying research, cyberbullying research involving university students, and cyberbullying research related to visual-based social media platforms and visual-based cyberbullying.

This review revealed a rich body of research on cyberbullying in the past decade that focused on various factors, including demographic attributes, the impact of cyberbullying on victims, as well as the influence of technology usage on perpetration and victimization. Findings from the meta-analysis studies revealed that the majority focused on populations under age 18. However, findings from the 44 studies related to university students showed that the percentage of university students who experienced cyberbullying victimization ranged widely from 5.7% to 83%. The most frequently investigated aspects of cyberbullying include general cognitive viewpoints and coping approaches, which are situated at the Individual level of the SEM. While a few studies reported findings that related to the Microsystem, Mesosystem, and Exosystem levels, factors at these levels have not been widely investigated, particularly university cyberbullying policies.

Given that the young generation uses social media heavily, scholars have recently started to pay attention to young people's usage of visual-based social media sites. Currently, cyberbullying studies of university students have mainly focused on text-based content, or they have investigated visual-based behaviors as part of a textual survey. Even in those qualitative studies, visual-based cyberbullying was mostly investigated through narration, lacking visually-represented contexts. On the other hand, studies that examined visual-based cyberbullying employed auto-detection models to identify cyberbullying.

Nonetheless, given that visual-based cyberbullying is highly contextual and includes different information representation formats (e.g., image-video), visual-based scenarios should be used to identify university students' perspectives of the variations in these formats.

The reviewed literature revealed a number of gaps that this dissertation study aims to fill. From the theoretical perspective, existing theories related to cyberbullying have predominantly addressed textual formats. From the methodological perspective, the majority of studies employed quantitative approaches, and only a handful of studies applied qualitative or mixed-method approaches. Additionally, only a few studies have applied visual representations of cyberbullying in instruments used to collect data on visual-based cyberbullying. From a practical viewpoint, the cyberbullying phenomenon is experienced by adults, including university students. The literature review also revealed that the university students who participated in those studies considered the definition of cyberbullying and many university policies related to cyberbullying to be outdated. Although scholars have provided many suggestions for improving cyberbullying policies and reporting systems, very few studies investigated students' awareness and perspectives of these policies. This study attempted to fill this gap. In the next chapter, I describe the research methods and designs of this study.

CHAPTER THREE
MATERIALS AND METHODS

Research Methodology

This dissertation study is informed by the Pragmatism paradigm. I briefly introduce Pragmatism in this paragraph, then will describe its application to this dissertation study in the next paragraph. Pragmatism's philosophical tradition can be traced back to the early 20th century; it was initially proposed by Charles Sanders Peirce (Peirce, 1992[49]) and William James (James, 1981), and was elaborated on by John Dewey (Dewey, 1998). The central belief of pragmatism is that the nature of knowledge is practical, and it can be studied using multiple data collection techniques (e.g., survey, interview), in order to solve problems (Bohman, 2002). A pragmatic approach toward research aims to make pluralistic interpretations of social facts, usually related to problematic situations in the real world (Bohman, 2002). Pragmatists obtain knowledge of social issues from the objective reality that is grounded in the real world. They also make interpretations from human subjects' experiences of real-world issues, such as consequences that have resulted from past actions or decisions (Kaushik & Walsh, 2019). Pragmatist researchers emphasize a combination of the "*inductive-subjective-contextual*" approach and the "*deductive-objective-generalizing*" approach (Morgan, 2007, p.73).

Cyberbullying is clearly a problematic social issue that needs to be investigated using different approaches. I employed a mixed-method research methodology to address the objective nature and the subjective experiences of visual cyberbullying on Instagram among university students. The mixed-method research methodology is rooted in the Pragmatism paradigm (Mertens, 2014). From the objective aspect, I surveyed the prevalence of visual cyberbullying on Instagram among undergraduate students. I also scanned (Faucher et al., 2015) the cyberbullying related policies within the University of Tennessee System, where I recruited the survey participants. From the subjective aspect, I sought to understand students' perspectives of visual cyberbullying on Instagram. These perspectives were investigated using interviews and visual narrative approaches that collected data on the cognitive, affective, and behavioral aspects (i.e., participants' thoughts, feelings, and possible actions). As such, the purpose of my dissertation was to investigate visual cyberbullying on Instagram among undergraduate university students. The study results answered the four research questions, presented below.

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[49] The references for Peirce and Dewey cited here are the edited collections that were published by Indiana University Press. See the Reference list for their full citations.

Research Questions

To develop an understanding of university students' perspectives on visual cyberbullying on Instagram, four main research questions guided this dissertation study. The research questions were guided by the Holistic Theoretical Framework (see Figure 8). RQ1 addressed the factors (i.e., age, gender, Instagram usage, cyberbullying prevalence) at the individual level, as represented in the Social Ecological Model. RQ2 addressed general attitudes and factors at all levels (e.g., univeristy policy, social media norms). RQ3 addressed cyberbullying perpetration in accordance with the Five Cs Framework, vicitms' coping mechanisms, and the factor of social media norms at the macrosystem level. RQ4 addressed factors at the exosystem and mesosystem levels.

RQ1: What is the nature of visual-based cyberbullying on Instagram experienced by undergraduate university students?

> *RQ1a*: To what extent do university students experience visual-based cyberbullying incidents on Instagram?
> *RQ1b***:** What relationship exists between university students' Instagram usage and visual cyberbullying experiences?

RQ2: What are undergraduate university students' perspectives of visual-based cyberbullying incidents on Instagram?

> *RQ2a:* What definitions or meanings do students attach to visual-based cyberbullying?
> *RQ2b:* Informed by Ostrom's (1969) attitude components, what are students' cognitive, affective, and behavioral reactions toward cyberbullying?

RQ3: How do undergraduate university students create and describe visual-based cyberbullying scenarios based on incidents they witnessed on Instagram?

> *RQ3a:* Informed by the Five Cs model, what elements do these scenarios reflect?
> *RQ3b:* Informed by the coping mechanism in Agnew's (1992) General Strain Theory, how do students describe the coping strategies of the victims or witnesses exposed to visual-based cyberbullying incidents in the created scenarios?

RQ4: How do current university policies in the University of Tennessee system address visual-based cyberbullying?
> *RQ4a:* What are undergraduate students' perspectives and how aware are they of these policies?

Figure 8. Mapping of RQs and the Holistic Theoretical Framework

Research Design

I applied an explanatory mixed-method research design, which is one type of mixed-methods approach introduced by Creswell and Clark (2007). This type of design is also called the "participant selection model" that incorporates quantitative data collection and qualitative data collection sequentially (see Figure 9). Quantitative data was collected and analyzed in the first phase, and the results served as the pool for the purposeful selection of qualitative participants for the next phase. The results from both phases were then integrated into the interpretation stage. However, the entire process placed a heavier emphasis on the qualitative rather than the quantitative interpretation of the data, because the main purpose of the quantitative data collection was to select participants for the qualitative phase (Creswell et al., 2003).

In this study, I employed a survey as the quantitative data collection approach and used interviews and visual narrative inquiry as the qualitative data collection approaches (see the details in the following "**Survey**" and "**Interview and visual narrative inquiry**" sections). Given that cyberbullying is a sensitive topic, if the qualitative participants were selected based on their survey answers, it could raise ethical issues and violate the anonymous nature of survey. Thus, I did not select interview participants based on their survey responses. Instead, I asked survey participants who were interested in being interviewed to provide their email addresses using a separate survey, which served as a pool for selecting interview participants (see the "Interview-Participants" section for more detail).

In addition to the data collection approaches described above, I also applied a policy scan approach as informed by Faucher et al. (2015), to examine the cyberbullying related content in the policies that are published within the University of Tennessee system. As guided by Faucher et al. (2015), the "scan" of the policy documents focused on the content in the policy documents that specifically relates to cyberbullying, rather than on conducting an in-depth reading and analysis of the entire documents. In addition, the data generated from the interviews served as a reference point for locating potentially relevant policies. (See the "*Procedure*" section in the "**Scan of policy documents**," for details).

In sum, four data collection approaches were applied for this study. The survey answered RQ1, the interviews answered RQ2 and RQ4a, the visual narrative inquiry answered RQ3, and the scan of policy documents answered RQ4. Results that addressed each research question are reported sequentially in Chapter Four, and discussed collectively in the Discussion section of Chapter Five (see Figure 10).
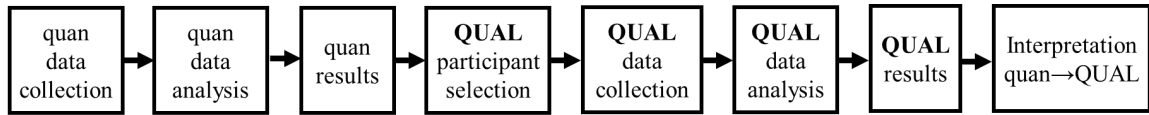
Figure 9. Explanatory design: Participant selection model (QUAL emphasized)
"QUAL" refers to qualitative and "quan" refers to quantitative. (Creswell & Clark, 2007, p.73).
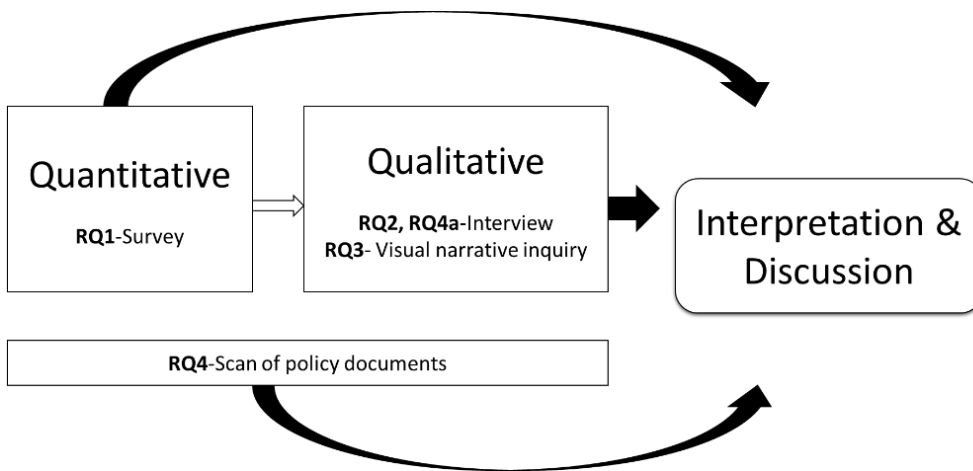
Figure 10. Mapping of RQs with the research design

Survey

1. Introduction

A survey instrument was distributed in phase one of the data collection. The rationale for using a survey was two-fold. First, data collected from the survey could provide an estimate of the prevalence of a problematic social or psychological issue among a certain population (Boyle, 1998). The analysis might also identify the relationships between variables (Blair et al., 2013) (i.e., age and gender, in my case). Second, the survey respondents served as a pool for sampling participants willing to take part in the qualitative data collection in the second phase of this study (Creswell et al., 2003). In this study, using a survey unveiled the prevalence of visual-based cyberbullying on Instagram among undergraduate students at UTK. The prevalence was investigated in relation to perpetrations, victimization, and witnessed experiences. The survey was used to answer the first research question and its sub-questions below.

RQ1: What is the nature of visual-based cyberbullying on Instagram experienced by undergraduate university students?

> *RQ1a*: To what extent do university students experience visual-based cyberbullying incidents on Instagram?
>
> *RQ1b*: What relationship exists between university students' Instagram usage and visual cyberbullying experiences?

2. Population, sample, and procedures

The target population of the survey included all undergraduate students enrolled full-time at UTK, in the spring of 2022. As of March 1, 2022, there were 22,192 undergraduate students aged 18 or older who were enrolled full-time[50] in the Spring 2022 semester[51]. Following the University's Institutional Review Board (IRB) approval of this study in February 2022, I submitted a request to UTK Data Central (data_requests@utk.edu) to obtain a full list of all full-time undergraduate students' emails. The request was routed to the Registrar's Office in Data Central's automated workflow to obtain permission. Data Central was concerned about over-surveying of the students. Thus, they agreed to provide me with a random sample of 5,000 students, and allowed for a second request for an additional random sample of 5,000 students, if the first sample did not achieve the recruiting goal. Data Central employed the randomized formula (=RAND ()) in Excel to extract the random sample. The first sample consisted of students listed from 1 to 5,000 in the Excel file, and the second sample set consisted of students listed from 5,001 to 10,001 in the file.

I received the first random sample set in March 2022. Then, I distributed the survey to all students in the sample (n=5,000) on March 22, 2022, via QuestionPro, a software that was available[52] through the UTK Office of Information Technology[53]. A follow-up

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[50] Registered for 12 or more course credits

[51] This number was provided by UTK Data Central. The publicly accessible enrollment data on UTK Fact Book (https://oira.utk.edu/reporting/fact-book/) was only updated to Fall 2021

[52] The license agreement for QuestionPro for UTK ended on May 31, 2022

reminder was sent to all students on March 29, 2022. Two weeks after the first distribution of the survey, there were 286 responses, which was insufficient. Thus, I requested the second random sample set from Data Central, that consisted of 5,001 student emails. The second-round of the survey distribution started on April 11, 2022, and a reminder was sent on April 18, 2022. The survey was available online until the last day of classes on May 9, 2022. By that time, an additional 232 responses were received, totaling 518 responses.

The first and second random sample sets accounted for 45.07% of the target population (10,001/22,192). The overall response rate was 5.18% (518/10,001). However, the final sample with valid responses was n=376. See the data exclusion details in Section 4, "*Data analysis.*" The demographic information is reported in Chapter Four.

3. Instrument

Pilot testing

I conducted a pilot test of the survey instrument in July 2021. I invited three students from my personal network to take the survey, two of whom had completed their second semester of study at Pellissippi State Community College in Knoxville, Tennessee, and one was entering her fourth year at UTK. All of them were over 18 years old. The students provided feedback for refining specific survey questions.

Display

The survey instrument was designed in QuestionPro and included the Cyberbullying Research Survey Invitation letter (see Appendix A), the Survey Informed Consent form (see Appendix B), and the Survey Instrument (see Appendix C). When the survey was distributed to students, they received an email that included the Research Survey Invitation letter and the URL for the survey. As students clicked the survey URL, they were able to see the Informed Consent Form on QuestionPro. Students had the option to click, "*I'm over 18, and I agree to participate,*" or "*I'm under 18, or I do not agree to participate.*" After the *Agree* button was clicked, the survey questions were displayed. Participants could exit the survey at any time without penalty by clicking the "Exit Survey" button at the top right side of the survey page. The survey instrument consisted of the four parts described below.

Part 1: Demographic information

This first part included three demographic questions: year in the program at UTK, age, and gender. As suggested by one participant during the pilot testing of the survey, I made the gender question open-ended.

Part 2: Instagram usage

This part included fifteen questions (IG1-IG15) about Instagram usage, using a 5-point Likert Scale (Very often, Often, Sometimes, Rarely, Never). To the best of my

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[53] https://oit.utk.edu/research/websurveys/

knowledge, there is no survey instrument that investigates Instagram usage that includes the current interface features (e.g., Reel). Thus, I developed all of these questions. Questions covered users' behaviors (i.e., post, record, share, react, and comment) on different functions (i.e., Feed[54], Story[55], Direct Message[56], Reel[57], and Live Stream[58]). The pilot participants did not provide suggestions on these questions. In addition, Question 1 (IG1) was a screening question that asked about the frequency of using Instagram. Those who answered "Never" were automatically exited from the survey.

Part 3: Cyberbullying experiences
This part collected data on students' cyberbullying experiences: perpetration, victimization, and witnessed experience. Fifteen questions were extracted and adopted from Lee et al. (2017), who developed a scale to measure cyberbullying perpetration and victimization in emerging adulthood, which applies to university students. Lee et al. (2017) divided cyberbullying experience into two subscales: cyberbullying perpetration (CBP) and cyberbullying victimization (CBV). Both subscales included three subsections: Verbal/written, Visual/sexual, and Social exclusion. Based on their statistical tests, both CBP and CBV presented high reliability,[59] good model-data fit [60]for factorial validity, and significant convergent validity[61].

Since this dissertation study focused on visual-based cyberbullying behaviors, I extracted only the Visual/sexual[62] subsection from both CBP and CBV.

In Lee et al. (2017), the reliability scores of the Visual/sexual subsections were acceptable (α= .73, CBP) to good (α=.85, CBV). In terms of factorial validity, CBP and CBV models can explain 77% and 87% of the variability, respectively, in Visual/sexual perpetration and victimization. As for the convergent validity, both subscales significantly correlated with existing scales (i.e., Aggression Questionnaire and Multidimensional Peer Victimization Scale) (γ=.34 and .28, CBP and CBV respectively).

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[54] The place where one can see the posts is like the "Wall" on Facebook.
[55] The place where any content will disappear in 24 hours.
[56] The function that allows users to contact others privately; it is like Messenger.
[57] The most recently released function that allows users to create and edit short video clips that are up to 90 seconds.
[58] The video function that allows users to be live on Instagram.
[59] The reliability of CBP and CBV are stratified α= .93 and α=.95, which is high.
[60] The factorial validity of the respecified model from the confirmatory factor analyses (CFA) are χ^2/df =1.97 and 2.86 (CBP and CBV, respectively); CFI=.95 and .97; TLI=.94 and .95; RMSEA=08 and .08; SRMR= .06 and .07, respectively. These numbers represent a good model-data fit (Kline, 2015).
[61] The convergent validity was determined by comparing the variables in CBP and CBV with related variables or constructs with the existing scales (i.e., Aggression Questionnaire and Multidimensional Peer Victimization Scale). The correlation between CBP and Aggression Questionnaire is significant (γ=.37), while the correlation between CBV and the Multidimensional Peer Victimization Scale is significant as well (γ=.31).
[62] Based on the expert panelists' comments in Lee et al. (2017), some item concepts on visual cyberbullying and sexual cyberbullying overlap. Thus, Lee et al. combined these two constructs into the Visual/sexual subsection.

The reliability and validity details of Lee et al.'s (2017) scales and Visual/sexual subscales are included in Appendix G. The issues in combining Visual and Sexual subscales are discussed in the section "*4. Data analysis*" in this chapter, as well as in Chapter Five.

Lee et al.'s (2017) scales address cyberbullying behaviors in a general way, meaning that there is no focus on a specific social media platform. Thus, I modified the concepts to align with Instagram's terminology. For example, the word "online" in the original survey question, "*I have posted embarrassing pictures or videos of someone online without their permission to damage the person's reputation,*" was changed to "Instagram" in the survey used in this study.

In addition, since there is no measure for witnesses in Lee et al.'s (2017) scale, I used questions from the CBV-Visual/sexual [63] to develop items for measuring witnesses' experiences. The changes I made to the questions are illustrated in following example. Original question: "*Someone has sent private pictures or videos of mine on websites without my permission to upset me,*" was modified to, "*I have seen/I know someone sent private pictures or videos of the other person on Instagram without their permission to upset them.*"

The language used in the original questions was revised as it might deter participants from revealing their actual cyberbullying experiences, based on suggestions from the dissertation committee members. Therefore, I added "might" or "possibly" to mitigate the tone of the questions, as seen in this example: *I might have made sexual jokes about someone on Instagram to damage the person's reputation; Someone has sent private pictures or videos of mine on Instagram without my permission possibly to upset me.*

The final version of the Visual/Sexual cyberbullying experience scale consisted of 25 questions (Figure 11): five questions on perpetration (P1-P5), ten questions on victimization (V1-V10), and ten questions on being witnesses (W1-W10). Each question is assessed using a five-point Likert scale (Very often, Often, Sometimes, Rarely, Never).

Part 4: The separate survey for interview sign-up
At the end of the survey, participants were asked if they were interested in participating in the interview and visual narrative inquiry. To avoid potential bias, I only provided a general description of the purpose of the interview and indicated the incentive. Participants who clicked the button "*Yes, I'm interested in participating in the follow-up interview,*" were directed to the separate "Follow-up" survey URL, which had a screening question: "*Have you ever witnessed or heard about any cyberbullying incidents on Instagram?*" Those who answered "No" were automatically exited from the survey. Those who answered "Yes" were asked to provide their age, gender, Instagram usage frequency (Very often, Often, Sometimes, Rarely), and email address.

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[63] CBV-Visual/sexual (10 items, α=.89), includes more items for measuring these behaviors and has a higher reliability score than CBP-Visual/sexual (5 items, α=.73).
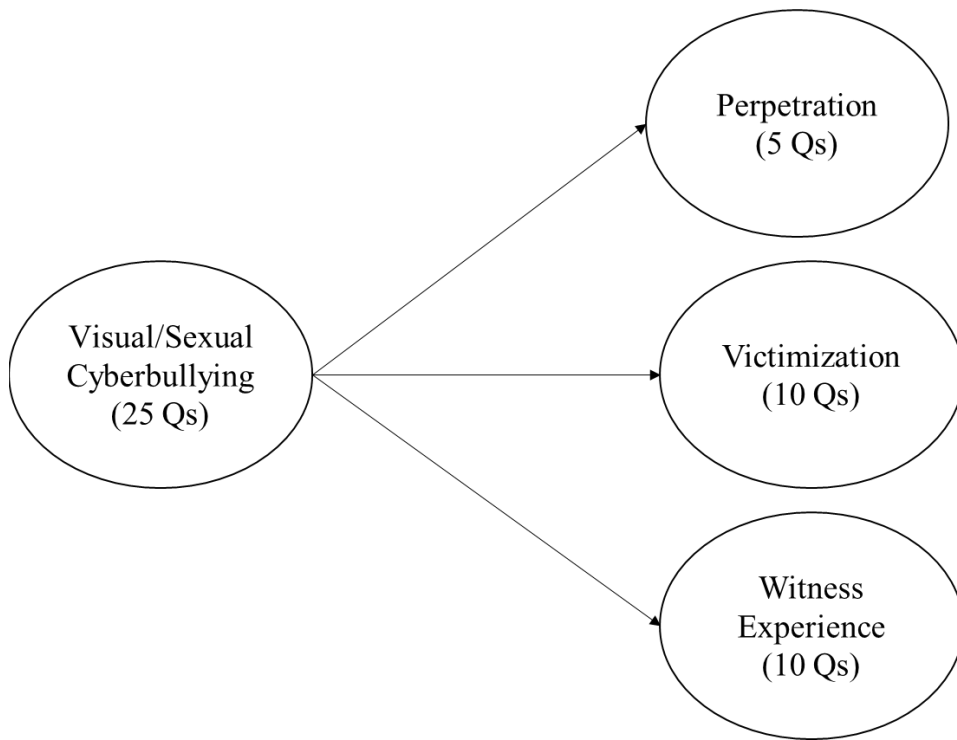
Figure 11. Model of the Visual/sexual Cyberbullying Experience scales

4. Data Analysis
This section describes the process of data preparation, the survey scale model test, and statistical analysis techniques. See the procedures in Figure 12.

Data exclusion
Based on the records retrieved from QuestionPro, there were 518 students who clicked the survey URL. However, not all students provided valid responses. Data were judged invalid if the respondent: 1) Declined to answer the survey by clicking "*I am under age 18, or I do not agree to participate;*" 2) Did not start the survey; 3) Clicked "Never" on question IG1: *How often do you use Instagram?*; 4) Did not answer any questions about Instagram usage; or 5) Did not answer any questions about cyberbullying experiences. Overall, there were 124 invalid responses.

In addition, data from another 18 participants were also excluded because of their age and gender. Some of these participants were over age 26; some identified themselves as other than male or female (e.g., queer, nonbinary); and some fall in both situations. There were two reasons for the exclusion. First, the survey instrument was developed for emerging adults (ages 18 to 25) (Lee et al., 2017). Second, the number of participants who self-identified as other genders was too small for performing statistical analysis. In total, data collected from 142 respondents were excluded. The final data set consisted of 376 responses.

Missing data treatment
Across all variables, the percentages of missing data ranged from 0.3% to 5.6%. Missing data was the result of unanswered questions. Little's (2013) MCAR (Missing Completely at Random) test was performed in SPSS 27[64]. Results indicated that data was missing completely at random, $\chi2$ (70) = 38.988, p = .999.

To examine the factor validity of the modified survey questions (see the next section, "Reliability and factor validity test"), I used Mplus[65] 8.8 for conducting the Confirmatory Factor Analysis (CFA), because SPSS is unable to perform CFA. In Mplus, Full-information maximum likelihood (FIML) estimation is the default measurement to address missing data by estimating the parameters based on all available data.

For all other inferential and descriptive statistical analyses, I used SPSS 27. Given that FIML is not available in SPSS, I utilized the multiple imputation (ML) method in SPSS under its default setting to address missing data.

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[64] https://www.ibm.com/support/pages/downloading-ibm-spss-statistics-27
[65] https://www.statmodel.com/
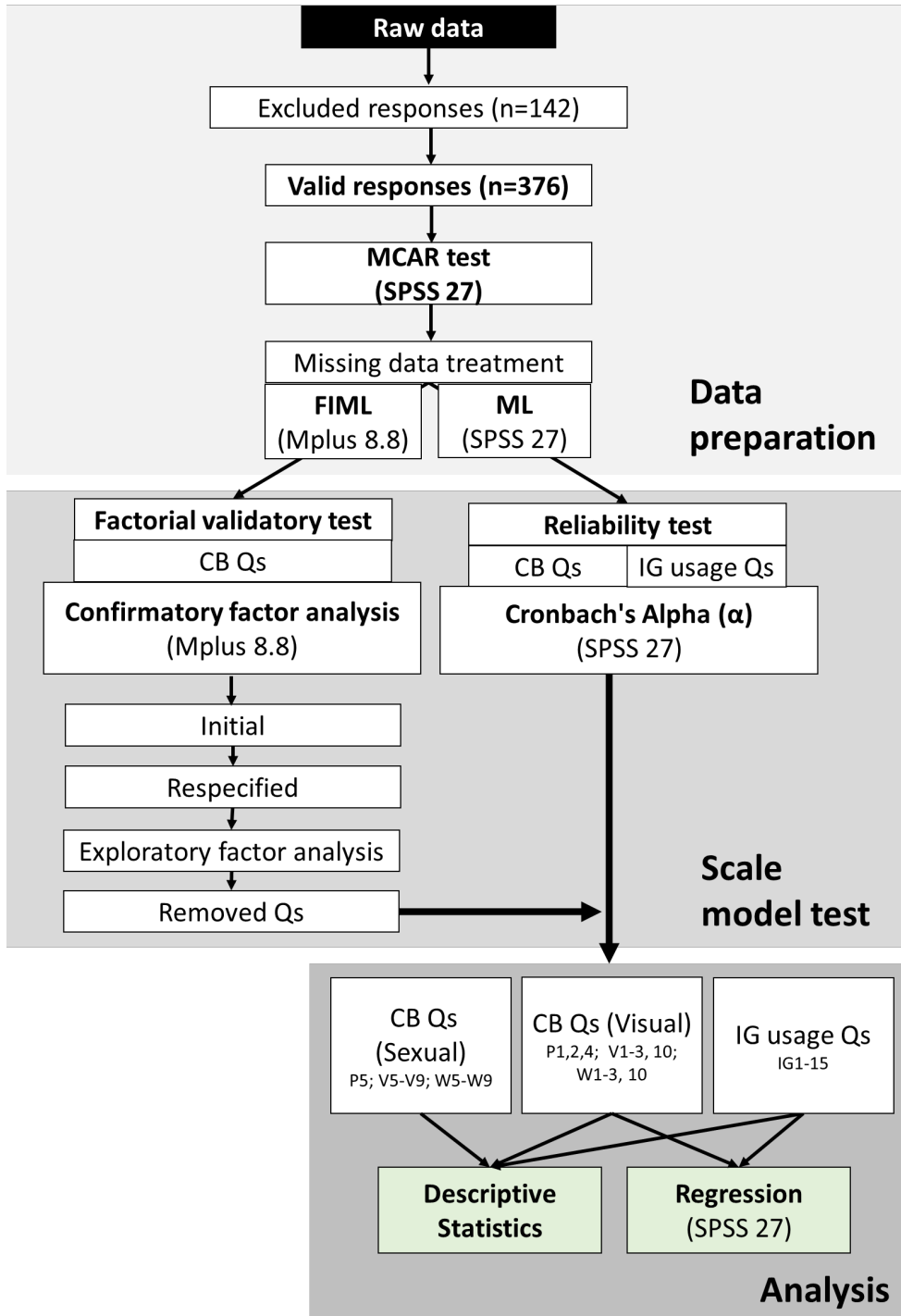
Figure 12. Survey data analysis procedure
MCAR: Missing Completely at Random; FIML: Full-information maximum likelihood; ML: Multiple imputation; CB: Cyberbullying; IG: Instagram; P: Perpetration; V: Victimization; W: Witnesses

Reliability and factor validity test

For the "cyberbullying experience" questions applied in the study, I adopted questions from the Visual/sexual subsections of Lee et al.'s (2017) Cyberbullying-Perpetration scale and Cyberbullying-Victimization scale. I also added a Visual/sexual Cyberbullying-Witness subsection by modifying questions in the Visual/sexual Cyberbullying-Victimization subsection. In addition, I slightly modified the language to fit with this study's scope and to mitigate the tone of some questions. Because of these changes, I performed the reliability and factorial validity tests before conducting the analysis.

I used SPSS to conduct reliability tests with Model Alpha. For the fifteen Instagram usage questions that I developed, the Cronbach's Alpha (α) test showed a value of 0.888, and for the twenty-five cyberbullying questions the value was 0.909. These values indicate a good internal consistency for Instagram usage questions, and an excellent internal consistency for the cyberbullying questions, respectively (Taber, 2018). Then I examined the alpha-if-item-deleted statistics. One Instagram usage question (IG11, α=.889) and three of the cyberbullying questions (V4, α=.913; P3, α=.917; W4, α=.912) had higher values than the overall alpha. However, by removing these questions, the alpha values still fell in the same range (i.e., good to excellent internal consistency); thus, all questions remained unchanged at this stage.

Next, I conducted a Confirmatory Factor Analysis to examine the factor validity of the cyberbullying questions in Mplus. First, I used one latent variable [66] (Visual/Sexual Cyberbullying) and three factors, Perpetration (P), Victimization (V), and Witnesses (W) (Figure 11). Several model fit indices were reported in Mplus by default: model **Chi-square** (χ^2) "*assesses the magnitude of discrepancy between the sample and fitted covariances matrices*" (Hu & Bentler, 1999, p.2); Comparative Fit Index (**CFI**) and Tucker Lewis Index (**TLI**) "*are incremental fit indices that compare the fit of a hypothesized model with that of a baseline model*" (Xia & Yang, 2019, p.1); Root Mean Square Error of Approximation (**RMSEA**) "*assesses how far a hypothesized model is from a perfect model*" (Xia & Yang, 2019, p.1); Standardized Root Mean Square Residual (**SRMR**) assesses "*the difference between the residuals of the sample covariance matrix and the hypothesized covariance mode*l" (Hooper et al., 2008, p.54). The suggested good model fit criteria are CFI >.95, TLI >.95, RMSEA <.08, SRMR <.05 (Kline, 2015) (see Table 4).

However, the model fit of the Visual/Sexual Cyberbullying scale was not ideal: χ^2 (272) = 1243.917, p = .000; RMSEA=.1; CFI=.812; TLI=.793; SRMR=.074 (Table 4, Model 1). I then used a Respecified model approach to lift the constraining restriction between items and factors. This method was applied in Lee et al.'s (2017) model test process. However, the model fit did not improve to an acceptable level (Table 4, Model 2). Thus, I performed an Exploratory Factor Analysis (EFA) to examine the factor loadings of each question item (Brown, 2015) (see Table 5).

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[66] "A latent variable is a variable that cannot be observed but can be detected by its effects on variables that are observable" (Piasta, 2010, p.697).

Table 4. Model fit report on different CFA models

Model	χ^2/df	RMSEA	CFI	TLI	SRMR
Suggested good model fit		*<.08*	*>.95*	*>.95*	*<.05*
Model 1. CFA-Initial	4.57	.1	.812	.793	.074
Model 2. CFA-Respecified	4.98	.106	.825	.769	.06
Model 3. EFA- 6 Factor	2.75	.07	.944	.900	.024
Model 4. CFA-Keep Qs factor loading >.05	4.82	.095	.880	.863	.053
Model 5. CFA-Exclude sexual-related Qs	4.19	.095	.934	.912	.042
Model 6-1 One-factor CFA-VCP	0.00	N/A	N/A	N/A	N/A
Model 6-2 One-factor CFA-VCV	5.10	.066	.993	.980	.015
Model 6-3 One-factor CFA -VCW	4.66	.061	.996	.989	.012

Table 5. Factor loadings of the three-factor EFA model

Question	Factor 1	Factor 2	Factor 3
P1	0.055	**0.847***‾	-0.067
P2	-0.021	**0.813***‾	0.057
P3	0.109	-0.018	0.032
P4	-0.002	**0.840***‾	0.01
P5	-0.089	**0.731***	0.006
V1	0.097	0.045	**0.587***‾
V2	0	0.054	**0.698***‾
V3	0.106	0.110*	**0.569***‾
V4	0.117	-0.033	0.087
V5	0.353*	-0.08	0.368*
V6	-0.058	-0.022	**0.804***
V7	-0.021	-0.082	**0.843***
V8	0.006	-0.018	**0.813***
V9	0.204*	0.009	0.481*
V10	0.116*	0.110*	**0.567***‾
W1	**0.700***‾	0.024	-0.021
W2	**0.670***‾	0.082	0.044
W3	**0.683***‾	0.052	0.02
W4	0.125	0.025	0.059
W5	**0.785***	-0.018	-0.07
W6	**0.872***	0.012	-0.059
W7	**0.831***	-0.047	-0.005
W8	**0.821***	-0.017	0.025
W9	**0.700***	-0.008	0.067
W10	**0.764***‾	0.031	0.002

*Factor loading is significant at 5% level
Bolded numbers: factor loading over .05
Bolded and underlined numbers: question items that were used in CFA Models 5, 6-1, 6-2, 6-3 (Table 4)

Given that the visual and sexual-related questions were combined in the survey, which might result in six subsets of questions, I set the number of factors from three to six. The result showed that the model with six factors had the best model fit (Table 4, Model 3). However, the structure of the questions was not justifiable. Therefore, I still used the three-factor model, and tried to keep only those items with factor loading over .05 (See bold numbers in Table 5). The model fit did improve but still was not very good (Table 4, Model 4).

Next, I removed sex-related questions, and performed another CFA using only the visual cyberbullying questions (i.e., P1, P2, P4, V1, V2, V3, V10, W1, W2, W3, W10). A better model fit was obtained: χ^2 (41) = 171.728, p = .000; RMSEA=.095; CFI=.934; TLI=.912; SRMR=.042 (Table 4, Model 5). The questions in Model 5 included three factors, perpetration, victimization, and witnessing, that represented three different aspects of the visual cyberbullying experience and possibly impacted the model construct. Thus, I further conducted one-factor CFAs on each subset: visual cyberbullying perpetration (VCP, included questions P1, P2, P4), visual cyberbullying victimization (VCV, included questions V1, V2, V3, V10), and visual cyberbullying witnessing (VCW, included questions W1, W2, W3, W10). The results were better and are reported as follows. VCV: χ^2 (2) =10.2, p = .078; RMSEA=.066; CFI=.993; TLI=.980; SRMR=.015 (Table 4, Model 6-2). VCW: χ^2 (2) =9.32, p = .098; RMSEA=.061; CFI=.996; TLI=.989; SRMR=.012 (Table 4, Model 6-3). On the other hand, the result on VCP showed zero degrees of freedom, which means the model was saturated so that the model fit could not be assessed (Table 4, Model 6-1).

Since the purpose of this study was not to develop or modify the cyberbullying experience scale, and the focus of the investigation was on visual cyberbullying, I did not perform further analysis to adjust the models that included sexual-related questions. Given that the one-factor CFA models of VCV and VCW have a good factor validity and the model of VCP indicated a saturated model, I only used data from these questions to perform inferential statistics.

Although the sexual-related questions were removed, descriptive statistics using Mean scores and percentages are reported for sexual cyberbullying prevalence in Chapter Four, and collectively discussed with qualitative data in Chapter Five. To be noted, there are three questions (P3, V4, W4) designed in a reversed format to "*reduce the probability of acquiescence, affirmation or agreement biases (DeVellis, 2003), and the respondents' tendencies to drift into a form of autopilot, where their responses are based more on a pattern they have somehow slipped into*" (Lee et al., 2017, p.458). For example, question V4 asked "*I have never received sexually explicit things from someone on Instagram which embarrassed me,*" and was answered using a five-point Likert Scale (Never to Very Often). However, when I closely examined the patterns of the answers to these questions, it seemed that participants might have been confused by the narration. Furthermore, based on the EFA results, it could also be observed that these questions had very low factor loadings on all factors, and thus, they were eliminated from all analysis.

Data preparation for analysis

The Gender variable was dummy coded (i.e., 0=male, 1=female). Responses in each subscale were averaged, resulting in four continuous variables: Instagram usage (IG), visual cyberbullying perpetration (VCP), visual cyberbullying victimization (VCV), and visual cyberbullying witnessing (VCW). Similarly, the responses of the sexual-related questions (SCP, SCV, and SCW) were also averaged for reporting means and percentages of prevalence.

A simple scatterplot was used to examine whether there was a linear relationship between independent variables (i.e., Age, Year in the program, and IG) and dependent variables (i.e., VCP, VCV, and VCW). The scatterplots showed linear trends between-groups on only two-pairs: IG*VCV and IG*VCW. Then the linearity test was performed by ANOVA. The results of both groups showed a statistically significant value ($p<.001$) that confirmed the observation in the scatterplot graphics. Thus, IG was used as the independent variable, with VCV, VCW as the dependent variables, to perform regression analysis.

In addition, to determine whether the gender differences exist and whether the regression analysis should further examine the differences, independent sample t-tests were performed. Gender was used as the independent variable, and VCP, VCV, VCW were used as the dependent variables. Given that the Levene's Test for Equality of Variances was significant on VCP and VCV, indicating unequal variances between two gender groups, the Welch test results of these two dependent variables were reported. The results showed that females (1.56± 0.73) were more likely to experience visual cyberbullying victimization than males (1.34± 0.57), a statistically significant difference of -0.22 (95% CI, -0.36 to -0.09), $t(328.209) =-3.26$, $p=.001$. Females (2.30± 0.97) also reported more often witnessing visual cyberbullying than males did (2.01± 1.03), a statistically significant difference of -0.29 (95% CI, -0.5 to -0.08), $t(374) =-2.72$, $p=.007$. Males (1.23± 0.69) and females (1.12± 0.34) did not significantly differ on visual cyberbullying perpetration, 0.11 (95% CI, -0.2 to 0.23), $t(166.52) =1.63$, $p=.104$. Accordingly, the gender differences on IG*VCV and IG*VCW were further examined, and the results are reported in Chapter Four.

Although there was no significant linear relationship between IG and VCP shown in the linearity test ($p=.086$), a monotonic relationship was observed in the scatterplot. Thus, Spearman's Rho correlation was applied to examine the association between the two variables. In addition, there was neither a linear relationship nor a monotonic relationship between cyberbullying variables (i.e., VCP, VCV, VCW) and the other two demographic variables, Age and Year in the program. Thus, Age and Year were not used in the regression analysis.

Interviews and Visual Narrative Inquiry

1. Introduction

Individual interviews allow researchers to capture the ways participants "see and experience the world" (McCracken, 1988, p.65). In this study, interviews illustrated the students' definition of cyberbullying, and elicited their attitudes toward visual-based cyberbullying on Instagram. Visual narrative inquiry is a method by which researchers "intentionally, reflectively and actively" ask participants to provide the meanings of their experiences through both visual (e.g., picture drawings) and narrative (e.g., verbal storytellings) approaches (Bach, 2007, p.280, 285), to develop an understanding of the participants' world (Mannay, 2015).

In this study, participants created and described cyberbullying Instagram scenarios based on real cyberbullying incidents that they had witnessed in the past. This visual narrative approach provided a rich understanding of visual-based cyberbullying from the undergraduate students' perspectives. The data generated from the interviews answered RQ2 and RQ4a, and the data generated from the visual narrative inquiry activity answered RQ3.

RQ2: What are undergraduate university students' perspectives of visual-based cyberbullying incidents on Instagram?

> *RQ2a:* What definitions or meanings do students attach to visual-based cyberbullying?
> *RQ2b:* Informed by Ostrom's (1969) attitude components, what are students' cognitive, affective, and behavioral reactions toward cyberbullying?

RQ3: How do undergraduate university students create and describe visual-based cyberbullying scenarios based on incidents that they had witnessed on Instagram?

> *RQ3a:* Informed by the Five Cs model, what elements do these scenarios reflect?
> *RQ3b:* Informed by the coping mechanism in Agnew's (1992) General Strain Theory, how do students describe the coping strategies of the victims or witnesses exposed to visual-based cyberbullying incidents in the created scenarios?

RQ4: How do current university policies in the University of Tennessee system address visual-based cyberbullying?

> *RQ4a: What are undergraduate students' perspectives and how aware are they of these policies?*

2. Participants

As mentioned in the previous section, at the end of the survey, participants were asked about their willingness to participate in interviews. The pool of participants included 125 qualified students (i.e., who had witnessed cyberbullying incidents on Instagram). Within

this pool, six students were excluded because they were either over age 25 or seldom used Instagram. The final pool consisted of 119 students, and all of them received the interview participation invitation letter via email (see Appendix D), on a rolling basis started on April 1, 2022. One reminder email was sent three days after the initial invitation, if the student did not reply. In total, 37 students participated in this phase of the data collection. The detailed demographic information is reported in Chapter Four.

3. Procedures

Pilot test

As mentioned in the survey procedure, I invited three students from my personal network to test the survey process. In August 2021, I invited two of them to pilot-test the interview instrument and visual narrative inquiry activity. One student had just finished her second semester of study at Pellissippi State Community College, and she participated in the pilot test in person. The second student was starting her fourth year at UTK, and she participated via Zoom. On average, they took nearly 60 minutes to complete the interview and the visual narrative inquiry. They also provided feedback on the consent procedure, one visual scenario, and the process of visual narrative inquiry. Their suggestions were described in the "*4. Instrument*" section. Each student was given a $10 Walmart e-gift card as a token of appreciation.

Formal study

As students agreed to participate in the interview and scheduled a time slot, I emailed them the Research Information Consent document (Appendix E). The setting was hybrid; participants had two options, either in person or Zoom participation. Seven participants chose to meet in person at a study room in the Hodges Library at UTK, while 30 participants preferred to meet in my Zoom meeting room.

All participants were fully informed about the research purposes, procedures, and risks, by reading the Research Information Consent document. During the consent process, two statements were also emphasized to participants: 1) No judgment would be made about any of their responses, and 2) There was no need to share anything that was private or that made them uncomfortable by sharing. Then participants provided verbal consent [67] before participating in the interview and the visual narrative inquiry activity.

In-person interviews were audio recorded using a digital audio recorder, and the interviews via Zoom were recorded in Zoom. To be noted, to keep all data anonymous, the participants via Zoom were asked to turn off their cameras and change their name to a pseudonym before starting the recording. Their Zoom profile pictures were also hidden[68] to ensure anonymity and maintain confidentiality.

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[67] UTK IRB waived the requirement to obtain the participant's signature in this study. See Appendix E for the Research Information that was provided to participants.
[68] https://support.zoom.us/hc/en-us/articles/360061305051-Hiding-profile-pictures-in-meetings-and-webinars#:~:text=Click%20Participants%20.,profile%20pictures%20will%20be%20hidden.

The instrument was designed as a PowerPoint slide set. For in-person participation, the slides were displayed on an Apple iPad. In this way, the visual scenarios (See section "*4. Instrument*") would be more authentic to the way they might appear on social media. For the Zoom participation, the slides were displayed using the "Share Screen" function.

In the interview part, I presented three hypothetical scenarios that represented visual-based cyberbullying incidents on Instagram. After participants viewed all scenarios, they were asked about their perceptions of each scenario. Then they answered the questions about their views on university policies and social media norms of visual-based cyberbullying. After the interview, participants were given a break if needed.

For the visual narrative inquiry, participants were asked to recall a cyberbullying incident that they had witnessed, and to recreate that scenario on Instagram. I first provided participants with the account names and passwords of two Instagram accounts that I registered for this study. Participants were asked to log into the accounts using their own mobile device[69]. In some cases, participants only logged into one account; in other cases, participants used both accounts to present conversations/comments between two people. These two accounts were private and were not linked to any other people. Thus, no one on Instagram could see the scenarios created by the participants.

To ensure all visual materials in the recreated scenarios were copyright free, I provided three sources for participants to use. These sources were available in the public domain and downloadable for free use: Snappy Goat (https://snappygoat.com/#,0,0.); Pixabay (https://pixabay.com/); and Unsplash (https://unsplash.com/). To maintain privacy and confidentiality, participants were also asked NOT to use visual contents stored on their own mobile devices.

To be noted, one participant did not use images from any of the three sources to create the scenarios. Instead, the participant searched Google to find images for the scenarios that she recreated. I discovered this at a later stage of the interview, but at that point she was out of time to redo the scenarios. Thus, after her interview, I retrieved two images from Pixabay showing similar concepts (i.e., a girl's selfie and a girl in a bikini on a beach) and replaced the original images in the scenarios.

In addition, five participants did not create scenarios. Two of them did not want to use their own devices to log in to a new Instagram account (i.e., the accounts I registered for this study). Another two participants experienced an internet connection issue with their phones and could not access Instagram during the interview, and the other participant's phone was at a low battery level, and she was unable to find a charger. Thus, 32 instead of 37 participants created scenarios, while all 37 participants verbally shared about real cyberbullying incidents they had witnessed.

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[69] The Instagram app allows users to log in to multiple accounts at the same time on a single device.

After the above procedure was completed, I logged into the Instagram accounts to view the recreated scenarios. Participants were asked to narrate their scenarios/real incidents verbally. There were also asked about how people in the scenarios/real incidents reacted to or coped with the situations.

As all interview questions were completed, I made screenshots of the scenarios to save to my computer. To keep the scenarios private and prevent them from being seen by the next participant, the content was deleted in Instagram either by the participants or by me. And participants were asked to log out of the Instagram accounts. All participants were given a $15 Amazon or Walmart e-gift card as a token of appreciation.

After each interview, I changed the Instagram accounts' passwords to prevent the participants from accessing the accounts after participation. Then I checked recordings for proper operation, and the screenshots of the scenarios for being properly saved. The overall interview duration ranged from 35 minutes to 75 minutes, with an average of 48.2 minutes. All interviews were conducted in April 2022.

4. Instrument
The interview instrument and visual narrative inquiry activity consisted of three parts: 1) visual scenarios, 2) interview questions, and 3) visual inquiry questions.

Part 1: Visual scenarios
In Chapter Two, I synthesized the cyberbullying behaviors reported in the review of the literature. One behavioral category was identified as "Inappropriate use of visual content" (Table 3. Count). This category includes ten types of behaviors. I applied the three most frequently investigated behaviors as a reference for designing the scenarios for the interview:

Scenario 1: Posting embarrassing/mean photos/videos to shame someone (Investigated in Abaido, 2020; Byrne, 2021; Gahagan et al., 2016; Kokkinos et al., 2014)

Scenario 2: Posting mean/negative/derogatory/offensive/malicious comments on pictures/videos to target someone's intelligence or physical appearance (Investigated in Gahagan et al., 2016; Rachoene & Oyedemi, 2015)

Scenario 3: Sharing/forwarding/spreading someone's embarrassing photos/videos to others to ridicule someone (Investigated in Gahagan et al., 2016; Kokkinos et al., 2014; Mishna et al., 2018; Ozden & Icellioglu, 2014)

I used my private Instagram account to create the visual scenarios. I searched and downloaded images from Snappy Goat (https://snappygoat.com/#,0,0), Pixabay (https://pixabay.com/), and Unsplash (https://unsplash.com/). Then I used the Paint tool to modify them. In addition, I included the two visual-based cyberbullying factors, thumb down and loser hand gestures, that were mentioned by Vishwamitra et al. (2021). All

scenarios were revised after receiving suggestions from the pilot participants and committee members. Each scenario included an image representing a cyberbullying behavior and a short description of the incident. See Figure 13 as an example of scenarios; all scenarios are included in Appendix F.

Part 2: Interview questions

In the beginning of the interview, there were two ice-breaking questions about what social media participants usually use and what they usually do on Instagram. The five main interview questions were designed based on the proposed Holistic Theoretical Framework. These questions aimed to investigate participants' perspectives on the given scenarios using Ostrom's (1969) cognitive, affective, and behavioral attitudes, as well as to observe how participants identify related factors in the Microsystem (e.g., friend), Mesosystem (i.e., reporting system), and Exosystem (i.e., policy, social media norms) in addressing the cyberbullying issue. The sub-questions served as follow-up questions. Questions might not be asked sequentially, depending on the flow of participants' responses.

1. What do you think about these scenarios?
   1-1 Do you think any of them are cyberbullying?
   1-2 What elements in that scenario(s) cause cyberbullying?

2. If these scenarios happened to[70] 1) you, 2) your friend, 3) someone you don't know, then 1) what would you think? 2) how would you feel? 3) what might you do?

3. In your words, what do you think is "visual cyberbullying"?
4. Do you think there is any policy at UT related to cyberbullying?
   4-1 Do you know any cyberbullying policies at UT?
   4-2 If you want to report a cyberbullying incident to the university, do you know how to report it?
   4-3 How do you think UT should be involved if someone reports cyberbullying?

5. What do you think social media platforms can do to reduce cyberbullying?
   5-1 If you want to report a cyberbullying incident on Instagram, do you know how to report it?
   5-2 What do you think users can do to avoid engaging in cyberbullying?

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[70] This question is a 3X3 matrix that includes nine sub-questions. Participants were asked one sub-question at a time, starting from "If these scenarios happened to you, what would you think?"

Scenario 2.
Brandon posts Emily's photo with a figure of Shrek on his Feed with mean comments under the photo to target Emily's physical appearance.
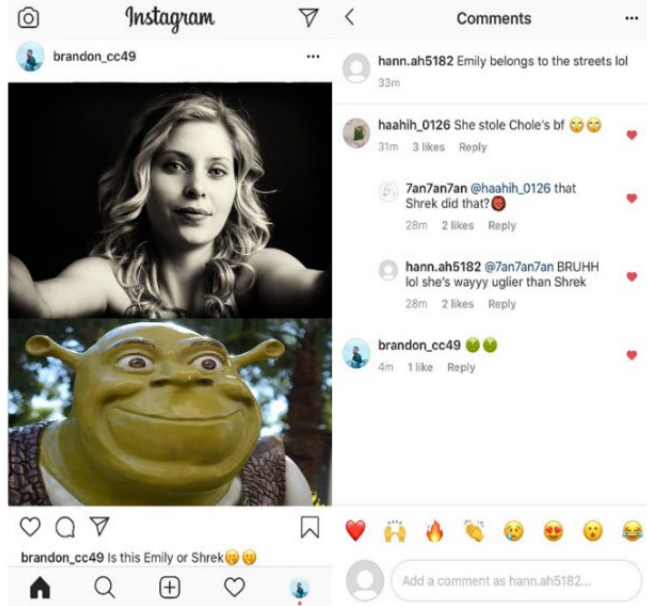
Figure 13. An example of the visual scenario used in the interview

Part 3: Visual narrative inquiry questions

Three main questions were designed for the visual narrative inquiry based on the proposed Holistic Theoretical Framework. The first question aims to investigate the Five C elements (i.e., context, content, conduct, contact, and confidentiality) shown in the recreated scenarios, as well as to understand the coping strategies that victims applied in those incidents. The sub-questions served as follow-up questions. Questions might not be asked sequentially, depending on the flow of participants' responses. The second question is related to the fifth interview question. The rationale for this sequence was that participants may be more reminded of social media features after they recreated the scenarios. The third question is a closing question.

1. Could you tell me what happened in that scenario/that real case?[71]
    1-1 What was the relationship between the perpetrator and the victim?
    1-2 Do you know what the victim did/reacted to in this incident?
    1-3 Was the account a public one or a private one?
    1-4 How did other people who witnessed this incident react to it?
    1-5 Do you think this kind of incident often happens on Instagram?

2. What kind of social media features do you think might increase cyberbullying?

3. Is there anything else you would like to share in terms of visual cyberbullying?

5. Data analysis

Both the interview and the visual narrative inquiry emphasized interpreting what a phenomenon (i.e., a cyberbullying incident on Instagram) means to a participant. Participants make meanings of visual-based cyberbullying on Instagram through verbal interviews and visual scenarios (Bach, 2017; McCracken, 1988).

As indicated by Braun and Clarke (2006, p.84), theoretical thematic analysis "*tends to be driven by the researcher*'s *theoretical interest*" and is "*more explicitly analyst driven.*" The themes generated in this analysis approach may be highly associated with the patterns discussed in the theoretical underpinning. In this study, participants' experiences, assumptions, and understanding of cyberbullying were categorized and mapped into the proposed Holistic Theoretical Framework during the analysis. Thus, I used the theoretical thematic analysis as the main approach to analyze the qualitative data. Because of the fact that this framework is rooted in bullying and cyberbullying, and the fact that this study examined visual aspects of cyberbullying, I also applied an inductive approach to develop codes that specifically centered around the visual aspect. This resulted in a hybrid approach with a theoretical grounding.

Fereday and Muir-Cochrane (2006) adopted a Six Stage procedure for the hybrid thematic analysis from Boyatzis (1998), and Crabtree and Miller (1999). Braun and

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[71] Since participants recreated scenarios based on real cyberbullying cases, this question asks about the scenarios as well as the real cases.

Clarke (2006) also provided an outline of the Six Phases of thematic analysis. I adopted both guidelines and describe my steps for data analysis below.

Stage 1: Familiarizing yourself with your data (Braun & Clarke, 2006, p.87)
The audio recordings of in-person interviews were transcribed using an automatic transcription tool, the desktop version of Descript, for transcription (https://www.descript.com/transcription). Zoom interviews were recorded to the cloud and a text file of captions was automatically processed for each recording.

To familiarize myself with the data, I listened to each recording and verified its transcription against the recording word by word. At the same time, I made note of distinct emotional reactions of participants when listening to their voices. For example, one participant used a stronger tone when expressing her feelings, so I capitalized the letters to reflect her emotion. "*You see that SO frequent and it's SO scary*" (P5). Then I read the transcription line by line and aggregated sentences into proper paragraphs. A paragraph serves as a coding unit. Next, I integrated screenshots of scenarios created by participants. As mentioned before, five participants did not create a scenario, while another five participants created two scenarios. Thus, the total number of visual scenarios for analysis is 37. The total word count for all of the transcriptions (n=37) is 97,891. All transcriptions were saved as PDF files for analysis.

Stage 2: Developing the code manual (Fereday & Muir-Cochrane, 2006, p.84)
I developed a code book for coding all qualitative data. Starting from the theoretical/deductive direction, I developed parent codes using the main structure from the proposed Holistic Theoretical Framework: *Bystander General Attitude; Victim Coping; Perpetration; Microsystem; Mesosystem; Exosystem; Macrosystem*. Then I input child codes under each parent code from my literature review. Parent codes served as upper categories and were numerically labeled, while child codes served as attributes for single concepts and were numerically labeled with subsections (e.g., 1.1, 1.2) (Table 6).

From the inductive direction, as I read through the transcripts, I took notes of potential codes, then I added additional parent codes and child codes into the codebook. Next, for each parent code and child code, I developed operational definitions (Hsieh, & Shannon, 2005) within the context of this study. After the discussion and revision on the codebook during the intercoder reliability process (see "Stage 3: Testing the reliability of the code"), the final codebook included nine parent codes and 64 child codes. The majority of codes were developed deductively. Only the fifth parent code (Perpetration-Visual inquiry) and its child codes (2.4; 3.13; 4.8; 6.2; 8.5; 8.6) were developed inductively. See the codebook and the number of coded paragraphs in Table 6. The operational definitions of each code are provided in Appendix H.

Table 6. Codebook overview

Code	N	Code	N	Code	N
1. Individual- Social media usage (parent code)		3.15 Leave the social media site	0	5.10 Content- Tag	2
1.1 Instagram usage	37	3.16 Cautiously using ICTs	9	5.11 Context- Comments	20
1.2 Social media usage	37	3.17 Report to social media sites	10	5.12 Context- Direct Message	8
2. Bystander General Attitude (parent code)		3.18 Respond/confront the bully	17	5.13 Context- Fake account	8
2.1 Cognitive attitude	298	3.19 Seek social support	6	5.14 Context- Feed	17
2.2 Affective attitude	108	3.20 Stop going/posting online	0	5.15 Context- Story	9
2.3 Behavioral attitude	200	4. Perpetration- Transcript (parent code)		6. Microsystem (parent code)	
2.4 Definition	52	4.1 Conduct	170	6.1 University personnel	15
2.5 Age-related	31	4.2 Confidentiality	31	6.2 Student organization	24
2.6 Gender-related	27	4.3 Contact	58	6.3 Peers and friends	30
3. Victim Coping (parent code)		4.4 Content	143	6.4 Family members	7
3.1 Attribute to the perpetrator	4	4.5 Context	98	7. Mesosystem (parent code)	
3.2 Attribute to the victim	0	4.6 Age-related	8	7.1 Cogn. on intervention practices	79
3.3 Move forward; Ignore	7	4.7 Gender-related	44	8. Exosystem (parent code)	
3.4 Normalize	1	4.8 Victims' background	71	8.1 Knowledge of university policy	39
3.5 Self-defeating humor	3	5. Perpetration-Visual inquiry (parent code)		8.2 Cognition on university policy	25
3.6 Think positively	7	5.1 Content- Personal	13	8.3 Reporting (university)	9
3.7 Victims' feelings	32	5.2 Content- Private	10	8.4 Reporting (social media)	72
3.8 Avoid real-life contact	1	5.3 Content- Alcohol/drug related	14	8.5 Safety practice on social media	51
3.9 Make disconnection	4	5.4 Content- Sexual related	9	8.6 SM features increase CB	88
3.10 Change account setting	3	5.5 Content- Caption	19	9. Macrosystem (parent code)	
3.11 Collect evidence	2	5.6 Content- Check-in	1	9.1 Social media norm	109
3.12 Delete account	0	5.7 Content- Emoji	28	9.2 Law enforcement	8
3.13 Delete comment/post	10	5.8 Content- GIF	2		
3.14 Ignore it/do nothing	12	5.9 Content- Hashtags	3		

N: Number of coded paragraphs.

Cogn.: Cognition

Stage 3: Testing the reliability of the codes (Fereday & Muir-Cochrane, 2006, p.85)

The codebook was manually input into NVivo (Version 1.6 [72]) for coding. The transcriptions were all saved as PDF files and imported into NVivo as well. To enhance the trustworthiness of the data analysis, intercoder reliability was implemented as the first step of data analysis (O'Connor & Joffe, 2020). The second coder, whom I recruited from my personal network, has a master's degree in Information Science and had qualitative data coding experience using NVivo. As a rule of thumb, using 10% to 25% of the whole data set is typical for conducting the statistical intercoder reliability test (O'Connor & Joffe, 2020). Thus, nine transcriptions (24.3%) from the data were used for testing intercoder reliability.

First, I presented to the second coder the whole interview process and used the same material (i.e., the PowerPoint presentation) I used with the participants in the formal interview. This process was to help the second coder make sense of the data sequence in the transcriptions. Then I briefly introduced the proposed Holistic Theoretical Framework and explained the operational definitions of each code in the codebook. Next, I asked the second coder to read the transcriptions line by line to familiarize himself with the data before coding (Kurasaki, 2000; O'Connor & Joffe, 2020). Then we each coded the transcriptions independently.

As mentioned before, the coding unit was a paragraph. This meant that if there were only one sentence in the paragraph that belonged to a certain code, the entire paragraph was assigned to that code. This approach ensured the preservation of the data context, as well as maintaining the efficiency of conducting the intercoder reliability test. For the visual scenarios done by participants, the "Region[73]" selection function in NVivo was applied to code visual content. After we completed the first three documents, we discussed issues we had each experienced, and I revised the language of the operational definitions for clarity (O'Connor & Joffe, 2020). Then we completed the remaining six documents.

The intercoder reliability test was conducted using the Kappa coefficients (κ), one of the most frequently used measurements for this task (McHugh, 2012) and the only appropriate measurement available in NVivo.[74] Unfortunately, the result from the first round of tests was not satisfactory (averaged κ of all codes=0.61), possibly because of issues with the clarity of the operational definitions. Thus, both coders examined the paragraphs for which there was disagreement on every code, discussed it thoroughly, and revised the coding upon reaching consensus. The operational definitions of codes were revised again at this stage. Then I conducted the second round of the test (O'Connor & Joffe, 2020). The κ from the second test ranged from 0.8 to 1, with an average of 0.96, indicating a *strong* to *almost perfect* level of agreement (McHugh, 2012, p. 279). See the kappa value of each code in Appendix H. In addition, NVivo was unable to process the intercoder reliability test because the coding units were "Region" for the visual content.

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[72] https://help-nv.qsrinternational.com/20/mac/Content/about-nvivo/whats-new.htm
[73] https://help-nv10.qsrinternational.com/desktop/procedures/basic_coding_in_picture_sources.htm
[74] https://help-nv11.qsrinternational.com/desktop/procedures/run_a_coding_comparison_query.htm

Thus, I reported the percentage of agreement for child codes under parent code 5: Perpetration-Visual inquiry.

In a typical process of qualitative data coding that implements intercoder reliability testing, after both coders complete their coding of the same subset of data, they will divide and code the rest of data separately. However, since this is my dissertation and I was dedicated to investigating my data thoroughly, I coded the remaining 26 transcription documents without the second coder's involvement.

Stage 4: Generating and reviewing themes by connecting and comparing codes
In this stage, themes were identified by generating relevant concepts across codes (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006). This study aimed to investigate visual-based cyberbullying; thus, key themes were generated focusing on the visual aspect.

Stage 5: Producing the report (Braun & Clarke, 2006, p.93)
This is the final step of the qualitative data analysis. In this study, qualitative data analysis answers RQ2 (perspectives), RQ3 (visual elements) and RQ4a (awareness and perspectives on policies). In Chapter Four, key themes are reported according to the structure of the associated RQs. Notable quotes from participants were extracted as examples of the themes. In Chapter Five, the themes were collectively discussed with the results generated from the survey and policy analysis.

Scan of Policy Documents
1. Introduction
Policy analysis is a powerful tool for observing trends and patterns in documents, as well as yielding suggestions for program planning and evaluation (Bardach & Patashnik, 2019). P.K. Smith, one of the most cited cyberbullying scholars (López-Meneses et al., 2020), has applied the content analysis approach to examine the anti-bullying policies of 100 primary and secondary schools in the United Kingdom since 2008 (Purdy & Smith, 2016). As for cyberbullying-related university policies, Faucher et al. (2015) used a scan approach to examine 465 policies in 74 Canadian universities (see Chapter Two). Examining these policies allows researchers and university administrators to identify the gap between existing policies and real-world practices as the technology evolves.

One of the goals of this study was to investigate the gap between the current university cyberbullying policies and university students' awareness of these policies. Thus, guided by Faucher et al. (2015), I applied a scan approach to the policies related to cyberbullying to obtain an overview of how cyberbullying and visual content usage regulation have been addressed in university policies.

The participants in this study were undergraduate students at the University of Tennessee Knoxville (UTK). To triangulate the analysis, the scope of the policy scanning was limited to the five institutions that have undergraduate programs affiliated with the

University of Tennessee system (https://tennessee.edu/campus-guide/). These institutions include UT Knoxville (UTK), UT Chattanooga (UTC), UT Southern (UTS), UT Martin (UTM), and the UT Health Science Center (UTHSC) in Memphis. Data generated from the policy scanning answers the last main research question:

RQ4: How do current university policies in the University of Tennessee system address visual-based cyberbullying?

2. Procedures

Policy search

The procedure for identifying relevant policies was informed by Faucher et al.'s (2015) methods. First, a list of all policies was located for the five affiliated institutions on the UT System Policy Website (https://policy.tennessee.edu/). A full-text search on this website was performed to search for relevant policies.

The first round of policy searches was conducted in the last week of February 2022. The following search keywords used by Faucher et al. (2015, p.108) were applied for searching: *cyberbullying, bullying, human rights, appropriate conduct, ethical conduct, harassment, intimidation, slander, libel, threat, computer use, code of conduct, hazing,* and *discrimination*. Given that this study focused on the visual aspect of cyberbullying, keywords related to visual and social media were also used in searching: *social media, Instagram, image, photo, picture, selfie, video, live video, and visual*.

After completing the coding of the interview data, participants' responses related to university policies were reviewed. In particular, the coding results from these specific codes yielded useful terms: 6.1 (University personnel), 6.2 (Student organization), 7.1 (Cognition of intervention practices), 8.1 (Knowledge of university policy), 8.2 (Cognition of university policy), and 8.3 (Reporting university) (see Appendix H). The terms that potentially relate to cyberbullying policies were selected for conducting the second-round search. These terms included *professional behavior, hate speech, screenshot, GroupMe, inappropriate, student housing, sorority/fraternity, Title IX, blackmail, digital footprint, Dean of Students, student engagement, Student Union, student life,* and *alcohol*. The second-round policy search was conducted in the first week of July 2022.

In addition, UTK implemented a new anti-bullying procedure in August 2022. Thus, the term "bullying" was used to conduct the third round of searching the UT System Policy Website to check for updates in the other four institutions. In total, 233 unique policy documents were retrieved, based on the three rounds of the search.

Determining relevancy

The relevancy of the documents in the retrieval set was determined by browsing policy titles and section headings. First, the scope of the policy had to be limited to "undergraduate students" or "students." Documents that included statements regarding

how other university personnel (e.g., faculty, employees) should treat students were also within the scope. Second, to obtain as many policies as possible, Faucher et al.'s (2015, p.108) strategy was applied, specifically including documents that mentioned all types of "*behaviors that might be considered as cyberbullying if occurring online without specifically referring to the online context.*" Third, policies that addressed social media regulations, visual content usage regulations, or alcohol regulations were also examined. In total, 26 documents were considered to be relevant. The full list of policies is presented in Table 7, Chapter Four, and the associated policy URLs are listed in Appendix I. All policy documents were downloaded as PDF files for scanning and coding in NVivo (Version 1.6).

3. Analysis

Coding scheme

A hybrid approach (Fereday & Muir-Cochrane, 2006) for developing the coding scheme was applied. First, the coding scheme from Purdy and Smith's (2016) and Faucher et al.'s (2015) studies were adopted for this study to establish a baseline. Then coding schemes were combined from these two studies and any irrelevant categories were removed (e.g., those about traditional bullying terms and content). During the scanning process, new codes were added that represented concepts relevant to this study (e.g., social media usage conduct). The final coding scheme was shown in Table 7, which included four categories and eleven concepts. I used the terms "Category" and "Concept" instead of "Parent code" and "Child code" for the policy scan, because the purpose of this analysis was only to extract content from policy documents that related to cyberbullying, rather than to code the entire documents in detail.

Analysis process

As mentioned earlier, the purpose for examining the policies was only to search for cyberbullying-related concepts that were presented in the policies. Evaluating or judging the quality of those policies was beyond the scope of this study. As such, the documents were checked against the coding scheme by using "Ctrl + F" to search keywords in the full text. Keywords for each category were shown in Table 8. Then the paragraphs that included these keywords were browsed to determine if they were relevant to this analysis.

Second, after completing a search for all of the keywords, the table of contents or the subheadings in the documents were examined to see if there were other relevant sections. Then the potentially relevant sections were scanned to determine their actual relevancy.

The results of the policy scan are reported at a descriptive level without further interpretation in Chapter Four. Nevertheless, the result from the policy scan still enabled a triangulated data interpretation with the empirical data collected from the participants, presented in Chapter Five.

Table 7. Coding scheme for policy documents

Category	Concept
1. Definition of cyberbullying	(1) Meaning of cyberbullying.
	(2) Mention behaviors that might constitute cyberbullying
	(3) Mention behaviors that might constitute cyberbullying through visual forms[75]
2. Reporting and responding to cyberbullying incidents	(4) Any possible penalties or sanctions, including whether the policy makes a distinction between formal and informal modes of resolving a complaint (Faucher et al.,2015, p.109).
	(5) Information about the complaint procedure to follow or the office to contact when cyberbullying occurs (Faucher et al.,2015, p.109).
	(6) Statement of the responsibilities borne by those who witnesses incidents.
3. Strategies for intervention and prevention	(7) Suggestions for supporting victims.
	(8) The university's role in raising awareness of or "sensitizing" the university community on this issue (Faucher et al.,2015, p.109).
4. Other related concepts	(9) Mention appropriate or inappropriate social media usage.
	(10) Mention appropriate or inappropriate visual content usage.
	(11) Mention alcohol-related offenses or misconduct.

Table 8. Keywords used in full-text searching of policy documents

Category	Keywords used for full-text searching
1. Definition of cyberbullying	Cyberbullying, bullying, internet, electronic, definition, harassment, intimidation, threat, **haz(ing)**, **discriminat(ion)**, denigration, flaming, cyberstalking, stalking, exclusion, outing, trickery, **imperson(ation)**, inappropriate, hate speech, privacy
2. Reporting and responding to cyberbullying incidents	report, procedure, sanction, "student organization", **responsibilit(y/ies)**, complaint, witness, observe
3. Strategies for intervention and prevention	**Interevent(ion)**, **prevent(ion)**, awareness, support
4. Other related concepts	"Social media," Instagram, image, photo, picture, video, visual, screenshot, alcohol

Note: Bolded keyworks represented the truncation to obtain all variations of these words; underlined key words were used for term search by including two words in quotation marks in full-text searching

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[75] Examples include are but not limited to image, photo, video.

Ethical Considerations

Given that cyberbullying is a sensitive topic, some ethical considerations should be recognized. According to the Belmont Report (HHS.gov, n.d.), researchers who work with human subjects must follow three Basic Ethical Principles: Respect for Persons, Beneficence, and Justice, as well as the IRB regulations. The approaches used here for collecting data ethically and responsibly are described below.

Respect for Persons
Participation in this research study was entirely voluntary, for both the quantitative and qualitative phases. In the quantitative phase, the survey was distributed to a random sample set, and students who participated in this survey chose to do so voluntarily. In the qualitative phase, participation was also voluntary, and participants were NOT judged based on their prior experiences with cyberbullying.

Beneficence
The guidelines of beneficence are: 1) do no harm, and 2) maximize the possible benefits and minimize the possible harms, to people who are participating in the research. In the quantitative phase, students were clearly informed about the procedures and potential risk in the Informed Consent Form. The contact information for the UTK Counseling Center and UT 24-Hour Helpline were provided in both the Informed Consent Form and at the end of the survey.

In the qualitative phase, students were clearly informed about the procedures and potential risk in the invitation email, by the Research Informed Consent document (Appendix E), and before the data collection process. In particular, the visual scenarios were described to the participants in written and oral forms. The contact information for the UTK Counseling Center and UT 24-Hour Helpline was provided in both the Research Informed Consent document and at the beginning and at the end of the data collection.

Before the interview, participants were informed that they could share anything that they felt comfortable sharing, and that they could refuse to answer any questions, or ask to stop the interview at any point. During the interview, participants were asked about their general attitude on the given hypothetical visual scenarios, and NOT about those related to their personal perpetration or victimization experiences. For the visual inquiry, participants were asked to recreate and describe a visual scenario based on what they had witnessed, NOT about those related to their personal perpetration or victimization experiences.

Lastly, privacy and confidentiality protection practices used for this study were in compliance with the requirements of the UTK IRB. Data was de-identified before analysis. Each interview data file was identified by alphabetical and numerical codes (e.g., P10) that were used throughout the analysis, interpretation, and reporting of the results. All data is securely stored in the researcher's UTK OneDrive account that is password-protected. UTK uses a two-factor authentication to protect data and has

firewalls to secure data stored on its web servers. Only the researcher, the Dissertation Chair, and Committee members may access the data.

Justice

There was no cost other than their time for students to participate in this study. The survey was distributed to a random sample of students, which meant each student in the population had an equal opportunity to be randomly selected to participate in the survey. This selection was made by a staff member at UTK Data Central and the list of the students in the sample was provided to the researcher. A formula was used to generate the random sample of 10,001 students in two rounds. Thus, the sampling method was bias free. The interview invitation email was sent to all students who were interested in participating, who voluntarily provided their email addresses in the separate survey. Every participant in the interview and visual inquiry activity received the same incentive (i.e., a $15 e-giftcard).

The Role of the Researcher

As stated in the previous section, the ethical principles were followed to respect and protect the rights of the participants. During the entire research process, but most particularly during the data collection in the qualitative phase, the researcher maintained a non-leading, neutral, unbiased attitude (Mertens, 2014). This approach included putting the participants at ease by telling participants, "*I want to hear as many different things as possible, so if you are willing and feel comfortable to share, please do not hesitate to do so,*" and "*There is no judgment, and the story you share with me will be helpful and important to my dissertation.*" Also, if participants wanted to pause or take a short break, they were able to do so. None of the participants reported any problems or issues either during or after the data collection process.

CHAPTER FOUR
RESULTS

I applied four data collection techniques in this study, and each of the techniques answers one of the main research questions. RQ1 is addressed by the survey, RQ2 is addressed by the interview, RQ3 is addressed by the visual narrative inquiry, and RQ4 is addressed by the scan of policy documents and the interview. In this chapter, I sequentially report the study results by answering the four research questions.

RQ1-Survey

In this section, I report results from the survey, which answer the first main RQ.

RQ1: What is the nature of visual-based cyberbullying on Instagram experienced by undergraduate university students?

> *RQ1a*: To what extent do university students experience visual-based cyberbullying incidents on Instagram?
>
> *RQ1b*: What relationship exists between university students' Instagram usage and their visual cyberbullying experiences?

Background Information

In the survey analysis, there were 376 respondents aged 18 to 25, with a mean age of 20.06 (SD=1.41). One hundred and thirty-two (35.1%) identified themselves as male, while 244 (64.9%) respondents identified as female. As for the year of study, there were 115 freshmen (30.6%), 92 sophomores (24.5%), 85 juniors (22.6%), 76 seniors (20.2%), and eight respondents (2.1%) who were above the fourth year.

The Instagram usage questions (IG1-IG15) were answered using a five-point Likert scale (5=Very often, 4=Often, 3=Sometimes, 2=Rarely, 1=Never). In terms of Instagram usage in general (IG1, see Appendix C for the full question), nearly half of all respondents (n=182, 48.4%) reported that they use Instagram "Very often," 115 respondents (30.6%) said they use the platform "Often," 49 (13%) reported "Sometimes," and 30 (8%) indicated they use it "Rarely." The mean Instagram usage score in general is 4.19 (SD=0.95), indicating that there is heavy Instagram usage in the study sample.

Besides IG1, the other 14 (IG2-IG14) questions investigate various Instagram usage behaviors. The three behaviors that have the highest means are: "**React or leave comments on others' Feeds**" (M=3.25, SD=1.38); "**React or leave comments on others' Stories**" (M=3.07, SD=1.26); and "**Share content from others' Instagram in a private message**" (M=2.97, SD=1.41). However, if an average of IG1-IG15 is used, the mean drops to 2.16 (SD=0.68), which does not align with the result for IG1. This is

because participants were browsing/scrolling through content on Instagram much more often than actively posting/sharing content. In addition, questions IG2 to IG15 are all about active behaviors. This finding is confirmed by the interview results that are reported in later sections.

Prevalence of Cyberbullying
The prevalence of cyberbullying among university students is investigated in the following areas: perpetration, victimization, and witnessing of visual cyberbullying and sexual cyberbullying. The results report Mean and percentages of each area that answer *RQ1a: To what extent do university students experience visual-based cyberbullying incidents on Instagram?*

Visual Cyberbullying Perpetration (VCP)
The cyberbullying questions were designed using a five-point Likert scale measuring frequency of occurrence (5=Very often, 4=Often, 3=Sometimes, 2=Rarely, 1=Never). VCP is included in three survey questions: P1, P2, and P4. Based on the Means of frequency of these three questions, eight respondents (2.13%) reported they had exhibited perpetration behaviors at least "Sometimes" or more often (i.e., Mean ≥3). Ten (2.66%) reported engaging in cyberbullying perpetration either "Rarely" or less than "Sometimes" (i.e., 2≥Mean>3). Fifty-two respondents (13.83%) reported engaging in perpetration less frequently than "Rarely" (i.e., 1>Mean>2), while 299 (79.52%) reported "Never" being perpetrators (i.e., Mean=1). Seven respondents (1.86%) did not answer any questions on this subscale. See Table 9 for full details.

Visual Cyberbullying Victimization (VCV)
VCV is addressed by four survey questions: V1, V2, V3, and V10. Based on the Means of frequency for these four questions, 20 respondents (5.32%) reported they had been victimized at least "Sometimes" or more often (i.e., Mean ≥3). Sixty (15.96%) reported they had been victimized either "Rarely" or less than "Sometimes (i.e., 2≥Mean>3). Ninety-five respondents (25.27%) reported they had been victimized less frequently than "Rarely" (i.e., 1>Mean>2), while 182 (48.4%) reported "Never" being victimized (i.e., Mean=1). Nineteen respondents (5.05%) did not answer any questions on this subscale. See Table 9 for full details.

Visual Cyberbullying Witnessed Experience (VCW)
VCW is addressed by four survey questions: W1, W2, W3, and W10. Based on the Means of frequency of these four questions, 98 respondents (26.06%) reported they had witnessed visual cyberbullying at least "Sometimes" or more often (i.e., Mean ≥3). One hundred and twenty (31.91%) reported had witnessed visual cyberbullying either "Rarely" or less than "Sometimes" (i.e., 2≥Mean>3). Eighty-eight respondents (23.4%) reported had witnessed cyberbullying less frequently than "Rarely" (i.e., 1>Mean>2), while 70 (18.62%) reported "Never" having witnessed visual cyberbullying (i.e., Mean=1). All respondents answered the questions in this subscale. See Table 9 for full details.

Table 9. Descriptive statistics results for visual/sexual cyberbullying prevalence

Visual cyberbullying experience	VCP		VCV		VCW	
Mean of Frequency	N	%	N	%	N	%
"Sometimes" or more often (Mean ≥3)	8	2.13	20	5.32	98	26.06
"Rarely" to less than "Sometimes" (2≥Mean>3)	10	2.66	60	15.96	120	31.91
Less than "Rarely" (1>Mean>2)	52	13.83	95	25.27	88	23.40
"Never" (Mean =1)	299	79.52	182	48.40	70	18.62
Unanswered	7	1.86	19	5.05	0	0
Sexual cyberbullying experience	SCP (P5)		SCV		SCW	
Mean of Frequency	N	%	N	%	N	%
"Sometimes" or more often (Mean ≥3)	7	1.86	22	5.85	108	28.72
"Rarely" to less than "Sometimes" (2≥Mean>3)	5	1.33	49	13.03	109	28.99
Less than "Rarely" (1>Mean>2)	0	0.00	122	32.45	99	26.33
"Never" (Mean =1)	357	94.95	164	43.62	60	15.96
Unanswered	7	1.86	19	5.05	0	0.00

VCP= Visual Cyberbullying Perpetration; VCV= Visual Cyberbullying Victimization; VCW= Visual Cyberbullying Witnessing; SCP= Sexual Cyberbullying Perpetration; P5= the fifth perpetration survey question; SCV= Sexual Cyberbullying Victimization; SCW= Sexual Cyberbullying Witnessing

Sexual Cyberbullying

Sexual Cyberbullying Perpetration (SCP) was addressed by only one survey question (P5). Seven respondents (1.86%) reported they had perpetrated sexual cyberbullying at least "Sometimes" or more often (i.e., Mean ≥3). Five (1.33%) reported perpetrating sexual cyberbullying either "Rarely" or less than "Sometimes" (i.e., 2≥Mean>3). Zero respondents (0%) reported they had perpetrated sexual cyberbullying less frequently than "Rarely" (i.e., 1>Mean>2), while 357 (94.95%) reported "Never" being sexual cyberbullying perpetrators (i.e., Mean=1). Seven respondents (1.86%) did not answer this question. See Table 9 for full details.

Sexual Cyberbullying Victimization (SCV) was covered by five questions: V5, V6, V7, V8, and V9. Twenty-two respondents (5.85%) indicated being victimized by sexual cyberbullying at least "Sometimes" or more often (i.e., Mean ≥3). Forty-nine (13.03%) reported being victimized by sexual cyberbullying either "Rarely" or less than "Sometimes" (i.e., 2≥Mean>3). One hundred and twenty-two respondents (32.45%) reported being victimized by sexual cyberbullying less frequently than "Rarely" (i.e., 1>Mean>2), while 164 (43.62%) reported "Never" being the victim of sexual cyberbullying (i.e., Mean=1). Nineteen respondents (5.05%) did not answer any questions on this subscale. See Table 9 for full details.

The prevalence of Sexual Cyberbullying Witnesses (SCW) was explored through five questions: W5, W6, W7, W8, and W9. Unlike the findings for SCP and SCV, respondents were more likely to have witnessed sexual cyberbullying than not. One hundred and eight respondents (28.72%) witnessed sexual cyberbullying at least "Sometimes" or more often (i.e., Mean ≥3). One hundred and nine (28.99%) witnessed sexual cyberbullying either "Rarely" or less than "Sometimes" (i.e., 2≥Mean>3). Ninety-nine respondents (26.33%) witnessed sexual cyberbullying less frequently than "Rarely" (i.e., 1>Mean>2), while 60 (15.96%) "Never" witnessed sexual cyberbullying (i.e., Mean=1). All respondents answered the questions in this subscale. See Table 9 for full details.

Let's consider that the "Mean of frequency less than 2" (see "Less than Rarely" and "Never" in Table 9) represents the status of not being involved in cyberbullying perpetration or victimization or witnessing on Instagram. Only about 5% of the participants reported being involved in cyberbullying perpetration, about 20% of participants had experienced victimization, and more than half of the participants had witnessed visual/sexual cyberbullying in the past. See Table 9 for full details.

Cyberbullying Behaviors

Among the most frequently occurring behaviors, "**Posted humiliating pictures or videos of someone**" was the most reported visual perpetration (mean=1.2, SD=.61, n=18, 4.79%). "**Teased me about my appearance**" was the most reported visual victimization (mean=1.6, SD=1.04, n=58, 15.43%). "**Knowing someone has teased the other person about their appearance**" was the behavior most frequently reported by visual witnesses (mean=2.53, SD=1.34, n=175, 46.54%). For the sexual cyberbullying concept, "**Made

sexual jokes" was the only question item addressing sexual cyberbullying perpetration (mean=1.07, SD=.44, n=7, 1.86 %). "**Received unwanted sexual suggestions**" was the most reported form of sexual cyberbullying victimization (Mean=1.94, SD=1.2, n=112, 29.79 %). And "**Knowing someone receives unwanted sexual suggestions**" was also the most frequent sexual cyberbullying behavior reported by witnesses (Mean=2.83, SD=1.34, n=221, 58.78%). See Table 10 for complete details. These results basically align with the findings from the interview and the visual narrative inquiries, that are discussed in the RQ2 & RQ3 sections.

The Relationship between Instagram Usage and Visual Cyberbullying Experience
In this section, I used a simple linear regression model to examine the relationship between university students' Instagram usage and their visual cyberbullying experiences, and I compared two gender groups in the linear model. The results from the regression analysis answer RQ1b.

RQ1b: What relationship exists between university students' Instagram usage and their visual cyberbullying experiences?

Instagram Usage (IG) and Visual Cyberbullying Victimization (VCV)
The independent variable is Instagram usage (IG) and the dependent variable is visual cyberbullying victimization (VCV). A Durbin-Watson statistical value of 2.01 indicated independence of residuals. Homoscedasticity was assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. Residuals were normally distributed as assessed by visual inspection of a normal probability plot. The overall model had an R^2 of .103, indicating that IG accounted for 10.3% of the variation in VCV, with an adjusted R^2 of .101 that represents a weak size effect (Cohen, 1988). IG significantly predicted VCV, $F(1, 374) = 42.96$, $p < .001$. As for the gender differences, for every one-unit increase in Instagram usage frequency (e.g., from "Sometimes" to "Often"), the prevalence of visual cyberbullying victimization may increase by .34 units for male students and by .27 units for female students. See complete details in Table 11.

Instagram Usage (IG) and Visual Cyberbullying Witnessing (VCW)
The independent variable is Instagram usage (IG) and the dependent variable is visual cyberbullying witnessing (VCW). There was independence of residuals as assessed by a Durbin-Watson statistical value of 2.01. The homoscedasticity and residuals normality were assessed by visual inspection of plots. The overall model had an R^2 of .070, indicating that IG accounted for 7% of the variation in VCW, with an adjusted R^2 of .068 that represents a weak size effect (Cohen, 1988). IG frequency statistically-significantly predicted VCW, $F(1, 374) = 28.26$, $p < .001$. As for the gender differences, for every one-unit increase in Instagram usage, male students may witness an increase of .35 units in visual cyberbullying, while female students' VCW may increase by .16 units.

Table 10. Descriptive statistics results for the most reposted cyberbullying behaviors

Form	Behavior	Mean (SD)	Sometimes and above	%	Rarely/ Never	%
VCP	Posted humiliating pictures or videos of someone (P2)	1.2 (.61)	18	4.79	351	93.35
VCV	Someone teased me about my appearance (V10)	1.6 (1.04)	58	15.43	299	75.52
VCW	Knowing someone has teased the other person about their appearance (W10)	2.53 (1.34)	175	46.54	201	53.46
SCP	Made sexual jokes (P5)	1.07 (.44)	7	1.86	362	96.28
SCV	Received unwanted sexual suggestions (V5)	1.94 (1.20)	112	29.79	245	65.16
SCW	Knowing someone received unwanted sexual suggestions (W5)	2.83 (1.34)	221	58.78	155	41.22

VCP= Visual Cyberbullying Perpetration; VCV= Visual Cyberbullying Victimization; VCW= Visual Cyberbullying Witnessing; SCP= Sexual Cyberbullying Perpetration; SCV= Sexual Cyberbullying Victimization; SCW= Sexual Cyberbullying Witnessing.
P2=the second perpetration survey question; V10= the tenth victimization survey question; W10= the tenth witness survey question; P5=the fifth perpetration survey question; V5= the fifth victimization survey question; W5= the fifth witness survey question.

Table 11. Regression results

Overall model

DV	R^2	Adj. R^2	SE	df	F	D-W	β	B	SE	t	95% CI L	U
VCV	.10	.10	.65	374	42.96***	2.01	.32	.33	.05	6.56***	.23	.43
VCW	.07	.07	.96	374	28.26***	2.02	.27	.40	.07	5.32***	.25	.54
Male
VCV	.12	.11	.54	130	17.27***	2.33	.34	.31	.07	4.16***	.16	.45
VCW	.13	.12	.96	130	18.67***	2.04	.35	.57	.13	4.32***	.31	.83
Female
VCV	.07	.07	.71	242	18.87***	1.99	.27	.32	.07	4.34***	.17	.46
VCW	.03	.02	.95	242	6.60*	2.02	.16	.25	.10	2.57*	.06	.46

***p<.001, *p<.05
VCV= Visual Cyberbullying Victimization; VCW= Visual Cyberbullying Witnessing.

Instagram Usage (IG) and Visual Cyberbullying Perpetration (VCP)
In addition, a monotonic relationship exists between the IG and VCP variables, based on the scatterplot. Thus, I conducted a nonparametric correlation using Spearman's Rho correlation coefficient. The result shows that there is a weak positive correlation between IG and VCP, $r_s = .158$, p=.002.

Summary
In this section, I have reported the survey results that answer RQ1: *What is the nature of visual-based cyberbullying on Instagram experienced by undergraduate university students?* by addressing the two sub-questions, RQ1a and RQ1b.

Overall, only a few respondents reported being involved in cyberbullying perpetration. Around one-fifth of the respondents have experienced cyberbullying victimization, and more than half of the respondents have witnessed visual/sexual cyberbullying on Instagram in the past. In general, students who used Instagram more often were more likely to have witnessed visual cyberbullying or experienced victimization.

In the next section, key findings were reported from the interviews that answer the second research question.

RQ2-Interview

In this section, I start with reporting participants' background information, then present the results from the interviews. Key findings are reported in the sequence of the sub-RQs:

RQ2: What are undergraduate university students' perspectives of visual-based cyberbullying incidents on Instagram?

> *RQ2a:* What definitions or meanings do students attach to visual-based cyberbullying?
> *RQ2b:* Informed by Ostrom's (1969) attitude components, what are students' cognitive, affective, and behavioral reactions toward cyberbullying?

Background information
There were 37 total participants in the interview portion of the study, with the following demographic characteristics: eight males (21.6%) and 29 females (78.4%); seven freshmen (18.9%), eleven sophomores (29.7%), eleven juniors (29.7%), and eight seniors (21.6%). Their ages ranged from 18 to 23 (Mean age=20). As for the frequency of their Instagram usage, 22 participants (59.5%) reported using the platform "Very often," ten (27%) reported using it "Often," and five (13.5%) reported using it "Sometimes." In the interview, a majority (n=26, 70.3%) of the participants reported that they usually scrolled through the Feed, Story, and Reel content, but did not often post content themselves. This finding explains the results from the Instagram usage survey questions. Two primary

motivations for their use of Instagram were for entertainment or to explore content. Another common reason was to keep up with friends and family.

Elements of Visual-based Cyberbullying

In this section, I report the elements of visual-based cyberbullying that are defined or identified by participants, which answers RQ2a: *What definitions or meanings do students attach to visual-based cyberbullying?* Three elements emerged as the most frequently mentioned by interview participants: visual forms, associated intentions, and actions that arouse cyberbullying. The reported findings from the interviews are supported by exemplar quotations from the participants, with their attribution designated by their confidential participant numbers.

Visual Form

Original forms of visuals were the most mentioned elements (n=25, 67.6%), referring to someone's pictures, photos, images, and videos: "*Any image, video, any visual content, can include or not include text*" (P27). The next most-mentioned element was the **edited forms of visuals** (n=8, 21.6%), such as photoshopped images, memes, and collages: "*I think visual cyberbullying is more of the Meme culture, where sometimes it's pushing more on just bullying rather than humor.*" (P33). **Emojis** were also mentioned by five participants (13.5%): "*Emoji that they use, the tags that they use, obviously were derogatory and negative*" (P4). Interestingly, three (8.1%) participants considered the term "visual" to mean anything people can see online, including text. In their views, text comments can cause visual cyberbullying: "*Visual cyberbullying is where people are able to see what action is being done*" (P31).

Intention to Target Someone

Most participants (n=32, 86.5%) mentioned that visual cyberbullying is associated with a **negative intention to target someone**. They provided descriptions of specific kinds of intentional actions or motivations, such as: maliciously posting something: "*If someone's doing it maliciously*" (P26); aiming to destroy someone's reputation: "*Try to tear down their reputation*" (P3); trying to (emotionally) hurt or harm someone: "*They mean to hurt someone's feelings*" (P12); meaning to embarrass or put down someone: "*With the goal of embarrassing them*" (P32); making fun of or laughing at someone: "*Images and a negative connotation to make fun of people*" (P22).

Actions Arouse Visual-based Cyberbullying

There were two primary actions that most participants considered to be cyberbullying. The first one was **targeting someone's physical appearance** (n=32, 86.5%), including either the comparing behavior: "*Comparing someone's picture to something that's considered unattractive*" (P33); or the judging behavior: "*Just really anything where people are judging anyone's appearance on anything they can't control*" (P10).

Basically, the second hypothetical scenario was designed for this type of action. The 32 participants who considered the second scenario to be cyberbullying were further asked

about which was more powerful, the visual (i.e., comparing a girl named Emily's photo with Shrek's image side by side) or the text (i.e., comments targeting Emily's appearance and her personal life). Three participants (9.4%, out of 32) thought the visual and text were equally powerful in causing hurt feelings: "*I would say it doesn't really make a difference*" (P17).

Eleven participants (34.4%, out of 32) considered that the text was more powerful. They felt the comments made the comparison and the intention of targeting Emily clearer without confusion: "*So just sit two pictures closer together, it doesn't really make a lot of sense, until it comes to comments*" (P25). Participants also mentioned that comments could endlessly pile up on a single image: "*You can post one photo a time, but you can have countless amounts of comments and replies to those comments*" (P18).

Eighteen participants (56.3%, out of 32) perceived that the visuals were more hurtful, because the visuals usually make people "*Stop a little bit more, and forces you to analyze it a little bit more*" (P10) than text. The visual comparison may also evoke audiences' self-image or remind them of someone they know who has similar facial features: "*But if there are people who are looking at the image, who are not Emily, but have Emily's features, then they are also going to have their feelings hurt, which sucks. And that's kind of another impact of cyberbullying*" (P34). Moreover, one participant pointed out that hurtful comments are usually associated with visual content, and those comments would not be made if there were no visual posted: "*I feel the visual is more of a harassment, because if there was never a visual there wouldn't be a need to comment on it. Without the visual, this issue wouldn't be present so they wouldn't leave the comments*" (P31).

The second type of action that interview participants felt constituted cyberbullying was **any action taken on the visual content of someone against that person's will** (n=31, 83.8%). This is the design idea of hypothetical scenarios 2 and 3. The most addressed action was sharing a photo without permission, regardless of whether the photo was being shared publicly in a post, or privately in a direct message (DM): "*Lot of times it's anything that someone post of you, without your consent. I think that constitutes a lot of cyberbullying.*" (P20); "*If it was me, I wouldn't want my friends. DM-ing pictures behind my back, the person who didn't take the picture posting it. I don't think that that's very cool and I wouldn't be very happy about it*" (P5).

Participants also indicated that cases would be more severe if the visual content either depicts, or is being posted during, a negative or down moment for that person: "*An embarrassing picture of that person of a bad moment in their life, and you're posting that moment for them to relive it for them to see it like poking fun at them, I think that that's visual cyber bullying because it's like, you're constantly reminding them of an embarrassing event that happened*" (P5). Another circumstance the participants mentioned was visual content taken/posted in a situation where the person was helpless or unable to defend themselves, such as a drunk photo: "*It's not a good image on anyone to be posted drunk and unconscious so that's not fair to the person because his friends are taking this opportunity to make jokes of him*" (P31).

On the other hand, some participants (n=13, 35.1%) perceived that posting images "without consent" might be acceptable if it happened within a close group of friends and there was no malicious intention: "*If it's an instance of they're all friends, and an individual that was reposted felt okay with it being reposted. But if it's done maliciously, or maybe they're not friends and it definitely is* (visual cyberbullying)*"* (P.33).

Summary

As a summary of the results reported in this section, the definition of visual-based cyberbullying by university students can be framed as "using any forms of visual content, including photos, video, memes, or emoji, with a negative intention of targeting someone, or to take any actions, such as sharing visual content, that goes against that person's will, or negatively targets someone's physical appearance."

The results from the following sections answer RQ2b: *Informed by Ostrom's (1969) attitude components, what are students' cognitive, affective, and behavioral reactions toward cyberbullying?*

Cognitive Attitudes Toward Visual Cyberbullying

Ostrom (1969, p.16) defined cognitive attitude as "*desirable to undesirable thoughts.*" In this section, the concept of cognitive attitude is juxtaposed with participants' perspectives on cyberbullying prevalence, age and gender differences, social media features that could potentially increase cyberbullying, and prevention approaches.

General Views

<u>Prevalence</u>

Most interview participants (n=31, 83.8%) thought that cyberbullying "*happens a lot more than people would to admit*" (P4) on various social media platforms. There were 13 participants (35.1%) who believed that visual-based cyberbullying happens a lot on Instagram. However, some participants also mentioned that cyberbullying has declined on Instagram because the social media usage trend has moved to other platforms, such as: TikTok (n=13, 35.1%) "*I just feel TikTok's another world of people communicating and the cyberbullying a lot occurs on there*" (P10); Snapchat (n=6, 16.2%) "*I think it happens more on Snap(chat), to be honest*" (P21); and YikYak (n=4, 10.8%) "*I think the place where it's most common is on site like YikYak*" (P25).

TikTok[76] is also a visual-based platform where users upload short clips. Snapchat[77] is a visual and text mixed message platform where all messages disappear after a short time. YikYak[78] is a text-based platform that allows users to connect anonymously with all other users within 5 miles. In the following sections, I also report participants' responses that mentioned TikTok or Snapchat, because these platforms also include visual cyberbullying content.

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[76] https://www.tiktok.com/en/
[77] https://www.snapchat.com/en-US
[78] https://yikyak.com/

Age Differences

Some participants (n=13, 35.1%) thought that cyberbullying is more prevalent among younger users, such as those in high school or middle school, because they are cognitively immature. As one participant mentioned "*I think kids don't really think about that until it's too late,*" (P1). Another possible reason was that Instagram was launched when participants were middle school aged themselves and became wildly popular during their high school years: "*…[I]n the past few years…Instagram it's kind of lessened a little bit in popularity. When I was in high school…Instagram was this big show to all these cool things you're doing*" (P10). At the same time, the safety practices on Instagram were not sound enough, so they witnessed much more cyberbullying incidents when they were younger than they do now at their current college age: "*This did happen a lot more frequently on Instagram when they first kind of started, and then they started in implementing things*" (P3). Moreover, the scope of a high school is usually smaller than a university, so cyberbullying in high school is easily associated with real-life bullying in the school: "*I went to a tiny high school, so everyone knew each other. And stuff like nudes if got into the wrong hands, would spread very quickly, especially between the football players and baseball players*" (P15).

On the other hand, eight participants (21.6%) mentioned that college students generally have more professional training. Students tend to be more cautious about behaviors that might impact their future careers: "*This has been actually taught to me in UT in our BUAD 100 &200 classes…if you wouldn't want your future employer to see this from your end of posting it, or end of you being in the post, then don't post it*" (P27). As a result, cyberbullying may happen less often to someone they know. However, one participant had the opposite opinion, because more content can be created by college students and, therefore, might cause more cyberbullying incidents: "*It's definitely, probably more prevalent in college because there's more opportunities for the content to be created. Like a picture of a drunk guy*" (P11). Other participants also mentioned that they still witnessed cyberbullying incidents on social media of people they do not know, such as famous social media influencers or celebrities: "*When I think of social media influencers that I follow and listen to, they all have examples and cyberbullying fears. They address them a lot of the time, and they just talk about how you get stuck in that comment hole*" (P18).

Gender differences

In terms of gender differences, twelve participants (32.4%, eleven females and one male) mentioned that females are more likely to be targeted on their physical appearance and body images: "*Being a girl, I've known a lot of people and myself too, who have struggled with body image and how you're supposed to look and just what people think of you. The second scenario really hit heart with my friends and me and my sister*" (P3). As one participant shared about her witness experience, a tiny little thing can still hurt a female's feelings, especially for a young girl: "*Being pretty is always something a girl wants to be told. And if somebody posts an emoji that's gross or something under your picture that probably taints your view of yourself quite a bit*" (P26). And even so-called "positive" reactions to a female's photo can potentially turn into cyberbullying, because

of the sexual aspect: "*Even if it's maybe something positive. I see a lot of people commenting on women's appearances, saying that they're sexy or something like that, and I think any of that can really be harassment as a form of cyberbullying*" (P16).

Generally speaking, male participants (n=8, 21.6%) seemed to care much less than females did about receiving comments on their appearance: "*Like me, a dude, I'm just like, 'Why does it matter?* [that someone is targeting my appearance]" (P14). Males were also more likely to perceive sharing/posting embarrassing photos between friends as funny rather than cyberbullying: "*I would just take that is someone's friend, just posting something is 'you look a bit funny.' In the first one scenario I wouldn't think we had any mal intent behind it*" (P19). One male participant mentioned that "*I think I would be more taken aback by the comment about my personal life, not so much my actual appearance*" (P19). Two male participants thought that gender difference is minor in visual cyberbullying: "*I don't think they're necessarily a difference between genders. I think it just comes down to each person's individual personality*" (P9).

Social Media Features Potentially Increase Visual Cyberbullying
Given that new social media platforms innovate rapidly, I asked participants about their perspectives on social media features that could potentially increase cyberbullying. In this section, I report on four features related to the visual aspect of cyberbullying.

Direct Reactions, especially toward Story, Reel, and Livestream
This was the most addressed social media feature (n=15, 40.5%). The only way audiences can interact with the content creators on Story, Reel, and Livestream is to react or leave comments. The reactions (e.g., Like or emojis) and comments go directly as a private message to only the content creators. As a result, people may easily express their negative opinions toward the visual content without further thought. As one participant noted: "*I would say that Stories have really kind of exacerbated cyberbullying…some people almost not caring, such as 'Oh I don't like this, oh I don't agree with this' and slide up and say something not constructive and very negative to a person*" (P10).

While in Livestream, the reactions and comments are almost as direct as face-to-face communication, since both the content creator and audiences are live, which the content creators may find more hurtful: "*Live streams are one of the worst, because that you can get straight up to tacked on it, and you can hardly shut down your live stream, it's not enough time for people to not see it*" (P20). Although Livestream is not private, the commentors can easily hide in the audience crowd. They can also leave the Livestream immediately after leaving a negative comment or reaction: "*So they'd rather say something bad and then just leave the page and pretend like it never happened*" (P22). To worsen the situation, if the content creator wants to save the Livestream as a video on one's account, the negative comments/reactions would be saved as well, and future audiences would see that negative content: "*I know that you can also save your Instagram Live videos then people could go back to them and continuously cyberbully*" (P24).

<u>Anonymous Accounts that Accept and Post Content from Anonymous People</u>
The feature of anonymity is always a dominant factor in cyberbullying incidents. The anonymous accounts I mention here are not referring to just the social media capability for users to be anonymous. These accounts are created by anonymous people, usually from a certain geographical location, such as a particular school. The account owner accepts visual content from the people, usually those who live in that region or are enrolled in that school. Then the account owner selects and posts content to the account. The content usually is not positive. Four participants (10.8%) mentioned these types of Instagram accounts' being created for their high schools. The visual content being posted was all about someone's (i.e., a student or a teacher in that school) private life. It could be as light as a clumsy, embarrassing photo, or as severe as displaying the person's nudity. "*When I was in high school, we'd have lots of accounts pop up that would be anonymous accounts, people would send stuff to, and post really embarrassing stuff. Such as 'oh this person's secretly pregnant' or 'oh this person secretly had an abortion' or 'oh here's this person naked;' stuff like that happened all the time*" (P15).

At UTK specifically, eight participants (21.6%) mentioned Instagram accounts called "OldRowVols" and "Fridaybeers." The concept is the same, anonymous accounts that accept visual content from people and post it. Nevertheless, the content is usually just embarrassing photos, such as a drunk photo of a student at an event: "*Like OldRowVols, I'd say it's probably one of the most followed ones at UT. And people will submit, so what they do is they direct message to them with the video, and then they choose which ones they want to post each day. And they usually post one or two a day*" (P12). Some participants admitted that scrolling through the content is a form of entertainment: "*OldRowVols it's funny to watch people hurt themselves, and have too much of a good time*" (P6). Some participants even mentioned that they knew someone who wanted to be posted for being famous. For example, one participant was a DJ in a bar and often saw guys filming drunk dancing girls from some inappropriate angles. Sometimes he notified the girls and asked the guys to delete the photo. But some girls did not care. "*Like I said 'Hey, this guy filmed you,' and they were like, 'Oh, maybe I'll end up on OldRowVols or something like Fridaybeers, UTK'*" (P21). Some participants said it was hard to understand this kind of mindset about desiring to be posted: "*I feel a lot of people think it's funny. But I kind of view it as embarrassing, because I don't understand why you would want someone to post a picture of you, like a drunk one*" (P24). Figure 14 shows four screenshots of content posted on the OldRowVols Instagram account as examples.
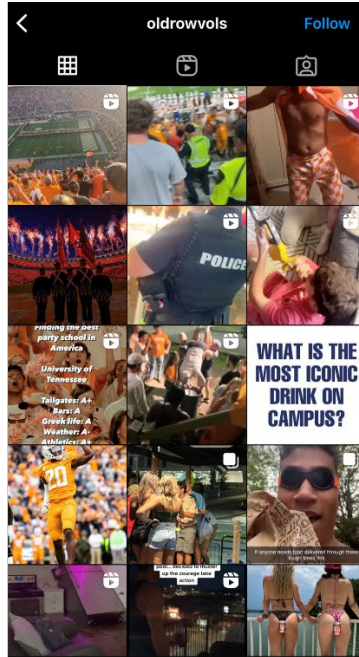
Figure 14. Examples of visual content on OldRowVols Instagram account[79]
(Image source: https://instagram.com/oldrowvols?igshid=YmMyMTA2M2Y=)

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[79] The top left screenshot shows the account's basic information, the top right one shows some visual content on its Feed; the bottom right one shows a meme post on its Story; the bottom left one shows a short video clip on its Reel.

Auto Disappearing Content within a short period

On Instagram, if the creator does not save the content, Story content only lasts for 24 hours, and Livestream disappears as it ends. The features of TikTok Livestream are similar to those of Instagram. Nine participants (24.3%) mentioned that this limited time feature might increase people's intention to post cyberbullying content, because the content will not remain permanently on their accounts: "*I definitely think those short-term Stories and Livestream, where it's not a permanent existence on someone's page would increase it*" (P23). In particular, participants mentioned content on an Instagram Story that is only for a "close friend," and "Private Story" on Snapchat, where the content creator limits the visibility to only a small group of followers: "*...[T]they will have a "friends only story," or private story on snapchat...they know that they won't suffer the repercussions, because the other person can't see it so they're able to make these jokes and comments about them*" (P19).

As for Snapchat, the message vanishes once it is viewed. Six (16.2%) participants mentioned that it would be easier to cyberbully others because it is hard for the content receiver to keep the evidence: "*It can be hard to prove that someone said something or showed you something that was abusive because you can't have the evidence*" (P7).

Cross-platform Sharing

This feature was only mentioned by one participant, but it is still worth noting. Cross-platform content sharing is available on popular social media sites. For example, content creators can make TikTok short video clips also be visible on their Instagram accounts; Instagram users who do not use TikTok can see that TikTok content. This means content creators can quickly spread cyberbullying content across platforms. Conversely, they may also be cyberbullied across platforms more easily. "*Similar with TikTok is that all the Reels are all the TikTok that are posted through Instagram Reels. I don't even use TikTok, but I see them on Instagram. Just the compatibility of sharing stuff from one platform to another also creates a whole new revenue of getting things out there and cyberbullying*" (P26).

Approaches for Prevention of Cyberbullying

Participants were asked about their points of view on how cyberbullying might be prevented. Next, I report the results from both the social media and user sides, focusing on the visual aspect.

Social Media Side

Participants acknowledged various approaches that visual-based social media sites have gradually implemented to protect users. Specifically mentioned features were word filters (n=5), harmful content sensors (n=5), the ability to turn off comments made under a post (n=3), and graphic content warnings (n=1). As one participant noted, "*I think the way that Instagram does it, is getting better, and I think that's in the right direction*" (P27). Four participants (10.8%) mentioned that the one feature that Instagram might want to adopt from Snapchat is the notification of screenshots. When someone screenshots the content,

usually the content in Story, the content creator gets a notification, which can prevent content from being shared without consent: "*Snapchat alerts you whenever somebody took a screenshot. And I think if they were to take that away, then that could also increase cyberbullying. Because then people would be able to take the photos without the consent of the person knowing and post those however they saw fit*" (P23).

Four participants (10.8%) thought that social media sites should be more restrictive on limiting users' "real" age. Currently, the minimum age for signing up for an account on popular visual-based platforms (e.g., Instagram, TikTok) is 13. However, children at this age are not mature enough to judge the content appropriately, and they might not be aware of the consequences of being involved in cyberbullying. As one participant noted, "*…it's a very sexual thing…And you see stuff like that on TikTok posted by young people all the time…it could be very harmful, especially its young eyes that are watching it, and they're just getting desensitized to that*" (P26).

Besides technical implementation, 14 participants (37.8%) commented that social media platforms should be more proactive and have more staff to deal with user reporting of cyberbullying incidents. Generally speaking, the reporting process is straightforward. However, participants still seemed slightly unsatisfied with the processing time and the cyberbullying content determination. As noted by one participant, "*I think it* [the report] *was shut down by Instagram. They just told me that it wasn't considered as cyberbullying, even though it was against me*" (P26). And two participants mentioned that platforms should analyze the reported content and investigate the patterns for developing content filters: "*I think that one thing that social media and particularly platforms like Instagram can do is, to record negative comments. They can tell generally from the gist of the message*" (P34).

User Side

Given that social media platforms have been a vital communication approach, it is hard for an individual to prevent themselves from being cyberbullied entirely. People will never know who may take their photos without consent. Participants commented on some general rules of thumb that could be helpful, for example, managing account audiences (n=12, 32.4%), maintaining good relationships with people in real life (n=5, 13.5%), and being mindful about posting any content (n=4, 10.8%).

In terms of preventing oneself from being a perpetrator, seven participants (18.9%) noted that one should never post content or comments that negatively target someone. Even if people have limited posting the negative content to a small audience, things can never be kept private once they are online: "*It's funny that you think, 'Oh well, only 15 of my closest friends can see my Story.' But what if one of those 15 is friends with somebody who you're talking bad about. I've seen somebody post something on their private story that was target at somebody, and they still caught wind of it*" (P18). Furthermore, ten participants (20.7%) mentioned that people should always have empathy: "*Take a mile walk in somebody else's shoes, put yourself in that situation*" (P30).

Affective Attitudes toward Visual Cyberbullying

Affective attitude is defined as "*favorable to unfavorable feelings*" (Ostrom, 1969, p.16). Results reported in this section were generated from interview participants' responses about their feelings toward the three hypothetical scenarios and the actual incidents they witnessed.

Feelings expressed by participants about visual cyberbullying were all negative, including: angry (n=13, 35.1%), bad (n=11, 29.7%), upset (n=10, 27%), hurt (n=9, 24.3%), embarrassed (n=9, 24.3%), sad (n=9, 24.3%), not happy (n=7, 18.9%), and mean (n=6, 16.2%). Generally speaking, when being a hypothetical victim in the scenarios (i.e., when prompted by this interview question: If this happened to you, how would you feel?), they usually used more terms and spoke in a stronger tone to express their negative feelings: "*I would be so mad about the second one, I would be more mad about this one. Because it's directly comparing me to Shrek. I love Shrek but his figure is horrible*" (P13). As a hypothetical witness observing scenarios that happened to someone they do not know (i.e., when prompted by this interview question: If this happened to someone you don't know on Instagram, how would you feel?), participants expressed fewer negative feelings and in a lighter tone: "*To somebody I don't know, it would be pity, it wouldn't be a genuine feeling. I would just be 'um, that's kind of sad', but I wouldn't care too much, it would just be pity*" (P6).

One emotional term worth noting is "scary." Only four participants (10.8%) mentioned this feeling, but they all had this reaction to the actual cyberbullying incidents they witnessed, which might escalate a sense of empathy and vulnerability: "*...first of all, scary. Because we are viewing it, because we have Instagram too, this can happen to us*" (P27).

Behavioral Attitudes toward Visual Cyberbullying

Behavioral attitude is defined as "*past action, future intentions, and predicted behavior in hypothetical situations*" (Ostrom, 1969, p.16). Results reported in this section were generated from interview participants' responses about their potential actions toward the three hypothetical scenarios, and their actual actions related to the incidents they witnessed. Next, I will report on the four most addressed actions.

Communicate and Confront the Perpetrator

If the victim(s) in the hypothetical scenarios/actual incidents were the participants themselves or their friends, 19 participants (51.4%) commented that they would first contact the perpetrator using direct messages, if they personally knew the perpetrator. Four participants said they would try to ask about the rationale motivating the perpetration and express their negative feelings about it: "*I would probably just try to talk to them and say, 'I trust you, I just didn't really understand why you would post something like that, without my consent'*" (P3). At the same time, other participants said they would strongly disapprove of the cyberbullying behavior by the perpetrator. Moreover, all 19 participants said they would request the perpetrator to take down the

inappropriate content: "*I would say something like 'What's your problem? It's not your life. This is really mean and uncalled for. Could you just take it down?'*"(P1).

Report the Content to the Social Media Platforms
The action of reporting the cyberbullying incident to the platform was usually the second step proposed by interview participants, if the (hypothetical) victim were the participants themselves or their friends. Twenty-two participants (59.5%) said they would report the content to the social media platforms if the perpetrator failed to remove the cyberbullying content: "*I would probably first text or call that person, and ask them to take it down... If I haven't heard back in a timely manner, or they refuse, I would report it. I would probably give them no more than 10 minutes to respond before reporting*" (P13). However, if the participant were just a witness with no relationship to the victim, only three participants indicated they would report the content, as noted by one participant: "*Though I would still report. When I'm on TikTok and Instagram and especially when it's a woman, I feel extra call to action to report comments that are really out of line or like images that are explicit.*" (P37). Furthermore, I asked these 22 participants if they had reported cyberbullying incidents on Instagram in the past, and nine participants said they had reported them.

Support or Stand for the Victim
If they were a hypothetical or actual witness who has a relationship with the victim, 25 participants (67.6%) said they would provide emotional support to the victim. Under these conditions, they stated they would also provide support beyond comforting the victim about their hurt feelings if the victim requested it. For example, they could confront the perpetrator or report the incident to social media: "*I would text my friend, not to make them feel bad, but I would say, 'Did you see this? Do you know what's being shared about you?'" And then I would ask them from there what they want to do further*" (P2). One point worth noting is that six participants declared that they would defend their friends more than they would stand up for themselves: "*I would probably be even more confrontational about it and likely to speak up. Just because I feel I defend my friends more than I would defend myself*" (P16).

On the contrary, if the victim were a stranger, only five participants would try to support or stand up for the victim by commenting back under the cyberbullying content. One participant shared about their witness experience, when someone took and posted a photo of a female doing a gym workout and judged her body image. The participant commented under the photo, "*Do not making fun of people when they are trying to work out, it's just defeating the purpose of people trying to better themselves*" (P23).

No Action or Laugh It Off
Around two-thirds of the survey participants (n=24, 64.9%) said they might not get involved in the incident or would just laugh it off and move on. This approach is more likely (n=19, 51.4%) to be adopted if the participant had no relationship to the victim, because it would be hard to understand the context of the incident, based only on the

content posted online: "*Probably laugh a little bit. Cause I don't have a personal connection to the persons, and I don't know the context here.*" (P14). Nine participants (24.3%) said they would do nothing, even if they were the cyberbullied victim. Some of them perceived taking any action as useless, because perpetrators can always find another way to cyberbully people. As one participant noted: "*I don't think there's anything I could do. Yes, I could report it but, honestly, what is that going to do?... If it's not a direct cyberbullying incident, how do you just get it taken down because it's an embarrassing photo that you don't want shared?...Anything I could do I just kind of live with it* (in a quite negative tone)" (P30). Some others asserted that they did not care about what cyberbullies say, or were not confrontational: "*I just don't care; if someone really is going out of their way to say something bad about me that's their problem*" (P19).

Summary

Key findings reported in this section answer the second research question: *What are undergraduate university students' perspectives of visual-based cyberbullying incidents on Instagram?* by addressing the two sub-questions, RQ2a and RQ 2b. Participants defined and described visual-based cyberbullying based on using various visual content forms, entailing negative intentions, and taking actions against a person's will, or targeting someone's physical appearance. Generally speaking, a majority of participants believed that cyberbullying is prevalent across primarily visual-based social media sites. Participants perceived that age and gender differences also had an impact. Four social media features that might potentially increase visual cyberbullying were identified from the interview responses. Various approaches for preventing visual cyberbullying were presented from both the social media platform perspective and the user side.

In the next section, I report the key findings from the visual narrative inquiry that address the third research question.

RQ3-Visual Narrative Inquiry

In this section, I report the visual narrative inquiry results that answer RQ3. Key findings are reported in the sequence of the sub-RQs:

RQ3: How do undergraduate university students create and describe visual-based cyberbullying scenarios based on incidents they witnessed on Instagram?

RQ3a: Informed by the Five Cs model, what elements do these scenarios reflect?
RQ3b: Informed by the coping mechanism in Agnew's (1992) General Strain Theory, how do students describe the coping strategies of the victims or witnesses exposed to visual-based cyberbullying incidents in the created scenarios?

As mentioned in Chapter Three, five participants did not create a scenario. Two of them did not want to use their own devices to log in to a new Instagram account (i.e., the accounts I registered for this study). Two others experienced internet connection issues with their mobile phones and could not access Instagram during the interview. One

participant's phone had a very low battery level, and she could not find a charger. All of them agreed to talk about the actual cyberbullying incidents they had witnessed. On the other hand, five other participants voluntarily created two scenarios. As a result, 37 visual scenarios and 42 narrative inquiries were analyzed. To be noted here, the number (n) and response percentages reported in the whole RQ3 section represent the number of the narrative inquiries (n=42), not the number of participants.

In addition, one participant did not use images from the three sources I provided to create the scenarios. She simply searched for images using Google. I became aware of this variation at a later stage in the interview when there was insufficient time for her to redo the scenarios. Thus, after her interview, I searched for copyright-free images portraying the same concepts the participant had chosen (i.e., a girl's selfie and a girl in a bikini on a beach) and replaced the original images in the scenarios.

Background Information on the Victims in the Scenarios
Overall, 30 (71.4%, out of 42) cases have female victims, and ten (23.8%) have male victims, with two cases not specifying gender. As for the perpetrators, twelve (28.6%) cases indicated that the perpetrators were females and 14 (33.3%) cases had male perpetrators, while for the other cases, the perpetrator's gender remained unmentioned. In terms of age, 13 (31%) cases happened to the participants' cohorts during high school or middle school, 23 (54.8%) cases happened to participants' acquaintances when the participants were at the university, and six (14.3%) cases happened to social media influencers whom the participants followed.

Elements Reflected in the Visual Narrative Inquiries
In this section, I report the elements of visual-based cyberbullying that are reflected in the visual scenarios created by the participants, which answers RQ3a: *Informed by the Five Cs model, what elements do these scenarios reflect?*

The visual content and the associated narratives were analyzed in the context of the Five C's framework. In Chapter Two, I used this framework to categorize perpetration behaviors that were addressed in the literature. See Figure 7 in Chapter Two for the concept map. This framework served as the analytical foundation for the visual scenarios created by the participants. I address the details below. The framework consists of:

1) Conduct: What was the perpetration behavior and the intention (e.g., judging the victim's appearance)?
2) Context: Where on Instagram was the visual content presented (e.g., Story, Feed)?
3) Content: What was posted (e.g., the victim's drunk photo)?
4) Contact: What was the social relationship between the perpetrator and the victim? (e.g., they know each other; only the perpetrator knows the victim)?
5) Confidentiality: Based on the participants' memories, what account privacy settings did the victim use?

It should be noted that the visual narrative inquiry approach is not a traditional data collection technique. Participants created the visual scenarios based on actual incidents they had witnessed. As the researcher, I basically listened to real stories told by the participants during the inquiry activity. In the following sections that address RQ3a, I report the numbers and percentages of prevalent factors within the theoretical framework, but I did not include quotes from the participants. Instead, in a later section, I used a case reporting approach to report about 13 share-worthy cases, and as I indicated, the elements in the theoretical framework are represented in each of the reported cases. By using this process, the visual scenarios created by the participants are more comprehensively described.

Conduct

As for the perpetration behaviors, the dominant behavior was "actions taken using someone's visual content against that person's will." This behavior was also one of the most mentioned visual cyberbullying actions mentioned in the interview section (RQ2). Eight types of behaviors fall into this category: 1) **Posting** visual content of the victim (n=13, 31%). Usually, the content was posted on the perpetrators' Feed or Story. 2) **Sharing** the victims' visual content with others (n=10, 23.8%). Sharing means the content was shared privately by the perpetrator, either between individuals or within a group audience. To be noted, in some cases, the shared visual was generic content, not cyberbullying. However, the cyberbullying comments would then be made about the shared content. 3) **Taking screenshots** of the visual content (n=10, 23.8%). This means perpetrators or their audience took screenshots of the visual content, then shared or posted it later. As with the sharing behaviors, the screenshot visual might be generic, but cyberbullying comments were then made based on the screenshot. 4) **Taking photos/recording video** of the victim (n=9, 21.4%). 5) **Reposting** the visual content (n=4, 9.5%). Instagram allows users to repost other people's content directly to their own account. For instance, A can repost B's Feed content to A's Story. 6) **Anonymous accounts** that accept and post content from anonymous people (n=4, 9.5%). The detailed description of this behavior was reported in RQ2 section. 7) **Creating impersonated accounts** (n=4, 9.5%). This behavior means the perpetrator used the victim's publicly accessible photos without consent, then created a fake account to pretend to be the victim's account. It is the most serious behavior among all the conduct discussed here. 8) **Hacking victims' accounts** (n=3, 7.1%). This behavior is also very serious, as the perpetrators hack into the victim's own account and post inappropriate visual content as if the victim had posted it.

Some forms or combinations of the above actions are usually the beginning of visual cyberbullying, followed by the audiences' reactions. In many cases, the perpetrators will also react to the visual content that was posted by the victims themselves (e.g., a victim's selfie on Instagram). These reactions are usually done via comments or by conversations in direct messages (DMs), and can be text only, or a combination of text and emojis, GIFs, or hashtags.

The intention behind the reactions includes: 1) **Targeting** the victims' **physical appearance**, body images, or outfit styles (n=14, 33.3%); 2) **Targeting the victims themselves** or the **visual content** they posted (n=13, 31%). 3) **Making fun** of the victims (n=9, 21.4%). To be noted, the perpetrators in three cases were initially posting victims' drunk photos just for fun. However, reactions from the audience later turned into associating the drunk behavior with the victims' academic performance or personal life. 4) **Harassment, denigration, or cyberstalking** (n=7, 16.7%). These behaviors include spreading rumors about the victims and posting sexually or generally insulting comments, at a single time or repeatedly; and 5) **Targeting** the victims' **gender identity or religious belief** (n=4, 9.5%).

Context
Results reported in this section reveal the venues on Instagram where visual cyberbullying content was presented. Six types of contexts are found in the scenarios: 1) **Impersonated/hacked accounts** (n=7, 16.7%). The perpetrators either created a fake Instagram account, pretended to be the victims' account, or hacked into the victims' account. Thus, the perpetrators had full control of that account. Usually, they named the account using the victim's name, used the victims' information in the Bio section, and posted the victims' photos on Feed; 2) **Feed** (n=11, 26.2%). This context indicates that the perpetrator took or screenshot the victims' photo, then posted/reposted the visual content to their own Instagram Feed. Feed exists permanently unless the account owner deletes the content. Posting content through Feed usually indicates the intention to keep it as a "public" record that allows all account followers to view the content anytime; 3) **Story** (n=7, 16.7%). The perpetrators took or screenshot the victim's photo then posted/reposted it to their own Instagram Story. Story disappears in 24 hours and allows the account owner to limit its audience. Thus, posting content through Story usually signals the intention to share the content briefly, and maybe among a smaller group of account followers. 4) **Group chat** (n=4, 9.5%). The message group includes several people, such as close friends among males. Sharing content in a group chat usually suggests an intention to spark group laughs or group comments about the victim. 5) **Private chat** (n=5, 11.9%). This type of context has the most limited audience, usually just between two friends. Sharing content in a private chat might indicate an intention to judge the victim in a more abusive way. 6) **Comments**. This context includes comments under the Feed post or in a group/private chat. Usually, there are two types of comments. One is about the visual content (n=22, 52.4%). These comments target the victim in a way that is highly focused on the visual content, such as judging how the victim has edited her selfie. In these cases, it is very likely that the harmful comments would not have been posted without the visual content as a stimulus for the behavior. The other type of comments focus on the victims themselves (n=10, 23.8%). The comments still relate to the victim even without visual content, such as attacking one's personal life.

Content
Results reported in this section include four types of content that were presented in the cases. The first type was **generic personal visual content** (n=24, 57.1%) that the victims post on Instagram by themselves, such as selfies, daily life photos, and videos. In the

visual scenarios, this type of content was usually reposted or shared by the perpetrator in any of the types of contexts described above. (e.g., Feed, Story). The perpetrators might also leave cyberbullying comments and reactions under the content, mostly targeting the victims' appearance. The second type was **private personal visual content** (n=9, 21.4%) that the victims might not want to share publicly. This type of content was usually being taken or shared without the victims' consent, such as a drunk photo or video. The third type of content was **photos of a sexual nature** (n=5, 11.9%), such as showing the victims' nudity. These photos were usually posted in anonymous, impersonated, or hacked accounts, and could be further reposted and shared. The fourth type of content was the **text-image** (n=2, 4.8%), meaning that the image content only included text. The content presented in these two cases was intended to denigrate the victim.

One visual element that was frequently presented was an **emoji** (n=16, 38.1%). Besides these 16 cases, another five participants also observed emojis being used with hostile intentions. Thus, I asked them to present those emojis and describe their meaning to me. In total, 36 emojis were extracted from the visual narrative inquiry. In Table 12, I categorized them by the apparent intentions behind their use, that were previously described in the "*Conduct*" section above: 1) Targeting the victim's physical appearance, body image, or outfit styles; 2) Targeting the victims themselves or the visual content they posted; 3) Making fun of the victim; 4) (Sexual) harassment, denigration, or cyberstalking; or 5) Targeting the victim's gender identity.

To avoid the problem of the emojis' not displaying smoothly across operating systems and devices, I downloaded all emojis as images (Table 12) from the Unicode Emoji List, with their Unicode and short names (https://www.unicode.org/emoji/charts/emoji-list.html).

Generally speaking, some emojis are neutral, without negative connotations. In most cyberbullying scenarios, these emojis usually need to be combined with text or put together with the visual content, in order to convey the perpetrator's negative intent. For example, emojis that were mentioned the most include: the face with tears of joy (😂), rolling on the floor laughing (🤣) and the loudly crying face (😭). They were commonly used under various conditions and were not necessarily indicative of cyberbullying. In some cases, emojis would appear to be positive, but could still represent malicious intentions, for instance, the smiling face with heart-eyes (😍) and the smiling face with hearts (🥰). They could be seen in harassment or cyberstalking scenarios, especially when combined with visual content of a sexual nature.

Table 12. Emojis and Intentions

Emoji	Short name	Intent.	Case by	Unicode	Emoji	Short name	Intent.	Case by	Unicode
	face with tears of joy	1, 2, 3	P8, P12, P25, P28, P37	U+1F602		face with rolling eyes	2	P37	U+1F644
	face vomiting	1, 5	P3, P10, P32	U+1F92E		rolling on the floor laughing	3	P2, P6, P36	U+1F923
	loudly crying face	1, 3	P6, P28	U+1F62D		skull	3	P6, P23	U+1F480
	woozy face	1, 2	P3, P8	U+1F974		skull and crossbones	3	P23	U+2620
	nauseated face	1, 2	P36, P37	U+1F922		fearful face	3	P6	U+1F628
	nerd face	1, 2	P36	U+1F913		star-struck	3	P6	U+1F929
	face with medical mask	1	P23, P26	U+1F637		fire	4	P16	U+1F525
	pile of poo	1	P36	U+1F4A9		tongue	4	P20	U+1F445
	pig face	1	P3	U+1F437		eggplant	4	P20	U+1F346
	thinking face	2, 4	P5, P37	U+1F914		water wave	4	P20	U+1F30A
	winking face	2, 4	P5, P18	U+1F609		sweat droplets	4	P20	U+1F4A6
	clown face	2	P23, P36	U+1F921		hot face	4	P5	U+1F975
	kissing face with closed eyes	2	P8	U+1F61A		smiling face with heart-eyes	4	P5	U+1F60D
	smiling face with horns	2	P15	U+1F608		smiling face with hearts	4	P5	U+1F970
	anger symbol	2	P20	U+1F4A2		weary face	4	P20	U+1F629
	nerd face	2	P36	U+1F913		pouting face	5	P36	U+1F621
	grinning face with sweat	2	P37	U+1F605		face with symbols on mouth	5	P36	U+1F92C
	zipper-mouth face	2	P37	U+1F910		peach	5	P20	U+1F351

Intent.=Intention. Descriptions of intentions in the table: 1. targeting the victim's physical appearance, body image, or outfit styles; 2. targeting the victims themselves or the visual content they posted; 3. making fun of the victim; 4. (sexual) harassment, denigration, or cyberstalking; and 5. targeting the victim's gender identity.

On the other hand, some emojis could communicate cyberbullying intentions without being combined with text. These emojis already had a negative connotation from the facial expression. They were usually used to target the victim's appearance. For example, the face vomiting (🤮), the nauseated face (🤢), the face with symbols on the mouth (🤬), and the woozy face (🥴). Another type of emoji presented easily-interpreted metaphors, such as the pig face (🐷) for targeting body images, the clown face (🤡) to insinuate foolishness, and the skull (💀) to make fun of a drunk person. The shapes of another type of emojis could be easily associated with a sexual connotation, such as an eggplant (🍆), sweat droplets (💦), or a peach (🍑).

Contact
Results reported in this section address the social relationship between the perpetrator and the victim. There were three types of relationships: 1) **The perpetrator and the victim knew each other** (n=24, 57.1%). If both were of the same gender, they were usually friends. If the perpetrator and the victim were not of the same gender, they were usually ex-partners; 2) **Only the perpetrator knew the victim** (n=9, 21.4%). This relationship was usually presented in the anonymous account cases; and 3) **The perpetrator and the victim were strangers in real life** (n=9, 21.4%). This type of cyberbullying usually happened against social media influencers or to a victim with a lot of Instagram followers.

In addition, regarding the manner in which the perpetration content was presented, it is best described by a 2X2 matrix: private vs. public, and direct vs. indirect. 1) **Public and indirect** (n=17, 40.5%). This form happened when the perpetrators created an impersonated Instagram account, or posted/reposted the visual content into their own accounts. Victims usually would not be aware of the incident until someone else alerted them. 2) **Public and direct** (n=11, 26.2%). This form happened in the comment/reaction section under a post or in a Livestream. In some cases, the perpetrator tagged the victim in the impersonated account. The victim and the audience would see the perpetration content immediately. 3) **Private and indirect** (n=10, 23.8%). This type happened in a group chat or a private chat, where the victim usually would not see the content unless they were informed by someone. 4) **Private and direct** (n=5, 11.9%). This version happened in cases involving harassment and cyberstalking, where the victim received private direct messages from the perpetrator.

Confidentiality
During the narrative inquiry, I asked participants if they remembered how the victim had set their account privacy controls. Among those participants who still remembered, the victim's Instagram account was public in ten cases, and was private in four cases. In addition, one participant mentioned that private photos, such as those including nudity, could easily be leaked if the victim had sent them to someone who used to be very close to the victim.

Summary
The visual content and the associated narrative were analyzed under the Five C's framework: Conduct, Context, Content, Contact, and Confidentiality. The results answered RQ3a. The most-presented perpetration behaviors were posting/sharing a victim's photos without consent and targeting or making fun of the victim's appearance or personal life by commenting on the photos. The context refers to various features in Instagram, such as Feed, Story, chat, comments, and impersonated accounts. The victim's visual content being targeted could be generic content, private personal photos/videos, or photos of a sexual nature. In addition, emoji use was presented as a unique visual element that could be utilized with malicious intentions. In terms of whether the victim and perpetrator knew each other or were strangers, it was a toss-up among these visual cases. For nearly 70% of the visual cases, the cyberbullying content was presented publicly. Data reflecting past incidents when participants were bystanders were less clear on how victims managed the confidentiality and privacy settings of their Instagram accounts.

In the next section, victims' coping strategies were described by the participants, and the results that answered RQ3b.

Victim's Coping Strategies as Described by Participants
Given that the visual scenarios created by the participants were all based on actual cases, in this section, I reported the victims' various coping strategies, as described by participants. Two participants shared about their own victimization experiences in the scenarios, in which case I interviewed them about their own coping strategies. I used Agnew's (1992) General Strain Theory as a guide. Agnew (1992) proposed that a strained individual (i.e., a victim in the visual cyberbullying cases) may generate a coping mechanism from the cognitive, emotional (termed "affective" in this dissertation), and behavioral aspects. Results reported in this section answered RQ3b: *Informed by the coping mechanism in Agnew's (1992) General Strain Theory, how do students describe the coping strategies of the victims or witnesses exposed to visual-based cyberbullying incidents in the created scenarios?*

Cognitive Strategies
Cognitive coping strategies used by victims may include ignoring the incident (e.g., "It's not important"), minimizing the adverse outcome (e.g., "It's not that bad"), or taking the responsibility on themselves (e.g., "I deserve it"). (Agnew, 1992, p.66).

Based on the participants' observations and descriptions, the victims applied three types of cognitive coping strategies in the actual incidents. The first one was **reframing the incident positively** (n=10, 23.81%), which means that the victim cognitively viewed the incident in a constructive direction. One participant who had a victimization experience commented: "*This happened to me when I was younger. But when I think of [it], I don't think I was ever like cyberbullied badly in my life. I think I had a pretty good life, and I know there's many people who have many worse things happening* [than my experience]" (P2). Another participant reported witnessing the victim respond to the malicious

comment about his video by saying, "*At least I make people laugh*" (P19). The second type of coping was **cognitively ignoring it and moving forward** (n=4, 9.52%). One participant described her friend's reaction after experiencing cyberbullying: "*Mainly he was just the bigger person, because he didn't want to let this get to him, especially since he has a kid to care for. He just didn't really take it to heart. Especially because he had a good support system*" (P8). In contrast to the strategy proposed by Agnew, in which the victim takes the blame, the third type of strategy mentioned by participants was to **attribute the responsibility to the perpetrator** (n=3, 7.14%). One participant shared her thoughts after seeing a comment made against her: "*I chose to take it in a way that it was supposed to be targeted against me, but it could have a lot of reflection about it. Of course, I do recognize that it could have just been her, being making that comment, and there was no intention behind them at all, but if there was an intention, the intention was to, for lack of a better word, pissed me off*" (P18).

Affective Strategies
In Agnew's (1992) theory, emotional (affective) coping reduces negative feelings. In this study, only the participants who had victimization experiences, or who were close to the victims, addressed the affective aspect. They mentioned that victims usually experienced negative feelings such as embarrassment, upsetment, and anxiety. Some victims turned to their support systems, such as family members and friends, to **seek emotional support**. As one participant shared about her feeling when she experienced cyberbullying: "*My best friend knows what happened to me is annoying, she told me that 'Being this is rude, you're better than this, you don't have to comment, or say anything in return.'" I wasn't planning on it, but it was nice to have that confirmation and that support backing*" (P18). Some victims just tried to ignore the incident and **let time ease the negative emotion**. As one participant mentioned: "*I could tell that it was bothering him, it was embarrassing him. So he knew and he saw it, but I think he just left it off, and he was definitely bothered by it, but he just made a joke of it and kept it going*" (P6).

Behavioral Strategies
Behavioral coping strategies intend to minimize the negative outcome or to exact revenge (Agnew, 1992). In some cases, the victims used a more passive approach. One strategy was **ignoring it and doing nothing** (n=11, 26.19%): "*I didn't see any replies to the hate comments, but they replied to their friends who had positive things to say*" (P3). Another strategy was **deleting** the cyberbullying **comments or the entire post** of the visual content (n=8, 19.05%). One participant who had been targeted for her appearance said: "*I deleted the photo. I was totally embarrassed, and it changed my perspective on social media*" (P30). The other strategy was **disconnecting from the perpetrators** on Instagram (i.e., to block, unfriend, or unfollow the perpetrator) (n=3, 7.14%): "*Things got so bad that the girl had to block her and all the other accounts associated with her*" (P8).

In other cases, victims addressed the incident more proactively by **responding to the perpetrator** (n=13, 30.95%): "*He did a couple of transformations to that comment, like, 'Your words don't affect me. I am still my own person, your words don't hurt me. I'm*

going to be myself anyway'" (P22). Another proactive behavior was **reporting it to Instagram** (n=8, 19.05%): "*Both of them reported on both the account and all of the posts and everything, and we are all in the same friend group so everyone in our friend group went and reported it and emailed Instagram and was just trying to get taken down as soon as we could*" (P10). In a severe case shared by P37, the victim collected all the cyberbullying evidence and reported it to the police. This case is discussed in the next section.

In addition, victims in seven cases (16.67%) became more **cautious in using social media and ICTs** after the incidents. Two participants shared what they heard from social media influencers about dealing with cyberbullying on Instagram. These influencers had already gotten used to seeing lots of malicious comments under the visual posts. According to the influencers, using a word blocker in the comment section of Instagram was helpful. As one participant noted: "*I've actually seen this on TikTok, some creators on there talking about it. How on their Instagram they'll filter words such as, specifically girls, will filter words such as slut or whore or ugly or fat*" (P10). The other five participants mentioned that the victims changed their Instagram settings to private accounts or implemented more safety functions. For example, one participant and her friend started to use the two-factor authentication feature offered by Instagram after their accounts were hacked: "*We actually enable the two-way verification using the Duo Mobile app. We don't have done that until now just because it makes it easier. Because, sadly, if someone has your email, it feels they can do everything*" (P27).

Summary
In this section, I reported participants' descriptions of victims' coping strategies in the actual cases. The coping strategies were reported from the cognitive, affective, and behavioral aspects, using Agnew's (1992) Coping Mechanism in the General Strain Theory as a guide. Overall, the most mentioned strategies were cognitively reframing and cognitively/behaviorally ignoring the incidents. Several participants also mentioned confronting the perpetrators, reporting the incidents to Instagram, and deleting the cyberbullying content. These results answered RQ3b. However, data collected for this sub-RQ had its limitations. Only those participants who were close to the victims, or participants who had prior victimization experiences themselves, had a chance to observe coping strategies. Therefore, not all participants were able to provide their observations. In the next section, I report on 13 real cases as examples that were derived from the visual narrative inquiry.

The Case Reporting of the Visual Narrative Inquiries
As mentioned previously, as a researcher, during the inquiry activity, I basically listened to real visual cyberbullying stories or cases told by the participants. Here, I use a case reporting approach to describe these cases. Each case includes a visual scenario that a participant created along with selective quotes from their associated narrative inquiry. I use direct quotes to keep the authentic narration from the case. It is important to note that all of the names presented in the cases have been pseudonymized. In addition, I indicated the elements in the Five Cs framework that are represented in each reported case. See Table 13 for details. I also provide my reflection on the scenarios.

When doing the visual narrative inquiry, participants were asked to log in to two Instagram accounts that I provided for creating the scenarios. I registered one account name as "lmh_study" with the profile name as "Candy;" the other account name was "lmh_dissertation" with the profile name as "Tuva". No participants changed these names to match the names in the scenario they had created. Thus, the names of the victims' and the perpetrators' Instagram accounts were not presented in the visual scenarios. See Figure 15 as an example.

1. She just genuinely didn't want to go back to college in person--Haley's story. (P37)

Elements presented in this story
Conduct: Created an impersonated account; Screenshot/Post visual content of the victim; Target the victims themselves; Denigration; Cyberstalking.
Context: Impersonated account; Comment-toward the victim.
Content: Generic personal visual content; Emoji.
Contact: The perpetrator and the victim knew each other; Public and indirect; Public and direct.
Confidentiality: The victim's Instagram account was initially public then she changed it to a private account after this incident.

Researcher's reflection
This story was the most severe representation of a real visual cyberbullying incident among all of the visual narrative inquiries. No other cases were told in detail like this one. Even though the story was not told by the victim, I could still feel my heart trembling during the interview and the analysis process. Thus, I shared almost the entire transcription (in Italics) for this case only. This story provides a good discussion point about the university's role.

Case
My friend's named Haley. She had started a sorority on campus and had a lot of girls join, and it was supposed to be an all- inclusive sorority because she had some disabilities so she got girls to join. The sorority was getting really big. She had a sorority retreat. And all the girls came to her and said that they didn't like the way she was running things, even though she was the founder and the President. And I guess everything turned into a big fight. And so, she ended up transfer to another university.

Table 13. Elements in the Five Cs Framework represented in each reported case

Element in the Five Cs Framework	Case narrated by
Conduct	
Posting visual content of the victim without consent	P37, P10, P6, P12, P11
Sharing the victim's visual content with others without consent	P33, P14
Taking screenshot of the visual content without consent	P37
Taking photo/recording video of the victim without consent	P6, P12
Reposting the visual content without consent	P6, P12, P28
Anonymous accounts that accept and post content from anonymous people	P15
Creating impersonated accounts	P37
Hacking victims' accounts	P25
Targeting the victim's physical appearance, body image, or outfit styles	P33, P14, P16, P26
Targeting the victims themselves or the visual content they posted	P37, P24, P28, P11
Making fun of the victim	P6, P12
Harassment, denigration, or cyberstalking	P37, P10, P16, P24, P28, P15, P25, P11
Targeting the victim's gender identity or religious belief	P10
Context	
Impersonated/hacked account	P37, P15, P25
Feed	P10, P6, P12
Story	P6, P12, P24, P28
Group chat	P11
Private chat	P33, P14
Comment-toward the visual content	P33, P14, P16, P6, P12, P26
Comment-toward the victim	P37, P10, P6, P12
Content	
Generic personal visual content	P37, P10, P33, P14, P16
Private personal visual content	P6, P12
Photos of a sexual nature	P15, P25
Text-image	P24, P28
Emoji	P37, P10, P16, P6, P12, P15, P25, P26
Contact	
The perpetrator and the victim know each other	P37, P10, P33, P14, P6, P12, P25, P26, P11
Only the perpetrator knows the victim	P24, P28, P15
The perpetrator and the victim were strangers in real life	P6
Public and indirect	P37, P10, P24, P28
Public and direct	P37, P16, P26
Private and indirect	P14
Private and direct	P33, P11
Confidentiality	
Victim's account- Private	P33
Victim's account- Public	P37, P16, P26

Figure 15. The visual scenario created by P37.

*Then after she had left the university and was at home, the girls were talking to her being like, "Why would you leave and that we needed the sorority there. And it was not fair for you to take getting leave". Then they made these posts of her really old photos of her from middle school that, even though she and I were best friends, I had never seen and I don't know how they got them because she was saying, "**I don't know how they got these photos.**" Those were really, really old photos of her, and one of her best friends from middle school. They **made her very zoom in on her face**, then you could tell that she was younger, and she was making silly faces, you know how middle schoolers are, just like making funny faces into the camera, they like zoomed in. Just make her look bad. And then the girls **in the comments I put here is the least passive aggressive ones**, this a kind of **poking fun at the fact** that this sorority fell apart.*

*The **fake account** was using her name, it was like "loving Haley" or something like that. It's very clearly under her name, so that she would find it. I don't remember how she found the page. I think they actually had **tagged her in a comment**. And they **named the account after her and posted pictures**, but it was obvious that it wasn't her posting her photos. It's because the comments would be like "I'm best sorority President ever" or "Look at Haley". It was a public account and set up as some kind of fan account, but **of course it was an account only meant to bullying and antagonize her**.*

See Figure 15 for the visual scenario created by P37 that represents the story. As mentioned before, the participant did not change the account names (lmh_study, lmh_dissertation) that were set by me. Haley's story continues below.

*At that time she was **really, really, really bad**…I remember, the moment that she found it. We were on the phone, and she was just kept kind of going, "**Oh my gosh oh my gosh they're stalking me! They're harassing me!** They won't leave me alone. I can't believe this page is up! **How did they get these photos?**" And she was just crying, she was really **sad**.*

*She called their mom. And they were talking about how they are going to get these girls and figure out how that account got made, who got the photos and why would they do something like that. She and her mom did so because those girls had been spamming her phone calls before then. **She had gone to the police** and ask them to callback those numbers and tell them. If they keep harassing online and, in person with phone calls, they could get into real trouble for harassing her. Because they were 20 years old, at the time.*

The police ended up calling the girl and talking to them and being like, "We know who you are, we know about the account, we've seen, we have your text messages and the phone calls that went to this phone. If you don't stop, we really can build a case and it's serious. It's really harassment and bullying, which is not okay."

*The girl was a former sorority girl, she was actually the Vice President. She actually didn't stop after the police call. After that she moved to **TikTok**, and she was **Live** on an account, and she **tagged my friends Haley in the Live** and then talks about all the drama on there to strangers, who would be like "yeah that girl [Haley] sounds crazy". "It sounds like the worst sorority ever".*

*I was trying to tell my friend to just click off of the Live, because she was really upset. We **reported the Instagram account**, and we reported her TikTok account as well. I did not hear from her again after that. The TikTok account did not come down. The Instagram one did come down. But for the TikTok one, she just didn't go Live again, and she didn't make any posts.*

*We [friends of Haley] did not confront the girl. Haley asked that we didn't speak to the girls, because they were harassing and coming for her so aggressively. And she was worried that she would have to build a police case with it, so she told us not directly in here. But to help her in reporting it. And **if we saw anything, to screenshot it and send it to her.***

*[We made screenshot on] mostly the comments. The page was setup weird. It was old photos of her and middle school friends, and then they were just poke, they would leave kissy faces in the comments. It was like they're implying that she was lesbian for friend back then. It was her best friend; **it was extra insensitive because the girl had actually passed away when they started making these posts**. It was very shocking. I was like, "I don't know how you found it. Why you became friends with these people?" But also, "Oh, my goodness, I'm so glad that they're making their way out of your life."*

***After that she actually decided to go to university online.** After that, she just couldn't bring herself to go back to the university that she was in. It was one here in Tennessee. But she couldn't bring herself to go back there, and I guess she said, "**It was because I just genuinely didn't want to go back to college in person.**" I think it made her really **anxious** and made her feel like, **maybe she didn't deserve friends or that she couldn't make them**, because I know she had a really hard time year that year and harsh way to be greeted to college.*

*She did not actually [change her behaviors when using social media]. She just to continue making her post, but she was very **wary** of the fact that, people might make those accounts about her and she was very **nervous** for a while. She would always think about, if somebody would "like" her photo, she would send me a screenshot of the name and be like, "Do you know who this person is? Why are they on my page?" And she was just very nervous for a little bit afterwards. And she also **made her account private** and **went through all her followers and removed lots of people on all of her platforms** after that happened.*

Then I asked several follow-up questions:

Did the university make any disciplinary actions toward the girl?

Actually it did not happen because I don't think she filed a complaint with the university itself. I think she only used Instagram, and after Instagram, it's the police department. I guess, maybe, none of us just thought that would probably be a good avenue. But now think about in hindsight, it probably would have been a good avenue, because the university would know the context. The university knows the sorority, this already have her leaving the university and they would see what was going on.

Why didn't any of Haley's friends think about reporting to the university?

I'm not sure. It is just never really crossed my mind. I remember that her mom had come into her room once and told her to think about contacting Tennessee, I mean contact the university. And she said that they probably weren't going to do anything about it. They couldn't do anything, because the girls were adults, and it was on their Instagram. It's kind of separate from the University affiliation so she just assumed that the university would be like, "well that's not our problem, it has nothing to do with us what you guys do outside of classes".

If someone reported it to the university, how do you think the university should deal with it?

*Because she had so much evidence, like the text messaging, the phone calls, and then the page that was very obviously not hers and was obviously aggressive. I think they could have been talk to those girls. Because the sorority was a student organization, so they should know why all those girls were affiliated. And they should also know that my friends had unenrolled then left. **Given all that context they probably should have gone and talked to those girls and made sure that my friend would feel comfortable potentially returning another semester**.*

2. It's just also kind of scary in a way—A case that targeted gender identity (P10)

Elements presented in the case
Conduct: Posted visual content of the victim. Targeted the victim's gender identity. Denigration
Context: Feed. Comment-toward the victim.
Content: Generic personal photo. Emoji.
Contact: The perpetrator and the victim knew each other. Public and direct.
Confidentiality: Not mentioned.

Researcher's reflection
This case represents a visual cyberbullying incident with a revenge intention after a breakup. I had heard about a similar case before, but I was still shocked when I heard those nasty words described by the participant. This case and P37's case both present the importance of the victim's friends as the support system when the incident happens. And both cases provide a discussion point about the role of active bystanders.

Case
*The scenario I created is pretty similar to what happened with my friend. (In the picture) The other one was her girlfriend at the time. It was a picture of her, and this girl who had been friends for a while and **then after she came out** they started dating shortly thereafter, and that was along the lines of one the photos just meeting them as a couple.*

*Who we think **her ex-boyfriend was posting these pictures of her and just pictures from her Instagram and pictures that he had of her**. He posted it on **a completely separate Instagram account that had the girl's name specifically** and said, she is a dike. This Instagram account did follow him and he followed the account back so we just kind of a clue that was he.*

See Figure 16 for the visual scenario created by P10 that represents this case.

*And was just making these just vile comments on them and just was saying all the slurs, slight, horn, dike, faggot, all of that…I think more of an attention thing, but just trying to demean her and degrade her in kind of assert his control in what ways that he could. The people who commented on in the actual scenario that are actual is the real incident that happened, **it was a member of a fraternity on campus from what her ex-boyfriend's fraternity that he's affiliated with.** The guy he commented a bunch of stuff and then deleted it super quickly after. But we did see a while it was still up so that was about similar of what the fraternity guy was commenting in real time because they were friends obviously.*

After I saw that I reported each individual post and the account and everything and it got taken down. But it's just also kind of scary in a way. Because I feel cyberbullying can kind of be a gateway to more serious things and serious offenses that can happen to people, specifically in instances like this, where it's something very, very directly malicious towards somebody and it's just can turn into be a really serious thing potentially. I think that it's just something that needs to be taken seriously, because if people can freely post stuff this behind a computer screen, who knows what else that they'll go out and do and say to other people. Both of them [the victims] reported on both the account and all of the posts and everything, and we are all in the same friend group so everyone in our friend group went and reported it and emailed Instagram and was just trying to get taken down as soon as we could. And did what the necessary steps to report it and report it as hate speech and everything.
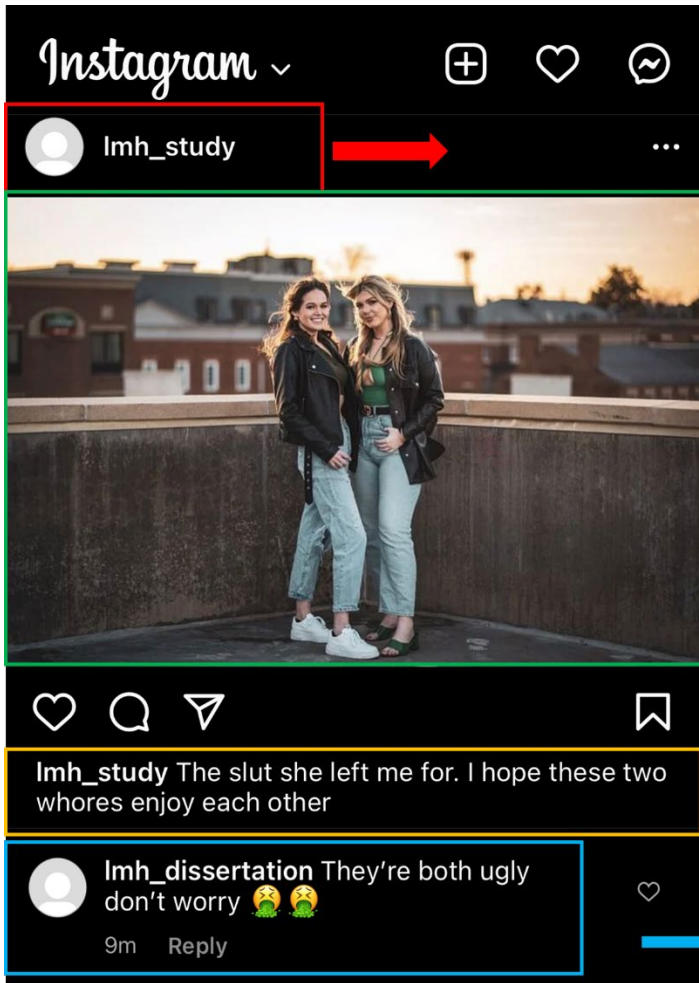
110

Figure 16. The visual scenario created by P10.

3. It just kind of shows your colors that you would say these things about me and about my appearance when we're friends—Two cases of talking behind someone's back (P33& P14)

Elements presented in the cases
Conduct: Shared the victim's visual content. Targeted the victim's physical appearance.
Context: Private chat. Comment- toward the visual content.
Content: Generic personal visual content.
Contact: The perpetrator and the victim knew each other. Private and direct (P33). Private and indirect (P14).
Confidentiality: The victim's account was private in P33's case, but privacy status was not mentioned in P14's case.

Researcher's reflection
These two cases are examples of sharing the victim's photo in a private chat and targeting the victim's appearance. The perpetrators in both cases judged that the victims edited a lot on their pictures. Although these comments in the private chats were only text, they would not occur without the presence of the visual content. In P33's case, the perpetrator meant to share the photo to someone else in a private chat but accidentally sent it to the victim. Both cases provide a discussion point for raising students' digital footprint awareness.

Case-P33
*This is actually something that happened to my friend recently. Where she posted a picture of herself on Instagram, and then someone, I assume meant to send it to another friend, and talk about the way she looked. But she actually sent it to my friend. And had this big long paragraph about **how she had edited her picture, and she wasn't that pretty, she doesn't look that, she wasn't that skinny**.*

*And **my friend wouldn't have known if it hadn't accidentally sent it to her**. But she immediately called me, and was telling me about it. She actually DM that girl and just be like, "Did you mean to send that to me?" And that girl was like, "No" and started apologizing, and then my friend was like "Well it just kind of shows your colors that you would say these things about me and about my appearance when we're friends." It was **one of our mutual friends, so her feelings definitely were hurt, and they're no longer friends**. My friend wanted to [do some revenge on Instagram], but I told her that she shouldn't, because she was good, and things like that was just a mean person.*

Case-P14
That's a good girl friend [of mine], she sent me another girl's post. She [another girl] edits her pictures like that. I guess you can't really pick it, it's not edited obviously in that picture, but my friend would be like, "Oh, she edits her pictures, she doesn't look like that in real life, stuff like that."

The conversation is between me and my friend. I don't know the girl personally, I probably saw her at a bar or somewhere, like walking around campus or something like that. But I don't really know her. But my friend knows her. And she was like "Oh, she definitely edits, she doesn't really look like that. Who does she think she is?" With girls they would do that and [say something] like that. And then a week later, on Snapchat or Instagram, they'd still post a picture in there WITH the girl hanging out.

See Figure 17 and Figure 18 for the visual scenario created by P33 and P14.
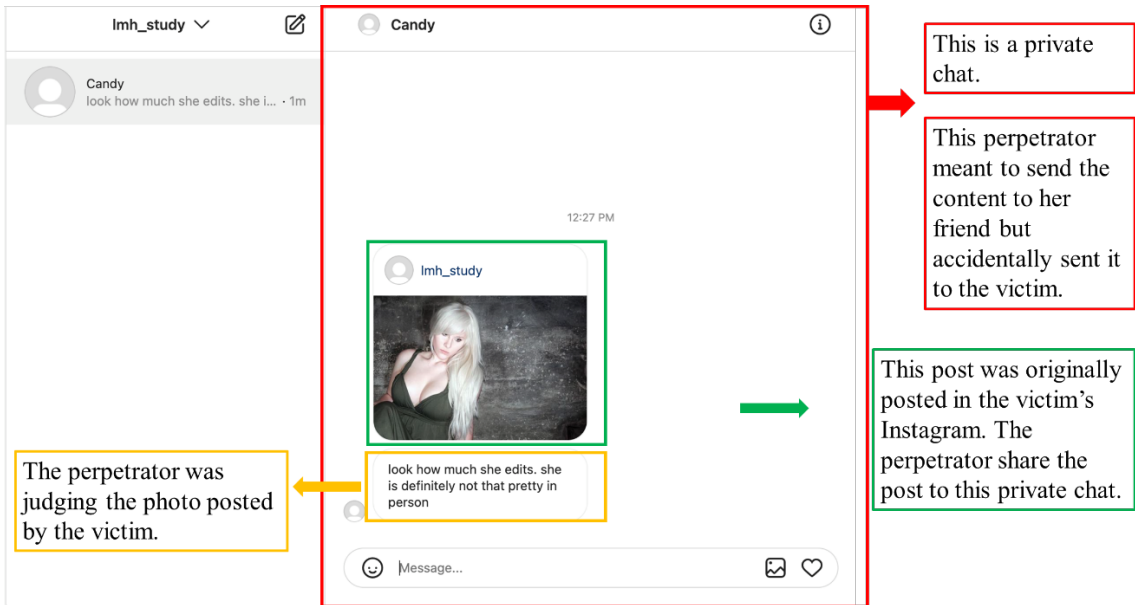
Figure 17. The visual scenario created by P33.

Figure 18. The visual scenario created by P14.

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4. I have some friends with bigger Instagram followings, several thousand followers. And they get lots of comments like this—A case of someone who has lots of Instagram followers (P16)

Elements presented in the case
Conduct: Targeted the victim's body images. Sexual harassment.
Context: Comment--toward the visual content.
Content: Generic personal visual content. Emoji.
Contact: The perpetrator and the victim were strangers in real life. Public and direct.
Confidentiality: The victim's account was public.

Researcher's reflection
This case is an example of visual cyberbullying perpetrated against social media influencers or those with many followers on Instagram. Several participants mentioned that they have usually seen females being targeted on their appearance, body image, or outfit. As mentioned by P16, one reflection is that this type of visual cyberbullying may hurt the victim and impact other audience members' self-consciousness about their own appearances. In this case, P16 also mentioned how victims coped with the incidents.

Case
*This is a situation **that I see a lot on Instagram**, where a girl will post a picture. Usually, **these accounts are public**. I just chose this one, because she's smiling, she looks confident. And under a lot of pictures like these, I see three different types of comments that I see a lot. The first one is **calling her ugly and fat** and saying, "She thinks she's hotter than she is." The second one is "**fake body,**" because I see a lot of people commenting that as well, she has big boobs. The third one, is another type of **sexual harassment**, I see where they're posing it, **it's a compliment but it's just something inappropriate about their appearance**, saying "I'm not even looking at her face."*

*I think (those who commented) **they're typically people that she wouldn't know**. I have some friends with bigger Instagram followings, several thousand followers. And they get lots of comments like this. I think that they typically try to put keywords, that if someone comments, blocked from being posted in their comments...They would filter out words like whore, slut, bitch, or anything that just derogatory single words that people would comment under there... I know that they do get a lot of sexual harassment and just people saying they look fake. I think when they first started growing their Instagram following, it really got to them, and they would read through all of their comments. They would get really upset about it, or feel the need to defend themselves...But **now I think they are more accustomed to it, that they just delete the comments and move on**. I think it still affects them, but they're kind of desensitized to everything that people are getting say.*

*(I also see that) **people photoshopping people's profiles on Instagram and reposting it to make them look absurd and make everyone else think it's what they're actually posting**. For example, they would take a picture of some girl with a large following, and they would photoshop it to where they made her body look really disproportional. And then people would hate on her thinking that that's what her body really looked like. I think it can also, especially for girls, **if you see somebody who's really beautiful, and people are still being really negative, it can definitely make you more self-conscious about yourself**.*

See Figure 19 for the visual scenario created by P16 that represents this case.

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Figure 19. The visual scenario created by P16.

5. Not knowing that you drink and it being hilarious to everyone else, that's what makes it an embarrassing mess out on social media—Two cases of drunk photos (P6 & P12)

Elements presented in the cases
Conduct: Taking and posting/reposting photo of the victim. Sharing the victim's photo with others. Making fun of the victim.
Context: Feed. Story. Comment-- toward the visual content and the victim.
Content: Private personal visual content—alcohol related. Emoji.
Contact: The perpetrator and the victim know each other.
Confidentiality: Not clearly mentioned.

Researcher's reflection
Both cases happened in the college and involved posting drunk photos of the victims. The cases indicate visual cyberbullying education and alcohol etiquette seem relevant in the university context.

Case-P6
*I was doing a kickstand, and then he fell and absolutely headed on the floor. This guy normally doesn't drink too much. So they posted it on Instagram. And it was funny because nobody knew that he drank that much. That was pretty embarrassing for [him]. The kickstand is a lot more involved, not being able to pull off the move and then falling on your faces, that's pretty embarrassing, especially you haven't drank that often, you don't drink that much. So having the video of you falling on your face and slamming into the ground. **Not knowing that you drink and it being hilarious to everyone else, that's what makes it embarrassing mess out on social media**. So this is scenario of a friend, and those who commented are acquaintances.*

I'm not super familiar with him. That's why we're surprising, because people don't know that he drinks a lot. So it was really surprising to them, and maybe the guy didn't want everyone to know that he drink that much. He knew this post later. And he just laughed it off. But I could tell that it was bothering him, it embarrassed him. And the post was just on there, not being taken down.

Case-P12
*This was actually a couple of days ago that somebody posted something kind of like this. It is a smaller party and one of the (members), who was a freshman, so that might have added to why he was cyberbullied. Um, he showed up and he had six packs and he drank the entire six pack. And five, 10 minutes (later), he passed out. So **he was kind of made fun of for passing out** in this islands all at a sudden in the middle of the party. Other people weren't really drinking. **Then people took pictures of him and posted on Stories**. And stuff like GroupMe, um, **with different kinds of comments**, kind of **about how he was a freshman, and he can't really handle the alcohol**. And then some other people **drew comparisons between him not doing well in school and so that he wasn't doing well with the alcohol either**.*

*Most people saw the picture because several people posted it. I think one of them might've been a public account and one was private. Not only one people take a picture. So people commented in real life. And some people put comments on Instagram as well. He knew later that someone had taken the pictures...I don't think he did anything. I think **he tried to take it lightly and play it off**. But I don't think that he was, as unbothered by it as what he wanted people to think.*

See Figure 20 and Figure 21 for the visual scenarios created by P6 and P12.
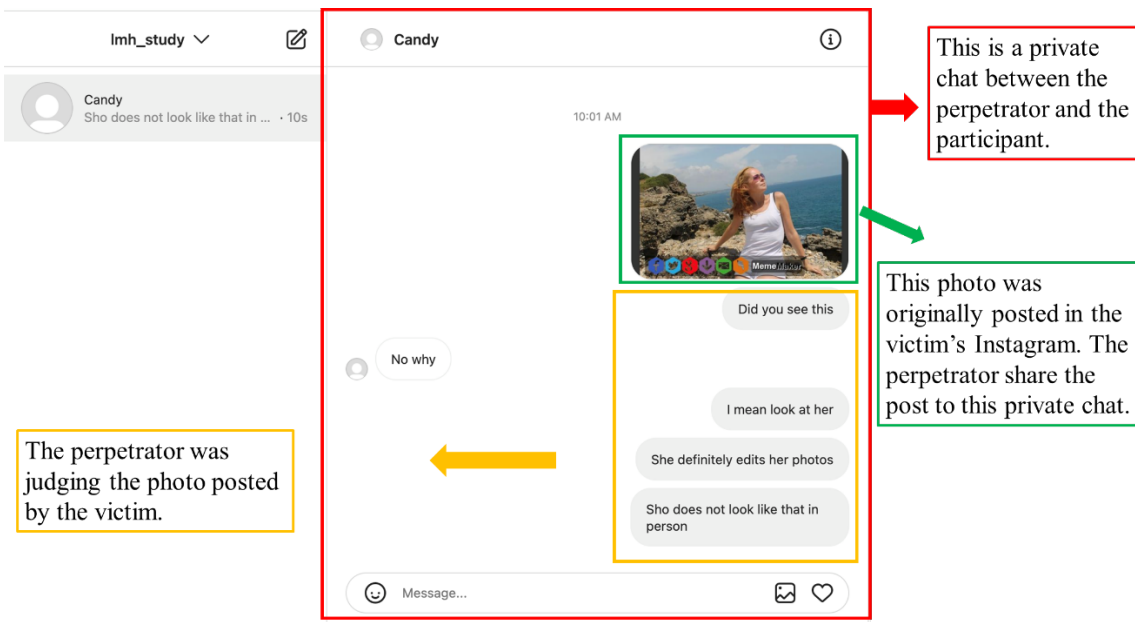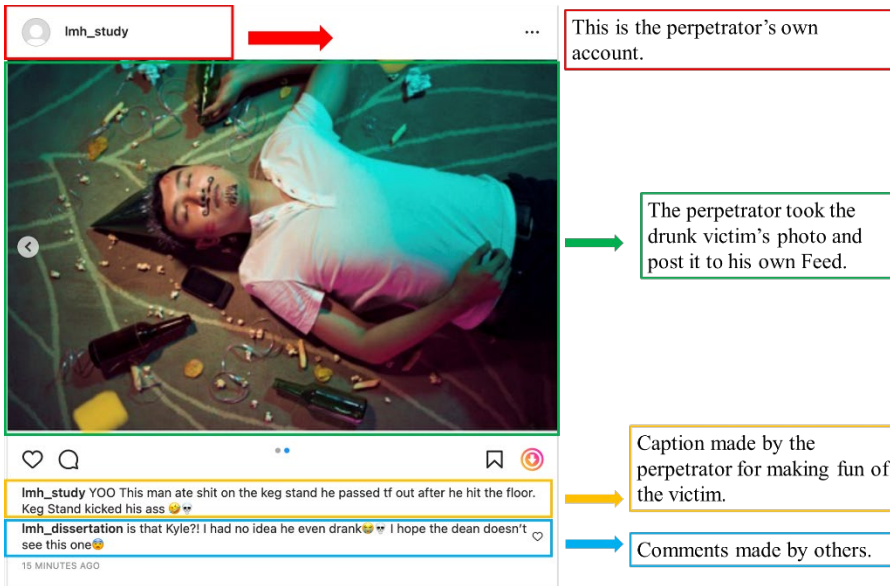
Figure 20. The visual scenario created by P6.

Figure 21. The visual scenario created by P12.

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6. She just publicly shamed the girl, and her boyfriend—Two cases of text-images. (P24 & P28)

<u>Elements presented in the cases</u>
Conduct: Targeted the victims themselves. Denigration. Repost (P28).
Context: Story.
Content: Text-image.
Contact: Only the perpetrator knows the victim. Public and indirect.
Confidentiality: The perpetrator's account in P24's case was private, and in P28's case was public.

<u>Researcher's reflection</u>
These two cases involve posting text images to denigrate the victims on Instagram Stories. These cases provide a discussion point for <u>social media platforms</u> to develop content sensors for the text that is stored as images.

<u>Case-P24</u>
*I had this friend in Arkansas, and she was dating the guy. She posted on her spam account, which wasn't her main account, but she was basically just getting mad at this girl that was seeing her boyfriend while they're dating. **It's a private account. She just publicly shaming the girl, and her boyfriend.***

People on the post chose not to comment because, they know what's not a kind post. I think it's definitely a mood killer if the girl knows that, it makes them feel bad about themselves to know that someone felt that strongly about them.

<u>Case-P28</u>
*I've seen **people post like an edited Twitter post**, and then they said, "I heard James Smith likes Sarah Cameron, what a loser, she's so ugly." **They edited a picture as a blank Twitter. And then they typed it up and put it on Instagram**. It happened when I was in high school. I think it was a freshman or sophomore year.*

*It was (posted in a) public (account). **James and Sarah didn't really know each other, but the person who posted it was friends with James.** I think **it was to hurt Sarah in a sense**, I think it was to be like, "Woo, who would ever want her?"*

***Sarah didn't see it until one of her friends sent it to her**. She was really upset by it, and **people started reposting it**. She was trying to get people to take it down. I know she went to the school about it, but they just said they couldn't do anything since it was not super hurtful. Regarding this, they said there wasn't really a threat or anything. I'm pretty sure she said, it was they said that "just boys being boys."*

***I think schools should have made them take it down**, and talk to them about what was going on, and maybe giving them detention or something to be think about. I know from my high school, we had detention with right what we did, and how we could fix it, so I think, giving them time to reflect on what they did. Because Sarah didn't even know the boy, so I don't know why they chose her.*

See Figure 22 and Figure 23 for the visual scenarios created by P24 and P28.
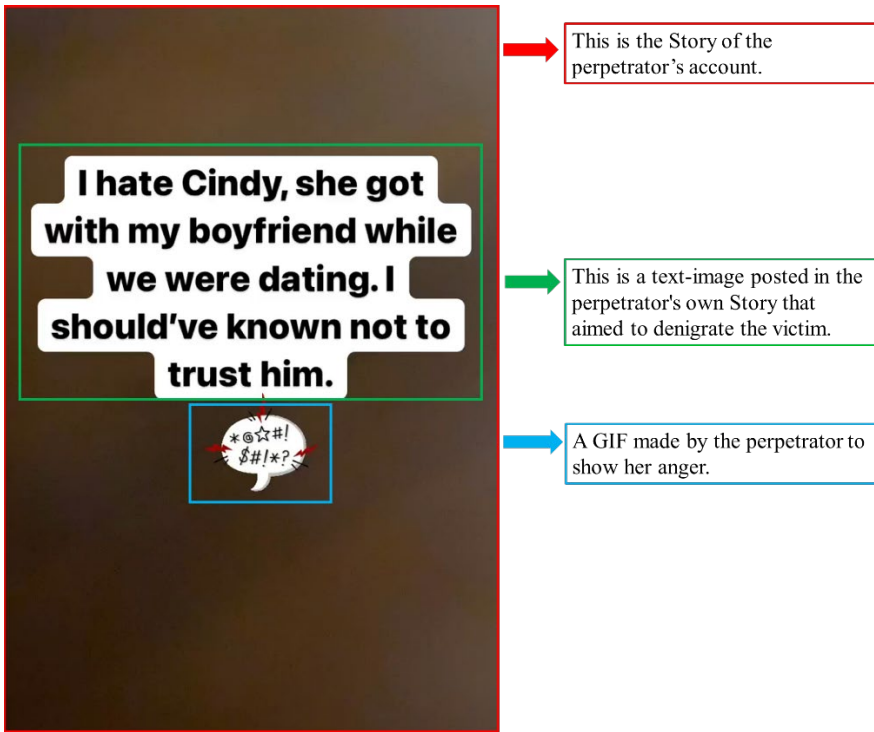
Figure 22. The visual scenario created by P24.

Figure 23. The visual scenario created by P28.

7. Stuff like nudes if they got into the wrong hands, would spread very quickly—Two cases of nudity of high schoolers (P15& P25)

<u>Elements presented in the cases</u>
Conduct: Anonymous accounts that accept and post content from anonymous people (P15). Hacked victims' account. (P25). Denigration.
Context: Feed.
Content: Photos of a sexual nature. Emoji.
Contact: The perpetrator and the victim know each other (P25). Only the perpetrator knows the victim (P15). Public and indirect.
Confidentiality: Both the anonymous account and the hacked account were public. The victims might have sent nude photos to their (ex)boyfriend, then these photos got leaked.

<u>Researcher's reflection</u>
These two cases involve posting nude photos of high schoolers. P15's case is an example of an anonymous account created by someone in the high school. And someone else sent the victim's nude photo to the account owner, then the account owner posted it. P25's case represents someone who hacked into the victim's account and posted her nude photo. These cases provide a discussion point on the need to educate high schoolers on sexual-visual cyberbullying.

<u>Case-P15</u>
*When I was in high school, we'd have lots of accounts pop up that would be **anonymous accounts**, people would send stuff to, and post really embarrassing stuff. Like… "Oh, here's this person naked." Stuff like that happened all the time. I went to a tiny high school, so everyone knew each other. And **stuff like nudes if got into the wrong hands, would spread very quickly, especially between the football players and baseball players**, was really, really bad. So in this scenario that I've made, let's say this person broke up with her boyfriend, and her boyfriend was mad, he would send it to this account. Or maybe she was trying to flirt with someone on football team. Then the other girl's boyfriend found the nude and send it to the account.* (Who owns that account?) *I never figured out who was doing it, I never knew who would do it, but **it was someone that was a current student**.*

(Did people in your high school report the account?) *Well, people would try. **But since there was never a name link to that account, the school couldn't really do anything about it**. Most people just would be, "Oh, this is funny, this is entertainment for me." Some people will be, "This is awful, I'm going to report this." And then the account would be taken down, because of cyberbullying. **And then they just make a new one. So report the account is not that useful, because they would just register a new account**.*

<u>Case-P25</u>
*There's a couple in high school and had a rough breakup. He got to post all the girl's photos who said she had some friends over the relationship, and **he hacked to the girl's Instagram, and post it on her account**. And **her account was public**. **She did find out eventually people had to text her and tell her about it that they saw it**. I know that she was definitely very upset about it. The photo was taken down, I would say within a day. People kind of took sides of it, either on the girl's side or they're on the guy side. So some people are pretty angry about it, but some people are like, "Well, I don't really care."*

See Figure 24 and Figure 25 for the visual scenarios created by P15 and P25.
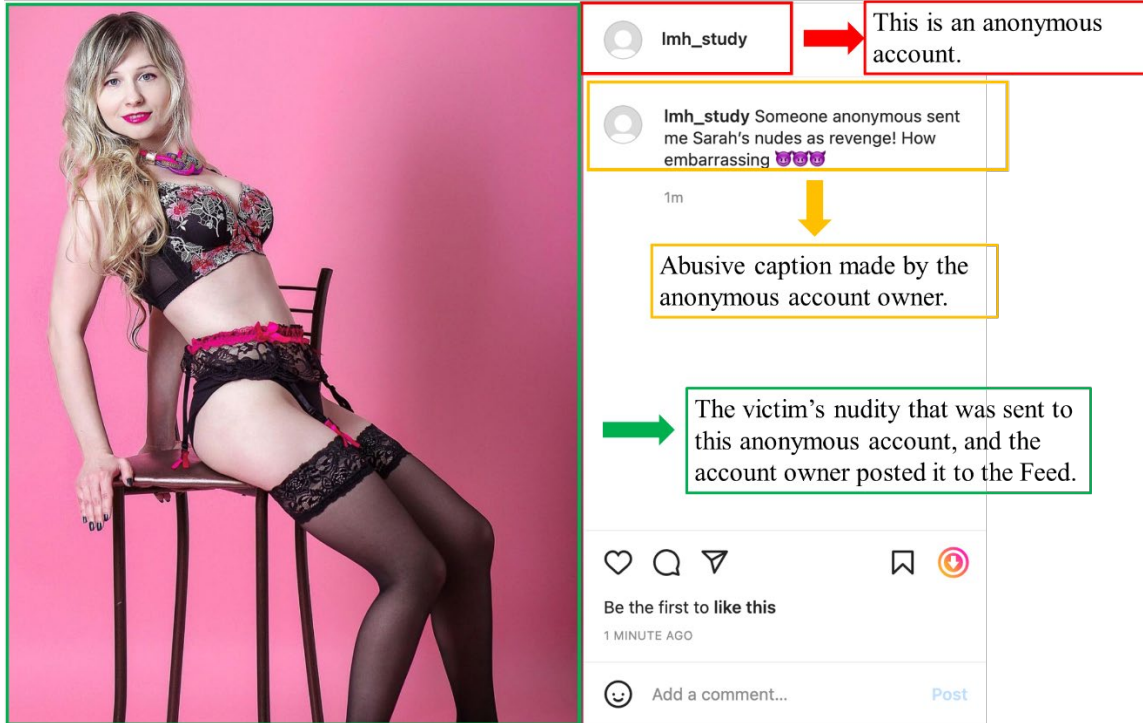
Figure 24. The visual scenario created by P15.

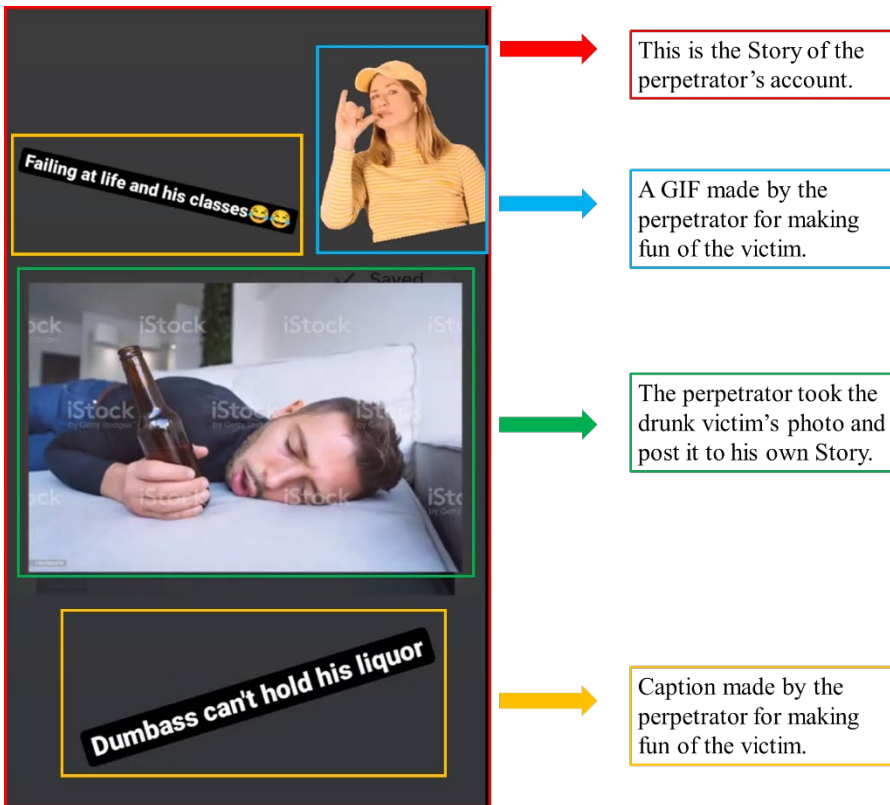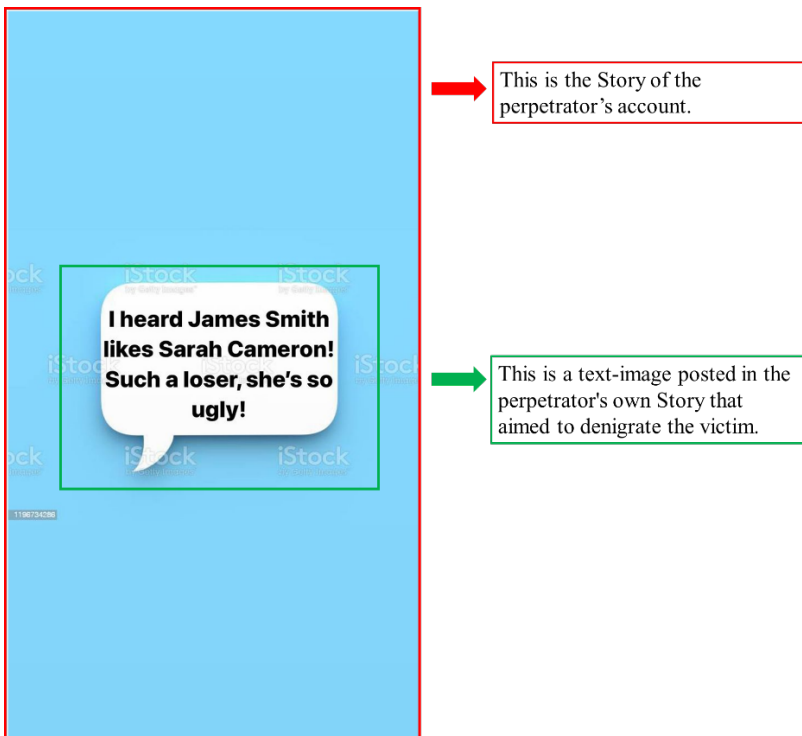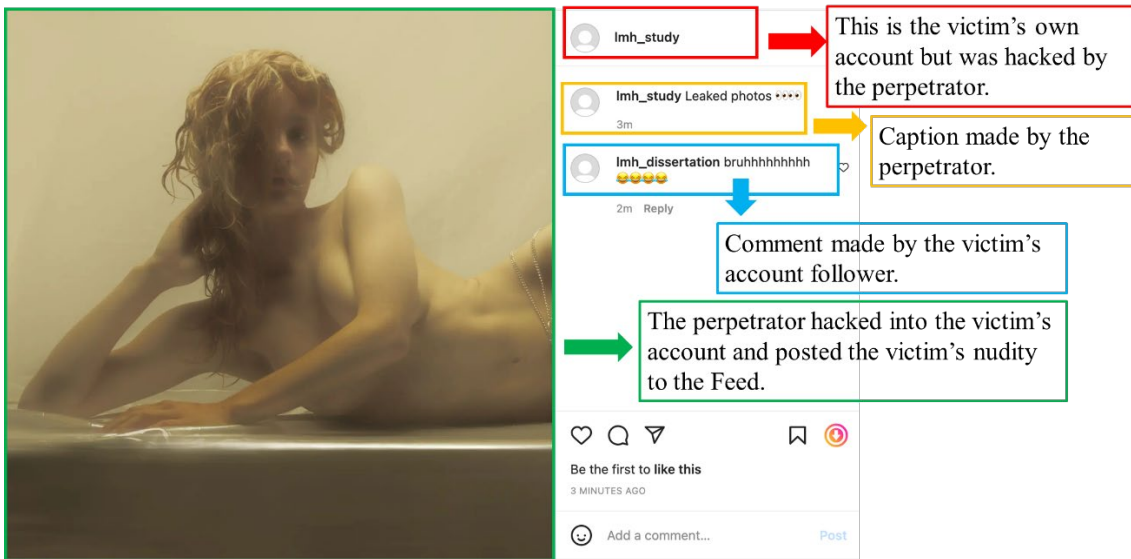Figure 25. The visual scenario created by P25.

8. Even if that happened a long time ago, it's still in my brain—A case of emoji. (P26)

<u>Elements presented in this case</u>
Conduct: Targeted the victim's physical appearance.
Context: Comment-toward the visual content.
Content: Emoji.
Contact: The perpetrator and the victim know each other; Public and direct.
Confidentiality: The victim's account was public.

<u>Researcher's reflection</u>
This story happened when P26 was in middle school. She is now a junior university student. The cyberbullying comment was just an emoji. I was surprised that even just a small emoji could make a bystander remember the incident even now. This story reflects that even a tiny visual cyberbullying content may still impact a person in the long run. It also provides a discussion point for implementing visual cyberbullying education from a younger age.

<u>Case</u>
*I remember, I was at a sleepover with a friend, we were in middle school…maybe even we were 13. **We were really young, so Instagram is a big thing**. Everyone posted selfies on Sundays, hashtags everything.*

*She posted just a cute picture of herself. And I remember she felt really good about it when she posted it. Her account was public. And then somebody who supposedly to be **her friend had commented with emoji**. It was either **the emoji with the mask or emoji with a hand over their mouth, or something where it looked they were sick**.*

*And she was like "What does that mean?" And I said "I don't know" and **she almost started crying**, because somebody had posted an emoji and **it seemed that the emoji was grossed out by her photo**. And **she was just really upset** about it. For a 13-year-old girl, you're posting a picture of yourself, you feel pretty and then somebody was like "(feeling) ill." She did know her, who post the emoji. It was one of her friends.*

*I tried to distract her…like, "Don't worry about it, it's fine, let's just play (in the sleepover)." And I think **she did delete the picture**. I don't know if she really did it that night or she deleted it the next day.*

*I think it stood out to me is that, **something as small as just posting an emoji under a picture can really hurt someone's feelings**. I just remember that she was THAT upset about it. And that somebody WOULD do that. Especially **as a young girl** in my perspective, **being pretty is always something a girl wants to be told**. And if somebody posts an emoji that's gross or something under your picture that probably **taints your view of yourself quite a bit**. I just think seeing that she was upset about that, just it stuck with me. **Even if that happened a long time ago, it's still in my brain.***

See Figure 26 for the visual scenario created by P26 that represents this case.
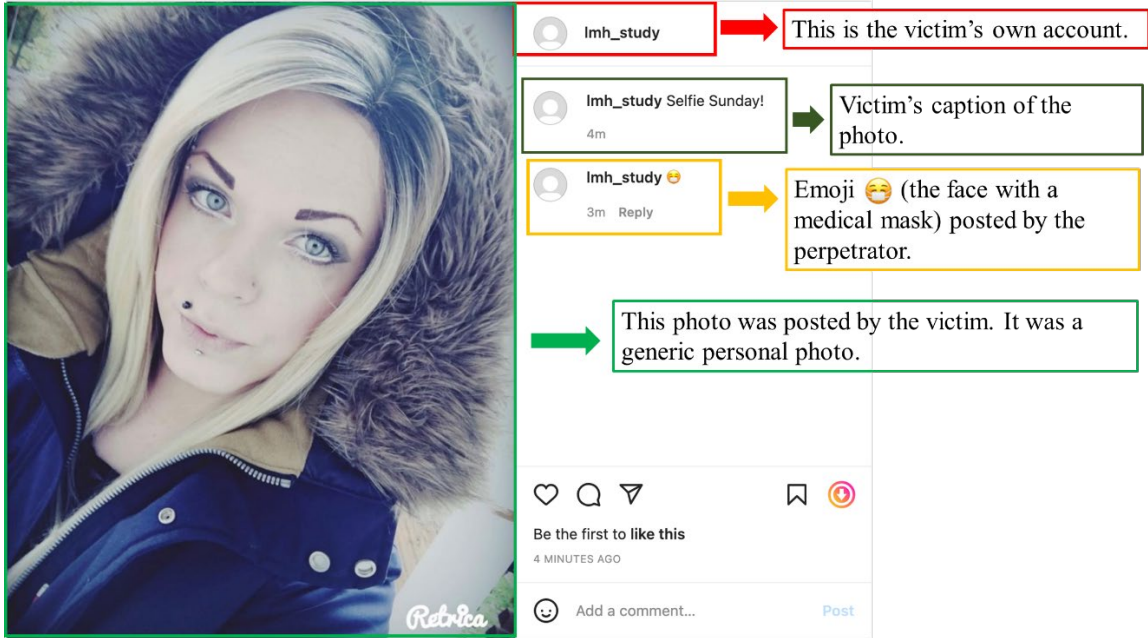
Figure 26. The visual scenario created by P26.

9. I knew that someone called her a monkey—A case of discrimination and cyberbullying in high school (P11)

<u>Elements presented in the case</u>
Conduct: Posted visual content of the victim. Took photo/recorded video of the victim. Targeted the victims themselves. Denigration
Context: Group chat.
Content: A generic image.
Contact: The perpetrator and the victim know each other. Private and direct.
Confidentiality: Unmentioned.

<u>Researcher's reflection</u>
This case represents a combination of discrimination and visual cyberbullying. Similar to the P26 case that happened long ago, P11 still remembered the incident. He expressed that even though he was a bystander, he still felt uncomfortable for the victim when recalling the incident. I informed him that we could stop the interview if needed, but he said he was willing to share the case. And my reflection is that visual cyberbullying impacts people in the long run, especially when it happens at a younger age.

<u>Case</u>
*In that scenario, what happened was, when I was in high school, that **she was bullied, beaten up, and they sent videos in group chat online.** Because **she was the only African-American girl on the team**. So I took one of the things that **I knew that someone called her a monkey. This was posted on in a group chat. They add her to the group chat to make sure that she saw it.** Most of them (in the group chat) were agreeing with it. I wasn't in that group, I just knew that that happened at my school. And there was one girl on the team that said something about it, but there were 30 people, and there was only ONE person stuck up for her. **It got swept under the rug at my school.** So the big deal is that it came out two years after it happened. By the time I've learned about it, I was a junior year in the high school. And those girls were already in college. I just knew about it because our school was on the news for it.*

See Figure 27 for the visual scenario created by P11 that represents this case.

Summary
In this section, I reported results of the visual narrative inquiry that answered *RQ3: How do undergraduate university students create and describe visual-based cyberbullying scenarios based on incidents they witnessed on Instagram?* The elements presented in the visual scenarios were reported based on the Five Cs framework. The victim's coping strategies described by the participants were reported from the cognitive, affective, and behavioral aspects. In addition, I reported 13 visual cyberbullying cases provided by the participants. All of the elements in the Five Cs framework reported in RQ3a were presented in these 13 cases. I also provided my reflections on these cases, raising discussion points in addressing visual cyberbullying, such as the role of the university, and social media platforms. In the next section, I report the key findings from the scan of cyberbullying related policies within the UT system, and the participants' interviews about the policies, which answer the fourth research question.
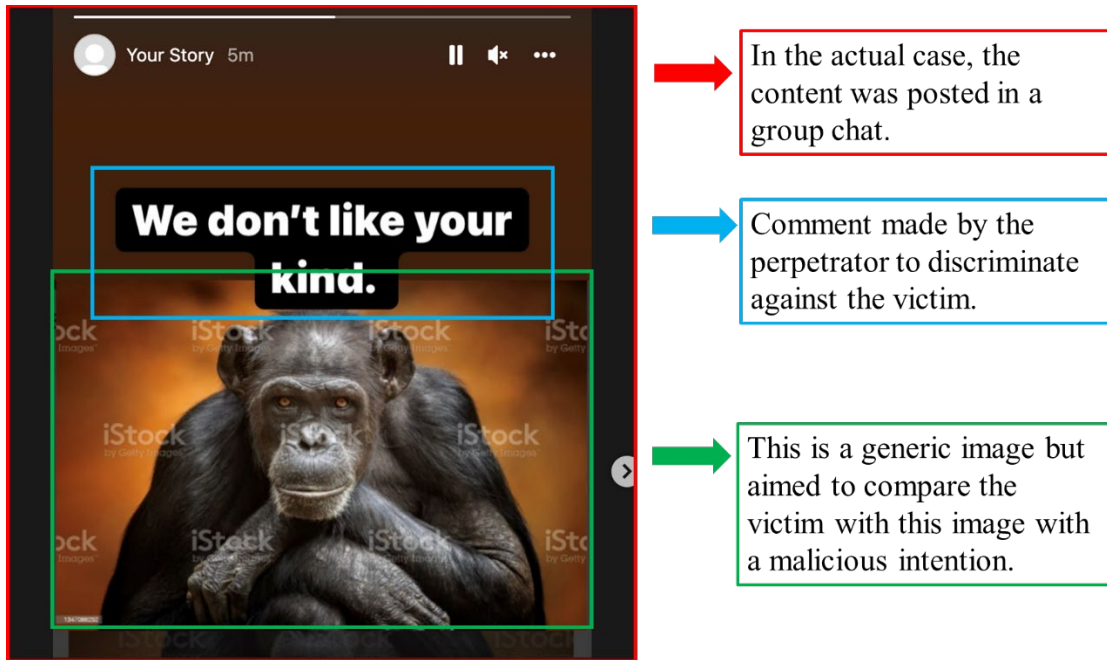
Figure 27. The visual scenario created by P11[80].

[80] Because of the technique limit that I only had two research Instagram accounts for the participants, P11 was not able to present the scenario as a group chat. Thus, he posted the content in Story instead.

RQ4-Scan of Policy Documents and Interview

In the first part of the section, I report the findings of the scan approach I applied to various policy documents in the UT system that answered RQ4. In the second part, I report the findings of the participants' interviews that answer RQ4a.

RQ4: How do current university policies in the University of Tennessee system address visual-based cyberbullying?

RQ4a: What are undergraduate students' perspectives and how aware are they of these policies?

Scan of Policy Documents

The scan of the policy documents within the UT system was conducted before September 2022 (see Chapter Three for the detailed data collection time). The following discussion covers policies that were in effect and publicly available at that time. The scope includes policies published from five UT affiliated institutions: UT Knoxville (UTK), UT Chattanooga (UTC), UT Southern (UTS), UT Martin (UTM), and the UT Health Science Center (UTHSC) in Memphis. In total, there were 26 documents that I considered to have concepts relevant to my study. As mentioned in Chapter Three, I adopted coding schemes from the studies by Purdy and Smith (2016) and Faucher et al. (2015), then added three new concepts related to my study, resulting in four categories (i.e., 1. Definition of cyberbullying; 2. Reporting and responding to cyberbullying incidents; 3. Strategies for intervention/prevention; 4. Other related concepts). These categories include a total of eleven concepts. See the full coding scheme in Table 7 in Chapter Three. The purpose of the scan of the policy documents was only to identify cyberbullying-related concepts presented in these documents, rather than to evaluate their quality. Thus, I first report the occurrence of each concept in the policies, then report the relevant content in each category.

Classification of the policies

I classified the 26 documents into four types: 1) Code of conduct, handbooks, and procedures (n=13): This type includes the student code of conduct and faculty handbook from five institutions, one UTK bullying procedure document, one system-wide employee conduct document, and one student complaint procedure document from UTHSC). 2) Sexual harassment related policies (n=6). This type includes the Title IX policies from five institutions, and one system-wide policy on sexual harassment and other discriminatory harassment. 3) Anti-discrimination policies (n=2), including one anti-discrimination policy and one procedure document from UTHSC. 4) Social media and visual content-related conduct (n=5), consisting of two social media policies from UTHSC, three information technology policies that include one system-wide policy, one from UTC, and one from UTHSC. See Table 14 for the complete list of policies.

Table 12 shows the occurrence of each concept in the policies and the type of the policies. To be noted, "s" means the policy includes descriptions of a certain concept for students; "e" represents descriptions for employees (i.e., university personnel other than students); and "a" means the policy includes descriptions of a certain concept in a general way, not specific to cyberbullying, which is partially relevant to this study.

In the following sections, I report the results of relevant content in each category. The content is structured based on the coding scheme. The subheadings are the labels of categories (see Table 7 in Chapter Three).

Definition of Cyberbullying
In this category, I looked for descriptions or statements in the policy documents that defined cyberbullying or addressed behaviors that might constitute cyberbullying. For Concept 1, the **meaning of cyberbullying**, only the most recently-implemented UTK bullying procedure (HR0580-K) includes the term "bullying." The definition of bullying in this document is "*a type of abusive conduct, includes acts that would cause a reasonable person, based on the severity, nature, and/or frequency of the conduct, to believe that they are subject to an abusive work environment*" (p.1 in HR0580-K). However, it does not mention "cyberbullying," and the scope of this policy applies to employees not students.

Concept 2 represents descriptions of **behaviors that might constitute cyberbullying if they occurred in an online context**, HR0580-K includes the following example: "*Written, verbal or physical acts, or* **electronic communication***, directed toward a person that a reasonable person would perceive to cause physical harm or substantial emotional distress*" and "*Verbal, nonverbal, or physical conduct that is intended to shame, embarrass,* **humiliate, degrade, demean, intimidate, and/or threaten** *an individual or group*" (p.2 in HR0580-K). And HR0280 (Sexual Harassment & Other Discriminatory Harassment) mentioned: "*Sexual harassment is not limited to personal interactions, but can occur via telephone, texting, social media, the internet, and other methods of communication.*" (p.1 in HR0280).

Besides HR0580-K and HR0280, behaviors that might constitute cyberbullying mentioned in other documents include threats (n=17), discrimination (n=15), harassment (n=14), stalking (n=10), harm (n=8), hazing (n=6), and intimidation (n=7). Threats and intimidation are typically used in a statement of retaliation behaviors. Harassment and stalking are almost always presented under the frame of sexual harassment. However, only HR0580-K and HR0280 include the description of the online context, and both policies apply to employees, not to students.

Table 14. Scan of UT polices

Type of policies and titles	Concepts										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Codes of conduct, handbooks, and procedures (n=12)											
UTC Student Code of Conduct		s	s	s	s	s	a	s		s	a
UTHSC Student Code of Conduct		s	s	s	s	s	a	s		s	a
UTK Student Code of Conduct		s	s	s	s	s	a	s		s	a
UTM Student Handbook		s	s	s	s	s	a	s		s	a
UTS Student Handbook and Code of Conduct		s	s	s	s	s	a	s		s	a
UTC Faculty Handbook		e		e	a	e		e			
UTHSC Faculty handbook		e		e	e	e		e			
UTK Faculty Handbook		e		e	a	e		e			
UTM Faculty Handbook		e		e	a	e		e			
UTS Faculty Handbook		e		e	e	e		e			
HR0580-K Bullying Procedure	e	e		e	e			e			
HR0580 - Employee code of conduct		e			e	e					
SA110 - Student Complaint Procedure		s			s		a				
Sexual Harassment related policies (Title IX) (n=6)											
UTC Title IX		s	s	s	s	s	s	s	a	s	a
UTHSC Title IX		s	s	s	s	s	s	s	a	s	a
UTK Title IX		s	s	s	s	s	s	s	a	s	a
UTM Title IX		s	s	s	s	s	s	s	a	s	a
UTS Title IX		s	s	s	s	s	s	s	a	s	a
HR0280 - Sexual Harassment & Other		e			s	s		s	s	s	
Anti-discrimination (n=2)											
COM119 - Anti-Discrimination		s		s	s	s		s			
ED200 - Discrimination Complaint Procedure		s			s	s		s			
Social media and visual content related conduct (n=5)											
CM0006-H - Social Media									s	s	
H200 - Use of Social Media – Patient Privacy									s	s	
GP-004 - Acceptable Use of IT Resources		s	s		a					s	
IT0110 - Acceptable Use of Use of IT Resources		s	s						s	s	
IT0132-C - Identification and Authentication									s		
Total occurrence of each concept	**1**	**23**	**12**	**17**	**22**	**19**	**11**	**21**	**9**	**14**	**10**

s: Policy content for **s**tudents

e: Policy content for **e**mployees

a: Policy content p**a**rtially related to this study

Description of concepts 1 to 11: Concept 1: Meaning of cyberbullying. Concept 2: Mentions behaviors that might constitute cyberbullying. Concept 3: Mentions behaviors that might constitute cyberbullying through visual forms. Concept 4: Any possible penalties or sanctions, including whether the policy makes a distinction between formal and informal modes of resolving a complaint. Concept 5: Information about the complaint procedure to follow or the office to contact when cyberbullying occurs. Concept 6: Statement of the responsibilities to whom witnesses incidents. Concept 7: Suggestions for supporting victims. Concept 8: The university's role in raising the awareness of or "sensitizing" the university community on this issue. Concept 9: Mention appropriate or inappropriate social media usage. Concept 10: Mention appropriate or inappropriate visual content usage. Concept 11: Mention alcohol-related offenses or misconduct

Concept 3 represents **behaviors that might constitute cyberbullying through visual forms**. This concept is mentioned in twelve documents, basically covering two types of behavior. One is "Sexual Exploitation." Title IX policies provide examples of this behavior: *"Surreptitiously observing, photographing, audiotaping, videotaping, or recording an image of a person who is engaging in a sexual act(s)"* (See page 6 in the UTK Title IX policy as an example). The other behavior is "Invasion of Privacy." An example of this states, *"Using electronic or other means to make a video or photographic record of any person in a location in which the person has a reasonable expectation of privacy, without the person's knowledge or consent."* (See page 6 in the UTK Student Code of Conduct as an example). However, the "online context" of these behaviors is not clearly mentioned in these documents.

Reporting and Responding to Cyberbullying Incidents
As reported in the previous sections, the scanned policies did not actually address "cyberbullying" and "visual cyberbullying." Thus, in this category, I looked for **possible sanctions** (Concept 4), **complaint procedures** (Concept 5), and a **witness' responsibility to report incidents** (Concept 6) addressed in the policies for all misconduct types reported above.

There are 17 documents that include possible sanctions and 22 have reporting procedures. Generally speaking, the Student Code of Conduct and the Title IX policies include the most details on procedures applicable to students. The procedures include reporting, investigation, hearing, disciplinary/administrative sanctions, and appeals. The most detailed sanctions are listed in the Student Code of Conduct, such as the loss of the privilege of participating in university-affiliated extracurricular activities (see UTK Student Code of Conduct, page 26 for example). In addition, since several participants mentioned fraternities and sororities in the interview, I also paid attention to the procedures and sanctions for student organizations. In the Student Code of Conduct, these statements are usually followed by the procedures/sanctions to which individual students are subject. Title IX policies also include student organizations in their jurisdiction.

Other procedure-related contents are applicable to employees. HR0580-K address the procedure and the penalties/disciplinary actions for workplace bullying. Three Faculty Handbooks include a statement of the mandatory-reporting obligation if "*the involved student is a minor*" (see the UTK Faculty Handbook, page 13 as an example). Regarding the misuse of information technology resources, possibly related to cyberbullying, the policy GP004 includes a short statement: "*Notification will be made to the appropriate authorities.*" (GP004, p.3).

As for the responsibility of an individual who witnesses misconduct, 19 documents include some statements that encourage individuals to "*report to the University about conduct prohibited under the Standards of Conduct to the University*" as a person's good faith (see UTK Student Code of Conduct, page 30, as an example).

Strategies for Intervention and Prevention
In this category, I reported on the **victim support suggestions** (Concept 7) and the **university's role in raising awareness** (Concept 8). For supporting victims, Title IX policies have an appendix entitled "*Guide on Supportive Measures and Reporting Options*" that includes procedures to support complainants regardless of whether the complainants file a formal complaint or not. In the Student Code of Conduct and policy SA110, there is only a brief description, stating that an advisor has the right to support a complainant or a respondent. To be noted, these supportive measurements reported here are all about the complaint reporting procedures for misconduct.

The University's role is framed as maintaining a discrimination/harassment-free environment for all personnel in Faculty Handbooks, sexual harassment-related policies, and anti-discrimination policies. For example, HR0580-K mentioned "*UTK values the well-being of its employees and recognizes that bullying in the workplace can significantly impact a person's dignity and their physical and mental health*" (page 1 in HR0580-K). Title IX policies state that "*The University of Tennessee is committed to creating and maintaining a safe and non-discriminatory learning, living, and working environment free from Sexual Harassment (including Sexual Assault, Domestic Violence, Dating Violence, and Stalking), Sexual Exploitation, and Retaliation.*" (See UTK Title IX policy, page 1 as an example).

In the Student Code of Conduct, this concept is framed as the purpose of sanctions. For instance, the UTK Student Code of Conduct mentions, "*The purposes of sanctions include, without limitation: (1) to educate the Respondent about appropriate conduct; (2) to promote the personal and professional development of the Respondent; (3) to discourage the Respondent and other students from violating the Standards of Conduct; and (4) to protect other members of the University community.*" (UTK Student Code of Conduct, page 24). In H200 and IT0110, policies related to information technology, the university's role is framed as establishing guidelines for respecting privacy when individuals use IT sources.

Other Related Concepts
In this category, I reported content that addresses **social media** (Concept 9) **and visual content usage** (Concept 10), as well as conduct mentioned in the policy documents. In addition, given that numerous scenarios created by participants are related to behaviors after consuming alcohol, I also include **alcohol-related offenses** (Concept 11).

There are three documents mentioning the regulation of social media usage. Policy CM0006-H and H200, both published by UTHSC, provide the content guidelines for university-affiliated social media accounts, including accounts for student organizations. The individuals who post on university-affiliated social media accounts should be responsible for the content. And they should always respect privacy law and academic freedom. The documents state that the guideline will not apply to private social media accounts. However, both H200 and IT0132-C (by UTC) mention the avoidance of using

the university's NetID or email address for "*personal online accounts, such as Twitter, Instagram, and Facebook*" (IT0132-C, p.2). On the other hand, Title IX policies mention "social media" only in the section of "Preservation of (Sexual Harassment) Evidence": "*Preserve or capture electronic communications such as text messages, e-mails, social media posts or exchanges (e.g., Snapchat, Facebook, Twitter)*" (See page 30 in the UTK Title IX policy, as an example).

In terms of visual content usage conduct, there are 14 policies framed under the umbrella of "avoiding invasion of privacy." For example, IT0110 states "*Users must report all suspected or observed illegal activities... examples include sound or video recording piracy...*" (IT0110, p.7). In Title IX policies, the privacy invasion behaviors related to visual content are framed under "Sexual Exploitation." For instance, "*Showing, posting, or sharing video, audio, or an image that depicts a person who is engaging in sexual act(s)*" (See page 7 in the UTK Title IX policy as an example).

As for the document content of alcohol-related offenses or misconduct, the Student Code of Conduct puts more emphasis on illegal or unpermitted alcohol distribution. The Student Conduct Code also states that "*behaviors being under the influence of alcoholic beverages…does not diminish or excuse a violation of the Standards of Conduct*" (See page 5 in the UTK Student Code of Conduct as an example.) While Title IX policies state that, "*The University urges individuals to be cautious before engaging in sexual activity when either person has been consuming alcohol or using other drugs.*" (See page 38 in UTK Title IX policy as an example).

Summary
Based on the results of the policy scan, various inappropriate behaviors, and the reporting procedures are addressed. These behaviors might constitute cyberbullying if they happened in an online context. However, only one policy mentioned "bullying," and two policies mentioned the misconduct with an online context. The current policies put further emphasis on supporting victims during the complaint procedure. The University's role is addressed as maintaining a non-discriminatory and harassment-free environment for individuals. Conduct related to social media usage, visual content usage, and alcohol-related offenses are addressed in a limited scope. Generally speaking, the current policies in the University of Tennessee system do not specifically include the concept of cyberbullying in the content of the policies. Further discussions are described in the results of the interviews presented in the next section.

Interviews
In this section, I report the results of the interviews with 37 participants. I elicited the participants' perspectives on university policies, as well as the interventions that the university should provide for visual-based cyberbullying. Key findings answered *RQ4a: What are undergraduate students' perspectives and how aware are they of these policies?*

Overview
Over half of the participants (n=21, 56.8%) believed that there are some relevant policies or procedures related to cyberbullying, because UT is a big public institution: "*UT is a university, it's a public facility, I think there are policies*" (P8). Another participant noted that there are related policies in her previous institution: "*My previous university had a very strict cyberbullying policy. So I'd be surprised if UT didn't*" (P30). However, some participants (n=8, 21.6%) said they did not think there was such a policy at UT. It might be that cyberbullying tends to occur outside the campus: "*I feel like no, to be honest, 'cause I feel like most cyberbullying occurs, either not on UT's premises or not on UT's digital platforms*" (P21). On the other hand, the rest of the participants (n=8, 21.6%) admitted that they had no idea: "*I don't know for sure, but I would hope there is*" (P28). Nevertheless, all participants apparently were unsure about this question.

Reporting and Responding to Cyberbullying Incidents
In terms of whether the university should be involved when a cyberbullying incident is reported to the university, nine participants (24.3%) commented that it is challenging for the university to be involved. They thought the university's scope is so big and it is impossible to take care of a single cyberbullying post: "*I think it's a really difficult situation and get involved with, because the school has around 25 to 30,000 undergrad students. So I think it's really hard to get to school on one specific post or Story or Reel*" (P32). The other nine participants stated that the university should not be involved because the university jurisdiction should not be over students' personal lives and freedom of speech: "*I think UT as a school shouldn't be involved if it's people doing it to each other. Because where does the jurisdiction lie with UT and the social media?*" (P26)

On the other hand, around half (n=19, 51.4%) commented that the university should be involved under some circumstances, for example, when a reported incident occurred on a social media account representing UT. As one participant said: "*If it's a public account of someone who makes it known to their Instagram viewers, that they're UT student, and that they're representing the university, I think that there should be repercussions, whether it's an integrity violation or suspension*" (P13). Another circumstance where some felt UT should be involved is when the visual content was taken on UT-affiliated spaces: "*If there's cases where there's pictures or videos taken on campus or if somebody uses their Vol email, and if they're sending out mean messages using that, I think that UT should get involved*" (P3). In addition, four participants noted that the university should be involved because cyberbullying definitely impacts student success: "*This university wants the best for its students. And I think that goes beyond just how we do grade wise…so I think they should get involved with things that might deteriorate people's mental health*" (P3).

Among these 19 participants, twelve of them noted some more critical situations that the university should be involved with and investigate case by case, including 1) sexual-related incidents: "*Unless it's something that goes with Title IX. I think they should be involved, so long as it reflects poorly on the university*" (P20). 2) Discrimination cases:

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"*There was an instance a couple years ago, where some students had posted on their Snapchat story, and it was an image that was conveying racial discrimination*" (P23). 3) Alcohol or drug-related content: "*They* (the university) *need to be a little more active in seeing these things because certain things, even if it's "Oh, it's a funny thing that my friend did," but if they're drunk or something on a photograph, that follows them, it doesn't go away, and it can affect their personal or their professional careers in the future*" (P30). And 4) circumstances that affect the victim's mental health: "*...there's definitely a point where if it reaches the person where it really affects their mental health and they killed themselves, there would be repercussions*" (P11). Nine participants commented that sanctions should be imposed on perpetrators, such as disciplinary actions, or removal of extracurricular privileges. As one participant noted: "*Maybe take something away from them like, 'Hey, you can't attend next season's football or next year's football season games'*" (P32).

Strategies for Intervention and Prevention
In terms of intervention and prevention strategies, participants mentioned some key personnel who might engage in the process. Three participants mentioned the Title IX office, because cyberbullying may be highly associated with sexual harassment. "*...[V]ery few cyberbullying incidents that are not sexist. So I felt like UT would make it like their own problem [when] someone reports it*" (P21). Three mentioned the Student Health Center or Counseling Center. But one of them (among the three) had the concern that people might view the mental health department negatively: "*I do not think through the Student Health Center would be the best benefit. Because when we mix it in with these mental institutions, that people are going to view it a negative point of view*" (P31). Instead, this participant (P31) and the other two participants considered that the Dean of Students would be a good option for students to report incidents: "*So I feel the Dean of Students would be a good contact, because if students are harassed or insulted or just criticize online, then they can go to the Dean of Students and the students [will] be able to provide them with comfort*" (P31).

In addition, two participants mentioned the Office of Student Conduct should be involved in intervention: "*I know UT is a school to enforce things on people. There's been organizations getting suspended. There's all sorts of things. So I feel our student conduct would take care of it proficiently*" (P27). And the other two participants thought that Student Housing or Student Resident Assistants should be able to provide intervention: "*I'm a resident assistant on campus, and I know that there have been incidences in building-wide GroupMe. They all get created at the beginning of the year, where somebody will start attacking or being disrespectful or whatever to another party within that GroupMe. Usually the resident assistants and the hall director, the head staff in the buildings, kind of get together and form a course of action on that*" (P18). To be noted, three participants indicated the importance of the university in supporting victims: "*I think there should be support and outlet for the individual coming forward. Or if it's not that individual, maybe reach out to them, and make sure that they have resources and mental health support*" (P33).

As for the venue that helps to raise students' awareness of cyberbullying and visual cyberbullying, twelve participants noted that the university should educate students on this topic, especially in making students aware of the consequences. As one participant said: "*At least let the students know that this isn't okay, and there will be consequences for if you do this, regardless of if it's on your private Instagram account*" (P10). One possible venue is for small group discussions to be held during "Awareness Week," attendance-required workshops, peer health mentoring groups, or within student organizations: "*I'm definitely think it could be. I know there's certain weeks that are Awareness Week. There could be cyberbullying awareness*" (P33). Other venues mentioned by the participants include student orientation, first-year study, emails, or messages to students. One participant noted: "*I remember when I was coming in as a freshman, in the orientation and during that they talked about drinking and drugs. How to get help for friends with mental health, help they talked about Title IX…. Maybe the same lady can talk about the awareness of cyberbullying*" (P37). However, another participant reported no mention of cyberbullying in the orientation: "*I literally just transferred here in the spring. Unless I missed that part, but I don't remember mentioning anything about cyberbullying in the orientation*" (P15).

Summary

This section reported the participants' understanding about cyberbullying-related policies at UT, as well as their perspectives on the intervention practices implemented by the university. The interview results revealed room for improvement in raising undergraduate students' awareness of policies. The policy scan showed the current UT policies do not specifically include the concept of cyberbullying. However, the Student Code of Conduct and the Title IX policies still address behaviors that might constitute cyberbullying if they happened in an online context, as well as clear investigation procedures and possible sanctions. However, only five participants mentioned either the Student Conduct or the Title IX office as the possible university personnel for intervention. Additionally, most participants seemed to be unaware of procedures and sanctions described in the policies. Further discussion is presented in the next chapter.

Chapter Summary

In this chapter, I reported the study results and sequentially answered the four research questions. RQ1 was answered based on the data analysis of the student responses to the survey. Results revealed the prevalence of visual cyberbullying among university students, and the relationship between Instagram usage frequency and victimization or cyberbullying witnessing experiences. RQ2 was answered based on the data analysis of the student responses to the interview. Participants' definitions and descriptions of visual cyberbullying were generated. Their perspectives were reported from the cognitive, affective, and behavioral aspects. RQ3 was answered based on the data analysis of the student responses to the visual narrative inquiry. The visual elements from actual

cyberbullying cases were extracted from the visual scenarios and narrative inquiries. The victims' coping strategies in these actual cases were analyzed. RQ4 was answered based on the data analysis of the scan of policy documents and the interviews with students. The results from the scan of policies unveiled how the current university policies in the UT system address visual cyberbullying. The results from the interview provided insights into the participants' awareness of the policies and their perspectives on the intervention approaches that UT should adopt against cyberbullying. In the next chapter, I discuss the key findings reported in this chapter. This summation is followed by a discussion of the implications, limitations, and the recommendations for future study, as well as the conclusions.

CHAPTER FIVE
DISCUSSION, LIMITATIONS, RECOMMENDATIONS, AND CONCLUSIONS

Overview

In this chapter, I first discuss the reported findings from the four separate data collection approaches, to triangulate the separate results, and to illuminate the linkages between my findings and the existing research. In the second part, I address the implications of the study's results, in terms of theoretical, methodological, and practical aspects. I also recognize the limitations of this study and provide some recommendations for future research.

Discussion

This section is structured to align with the five levels in the Social Ecological Model: 1) The **Individual level** consists of demographic features, personal attitude, and knowledge. Based on the results reported for RQ1a, 1b, 2b and 3b, the aspects discussed at this level include gender differences, Instagram usage, perpetration behaviors, and victims' coping strategies. 2) The **Microsystem level** consists of the people with whom the individual interacts or builds relationships, such as peers, parents, and teachers. Based on the results reported for RQ2b and 3a, I will discuss the role of active bystanders within friend and peer groups. 3) The **Mesosystem level** consists of the interaction of the personnel in the Microsystem, such as the communication between teachers and parents. Based on the results reported for RQ2b and 3a, "the interaction of personnel" is framed as the practices of intervention and prevention of cyberbullying, because these practices usually require cross-office collaboration within the university. 4) The **Exosystem level** consists of the indirect contacts that have impacts on the individual, such as the school's cultural climate. Based on the results reported in RQ2a, 3a, 4 and 4a, I will discuss the recommendations for university visual cyberbullying policies, as well as the definition of visual cyberbullying generated by this study. 5) The **Macrosystem level** consists of the overall factors that influence the individual's life, such as social norms and regulations and laws. Based on the results reported for RQ3a, I will discuss the recommendations for social media platforms in terms of addressing visual cyberbullying.

In addition, I used three different data collection approaches that involved human subject interaction. Since findings from all the approaches are discussed collectively, to avoid confusion, I used different terms referring to study participants. "Respondent" refers to students who answered the survey, "participant" refers to students who attended the interview, and "case" refers to the visual narrative inquires created by participants. Overall, I had 376 survey respondents, 37 interview participants, and 42 visual narrative

inquiry cases. Thus, the percentages reported from the three data collection approaches were based on these numbers.

Individual Level
1. University Students do Witness or Experience Visual Cyberbullying
The survey results revealed that around 4.8% of respondents (n=18, out of 376 respondents) admitted conducting visual cyberbullying perpetration behaviors at least once on Instagram. Around 21.3% of respondents (n=80) reported having victimization experiences. And nearly 58% of respondents (n=218) had witnessed visual cyberbullying on Instagram in the past. In the interview, 83.8% of participants (n=31, out of 37 participants) believed that cyberbullying is commonplace across social media platforms. In the visual narrative inquiry, 54.8% of the cases (n=23, out of 42 cases) shared by participants happened to their friends or someone they knew at the university, 33.3% of the cases (n=14) happened before participants came to the university, and 14.3% of the cases (n=6) happened to social media influencers or someone who has a large number of followers. These findings showed that university students do witness or experience visual cyberbullying.

The above findings were similar to existing cyberbullying studies of university populations. For example, some studies reported that the prevalence of cyberbullying perpetration ranged from 2.9% to 8% (see Cunningham et al., 2015; DiLmaç, 2009; Francisco et al., 2015; Johnson et al., 2016; Schenk & Fremouw, 2012; Smith et al., 2012). Other studies reported the victimization rates from 15% to 21.4% (see Cénat et al., 2019; Finn, 2004; Gahagan et al., 2016; Martínez-Monteagudo et al., 2019; Smith et al., 2012; Sobba et al., 2017, 2019). Furthermore, the prevalence of witnesses ranged from 45% to 59.7%, as reported in Cunningham et al. (2015), Francisco et al. (2015), Gahagan et al. (2016), and Sobba et al. (2017, 2019). The visual cyberbullying prevalence of perpetration, victimization, and witnessing experiences tends to fall in the same range as the percentages of cyberbullying. The findings indicated that visual cyberbullying could be a prominent type of cyberbullying, bcause of the popularity of visual-based social media platforms among the university student population.

2. Visual Cyberbullying Behaviors Related to Body Image and Gender Difference
In the survey portion of this study, the most common visual cyberbullying behavior was "*Knowing someone has teased the other person about their appearance,*" which 46.5 % of respondents (n=175, out of 376 respondents) had witnessed at least sometimes or more often on Instagram. This finding was echoed in the interview results, as 32 participants (86.5%, out of 37 participants) considered this behavior to be visual cyberbullying. And in the visual narrative inquiry, it was also the most common intention behind misusing or commenting on the victims' visual content (n=14, 33.3%, out of 42 cases). Since past studies did not investigate or report the frequency levels of this particular behavior, it is not possible to compare this result with findings from previous studies. However, this finding may indicate a trend in visual cyberbullying and is further discussed with gender differences below.

The survey results showed that females were more likely to experience and witness visual cyberbullying victimization than males. This trend is also reflected in the visual narrative inquiry, in that 30 cases (71.4%, out of 42 cases) had female victims. This finding aligns with past studies, which reported that female students are more likely to be aware of cyberbullying incidents, and are more commonly perceived to be victims than male students are (see Abaido, 2020; Cho & Yoo, 2017; Cunningham et al., 2015; Smith et al., 2012).

On the other hand, no statistically-significant difference between the genders in terms of perpetration was found in the survey. The visual narrative inquiry also yielded a similar result. This finding seems different from the results reported in past studies, which found that males are more likely to be perpetrators (see DiLmaç, 2009; Kritsotakis et al., 2017; Lee, 2017; Mishna et al., 2018). One possible explanation is that, out of jealousy or insecurity about their own appearance (Villanueva-Moya et al., 2022), females might have a stronger propensity to judge other females' appearance, body image or outfit, and thereby lessen the gender difference in perpetration. One female participant noted, "*It's crazy when people are so insecure, they will comment so quickly. There's even been times where I've seen somebody post something on Instagram and I'm insecure. 'Cause if I were to wear that (outfit), I wouldn't look as good. And it makes me angry. But I'm not going to go comment. I'm just going to feel bad about myself. For two minutes until I can get it past*" (P5). And the cases created by participants P14 and P33 in the visual narrative inquiry also provided examples of how females commented on other females' edited selfies. P14 also mentioned that this type of perpetration behavior is "*a big social climb, to [be] the most popular or most known. I guess anything to denounce one of them, to knock them down.*" In fact, researchers have examined the correlation between body image and cyberbullying perpetration. They found a direct association between these two variables among male and female university students. However, females were more likely to experience depression because of body image dissatisfaction, which then leads to a greater possibility of cyberbullying perpetration (Balta et al., 2020).

As indicated in a prior study, girls were perceived to be targeted for their body shapes on social media sites more than boys; girls were usually more sensitive and felt more hurt than boys when experiencing appearance-related cyberbullying (Berne et al., 2014). The interview results from my study also reflect this finding. Female participants generally had stronger negative reactions when they were hypothetically compared with Shrek. "*I would be more mad about this one. Because it's directly comparing me to Shrek. I love Shrek but his figure is horrible*" (P13). Furthermore, even when being compared to a "cute" game character, girls may interpret it as "being called fat" and feel bad about themselves. As with the visual scenario created by P28, "*A girl posted a picture at the beach, and then someone commented on the way she looked and said she looked like Kirby[81]... Since Kirby is a round little ball, she was really upset about it. She was like, 'Is he calling me fat?*'"

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[81] https://kirby.fandom.com/wiki/Kirby

Moreover, this type of visual cyberbullying behavior can also affect those who witness the incidents. Witnesses may perceive some physical similarities between themselves and the visual content that was being targeted. This sense of similarity evoked by the visual cyberbullying incident may also cause negative emotions. "*But if there are people who are looking at the image, who are not Emily, but have Emily's features, then they are also going to have their feelings hurt, which sucks. And that's kind of another impact of cyberbullying*" (P34). Even if there is no physical similarity between the witnesses and the visual content, the targeting behavior may still create a negative feeling of self-consciousness within the witness (Boursier, et al., 2020). As another participant noted: "*I think it can also, especially for girls, if you see somebody who's really beautiful, and people are still being really negative, it can definitely make you more self-conscious about yourself*" (P16).

3. Instagram Usage may Increase Visual Cyberbullying Victimization and Witnessing
This study also investigated the relationship between Instagram usage and visual cyberbullying experience. It is not surprising that university students who use Instagram more often are more likely to experience victimization or witness visual cyberbullying. This finding aligns with past studies that found that victims usually spent more time online (see Çimke & Cerit, 2021; Schenk et al., 2013; Sobba et al., 2019).

It is worth noting that, based on the results of the regression analysis, for every one-unit increase (e.g., from "Sometimes" to "Often") in Instagram usage, male students may experience an increase of .34 units in visual cyberbullying victimization, and an increase of .35 units in visual cyberbullying witnessing. With one-unit increases in Instagram usage, female students may increase by .27 units on victimization and .16 units on witnessing. One possible explanation for this difference is that male students seemed to have more tolerance for taking/posting/sharing visual content without consent (Peluchette et al., 2018), especially within a group of friends. One participant noted, "*I'm in a fraternity and it happens within that group all the time, but everyone knows it's jokes and it's not really hurtful*" (P11). Although the initial intention was usually for fun, sometimes the situation can get out of control and becomes cyberbullying: "*Maybe they say something a little funny, but then people push it a little too far, and add it on too much and using emojis or rude Gifs*" (P33). Moreover, males were more likely to have group chats with friends and comment on the shared visual content, whether the victim is a male or a female. In fact, six participants mentioned the group chat context in the interview or narrative inquiry, and five of them indicated that the chats consisted of a group of males. For example, one participant mentioned, "*My boyfriend is in a group chat with a lot of his buddies on Snapchat. There are often [taking] screenshots of things and sending them back and forth in making fun of them or talking about them in a negative way*" (P23). Because of this echo chamber effect, when male students used Instagram more, the incremental increase in their victimization or witnesses' experiences was slightly higher than for females.

In fact, "*any action taken on the visual content of someone against that person's will*" was the second most frequently perceived visual cyberbullying behavior, per the findings from the interview (n=31, 83.8%, out of 37 participants), and was the dominant perpetration behavior presented in 23 cases (54.8%, out of 42 cases) of the visual narrative inquiry. And it was also the most reported visual cyberbullying behavior in prior studies that reported the incidence levels of single cyberbullying behaviors (see Francisco et al., 2015; Lee, 2017; Mishna et al., 2018). Future studies should continue to examine how gender difference is presented in different types of visual cyberbullying behaviors.

4. Sexual Cyberbullying and Visual Cyberbullying
As mentioned earlier in Chapter Three, in performing the survey scale validity test, the sexual-related question items had low factor loadings, resulting in a poor model fit for the whole scale. Although the sexual-related questions were removed from the regression analysis, the sexual-related cyberbullying content still emerged from the other data collection approaches. Therefore, sexual cyberbullying is worth discussing along with visual cyberbullying in this study.

Across the entire survey scale, the cyberbullying question item that had the highest mean was the fifth witness question (W5): "*Knowing someone who received unwanted sexual suggestions*" (Mean=2.83, SD=1.34), and 58.78% of respondents (n=221, out of 376 respondents) reported witnessing this behavior "Sometimes" or more often (see Table 10). In the visual narrative inquiry, five cases (11.9%, out of 42 cases) portrayed visual content of a sexual nature, and another three cases presented sexual harassment comments toward the generic visual content. In the scan of the policy documents, behaviors that might constitute cyberbullying through visual forms were mentioned in twelve documents, and five of them were Title IX policies aimed at sexual-related topics. In the interviews, seven participants (18.92%, out of 37 participants) mentioned that they had observed sexual cyberbullying on visual-based social media platforms, including Instagram and TikTok. For example, one participant commented, "*Lot of times it'll be a girl and she's dancing on TikTok. It'll be all these sexual innuendos, basically emojis, posted under it to make fun of her life, what she's doing and sometimes it'll be Gifs*" (P20). In this case, the participant reported seeing emojis such as 👅 🍆 💦 🌊 (i.e., tongue, eggplant, sweat droplets, and water wave).

In fact, the sexual element had emerged in past cyberbullying research. Rafferty and Vander's (2014) study collected real cyberbullying stories from college students using an open-ended survey. Participants witnessed perpetrators spreading sexual-related rumors about victims or sending unwanted sexual content to victims. Another study analyzed Instagram posts that were labeled as cyberbullying by crowd workers: Hosseinmardi et al. (2015) found that sexual hints were more likely to be present in the text of those Instagram posts that were labeled as cyberbullying.

Moreover, visual elements have also been investigated in sexual cyberbullying studies. A recent study examined the relationship between sexual cyberbullying and three psychological factors among university students. They had two sexual cyberbullying question items (out of five) that mentioned "photo" and "image": "*I have shared images with sexual content on the Internet*" and "*I have edited photos of colleagues in[an] offensive manner*" (Sánchez-Medina et al., 2020, p.3). In my study, the behavior of sharing sexual images online was present in the five visual narrative cases (11.9%) that demonstrated visual content of a sexual nature. In addition, in their review of sexual cyberbullying studies, Ehman and Gross (2019) found that "revenge porn" was one of the main themes in past studies. This behavior is when the initial perpetrator shares the victim's nude images online without the victim's knowledge. Afterward, the victim is very likely to be cyberbullied by later perpetrators who see the nude photos online. The initial perpetrator usually had a former romantic relationship with the victim, while the later perpetrators could be strangers. This concept of two-stage perpetration was reflected in the visual narrative cases in my study as well.

In summary, it can be observed that the concept of visual cyberbullying and sexual cyberbullying overlap. In fact, Lee et. al. (2017), who developed the original version of the survey scale, merged the sexual and the visual questions into one subscale, based on the experts' suggestions. The model fit of the combined scale was acceptable in Lee et. al. (2017). Thus, the poor Confirmatory Factorial Analysis result reported in this aspect of my study is likely attributable to changing the wording of the items on the survey. Future studies should be cautious about modifying the wording of a pre-defined and pre-validated survey scale. Researchers should also continue to investigate the association between visual cyberbullying and sexual cyberbullying, while ensuring that the survey scale used is validated.

5. The Trend of Coping Strategies
In the visual narrative inquiry, participants were asked to describe if they knew or remembered how the victims in the real cases coped with the incidents. However, since not all participants were close enough to the victims to be aware of any coping strategies they might have used, the strategies were reported in only 28 cases (66.67%, out of 42 cases[82]).

The major coping strategies reported in this study align with the coping approaches addressed in the literature. For example, victims: 1) either cognitively or behaviorally ignored the incident and did nothing (n=14, 33.4%) (see Francisco et al., 2015; Mishna et al., 2018 as examples); 2) responded to the perpetrators (n=13, 30.1%) (see Abaido, 2020; as examples); or 3) cognitively reframed the incident in a positive way (n=10 cases, 23.8%) (see Alipan et al., 2021; Ho & Gu, 2021 as examples). The victims who got harmful comments on their visual posts were more likely to use one of these approaches, and some victims even used some combination of these approaches. They responded to the perpetrators in the comments with a positive transformation of the narrative, and then

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[82] The percentages reported in this section after this sentence were all based on 42 visual narrative cases.

just moved forward. As one participant mentioned "*I know that he's gotten a number of those [hateful comments]…I think he did a couple of transformations to that comment…like 'Your words don't affect me. I am still my own person; your words don't hurt me. I'm going to be myself anyway*'" (P22). And some participants mentioned that the victims reported the incidents to Instagram (n=8, 19%) (see Abaido, 2020; Byrne, 2021, as examples). Most of these cases were related to cyberbullying content being posted in impersonated or hacked accounts. These findings reveal that victims' coping strategies may depend on the severity of the perpetration.

Nevertheless, no participants mentioned the victims' applying some of the more extreme strategies mentioned in the literature, such as ceasing to use or post on social media (see Abaido, 2020; Byrne, 2021, as examples), or deleting their social media accounts (see Alipan et al., 2021; Chadha et al., 2020, as examples). Instead, victims were more likely to just remove the cyberbullying comments or the entire posts (n=8, 19%), and then continue to use Instagram. This finding shows that the university population became more "desensitized" to the negative norm on social media platforms. As one participant commented, "*They are more accustomed to it, that they just delete the comments and move on. I think it still affects them, but they're kind of desensitized to everything that people are getting say*" (P16).

Findings from this study unveil some patterns of the association between different coping strategies and the perpetration context, as well as the "desensitized" nature of the young generation. It can be observed that victims' cognitive attitudes toward visual cyberbullying impacted their behavioral coping strategies. Furthermore, their affective status may also impact their behaviors. For example, it can be observed from the interviews that when the hypothetical visual cyberbullying scenarios had happened to participants themselves or to their friends, among those who cognitively considered these scenarios to be cyberbullying, they expressed various negative feelings, and mentioned that they would take some kind of action. Two of the most mentioned feelings were "angry" and "upset." There were 13 participants who said they would be angry, and eight of them (8/13) said that they would confront the perpetrator, which is the most proactive form of coping behavior. On the other hand, of the ten participants who said they would feel upset, only three (3/10) of them said they would try to talk to the perpetrator. Given that participants in this study were witnesses and were therefore unable to report the victims' affective status precisely, future studies should directly examine the association between victims' behavioral coping strategies and their cognitive or affective attitudes toward the perpetration context.

In addition, in some narrative cases (n=7, 16.7%), the victims became more cautious in their use of social media and ICTs after the cyberbullying incidents. Victims in four cases changed their accounts from public to private after receiving cyberbullying comments targeting their appearance, or after their photos were misused. In another two cases, victims still kept their accounts public, but they enabled word blocker to filter abusive words (e.g., slut) from the comments. But only one participant mentioned that she

enabled the two-way verification on Instagram after her account was hacked. This finding points out that there is still room for enhancing university students' awareness of cyber security and privacy management, because so few victims employed a technological coping strategy to protect themselves from future visual cyberbullying on social media.

Microsystem level
The Need for Active Bystanders and Peer Education
In the interview, participants were asked what they would do if the hypothetical cyberbullying scenarios had happened to themselves, their friends, or someone they did not know. It can be observed that participants tend to have stronger affective reactions and more proactive behavioral actions if the cyberbullying incidents had happened to themselves or their friends. Around 75.7% (n=28, out of 37 participants) of participants said they would take action for themselves. But even more participants (n=32, 86.5%) said they would probably do something proactive in defense of their friends, such as confronting the perpetrators, or providing emotional support. Specifically, six participants (16.2%) mentioned they would defend their friends more than themselves. On the contrary, if they witnessed visual cyberbullying incidents happening to a stranger, only five participants (13.5 %) said they would try to support or stand up for the victim by commenting on the posts. Another 13 (35.1%) said they might just feel bad for the victims. The remaining 19 (51.4%) said they would not get involved in the situation from cognitive, affective, or behavioral aspects.

Given that people may react differently to hypothetical scenarios versus actual incidents (Macaulay et al., 2022), I also looked closely at the results of the visual narrative inquiry. There were four types of relationships between the participants and victims in the 42 cases: self (participant as victim, n=2), friend (n=16), acquaintance (n=16), and stranger (n=8). 1) Two cases were based on participants' own victimization experiences, and both received emotional support from friends or families. 2) Sixteen cases happened to participants' friends. In nine of these 16 cases, participants served as active bystanders who provided emotional support, reported the incident to Instagram, or gave suggestions to their friends who were victims. In the other seven cases, participants did nothing. 3) Another 16 cases happened to victims who were participants' acquaintances but not friends. Participants did nothing in 13 of these cases, and even reported in seven cases that they witnessed other bystanders' sharing and commenting on the visual content about the victims. Participants were active bystanders in only three cases of their acquaintances' being victimized. 4) For the eight cases that happened to strangers (e.g., social media influencers, or students in the participant's high school), a participant posted supportive comments to the victim in only one case, while in the other seven cases, participants did nothing.

Based on this result, it can be observed that participants might over-optimistically perceive themselves as active bystanders in these hypothetical scenarios. In the visual narrative inquiry cases, participants were more likely to be active bystanders only when the victims were their good or close friends. And bystanders may also be entertained by

the victim's visual content, and then indirectly encourage the perpetrators to spread the content. One example of this is the "OldRowVols" account on Instagram. As one participant mentioned, "*There's one called OldRowVols… it posts pictures of people who do dumb things when they're drunk….people do laugh at them and I laugh at them too…it is mean, it's not political correct, but I do follow the accounts, and I do laugh about it sometimes. I will admit it*" (P1).

Perhaps making things worse than by doing nothing, bystanders could become perpetrators by sharing or commenting on the visual content, when the victims were just acquaintances, such as a classmate. And in some instances, friends and peers might also easily become perpetrators. For example, females tended to target their friends' appearances, while males were more likely to make fun of their peers. These findings reaffirm the need for peer education about being active bystanders rather than perpetrators (Menesini & Nocentini, 2013).

Mesosystem Level
1. To intervene or Not to Intervene, That is a Debate
The results discussed at the Individual level revealed that the visual-based cyberbullying phenomenon does exist among the university population. However, how the university should play a role in intervention is under debate.

In the interview phase of the study, 48.6% of the participants (n=18, out of 37 participants) perceived that it is challenging or unnecessary for the university to intervene in reported cyberbullying incidents. And participants noted that cyberbullying reports should be routed to social media platforms or to the police. These reactions were similar to the students' perspectives reported in past studies (Baldasare et al., 2012; Rowe, 2014), and were precisely expressed in P37's case. The victim, Haley, assumed the university would do nothing, because, "*The girls were adults, and it was on their Instagram. It's separate from the University affiliation, so she just assumed that the university would be like, 'Well, that's not our problem. It has nothing to do with us, what you guys do outside of classes*'" (P37). Haley eventually reported the incident to the police.

Another 51.4% (n=19) of participants felt that the University's obligation to intervene would depend on the appropriate context and the content. Namely, the context would be when a reported incident occurred on a social media account representing UT, or if the visual cyberbullying content was taken on UT-affiliated spaces. For content that necessitated the university's involvement, participants mentioned sexual-related ones, discrimination, alcohol, or drug-related ones. However, there seems to be a gap between students' expectations and real-world practice. The two university policies for social media, CM0006-H and H200, provide the content guidelines for only university-affiliated social media accounts. But there is no mention of photos or videos depicting misconduct happening in UT-affiliated spaces, or photos or videos showing drunken UT students.

In addition, three participants commented that the university should support victims by providing mental health care and relevant resources. This viewpoint was also mentioned in Cunningham et al.'s (2015) study. Unfortunately, based on the result of the policy scan, the supportive measurements are all about the complaint reporting procedures for misconduct. Thus, this study suggests including mental health resources in the policies.

2. Professional Development and Student Success as Prevention Approaches
In terms of raising students' awareness of cyberbullying and visual cyberbullying, twelve participants (32.4%, out of 37 participants) noted that the university should provide education about these behaviors, especially to make students aware of their consequences, which echoes the findings from past studies (Baldasare et al., 2012; Smith et al., 2012). Indeed, the Student Code of Conduct policies frame the purpose of sanctions as: 1) Educating students about appropriate conduct; 2) Discouraging them from violating the Standards of Conduct; 3) Protecting members of the university community; and 4) Promoting personal and professional development.

Nevertheless, it would be ideal if students could be more cautious about their behaviors beforehand, rather than having to learn the lessons from sanctions. Inspired by the interview results, educating students about visual cyberbullying consequences may be framed within professional development. Certainly, the university always aims for student success in career development. And nearly 30% (n=11) of participants commented that people's negative visual content posted on social media would definitely impact their job search and career development. One participant noted, "*If we went out and had some drinks and I fell down the stairs, I wouldn't want a future boss to see me*" (P3). Another participant asserted that the university should pay more attention to photographs posted without students' consent, because "*If they're drunk on a photograph, that follows them, it doesn't go away, and it can affect their personal or professional careers in the future*" (P30).

Given that employers often check job applicants' social media accounts, participants indicated their concern about drunk photos/videos being posted on social media. In fact, alcohol consumption could negatively impact university students' professional careers in the long run (Whitney, 2022). However, past studies investigating alcohol usage among university students seemed less focused on how alcohol-related visual content (e.g., drunk photos) impacts students. Furthermore, based on the policy scanning, there is no mention of misusing visual content that contains drunk students. It is worth noting that, in the visual narrative inquiry, seven cases were about taking/posting/sharing the victims' drunk photos. And in the interview phase, there were eight other participants who mentioned that they had witnessed someone's drunk photo being taken/posted/shared, especially to those anonymous Instagram accounts, such as "OldRowVols" and "FridayBeers." In total, 40.5% of participants (n=15, out of 37) had witnessed alcohol-related visual cyberbullying. These findings indicate the need, in both academia and real-word practice, for raising awareness of this issue among the university population.

In addition, in a literature review of cyberbullying in higher education, Watts et al. (2017) called for a future research direction on how cyberbullying may change social media etiquette. In fact, social media etiquette/netiquette is also framed as an important factor in professional development and conducting a job search[83]. For example, an article[84] on the Official Admission blog of the University of South Florida addresses etiquette for Snapchat and Instagram. And one participant mentioned that in two of her UTK courses offered by the College of Business, BUAD 100, "Approaches to the College of Business Administration" and BUAD 200, "Integrity: Becoming an Ethical Leader and Effective Communicator," the instructors emphasized that, "*If you wouldn't want your future employer to see this* [drunk photos of you or controversial photos of you] *from your end of posting it, or from the end of you being in the post, then don't post it*" (P27). However, using "social media etiquette" or "social media netiquette" as search queries within the domain of UTK or the UT system on Google,[85] the number of retrieved results is less than five. This small searching research result may be because of the fact that it is unable to retrieve syllabi residing behind the login walls of course Canvas sites. Nevertheless, offices at the university level, such as the Center for Career Development and Academic Exploration under the Division of Student Success, may consider using blog posts to promote social media etiquette/netiquette, with the visual content misconduct concept included in the etiquette/netiquette.

Furthermore, based on the result of the policy scan, only a few documents mentioned the regulation of social media usage. Two UTHSC policies address regulations for university-affiliated social media accounts, and another UTC policy mentions avoiding using the university's NetID or email address for personal social media accounts. On the other hand, 14 policies frame visual content usage under the umbrella of "avoiding invasion of privacy." Only Title IX policies, but just barely, address social media with visual content usage collectively by stating that victims should, "*Preserve or capture electronic communications* (for sexual harassment evidence) *such as text messages, e-mails, social media posts or exchanges (e.g., Snapchat, Facebook, Twitter)*" (see page 30 of the UTK Title IX policy[86], as an example).

These findings reveal gaps in real-world practice. First, the visual cyberbullying perpetration behavior, defined as "actions taken using the visual content of someone against that person's will," occurs among the university population. Second, misconduct pertaining to visual content is highly associated with social media etiquette and professional development. However, current policies and educational resources seem to be not yet prepared for effectively addressing these topics. The actual cases presented in the visual narrative inquiry may serve as references for designing informational materials to mitigate these gaps.

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[83] https://www.careercenterbr.com/2021/03/social-media-etiquette-for-job-seekers/
[84] https://admissions.usf.edu/blog/snapchat-and-instagram-etiquette-101
[85] Search query example: "social media etiquette" site:utk.edu
[86] https://titleix.utk.edu/wp-content/uploads/sites/96/2021/08/2021-22-Title-IX-Policy.pdf

3. Visual Cyberbullying and Cybersecurity
In three narrative cases, the victim's account was hacked, and the perpetrator posted the victim's nude photos or suggestive images to the accounts. As bystanders witnessed this type of visual cyberbullying, two participants mentioned their feelings as "scary" with a strong tone: "*And you see that SO frequent it's SO scary*" (P5). However, only one participant and her friend started to use the two-factor authentication feature offered by Instagram after their accounts were hacked: "*We actually enabled the two-way verification using the Duo Mobile app*" (P27).

Besides P27, among all other participants, only six of them observed the victims' implementing some cybersecurity measures after experiencing visual cyberbullying incidents. For example, victims implemented word blockers for their Instagram accounts, or changed their privacy settings, as discussed in the previous section. Although these technological coping strategies reported by the bystanders in my study may not be comprehensive, it is still worth mentioning that university students' awareness of cybersecurity may need to be improved. In fact, researchers at University of New Haven have documented the relationship between cybersecurity and cyberbullying. They reported the learning outcomes of the cybersecurity module in a university-wide first-year common course. And students reflected that the course module could be expanded to other related topics, "particularly cyberbullying body image issues" (Przyborski et al., 2019, p.3), which echoes with the findings from my study. Thus, to raise undergraduate students' awareness of visual cyberbullying, the university may consider combining the cybersecurity topic with the social media etiquette/netiquette instruction.

4. Personnel and Venues for Raising Students' Awareness of Visual Cyberbullying
Based on the interview results, personnel who might be appropriate for raising students' awareness include the Title IX office, the Student Health Center, the Counseling Center, the Dean of Students, the Office of Student Conduct, Student Housing, or student resident assistants. It is worth noting that one participant is a current Student Resident Assistant on campus. She mentioned that some students, "*…attack or be disrespectful or whatever to another party within that* [building's] *GroupMe,*" and usually, "*The resident assistants and the hall director, the head staff in the building, would get together and form of course of action on tha.t*" And she said "*Typically we have a whole category for within our Community Development model for educational purposes… I think that cyberbullying is a unique topic to talk about. I just think that would be a really interesting program. I need to figure out how I'm going to make that fun for residents and do that.*" (P18) In fact, cyberbullying group discussions, focusing on the residence hall community, were also suggested by students at Ohio State University, in Smith et al.'s (2012) study. Indeed, as a researcher, it was definitely a pleasure to hear in the interview that my study might bring insight directly to a participant's job (i.e., the Student Resident Assistant at UTK).

Participants also suggested several venues to provide visual cyberbullying education. For example, they mentioned small group discussions held during "Awareness Week,"

mandatory-attendance workshops, peer health mentoring groups, student orientation, first-year study, and emails or messages to students or within student organizations. In particular, fraternities and sororities could be effective venues. In fact, researchers in two qualitative studies found that Greek life students may make fun of or denigrate other Greek members or competing organizations on Instagram, by making or sharing memes or commenting on visual posts (Rafferty & Vander, 2014; Simmons et al., 2015).

In the most severe case reported in the visual narrative inquiry (by P37), both the victim and the perpetrator were affiliated with the same sorority (see Figure 15 in Chapter Four). And in another case, narrated by P10, the perpetrator's behaviors were supported by one of his fraternity members. (see Figure 16 in Chapter Four). Furthermore, another eight participants mentioned witnessing visual cyberbullying perpetration in Greek groups. For example, "*Videos of drunk sorority girls walking across the street and losing their clothes [being posted on OldRowVols]*" (P1). And "*They filmed themselves or gotten [someone to] film them for making out with a drunk chick and then sending it in their frat*[87] *group chat as proof of that they were there. Some frats have a thing where you have to get a tally on the weekend, and if you don't, that's some stuff happens*" (P21). Other than the above-mentioned ten participants who had witnessed cyberbullying experiences, an additional five participants indicated that visual cyberbullying could be included in educational resources for fraternities and sororities.

The student organizations of fraternities and sororities are only for the university and college population. Group members have their own sub-culture or echo chamber that could lead to the increasing prevalence of perpetration. Thus, these organizations can be a unique venue for providing visual cyberbullying education to students in higher education institutions.

5. Visual Information Literacy for the Younger Population
A point worth noting is that, in the five narrative cases that included sexual-related content, four of them occurred within the participants' cohorts when they were in high school. These cases were all about leaked nude images being posted and shared without the victims' consent (see cases narrated by P15 and P25 in Figures 24 and 25 in Chapter Four). In fact, the issues of sexting and cyberbullying have been investigated by researchers (see Alfaro González et al., 2015, and Hinduja & Patchin, 2021, as examples). Furthermore, one strength of the research setting in this study is that participants were neither currently affiliated with their high schools, nor were they participating in the study under their parents' consent. Thus, they might be more willing to use the visual narrative approach to share about their real sexual cyberbullying witness experiences. Although my study focused on the university population, the findings underline the importance of visual information literacy for the young population aged under 18, particularly about the privacy management of sexual-related visual content.

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[87] fraternity group

Exosystem Level
Recommendations for University Policy on Visual-based Cyberbullying
In both the scan of policy documents and the interviews that answered RQ4, I adopted coding schemes from Purdy and Smith's (2016) and Faucher et al.'s (2015) studies. The policy content and participants' perspectives on policies were categorized into four categories: 1) Definition of cyberbullying; 2) Reporting and responding to cyberbullying incidents; 3) Strategies for intervention and prevention; and 4) Concepts related to social media and alcohol. Categories two, three, and four were discussed in the Mesosystem section. In this section, I focus on participants' perceptions of cyberbullying-related policies at UT, and the definition of visual cyberbullying.

UTK launched an anti-bullying procedure for employees (HR0580-K) in August 2022. However, in April 2022, when my interviews were conducted, there was no policy that mentioned the terms "bullying" or "cyberbullying," based on a full-text search of the UT System Policy Website (https://policy.tennessee.edu/). Thus, when selecting relevant policy documents, I included documents that contained descriptions of "behaviors that might constitute cyberbullying **if** they occurred in an online context or through visual forms" (e.g., harassment). A total of 23 documents (88.5%, out of 26 documents) had relevant descriptions, including the Student Code of Conduct and the Title IX policy. Unfortunately, most descriptions did not include the online context. Only HR0280 and the newly launched HR0580-K expressly state the online context: "*Sexual harassment is not limited to personal interactions, but can occur via telephone, texting, social media, the internet, and other methods of communication*" (p.1 in HR0280). And both documents apply to employees, not to students.

In the interviews, none of the participants clearly acknowledged whether or not there is a UT policy on cyberbullying. Their perceptions also varied, in that 56.8% (n=21, out of 37 participants) believed UT had some cyberbullying-relevant policies, 21.6% (n=8) had no idea, while another 21.6% (n=8) did not think there was any policy. Among all participants, only five of them (13.5%) mentioned that the Student Conduct or the Title IX offices might be able to deal with cyberbullying incidents on campus. In addition to their perceptions, participants were split 50-50 on whether the university should intervene when students reported cyberbullying, as discussed in the Mesosystem section.

Furthermore, one participant had recently transferred from the University of Hawai'i at Mānoa to UTK. She mentioned, "*My previous university had a very strict cyberbullying policy. So I'd be surprised if UT didn't*" (P30). In fact, when searching "cyberbullying" within the University of Hawai'i Systemwide Policies and Procedures Information System[88], there is only one publicly accessible policy that mentioned the term: "*Bullying and **cyberbullying** are repeated and/or severe aggressive behaviors that intimidate or intentionally harm or control another person physically or emotionally, and are not protected by freedom of expression*" (Systemwide Student Conduct Code, Executive Policy 7.208, March 2022). Also, within this policy, social media is mentioned in the

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[88] https://www.hawaii.edu/policy/

section of Proscribed Conduct: "*The Senior Student Affairs Officer shall decide whether the Student Conduct Code shall be applied to conduct occurring off campus (including but not limited to the use of social media and other electronic forums), on a case-by-case basis, in their sole discretion.*"

Based on the collective findings generated by this study's multiple methods of data collection, it is clear that visual-based cyberbullying is commonly witnessed and/or experienced by the university student population. Furthermore, the university's anti-bullying procedure for employees was launched recently, and the Chancellor mentioned in the announcement email that this procedure was implemented based on "*ideas that came from members of our campus community.*" Thus, this study recommends that the university include descriptions of cyberbullying in the policy. This issue could be addressed by additions or changes to existing relevant policies, such as the University of Hawai'i's example, or addressed in a new document focusing on online misconduct. Remarkably, at least the Student Code of Conduct/Student Handbook should address cyberbullying and misconduct using visual content that might constitute visual cyberbullying, because the Student Code of Conduct/Student Handbook is quite possibly the only document that undergraduate students are likely to read. Nonetheless, at this writing, none of the Student Code of Conduct/Student Handbooks across the five UT-affiliated campuses had addressed cyberbullying or social media regulation. In addition, given that social media is embedded in university students' daily life, the only three documents that mention the regulation of social media were published by UTC and UTHSC. Thus, UTK or the UT system should consider including social media regulation or etiquette/netiquette in their policies or procedures.

A policy document usually needs to provide definitions of terms. The results of this study may serve as a reference for providing definitions, if the university considers attaching the cyberbullying descriptions into policies. In the interviews for this study, participants were asked to define visual cyberbullying using their own words, and the results answer RQ2a. The definition generated from participants' input is "*using any forms of visual content, including photos, video, memes, or emojis, with a negative intention of targeting someone, and taking any actions, such as sharing, that content, against that person's will, or targeting someone's physical appearance.*" In the visual narrative inquiry, the visual cases created by participants were analyzed under the five Cs framework: conduct, context, content, contact, and confidentiality. The results help to refine the above definition.

First, the dominant Conduct is "actions taken using someone's visual content, against that person's will." Those actions include taking photos, recording videos, making screenshots of visual content, posting/reposting/sharing visual content, creating impersonated social media accounts pretending to be someone, creating anonymous social media accounts that accept and post content from other people, and hacking into other people's social media accounts. Participants indicated that visual cyberbullying is associated with a negative intention to target someone maliciously, destroy someone's

reputation, emotionally hurt or harm someone, or embarrass or put down someone. These intentions may be fulfilled by targeting someone's appearance, body image, outfit styles, or the visual content they posted; targeting someone's personal life, gender identity or religious belief; making fun of someone; sexual harassment, denigration, or cyberstalking.

Second, the Context of visual cyberbullying on social media includes impersonated or hacked accounts, Feed,[89] Story,[90] private chat or direct messages between two users or among multiple users, and comments on visual posts. Two contexts of Instagram and TikTok were not presented in the visual narrative cases, but were mentioned by participants. One is short video clips (i.e., Reel on Instagram), and the other is Livestream.

Third, the Content that constitutes visual cyberbullying includes private personal visual content that people might not want to share publicly, visual content of a sexual nature, text-image that only includes text in the visual content, and emojis, Gifs, and memes that negatively react to the content mentioned above, on someone's generic visual content.

Fourth, the Contact represents the relationship between the perpetrator and the victim. It could be that the perpetrator and the victim knew each other, such as ex-partners, friends, peers, or acquaintances. It is also possible that the victim is unable to identify the perpetrator. In terms of how cyberbullying content is delivered, it could be public and indirect, public and direct, private and indirect, or private and direct.

Fifth, Confidentiality addresses the victim's visual content privacy management or privacy settings on social media. From those participants who knew the victims and could answer this question, it seemed that the victim's social media accounts were more likely to be public. However, since this element is not fully investigated from the victim's point of view, it would not be included in the definition generated from this study.

In addition, in a study that examined the definition and attributes of cyberbullying in 24 scholarly publications published between 2012 and 2017, Peter and Petermann (2018) generated their definition of cyberbullying as *"using information and communication technologies (ICT) to repeatedly and intentionally harm, harass, hurt and/or embarrass a target"* (p.359). To be noted, from the traditional bullying perspective, "repetitiveness" is a critical element (Olweus, 1994). Peter and Petermann (2018) provided new insights into this element. Although the perpetrator conducts the cyberbullying behavior only one time, other people may share or repost the content, or pile up comments. Thus, the victim may still perceive the repetitiveness of the act. In my study, only one participant, who self-disclosed as a bullying victim in high school, mentioned the repetitiveness when

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[89] The page of a personal social media account, on which the content permanently exists until removed by the user. Both Instagram and TikTok use this term.
[90] The place where the visual content is visible for 24 hours after posting. Instagram, Snapchat, and TikTok all use this term.

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defining visual cyberbullying. Other participants' perceptions seem to align with Peter and Petermann's (2018) explanation.

In summary, based on the findings of this study, the definition of visual cyberbullying could be framed as: "visual cyberbullying may initially happen through any actions (e.g., photograph, record, post, repost, or share) on any types of visual content (e.g., generic, private, sexual) of someone, under any context of information and communication technologies (e.g., Feed, Story, short video clips, direct messaging on social media platforms), that is conducted against the person's will (e.g., without consent), with a negative intention to make fun of, embarrass, hurt, harm, harass, denigrate, or cyberstalking the person. Cyberbullying can also happen through subsequent reactions or comments with emojis, GIFs, memes, or text-images that maliciously target any aspects of the person (e.g., physical appearance, personal life, gender identity)." Furthermore, cases narrated by participants may also serve as perpetration examples for the development of policies. Take the case narrated by P37, for instance:

> *A sorority girl cyberbullied the former sorority president, Haley, due to her disagreement with Haley about the sorority management. She **created an impersonated Instagram account** pretending to be Haley, and posted several of Haley's old photos **without Haley's consent**. The girl zoomed in Haley's face in the photos to **target her appearance**. In one photo, Haley was with her friend who was already passed away, the sorority girl **maliciously** alluded they were a lesbian couple by **posting** kissing **emojis**. Later, the sorority girl had a **Livestream on TikTok and denigrated Haley** in front of the girl's TikTok followers. Due to this visual cyberbullying incident, Haley eventually decided not to attend the university physically.*

Macrosystem Level
Recommendations for Social Media Platforms
<u>Cybersecurity and Privacy</u>
As discussed in the Mesosystem section, visual cyberbullying awareness may be combined with cybersecurity training for university students (Przyborski et al., 2019). From the macro view, cybersecurity and privacy are always critical issues on social media platforms (Thakur et al., 2019). In a systematic literature review of 43 studies on cybersecurity practices that were published after 2015, Herath et al., (2020) revealed that cyberbullying is one of the topics investigated in the review studies. In this section, within the scope of cybersecurity and privacy, I discuss the dominant visual cyberbullying behavior that has emerged from the qualitative data, and the perpetration context on Instagram.

In my study, "any action taken on someone's visual content, against that person's will" is a central theme that emerged from the qualitative data. This type of behavior is also reported frequently in past studies (see Francisco et al., 2015; Lee, 2017; Mishna et al., 2018). Generally speaking, there are two phases of the behaviors. In the first phase, the

initial perpetrators took photos or recorded videos of the victims, and posted the visual content to their own Feed, or shared it via private messages. Possible interventions and preventions are discussed in the Mesosytem section. In the second phase, the initial posts were screenshot, reposted, or shared by other people, who became perpetrators rather than bystanders. Also, in some cases, there are no initial perpetrators, because the victims themselves posted the generic visual content. But then people shared the content and commented about the victims.

As for the screenshot behavior, four participants (10.8%) mentioned that implementing screenshot notifications on social media may be helpful. When someone screenshots the content in Story, the content creator gets a notification. This measure may prevent content from being shared without the user's consent. Currently, only Snapchat notifies users when their content is screenshot.

The same suggestion may also apply to the repost function. Currently, users do not get notifications if someone reposts their content. Because reposting is even easier than taking a screenshot, this function might actually encourage subsequent cyberbullying by others viewing the reposting and making negative comments that constitute cyberbullying. The repost function is available on other platforms besides Instagram. TikTok also has a "Duet" function that enables users to repost other's content alongside their own content. "A Duet contains two videos in a split screen that play simultaneously[91]". One participant mentioned that she had seen so many incidents in which perpetrators made fun of or maliciously judged the victim using this Duet function. "*I saw a creator posted talking about issues about her going to the gym, and men trying to approach her, saying she was doing something wrong, or just bothering her while she's just trying to work out. And then there was a man that had edited it* [the victim's video]. *And he started talking about how she had to listen to them, so that she would be more fit, and wouldn't be fat. Just saying these really rude things for no reason* [in his video]*, while her video has nothing to do with him*" (P33).

As for the perpetration context, an emerging theme is "fake accounts," which include impersonated accounts (see Figure 15 as an example), multiple personal accounts for posting denigrating content (see Figure 16 as an example), and anonymous accounts that accept and post content from people (see Figure 24 as an example). In these cases, victims' visual content was posted on these accounts, and they often were not aware of the situation until being notified by their friends. The concern about fake accounts has been a cross-platform issue. As we can see, the lawsuit between Elon Musk and Twitter regarding the fake accounts on Twitter has raised many debates (Duffy, 2022).

In a series of studies done by Zarei and his colleagues (Zarei et al., 2019, 2020a, 2020b), they examined Instagram accounts created by impersonators in four vital user communities where individuals often have a large group of followers: politicians (e.g., Barack Obama), news agencies (e.g., BBC), sports stars (e.g., Rafael Nadal), and

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[91] https://support.tiktok.com/en/using-tiktok/creating-videos/duets

musicians (e.g., Taylor Swift). They applied a Deep Neural Network architecture to detect and predict impersonated Instagram accounts by examining the account metadata (e.g., account name, profile) and the content of posts. Their results revealed two types of impersonators, bot and fan. Bot-impersonated accounts were likely to use default Instagram settings without any "personal" information, such as the full name and bio. On the other hand, fan-impersonated accounts were created and maintained by human beings, or a human-bot combination, and usually have "personal" information that appears similar to genuine accounts. Although their studies analyzed only textual data, the results support my findings from the four participants who witnessed cyberbullying using impersonated accounts. The accounts witnessed by my participants used victims' names as usernames, then posted victims' photos with a negative intention to denigrate victims. Victims mentioned in the participants' cases were not celebrities; they just had a large number of followers, but they were still being targeted. Thus, Instagram and other visual-based platforms should address this issue proactively. One possible approach could be collecting data from those reported/banned impersonated accounts, examining the relationship between the owners of impersonated accounts and genuine accounts, and investigating the pattern of the visual content being posted.

As for those anonymous accounts such as OldRowVols, it might be challenging to prohibit this type of account from being created, especially in the university context where students are adults. Currently, Instagram allows a single user to register multiple accounts anonymously, and other users are unable to identify whether two accounts are owned by the same person. One possible solution is that, if a user owns multiple accounts, then a list of all accounts owned by this user would be required to be displayed somewhere visible. Although this approach might discourage those who use the secondary account to perpetrate cyberbullying on others, it may also raise other privacy issues. Thus, enhancing sensitive content detection might be a more practical solution.

Enhanced Image Recognition Accuracy on Drunk Photos
In the past studies that used the machine learning approach to detect visual content that constitutes cyberbullying, visuals that include sexually explicit/suggestive content, or controversial content were more likely to be labeled as cyberbullying by crowdsourcing workers (Kao et al, 2019; Rafiq et al., 2015). As stated on the webpage of the Instagram Help Center, [92] Instagram considers content to be sensitive if it depicts violence, is sexually explicit or suggestive, promotes the use of certain regulated products, or depicts cosmetics/products based on questionable health-related claims. However, visual content that pictures the victim's deviant behaviors after alcohol consumption is not a focal point (Vishwamitra et al., 2021).

Based on the findings from this study, 40.5% of participants (n=15, out of 37) had witnessed alcohol-related visual cyberbullying in which the victims' drunk photos were taken/posted/shared without their consent. The current image recognition applications

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[92] https://help.instagram.com/251027992727268

seem to be less accurate in identifying drunk photos compared with other sensitive content. The Amazon Rekognition[93] pre-trained algorithms could be an example. To be noted, in a recent study, Amazon Rekognition is reported to be the most precise detector (77.4% precision) compared with other AI services (i.e., 69.4% for DeepAI,[94] 42.9% for Clarifai NSFW,[95] 36.27% for Yahoo Open NSFW,[96] and 35.7% for Google API[97]) (Vishwamitra et al., 2021, p.4).

Amazon Rekognition provides "image moderation" that is capable of detecting inappropriate content. One of the categories[98] of inappropriate content is labeled as "Alcohol" which includes the labels "Drinking" and "Alcoholic Beverages." I used the free version of Amazon Rekognition Image moderation service to test the visual content from the visual narrative inquiry as examples. When tested on the drunk photo from P29's case, the result shows 70.9% confidence of alcohol and drinking (Figure 28). But another drunk photo from P12's case was not successfully recognized (Figure 29). For the other unrecognized drunk case by P30, I used the "Facial analysis" service. It even showed that the man in the image has a "calm" face (52.8% confidence), while P30 used this image to present her colleague who had passed out after drinking (Figure 30). On the other hand, the testing of sexual-related content from P15's case shows a 98.1% confidence as suggestive content (Figure 31). Certainly, these tests were not comprehensive. But the findings could still reveal the need to strengthen AI's ability to recognize the visual content representing deviant behaviors after alcohol consumption. If perpetrators could be warned when posting victims' drunk photos (usually without consent), it might discourage this type of perpetration, then lessen the possibility of others reposting or sharing the content and targeting the victims.

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[93] https://aws.amazon.com/rekognition/

[94] https://deepai.org/

[95] https://clarifai.com/clarifai/main/models/nsfw-recognition

[96] https://github.com/yahoo/open_nsfw

[97] https://cloud.google.com/apis/docs/overview

[98] https://docs.aws.amazon.com/rekognition/latest/dg/moderation.html?pg=ln&sec=ft
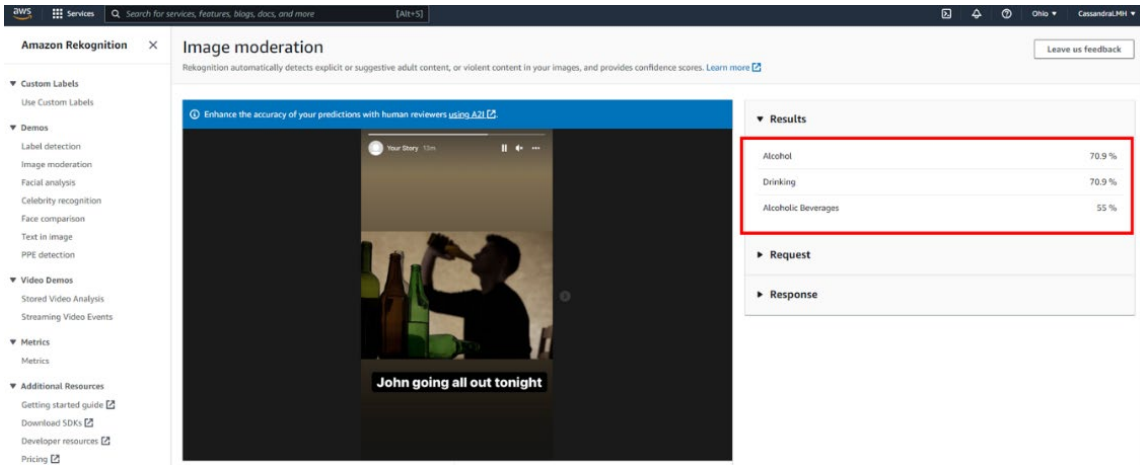
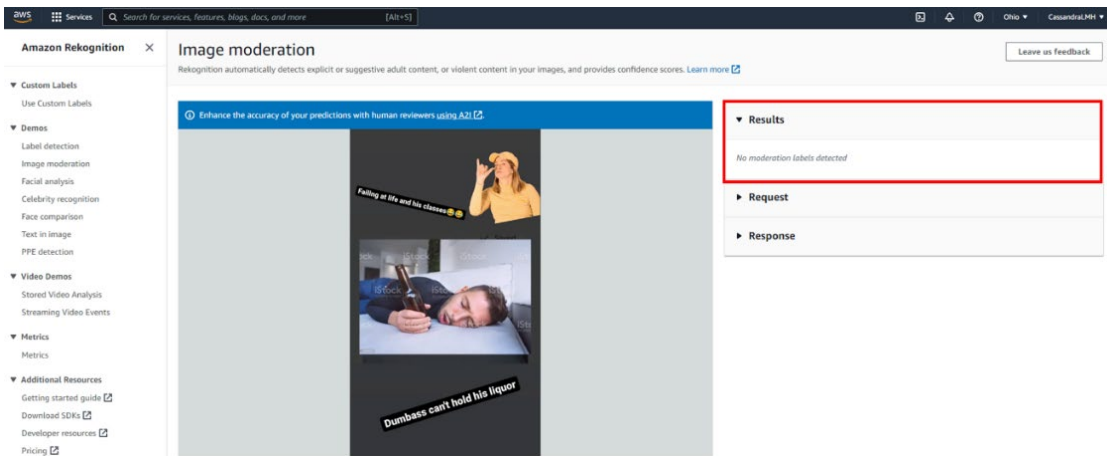Figure 28. The first example of a drunk photo recognition result

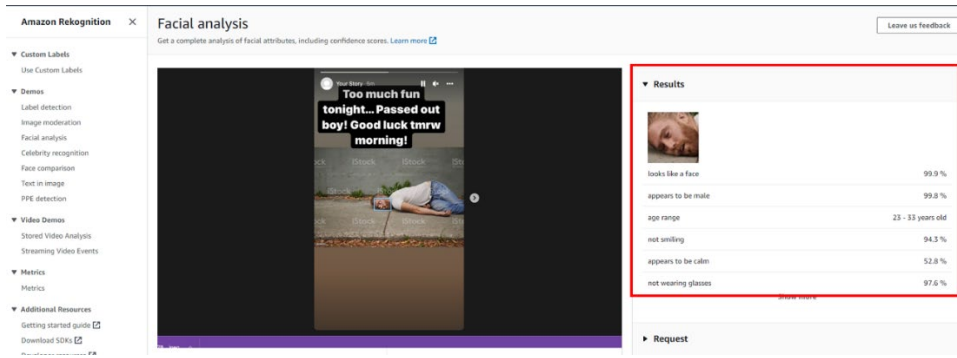Figure 29. The second example of drunk photo recognition result

Figure 30. The third example of drunk photo recognition result
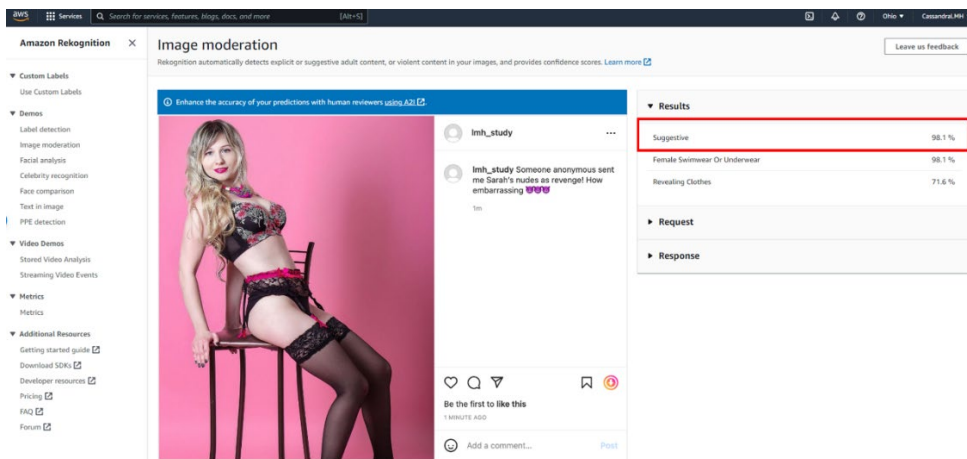
Figure 31. An example of a suggestive content image recognition result

<u>Applying a Mixed Detection Approach for Contextual Visual Cyberbullying</u>

In the previous two sections, I discussed the possible approaches for visual cyberbullying cases that 1) focused on sensitive visual content, or 2) involved misconduct using generic visual content. However, some scenarios were composed of generic visual content and cyberbullying comments. These scenarios usually were highly contextual (Vishwamitra et al., 2021). In this section, the discussion is based on the visual scenarios created by participants. Since five participants did not create a visual scenario and only orally narrated the cases, while the other five participants created two visual scenarios, the total number of visual scenarios created by participants was 37 and the percentages reported in this section were based on the 37. There were 24 scenarios (64.9%, out of 37 scenarios) that include generic visual content. Sixteen of them involved misconduct on the content that constituted visual cyberbullying. In contrast, the other eight cases constitute visual cyberbullying only with textual comments. Four of these eight cases should be easy to autodetect by current algorithms because the comments include abusive words, for example, "*Ugly and fat lol you think you are hotter than you are*" (see P16's case in Figure 19).

However, it is challenging for the other four cases with neutral or contextual comments under generic photos. For example, in P5's case, the victim posted her selfie and added a caption that read, "*I think you should take me on a date* 🦋" (Figure 32). A perpetrator commented "*You don't look crazy anymore...nice.*" The other commented, "*Maybe we can take it to therapy.*" Then the victim replied, "*No, I'm good, really. I'm good*". The two comments from perpetrators seemed to be sarcastic. To be noted, these comments were exactly the same as those in the real incident, because P5 actually copied and pasted the comments from the real post.

To observe the relationship between sarcasm and visual cyberbullying cases, I examined the textual content in 37 visual scenarios. And I found content posted by perpetrators to be sarcastic or potentially sarcastic in 14 visual scenarios created by participants (37.8%, out of 37 scenarios). In fact, in a recent study, Chia et al. (2021) applied a machine learning approach to train the detecting model on a sarcastic Twitter data set, and test the model on a cyberbullying Twitter data set. The cyberbullying data set was provided by Ptaszynski et al. (2018), and Ptaszynski M. is the second author of Chia et al. (2021). Chia et al. (2021) found that the model F-scores[99] of the two data sets were similar, 0.898 on the sarcasm data set and 0.881 on the cyberbullying data set. Moreover, the model trained by the sarcasm data set to detect cyberbullying returned a higher F-score (0.881) than the model trained by the cyberbullying data set in Ptaszynski et al. (2018) (F-score=0.823). These findings showed that sarcasm is commonly used in cyberbullying, so the sarcasm detection model performed better than the cyberbullying detection model on the same cyberbullying data set. My observations based on the visual scenarios echoes these findings.

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[99] F-score is a commonly used measure of a model's accuracy in natural language processing. https://deepai.org/machine-learning-glossary-and-terms/f-score
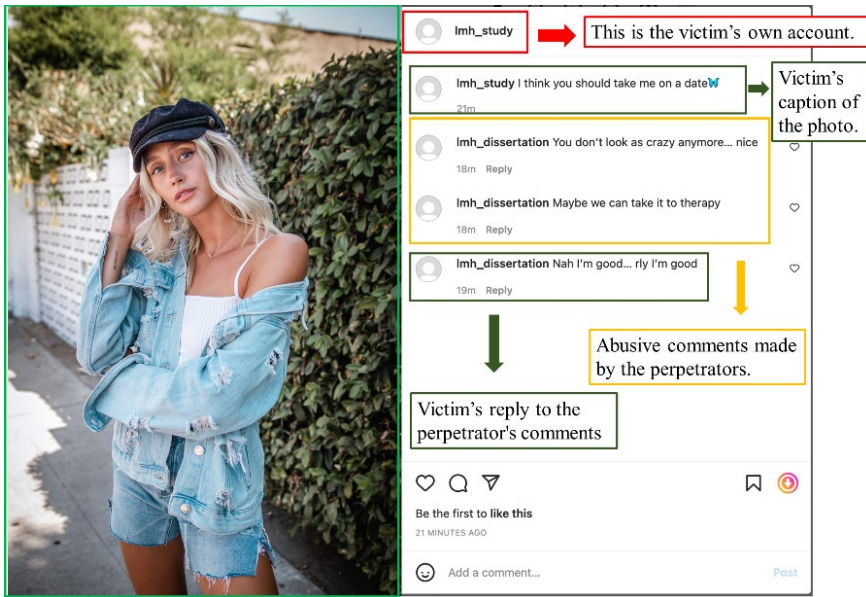
Figure 32. The visual scenario created by P5

Interestingly, sarcastic content in eleven scenarios included emojis (78.6%, out of 14 scenarios that include sarcastic content). For example, in P3's case, the Instagram account owner, the victim's friend, posted two generic photos. One was the victim's photo, and the other was a photo of food (Figure 33). The account owner had a caption, "*Made my friend dinner tonight! She's a picky eater but loved what I made*!" Then one perpetrator commented, "*You should make her salads more often* 😵". Another perpetrator replied to this comment, "*Maybe they should stop eating together and go to the gym instead lmao.*" And the third perpetrator commented, "*She doesn't look a picky eater to me* 🐷". Then the fourth perpetrator commented, "'*Picky eater' yeah right.*" The first and third comments included emojis of a woozy face and a pig face. And a slang, "lmao", which means "laugh my ass off[100]" was presented in the second comment. In fact, studies have shown that emojis may enhance individuals' ability to identify the sarcastic meaning behind the text (Garcia et al., 2022) and to improve the accuracy of sentiment analysis of sarcastic textual data (Felbo et al., 2017).

On the other hand, even being used without sarcastic textual data, an emoji by itself may already represent a negative connotation that constitutes visual cyberbullying. Besides the eleven scenarios where emojis were used with sarcastic content, there were another seven visual scenarios that included negative emojis. The visual scenario created by P26 is a good example (Figure 26). In that case, someone put only a single emoji 😷, a face with a medical mask, under a young girl's selfie, which made the girl very upset. And P26, as a bystander, still remembered this incident, even though it happened a long time ago. In another scenario created by P10, the perpetrator put two vomiting faces 🤮 with an abusive comment that targeted the victim's gender identity (Figure 16). In the other scenario created by P6, the perpetrator took and posted the victim's drunk photo without consent. The skull emoji, 💀, was put in the caption made by the perpetrator and in a comment by a bystander. The use of emojis enhances online communication by adding "facial expression." However, using emojis with a negative valence could negatively impact people's emotions (Boutet et al., 2021; Pfeifer et al., 2022). In recent years, researchers started to incorporate emojis as an indicator in training cyberbullying detection models (see Fati, 2022; Maity et al., 2022 as examples). However, studies about using emojis within the cyberbullying context are still scarce. And to the best of my knowledge, none of the data sets used in these studies was extracted from Instagram.

To develop an understanding of the emojis, I preliminarily analyzed the sentiment of four elements in the 37 visual scenarios: 1) image (visual), 2) caption (textual), 3) single comment (textual), and 4) a single emoji appears in either the caption or comment (visual). I manually determined the sentiment as positive, neutral, or negative.

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[100] https://www.urbandictionary.com/define.php?term=laugh%20my%20ass%20off

This is the account of the victim's friend.

The account owner's caption of the photo.

Sarcasm comments with/without emojis made by the perpetrators.
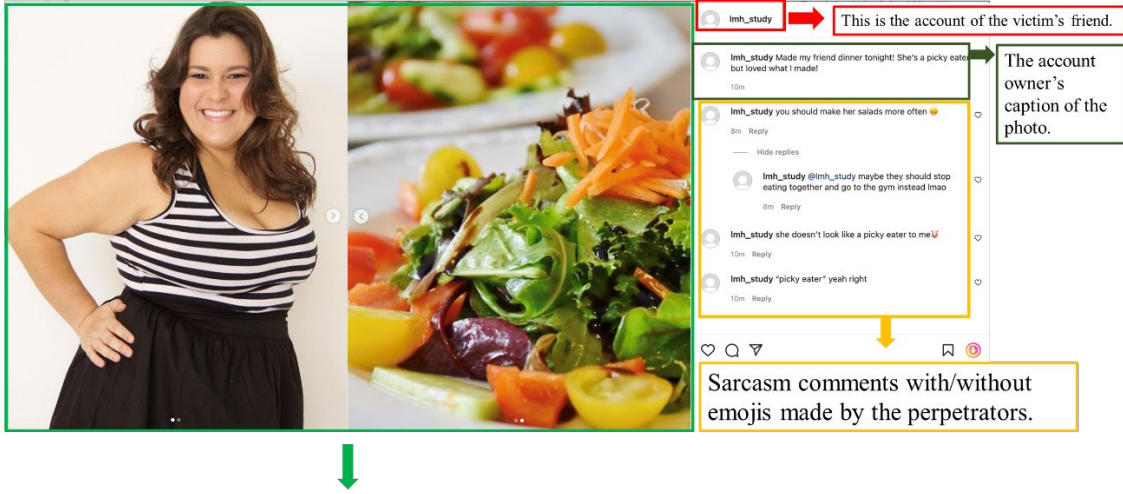
Two generic photos were posted by the account owner.

Figure 333. The visual scenario created by P3

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Examples of positive sentiment include, but are not limited to, smiling faces (e.g., the left image in Figure 33), texts representing positive emotions (e.g., the caption in Figure 33), and emojis with smiling faces or eyes (e.g., the smiling face with hearts "🥰" in Figure 19 and the face with tears of joy "😂"in Figure 21 in Chapter Four). Neutral sentiment includes but is not limited to faces without facial expressions (e.g., the image in Figure 32), texts without emotions (e.g., the caption in Figure 32), and emojis without emotions (e.g., the butterfly emoji in Figure 32). Negative sentiment includes but is not limited to photos of drunk people or those of a sexual nature (e.g., images in Figure 28-31), texts presenting negative emotions and sarcastic content (e.g., the comment in Figure 33), and emojis with negative connotations (e.g., the woody face in Figure 33).

Interestingly, most scenarios (n=31, 83.8%) displayed opposing sentiment directions between the image and the other three elements (i.e., caption, a single comment, a single emoji). In 20 scenarios, the images were positive or neutral, but the negative sentiment appeared at least once in the other three elements. In the other eleven cases, the images were negative, but positive or neutral sentiments appeared at least once in the other three elements. There seem to be some patterns in the sentiment directions between the images and other elements in most scenarios. And both sarcasm and emojis are constructive for determining the sentiments. In one study, Cui (2022) found that young adults (age 18-30) are more likely to perceive sarcastic emojis negatively in two situations; one is when the sender's age is similar to the receiver's, and the other is when the sender is not close to the receiver in terms of their relationship. The preliminary sentiment analysis in my study echoes Cui's (2022) findings.

In those six scenarios that showed no sentiment opposition, two scenarios included only text-images in Story (cases by P24 and P28, see Figure 22 and 23). To be noted, both perpetrators mentioned the names of the victims. Other two scenarios were sexual/private images being posted on anonymous accounts in high schools (cases by P15 and P34, see Figure 24 as an example). The other one scenario presented male nudity being sent to the female victim by the male perpetrator in high school. These preliminary findings yielded some possible indicators for training detection models. For example, it might be helpful to detect whether a negative text-image includes a name, and then examine whether there is a relationship (e.g., follower) between this name and the account owner. Social media platforms also need to pay attention to the sexual images and the prevalence of anonymous accounts owned by high school students.

Besides the 36 scenarios discussed above, the last scenario was almost impossible to detect as cyberbullying without the victim's explanation. It was P18's own victimization experience. She unexpectedly was elected homecoming queen at her high school. And at that time, she was bullied in high school because she was not everyone's pick to win. Then the following year, when P18 was already in the university, the new homecoming queen was voted in and posted a photo on her (the new queen's) account. One of P18's acquaintances commented, "*A true queen finally won* 😊 😉" under the new queen's post. P18 considered this comment cyberbullying because it "*brought back that memory*

of those emotions, and how awful that was and frustrating to go through" during her bullying victimization in high school. And the perpetrator actually knew the context of everything but still posted that "*shady comment*" (P18). This comment can be categorized as sarcasm by the winking face emoji (Garcia et al., 2022), but it is still hard to determine without the context.

Current practices detect sentiment of visual data and textual data separately. Although the sentiment analysis of the visual scenarios reported above is not comprehensive, the preliminary findings show a possible future direction for visual cyberbullying detection. As mentioned by two participants, social media platforms should analyze the reported content and investigate the patterns for developing content filters. By combining the visual element of images, as well as the sentiment analysis of images, textual captions/comments, and emojis, it might be more effective and efficient in detecting the patterns of visual cyberbullying scenarios.

Summary

In the discussion section, I reviewed and expanded upon the study results from the four data collection approaches and compared my findings with previous research. In total, 16 topics were discussed within the structure of the Social Ecological Model: 1) the prevalence of visual cyberbullying among university students, 2) visual cyberbullying behaviors related to body image and gender differences, 3) the relationship between Instagram use levels and visual cyberbullying victimization/witnessing, 4) the overlap between sexual cyberbullying and visual cyberbullying, 5) the trend of coping strategies, 7) the need for active bystanders and peer education, 8) the debate surrounding cyberbullying intervention by the university, 9) professional development as a possible prevention approach, 10) education on cybersecurity and visual cyberbullying, 11) university personnel and venues for raising awareness, 12) the need for visual information literacy for younger populations, 13) recommendations for university policies, 14) the cybersecurity and privacy issue on social media platforms, 15) drunk photo recognition using machine learning and AI, and 16) the mixed detection approach for contextual visual cyberbullying. In the next section, I address the implications of this dissertation study.

Implications

Findings from this study have implications for cyberbullying research and real-world practice. The implications are discussed below from the theoretical, methodological, and practical perspectives.

Theoretical Implications

A Holistic Theoretical Framework was proposed and implemented to guide this study. The framework is grounded in Bronfenbrenner's (1977) Social Ecological Model (SEM) which includes five levels: individual, microsystem, mesosystem, exosystem, and

macrosystem. Three other models were combined at the individual level: Ostrom's (1969) cognitive-affect-behavioral framework for investigating bystanders' general attitudes, Agnew's (1992) coping mechanism for addressing victims' coping strategies, and the Five Cs framework from Cross et al. (2015) for investigating perpetration behaviors in the online context. This Holistic Framework guided the literature review structure, the research design, and the data analysis. It adds knowledge to theoretical development in the research area of cyberbullying and offers new insights.

First, using the cognitive-affect-behavioral framework allows for a more comprehensive observation of students' attitudes. Findings from the interview showed that students' cognitive and affective status might impact their behaviors. Victims' behavioral coping strategies as reported by participants also varied by the severity of the incidents. Future studies may apply the Ostrom's (1969) cognitive-affect-behavioral framework to examine the extent to which students' cognitive and affective aspects are associated with behaviors in a problematic situation. To be noted, this study did not interview victims directly. However, Agnew's (1992) coping mechanism should be helpful for future researchers to unveil how victims' cognition and emotions impact their behavioral coping strategies, which may help with the design of intervention materials.

Second, the Five Cs framework: conduct, context, content, contact, and confidentiality, was helpful for thoroughly analyzing the visual cyberbullying perpetration cases. Findings from this study revealed prevalent visual cyberbullying behaviors, the nature of the perpetration context on Instagram, various content presented in visual cyberbullying cases, and the social relationships between perpetrators and victims. On the other hand, participants, as bystanders, could not conclusively report on the aspect of confidentiality on behalf of the victims. Future studies may apply the Five Cs framework within the context of the proposed Holistic Theoretical Framework to examine first-hand victimization experiences, and should focus on victims' cognition and behaviors to protect their personal visual information.

Third, under the guidance of the cognitive-affect-behavioral framework and the Five Cs framework, this study proposed this definition of visual cyberbullying: The definition of visual cyberbullying could be framed as: "visual cyberbullying may initially happen through any actions (e.g., photographing, recording, posting, reposting, sharing) on any types of visual content (e.g., generic, private, sexual) of someone, under any context of information and communication technologies (e.g., Feed, Story, short video clips, direct messages on social media platforms), that is done against the person's will (e.g., without consent), with a negative intention to make fun of, embarrass, hurt, harm, harass, denigrate, or cyberstalking the person. Subsequent visual cyberbullying can also happen through later reactions to or comments on the content, with emojis, Gifs, memes, and text-images that maliciously target any aspects of the person (e.g., physical appearance, personal life, gender identity)."

This definition is novel in that it was informed by university students' perspectives and then was verified by the Five Cs elements represented in real cases, as reported by bystanders. Researchers may use this definition as a theoretical foundation to develop visual cyberbullying research instruments, and continue to validate this definition in future studies. Practitioners may use this definition to design visual cyberbullying-related educational materials or policies.

Finally, this study provides new insights into the Social Ecological Model in the university context. At the individual level, the finding from the survey revealed Instagram usage frequency as a factor that may increase the possibility of both visual cyberbullying victimization and witnessing experiences. In addition, findings from the interview and visual narrative inquiry showed that drinking behaviors and drunk photos/videos might be another factor that constitutes visual cyberbullying. At the microsystem and mesosystem level, the qualitative results indicated that student organizations, particularly fraternities and sororities, are unique factors that may impact university students' experiences of visual cyberbullying. At the exosystem level, the literature review for this study unveiled the gap in policy-related research on cyberbullying. The findings from the scan of UT policies disclosed the scarcity of descriptions of cyberbullying/visual cyberbullying. Furthermore, interview results revealed that students lack knowledge about the university's visual cyberbullying-related policies, as well as about key personnel who could intervene in cyberbullying incidents. At the macrosystem level, findings from the interviews illuminated the norms and features of social media platforms that may actually encourage visual cyberbullying. For example, anonymous accounts that accept and post content from people are easy pathways for increasing visual cyberbullying. Existing studies that applied the Social Ecological Model most often focused on the population under age 18. The findings of this study provide a strong justification for applying this model to the study context of higher education, because the factors at different levels still shape students' attitudes and behaviors in their emerging adulthood.

The Holistic Theoretical Framework I proposed and used in this study was effective as it identified research gaps and analyzed study findings systematically. Future research on visual cyberbullying and other problematic issues (e.g., risky social media usage) among the university population should apply this framework as a conceptual underpinning to investigate these issues in multiple dimensions. This framework may also be helpful for systematically investigating visual cyberbullying victims' perspectives.

Methodological Implications
In addition to the theoretical implications outlined above, this study has methodological implications regarding research design and cyberbullying elements extracted from the visual narrative inquiry.

First, this study employed a novel data collection approach, the visual narrative inquiry, which provided insights into visual cyberbullying on Instagram. This approach enabled

me to understand the actual cases reflectively and actively (Mannay, 2015). Compared with the interview portion, in which the content was verbally described, the visual content represented by the participants in the visual narrative inquiry illustrated actual visual cyberbullying cases. These cases may guide future research on this topic. For example, researchers may use these visual cases to detect students' eye-movements and fixations in eye-tracking studies, to capture their facial expressions, and to cue their thoughts and feelings in real time about the cases.

Second, I developed a codebook (see Appendix H) to analyze data collected from interviews and the narrative inquiry. This codebook was developed from a theoretical notion using the proposed Holistic Theoretical Framework. The inductive approach was also applied to develop additional codes based on the observation of the collected data. The codebook was further tested for intercoder reliability using the Cohen alpha test. This codebook may serve as a reference for future research aiming to analyze qualitative data on cyberbullying/visual cyberbullying topics.

Third, the emojis extracted from the visual narrative inquiry may be used to create identifiers for training machine learning models in detecting cyberbullying. Furthermore, in the 37 visual scenarios, the preliminary sentiment analysis of images, captions, comments, and emojis showed that over 80% of the scenarios presented opposing sentiment directions between the image and the other three elements. Given that existing machine learning studies have relied heavily on crowdsourcing workers or human annotators to identify cyberbullying content (Kumar & Sachdeva, 2021, Rafiq et al., 2015; Vishwamitra et al., 2021), the findings from this study can be used to develop auto-annotation algorithms to collect visual cyberbullying data for training the models.

Practical Implications
Findings from this study offer practical implications for practitioners in education. First, personnel in higher education systems would benefit from the new insights generated from this study with regard to the factors at play in each of the different levels in the Social Ecological Model. To raise university students' awareness of visual cyberbullying, a practical approach should be taken, for designing social media etiquette/netiquette trainings or curricula, with its focus on professional career development. In particular, students should be educated about the consequences of misconduct on social media, such as posting photos of drunk peers. In addition, cybersecurity and personal visual content privacy management should be addressed in cyberbullying literacy educational materials. The university office of information technology should promote the use of safety measures, such as two-step verification, on personal social media accounts. As mentioned previously, the visual narrative cases generated in this study can serve as powerful examples in designing these educational materials.

Second, over half of the survey participants in this study had witnessed visual cyberbullying, and over 20% had victimization experiences. Given that the survey participants in this study were from a random sample, it can be generalized that visual

cyberbullying occurs across the university population. However, there is no clear description of cyberbullying and visual cyberbullying in the current UT policies for students. Moreover, regulations related to social media usage were only found in three documents published by UT Chattanooga and the UT Health Science Center. Thus, policymakers should consider including descriptions of cyberbullying and visual cyberbullying in policy documents, particularly the Student Code of Conduct. The definition of visual cyberbullying proposed in this study may serve as a reference.

Third, designers and stakeholders of social media platforms may benefit from the study findings. This study revealed that the current tools for detecting photos of drunk people that reflect visual cyberbullying need improvement. It is possible that developers do not consider such photos as harmful content. Therefore, developers of social media platforms should create algorithms that are capable of detecting this type of visual content. Given that "any action taken on the visual content of someone, against that person's will" is a central theme that emerged from the qualitative data analysis of this study, providers of social media platforms should also develop safety measures for the screenshot notification and repost functions, to eliminate content sharing "without consent" behaviors. Finally, the issue of impersonated accounts, and the usage of multiple accounts to anonymously target victims, should also be monitored.

Overall, this study has made a significant contribution to scientific knowledge in various ways. First, the proposed Holistic Theoretical Framework is rooted in theories and models that originated from the psychology domain. Thus, the findings contribute to the theoretical foundation of this domain, especially in exploring visual cyberbullying from the cognitive, affective, and behavioral perspectives. This study contributed stories of visual cyberbullying represented in visual scenarios that were crafted and narrated by students who witnessed cyberbullying incidents in real life. The scenarios are novel and unprecedented. The narrative of the stories as described by the students raise serious safety and privacy issues, as well as concerns about the wellbeing of the victims, which have implications for university policies on visual cyberbullying. Second, this study contributes to existing research in communication and mass media, especially social media studies. The scenarios the students created reflected reckless behavior on the part of the victimizers, indicating intentional harm or a lack of social media literacy skills. Thus, social media literacy, as well as prevention and intervention programs, should be developed to mitigate this and other types of visual cyberbullying behaviors.

Limitations and Directions for Future Research

This study is not without limitations. First, the proportion of female and male participants was imbalanced in both the survey (Male=35.1%, Female=64.9%) and interview (Male=21.6%, Female=78.4%) portions of the study. Past studies also reported this kind of gender imbalance, in that females were more likely to participate in research (see Table 2 for the gender distribution reported in other studies). Although challenging,

future studies of visual cyberbullying should focus more on recruiting male participants or use the male students as the targeted research population.

Second, although this study employed a random sample of undergraduate students, the findings apply to UTK students, and may not be generalized to the whole population of university undergraduate students nationwide.

Third, this study adopted the survey instrument from Lee et al. (2017) and modified the language of the survey questions. The Confirmatory Factor Analysis was performed to test the structural model fit of the modified version. The model fit indices of the modified version were poor, and the sexual-related questions were eventually removed in order to get an acceptable model fit. However, based on the interview and visual narrative inquiry results, participants reported witnessing sexual elements in visual cyberbullying incidents. Future studies should continue to investigate the association between visual cyberbullying and sexual cyberbullying and keep validating the survey scale.

Fourth, the research setting of the visual narrative inquiry has its limitations. Participants recalled incidents of visual cyberbullying and created visual scenarios on Instagram based on "free" recall, which may be prone to inaccuracy (Koriat, et al., 2000). In addition, the students were asked to use copyright-free images from three given sources when creating visual scenarios. This requirement limited participants from using videos to present scenarios. Visual cyberbullying has happened using short video clips, and Livestream was mentioned in the interviews. As reported by Pew Research Center on August 2022, in the United States, 67% of teenagers ages 13 to 17 use TikTok (Pew Research Center, 2022). Although the Pew Research Center has not released a social media usage report about adults in 2022, it can be observed from this study that short video clips on TikTok have gained popularity among the university student population, as well as increasing the visual cyberbullying issue on this platform. However, participants were asked not to search and use videos from Instagram or TikTok. Moreover, participants might feel uncomfortable recording a short clip or launching a Livestream in the interview to present a case that happened through video formats. Thus, the visual content presented in this study was limited to still images only. Future studies may seek to overcome this limitation by exploring the prevalence of visual cyberbullying on video-based social media platforms.

In addition, one interview participant mentioned that the feature of cross-platform content sharing might increase the possibility of visual cyberbullying across different social media platforms, such as TikTok and Instagram. Future studies may want to investigate how this feature impacts visual cyberbullying perpetration and victimization on Instagram. The same research setting limitation also applies to the use of memes in visual cyberbullying. A meme is an "infographic" format that usually includes both text and image, and may provide a new setting for visual cyberbullying (Kumar & Sachdeva, 2021). Participants said they had witnessed memes being used to make fun of celebrities, such as the case of Will Smith's Oscar slap: *"I feel for the using flash making Meme to*

shame someone, I remember seeing, if you see anyone in the public eye, doing something, somebody will create a Meme about it. There's the Will Smith slap with Chris Rock" (P26). Given that it might have been challenging for participants to create a meme using copy-right free images in this study, the association between meme use and visual cyberbullying should be further investigated.

Finally, the interview participants in this study were bystanders who witnessed visual cyberbullying on Instagram. Thus, this study could not capture victims' perspectives of visual cyberbullying firsthand, particularly regarding their affective states and coping strategies. On the other hand, perpetrators' intentions were perceived by bystanders in this study. Future studies should investigate the visual cyberbullying phenomenon from the victims' and perpetrators' viewpoints.

Conclusions

This dissertation study explored university students' perspectives of visual-based cyberbullying with a specific focus on Instagram. The proposed Holistic Theoretical Framework guided the literature review and research design. This study applied a mixed-method approach, to collect data using four techniques. Findings reported in this study disclosed the nature of visual-based cyberbullying on Instagram experienced by university students, revealed students' perspectives of visual-based cyberbullying, unveiled the visual elements from actual incidents narrated by students, and illuminated the gap between current university policies and real-world practices on the visual-based cyberbullying issue. Visual cyberbullying occurs at universities, affecting the wellbeing of student population. As the popularity of visual-based social media platforms among university students continue to grow. It is foreseeable that visual cyberbullying victimization and witnessing will increase, raising issues and concerns in terms of safety, privacy, and security, which should be addressed by administrators and educators. As various visual formats are also emerging in visual cyberbullying, including but not limited to emojis, short video clips, and Livestream, researchers should investigate these formats in future work.

The finding that 37.8% of participants in this study commented that social media platforms should be more proactive and have more staff devoted to dealing with reported content, is a point to the right direction. However, human reviewers may be adversely impacted regarding their mental health, when continuously reviewing harmful content. As reported by the *New York Times* in 2021, some employees at Accenture, Facebook's largest content review contractor, were concerned about the ethical issues arising from the nature of their work, reviewing violent and graphic content (Satariano & Isaac, 2021). This information ethics issue should be further explored, especially by researchers in information sciences.

In this study, it was not possible to capture victims' perspectives of visual cyberbullying firsthand, particularly regarding their affective states and coping strategies. Future studies should investigate visual cyberbullying from the victims' perspectives, with a particular focus on how their cognition and emotions impact perpetration behaviors or coping strategies. In addition, researchers may be interested in examining how the extent of cognition (e.g., perceived severeness) and degree of negative emotions (e.g., angry versus upset) impact bystanders' active behaviors (e.g., confronting the perpetrator versus. doing nothing) (Macaulay et al., 2022).

Additional research on visual cyberbullying is needed. Researchers in information sciences should investigate the visual cyberbullying phenomenon using the narrative inquiry approach to develop rich understandings of the meaning of the experiences of participants involved their studies, and to build on the findings generated from this study. Moreover, researchers should begin to build a data set for training machine learning models to detect visual cyberbullying. As this study is one of the pioneers to investigate visual cyberbullying on Instagram from a holistic viewpoint, studies that examine visual cyberbullying on other visual-based social media platforms (e.g., TikTok) are needed to augment our understanding of this type of cyberbullying behavior across various platforms. Such endeavors will contribute to extracting visual features that can be used in building the data set.

Policymakers in higher education systems need to address visual cyberbullying in policy documents targeting undergraduate students and provide awareness of these policies. Finally, the definition of visual cyberbullying that was formulated based on the findings from this study and the reviewed literature may serve as a reference point in describing visual cyberbullying in future research.

It is my sincere hope that this study will contribute to the worthy goal of making social media users, particularly young adults, more skillful, more savvy, and most importantly, much safer, in their use of Instagram and other visual social media platforms.

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APPENDICES

Appendix A-Survey Invitation Email

Dear student,

My name is Li-Min Huang, a doctoral student in the College of Communication and Information at the University of Tennessee, Knoxville (UTK). I'm looking for research participants who are undergraduate students over age 18 attending UTK. You are invited to participate in this study.

The purpose of my study is to investigate undergraduate students' perspectives of visual-based cyberbullying on Instagram. You will be answering an online survey that may take you around 10 minutes. Your participation will be constructive for my thesis research.

Your participation in this study will be entirely voluntary. If you are interested in participating, please click the URL to direct you to the online survey page.
https://utk.questionpro.com/a/TakeSurvey?tt=BdMVzzhEJi8%3D
You can use a laptop, a desktop, a smart phone, a tablet to access the survey.

I appreciate your time and sincerely thank you if you decide to complete the survey.

In addition, I will be conducting a follow-up interview after this survey. If you are interested in participating the follow-up interview, please click "YES" at the end of the survey to provide further information. I will randomly select students who volunteer for the follow-up interview, and I will give those who complete the follow-up interview a $15 Walmart e-gift card (or a $15 Amazon e-gift card, upon the participant's preference).

If you have any questions, please contact me via email (lhuang23@vols.utk.edu) or my supervisor Dr. Dania Bilal (dania@utk.edu).

Sincerely,
Li-Min Huang
Ph.D. Candidate & Graduate Teaching Associate
The University of Tennessee, Knoxville
lhuang23@vols.utk.edu 865-964-0956

Appendix B-Survey Informed Consent Form

Research Study Title: University Students' Perspectives of Visual-based Cyberbullying on Instagram
Researchers: Li-Min Huang, PhD Candidate at the University of Tennessee, Knoxville
Supervising Investigator: Dr. Dania Bilal, Professor at the University of Tennessee, Knoxville

You are invited to participate in this survey because you are an undergraduate student at the University of Tennessee, Knoxville. You must be **age 18 or older** to participate in the study.

Why is the research being done?
The purpose of this dissertation study is to explore visual-based cyberbullying on Instagram among undergraduate university students.

What will I do in this study?
If you agree to be in this study, you will complete an online survey, which may take around 10 minutes. The survey includes demographic questions; Instagram usage questions; and cyberbullying experiences on Instagram.

Can I say "No"?
Being in this study is up to you. You can exit the survey at any time without penalty. After you submit the survey, we cannot remove your response because we will not know which response came from you.

Are there any risks to me?
The survey will ask questions regarding your cyberbullying experiences on Instagram, which may be potentially distressing. Although it is unlikely that you will experience harm or distress. However, in the unlikely event that any problems arise, you can contact:

UTK Counseling Center: https://counselingcenter.utk.edu/making-an-appointment/
UT 24-Hour Helpline: (865) 974-HELP (4357)

Are there any benefits to me?
Possible benefits include providing you with some insight into your own use of information and communication technologies and some knowledge of cyberbullying. Even if you don't benefit from being in the study, your participation may help us to learn more about university students' experience of cyberbullying on Instagram. We hope the knowledge gained from this study will benefit others in the future.

What will happen with the information collected for this study?
The survey is anonymous, and no one will be able to link your responses back to you. Your responses to the survey will not be linked to your computer, email address or other electronic identifiers. Please do not include your name or other information that could be used to identify you in your survey responses. Information provided in this survey can only be kept as secure as any other online communication. Information collected for this study will be published and possibly presented at scientific meetings.

We will conduct a follow-up interview after this survey. If you are interested in participating in the follow-up study, we will invite you to leave your email on a separate survey page. Your contact information will be kept secure and stored separately from your survey response and will be deleted once we complete the data collection of the follow-up study.

Who can answer my questions about this research study?
If you have questions or concerns about this study or have experienced a research-related problem or issue, contact the researchers, Li-Min Huang (lhuang23@vols.utk.edu) or Dr. Dania Bilal (dania@utk.edu).

For questions or concerns about your rights or to speak with someone other than the research team about the study, please contact:

Institutional Review Board, The University of Tennessee, Knoxville
1534 White Avenue Blount Hall, Room 408Knoxville, TN 37996-1529
Phone: 865-974-7697
Email: utkirb@utk.edu

Statement of Consent

I have read this form, been given a chance to ask questions and have my questions answered. If I have more questions, I have been told who to contact. By selecting "I Agree" below, I am providing my signature by electronic means and agree to be in this study. I can print or save a copy of this consent information for future reference. If I do not want to be in this study, I can select "I Do Not Agree" to exit the survey.

- o I am over age 18, and I agree to participate
- o I am under age 18, or I do not agree to participate

Appendix C Survey Instrument

Part 1: Demographic questions
1. You are a ☐ Freshman ☐ Sophomore ☐ Junior ☐ Senior ☐ Fifth year or above
2. How old are you?
3. What is your gender?

Part 2: Instagram usage questions
*Please select one answer to each question that best describes your Instagram usage.   **Options: Very often, Often, Sometimes, Rarely, Never
1. How often do you use Instagram?
2. I post photos.
3. I post videos.
4. I post infographics (text embedded along with an image or a video).
5. I post on Feed.
6. I post on Stories.
7. I create Reels.
8. I record Live Streams.
9. I share content from other's Instagram on my feed
10. I share content from others' Instagram to my story.
11. I share content from others' Instagram in a private message.
12. I react or leave comments on others' Feeds.
13. I react or leave comments on others' Stories.
14. I react or leave comments on others' Reel.
15. I react or leave comments on others' Live Streams.

Part 3: Cyberbullying experiences
*Please select one answer to each question that best describes your experiences.   **Options: Very often, Often, Sometimes, Rarely, Never
Witnesses experience
1. I have seen/I know someone who posted embarrassing pictures or videos of the other person on Instagram without their permission possibly to damage their reputation.
2. I have seen/I know someone sent private pictures or videos of the other person on Instagram without their permission possibly to upset them.
3. I have seen/ I know someone who posted humiliating pictures or videos of the other person on Instagram possibly to embarrass them.
4. I have never seen sexually explicit things from someone on Instagram which embarrassed them.
5. I know someone who received unwanted sexual suggestions from others on Instagram which possibly embarrassed them.
6. I have seen/I know someone who has made sexual jokes about the other person on Instagram possibly to damage their reputation.
7. I have seen/I know someone has attempted possibly to humiliate the other person by posting

sexual comments or photos on Instagram.
8. I have seen/I know someone has spread sexual rumors about the other person on Instagram possibly to damage their reputation.
9. I have seen/I know someone who sent sexually explicit things to the other person on Instagram repeatedly which possibly made him/her uncomfortable.
10. I have seen/I know someone has teased the other person about their appearance on Instagram repeatedly possibly to upset them.
Perpetration experience
1. I might have posted embarrassing pictures or videos of someone on Instagram without their permission to damage the person's reputation.
2. I might have posted humiliating pictures or videos of someone on Instagram to embarrass the person.
3. I have never sent sexually explicit things to someone on Instagram to embarrass the person.
4. I might have teased someone about their appearance on Instagram to emotionally harm the person.
5. I might have made sexual jokes about someone on Instagram to damage the person's reputation.
Victimization experience
1. Someone has posted embarrassing pictures or videos of me on Instagram without my permission possibly to damage my reputation.
2. Someone has sent private pictures or videos of mine on Instagram without my permission possibly to upset me.
3. People have posted humiliating pictures or videos of mine on Instagram possibly to embarrass me.
4. I have never received sexually explicit things from someone on Instagram which embarrassed me.
5. I have received unwanted sexual suggestions from someone on Instagram which embarrassed me.
6. People have made sexual jokes about me on Instagram to possibly damage my reputation.
7. People have possibly attempted to humiliate me by posting sexual comments or photos on Instagram.
8. People have spread sexual rumors about me on Instagram possibly to damage my reputation.
9. I have been sent sexually explicit things from someone on Instagram repeatedly which made me uncomfortable.
10. Someone has teased me about my appearance on Instagram repeatedly possibly to upset me.

Thanks for your participation!

We will be conducting a follow-up interview after this survey. If you are interested in participating, please click "YES" to be routed to another page for providing further information. We will randomly select students who volunteer for the follow-up interview, and we will give those who complete the follow-up interview a $15 Walmart e-gift card (or a $15 Amazon e-gift card upon the participant's preference).

YES.

If not, please click Done at the bottom. We sincerely appreciate your participation in this survey!
In addition, if you experience any discomfort regarding the survey, you may contact

UTK Counseling Center: https://counselingcenter.utk.edu/making-an-appointment/
UT 24-Hour Helpline: (865) 974-HELP (4357)

Follow-up survey
If participants click YES in the main study, they will be directed to this separate Follow-up survey page.

Introduction
If you are interested in participating in the follow-up study, please click Start. You will be answering a screening question, and if you are qualified for the study, you will be answering three for stratified random sampling. Then you will provide your email address for further contact.

Screening question
Have you ever witnessed or heard about any cyberbullying incidents on Instagram?
- o Yes. – Those who click Yes will be directed to the questions for stratified random sampling.
- o No. – Those who click No will be directed to the **Terminate Page**.

Questions for stratified random sampling
How old are you? _____
What is your gender? _____
How often do you use Instagram?
- o Very often
- o Often
- o Sometimes
- o Rarely

Please provide your email address. I will contact you within 30 days if you are being selected.

_____

Terminate Page
Your profile does not fit our criteria. Thank you for your time

Appendix D-Research Interview Invitation Email

Initial contact

Dear student,

My name is Li-Min Huang, a doctoral student in the College of Communication and Information at the UTK. I am writing this research invitation email to you because you participated in the survey portion of my study at _(Date)_ and you provided your email address indicating your willingness to participate in this research interview.

The purpose of the research interview is to investigate your perspective of visual-based cyberbullying on Instagram. Your participation will be entirely voluntary. You can choose to receive a $15 Walmart e-gift card OR a $15 Amazon gift after completing the study. You can stop the research interview at any time if you do not wish to continue. However, you will not receive the gift card if you do not complete the interview.

You can choose to participate in person, and we will meet in a study room in the Hodges Library. You can also choose to participate virtually via Zoom. The whole research interview process will take around 1 hour.

During the first part of the research interview, I will present three hypothesized visual scenarios that represent cyberbullying incidents on Instagram, and you will be asked to react to them. As a notice, these scenarios contain elements such as teasing, flaming, and emojis with negative connotations, which might make you feel uncomfortable. In the second part of the research interview, I will provide you usernames and passwords of two completely private Instagram accounts. I will ask you to log in to the accounts using your own mobile device. Then you will recreate a cyberbullying scenario based on what you have witnessed in the past, and I will ask you to provide a short narration on the scenario.

If you are interested in participating, please reply to this email. I look forward to hearing from you. Please contact me if you have any questions.

Sincerely,
Li-Min Huang
Ph.D. Candidate & Graduate Teaching Associate
The University of Tennessee, Knoxville
School of Information Sciences
lhuang23@vols.utk.edu

Appendix E-Research Information

This study is approved by the UTK Institutional Review Board. Please read the following information before you decide to start this research interview and let me know if you have any questions.

Research Study Title: University Students' Perspectives of Visual-based Cyberbullying on Instagram
Researcher: Li-Min Huang, University of Tennessee, Knoxville
Faculty Advisor: Dr. Dania Bilal, University of Tennessee, Knoxville

Why am I being asked to be in this research study?
You participated in the survey that the researcher previously conducted, and you provided your email to volunteer to participate in this study.

What is this research study about?
The purpose of this study is to investigate your perspective of visual-based cyberbullying on Instagram.

How long will I be in the research study?
If you agree to be in the study, your participation will last for around **1 hour**.

What will happen if I say "Yes, I want to be in this research study"?
If you agree to be in this study **in person**, you will
1. **Meet in person** with Li-Min in a study room in the Hodges Library.
2. **Answer questions to hypothetical scenarios.** Li-Min will show you three short Instagram scenarios (printed on paper). You will be asked a few questions regarding your perspective on visual-based cyberbullying. It may take you around 20 minutes. As a warning, these scenarios contain elements such as teasing, flaming behaviors, and emojis with negative connotations, which might make you feel uncomfortable. You can stop at any time if you do not wish to continue.
3. **Recreate an Instagram scenario.** After the hypothetical scenario questions, you will be guided to login to the Instagram accounts provided by Li-Min to recreate a scenario of a cyberbullying incident that **you witnessed** before. You will share a short narration to explain your scenario. Li-Min will also ask you some questions about your scenario. This process may take you around 30 minutes.
4. The interview will be **audio recorded** by an audio recorder for transcribing purposes.
5. At the end of the interview, you will logout of the study Instagram accounts.

If you agree to be in this study via **Zoom**, you will
1. **Meet with Li-Min in her Zoom room**. Li-Min will lock the Zoom room once you join the meeting.

2. **Answer questions to hypothetical scenarios.** Li-Min will share her screen to show you three short Instagram scenarios. You will be asked a few questions regarding your perspective on visual-based cyberbullying. It may take you around 20 minutes. As a warning, these scenarios contain elements such as teasing, flaming, and emojis with negative connotations, which might make you feel uncomfortable. You can stop at any time if you do not wish to continue.
3. **Recreate an Instagram scenario.** After the hypothetical scenario questions, you will be guided to login to the Instagram accounts provided by Li-Min to recreate a scenario of a cyberbullying incident that **you witnessed** before. You will share a short narration to explain your scenario. Li-Min will ask you some questions about your scenario. This process may take you around 30 minutes.
4. The interview will be **audio recorded** by an audio recorder for transcribing purposes; no video will be recorded.
5. At the end of the interview, you will logout of the study Instagram accounts.

What happens if I say "No, I do not want to be in this research study"?
Participating in this study is voluntary and up to you. You can say no now or leave the study later. Your decision will not affect your grades, your relationship with your instructors, or standing with UTK.

What happens if I say "Yes" but change my mind later?
Even if you decide to be in the study now, you may change your mind and stop at any time during the interview. If you decide to stop before the interview is completed, Li-Min will destroy all your research data. However, once the interview is completed, Li-Min will not be able to remove your research data since there is no link between you and your research data and she will not be able to identify the data that was collected from you.

Are there any possible risks to me?
It is possible that someone could find out you were in this study or see your study information. However, we believe this risk is small because of the procedures we use to protect your information. These procedures are described later in this form.

The research interview will ask questions regarding your perspective of visual-based cyberbullying on Instagram, which may be potentially distressing. Although it is unlikely that you will experience harm or distress, in the unlikely event that any problems arise, you can contact:

UTK Counseling Center: https://counselingcenter.utk.edu/making-an-appointment/
UT 24-Hour Helpline: (865) 974-HELP (4357).
Are there any benefits to being in this research study?

Possible benefits include providing you with some insight into what cyberbullying is, behaviors considered to be cyberbullying, and you own use of information and communication technologies. Even if you do not benefit from being in the study, your

participation may help us to learn more about university students' perspective of cyberbullying on Instagram. We hope the knowledge gained from this study will benefit others in the future.

Who can see or use the information collected for this research study?
We will protect the privacy and confidentiality of your information by
1. You will be assigned an ID (e.g., parstu01) that will be used throughout the study for naming the audio recording, the transcription, and the scenario you created. This ID will not be associated with any information about your identity.
2. Your interview audio recording will be transcribed by Li-Min and then deleted. The transcript and visual scenario you create will be saved in Li-Min's UTK Office 365 OneDrive account.
3. The Instagram accounts that Li-Min provide to you in this study are completely private. No other people can see the content at all points of the study. The Instagram scenario you created will be exported to Li-Min's UTK Office 365 OneDrive account and deleted from the Instagram right after you complete the study. Other participants will not see anything you create.
4. Only Li-Min and her faculty advisor (Dr. Dania Bilal) will have access to the data. If data from this study is published or presented at scientific meetings, your name and other personal information will NOT be used.
5. Li-Min will keep the research data for her future research. After the study is completed, Li-Min will delete your contact information from her email account.

Will I be paid for being in this research study?
After you complete the interview, you will receive a $15 Walmart or Amazon e-gift card upon your choice. Li-Min will send you the gift-card via UTK email and make sure you receive it before you leave the study.

Who can answer my questions about this research study?
If you have questions or concerns about this study, or have experienced a research related problem or injury, contact the researchers Li-Min Huang (lhuang23@vols.utk.edu) and Dr. Dania Bilal (dania@utk.edu). For questions or concerns about your rights or to speak with someone other than the research team about the study, please contact:
Institutional Review Board: The University of Tennessee, Knoxville, 1534 White Avenue, Blount Hall, Room 408, Knoxville, TN 37996-1529. Phone: 865-974-7697. Email: utkirb@utk.edu

CONSENT TO PARTICIPATE IN THIS STUDY
I have read this form and the research study has been explained to me. I have been given the chance to ask questions and my questions have been answered. If I have more questions, I have been told who to contact. By continuing with the interview, I am agreeing to be in this study, be recorded, and have the content I create used in the research.

Appendix F-Interview Instrument

Icebreaking

What social media do you usually use?

What do you usually do on Instagram?

Instagram Scenarios

*These scenarios were created by me based on the literature and they are not real cases.

**If you feel uncomfortable during the interview process, please let me know immediately and I will stop the interview.

Scenario 1.
Tuva took Andrew's embarrassing photo then post it on her Feed and Story with thumb down emojis and a laughing gif to shame Andrew.
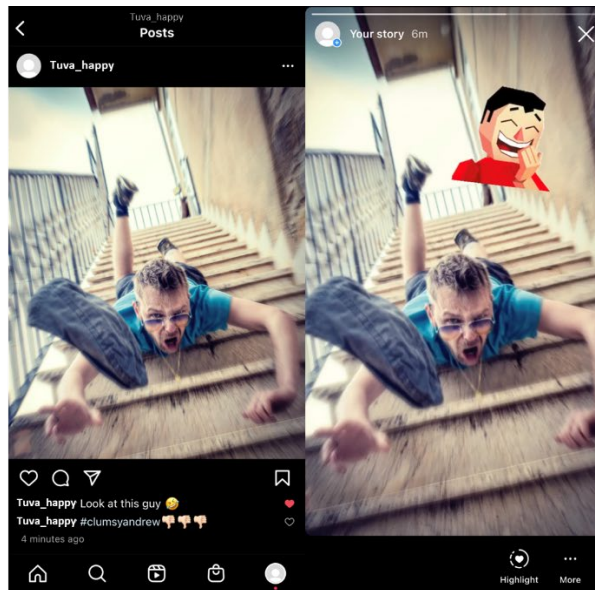
Scenario 2.
Brandon posts Emily's photo with a figure of Shrek on his Feed with mean comments under the photo to target Emily's physical appearance.
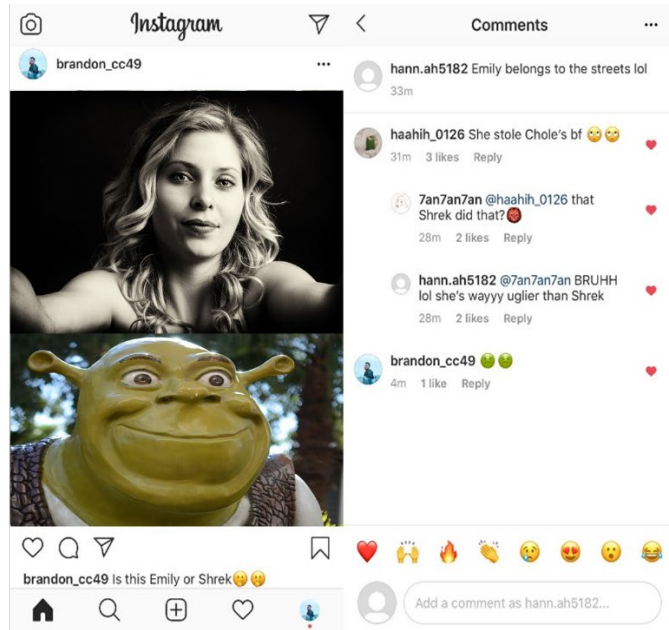
Scenario 3.
Sexy girl shares Jonny's embarrassing photos to Adam in a private message.

Adam then shares the image with a hashtag and loser gif to his Story to ridicule Jonny.

Interview Questions
1. What do you think about these scenarios?
   1-1 Do you think any of them are cyberbullying?
   1-2 What elements in that scenario(s) cause cyberbullying?

2. If these scenarios happened to 1) you, 2) your friend, 3) someone you don't know, then 1) what would you think? 2) how would you feel? 3) what might you do?

3. In your words, what do you think is "visual cyberbullying"?

4. Do you think there is any policy at UT related to cyberbullying?
   4-1 Do you know any cyberbullying policies at UT?
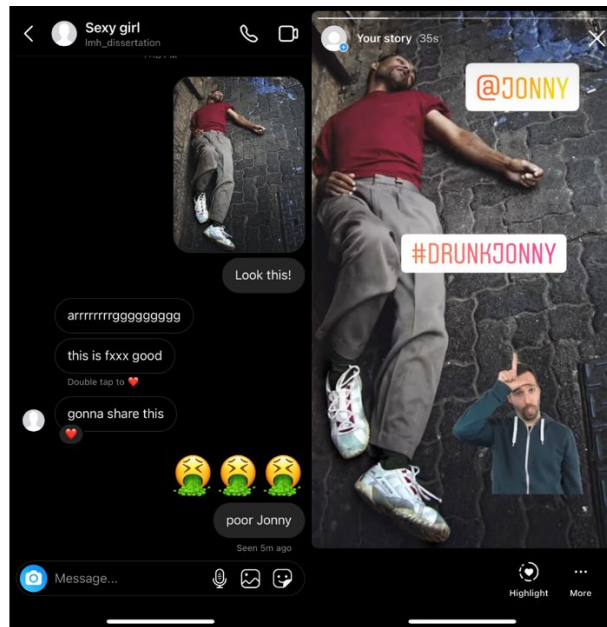   4-2 If you want to report a cyberbullying incident to the university, do you know how to report it?
   4-3 How do you think UT should be involved if someone reports cyberbullying?

5. What do you think social media platforms can do to reduce cyberbullying?
   5-1 If you want to report a cyberbullying incident on Instagram, do you know how to report it?
   5-2 What do you think users can do to avoid engaging in cyberbullying?

Visual narrative inquiry questions
1. Could you tell me what happened in that scenario/that real case?
   1-1 What was the relationship between the perpetrator and the victim?
   1-2 Do you know what the victim did/reacted to in this incident?
   1-3 Was the account a public one or a private one?
   1-4 How did other people who witnessed this incident react to it?
   1-5 Do you think this kind of incident often happens on Instagram?

2. What kind of social media features do you think might increase cyberbullying?

3. Is there anything else you would like to share in terms of visual cyberbullying?

Appendix G-Reliability and Validity Report of Lee et al.'s (2017) Scales

	Recommended	CBP	CBV	CBP-Visual/sexual	CBV-Visual/sexual
No. of items	N/A	20	27	5	10
Reliability (α)	>.70	.93	.95	.73	.89
Factorial Validity					
χ^2/df	<3	1.97	2.86		
CFI	>.90	.95	.97		
TLI	>.90	.94	.95		
RMSEA	<.08	.08	.08		
SRMR	<.10	.06	.07		
Convergent validity (γ)		.37**	.31**	.34**	.28**

CBP= Cyberbullying Perpetration Scale; CBV= Cyberbullying Victimization Scale
**p<.01

Appendix H-Qualitative Data Codebook

Code	Definitions	κ
1.Individual- Social media usage	**Parent code:** participants' usage of Instagram and other social media sites.	
1.1 Instagram usage	Things participants usually do on Instagram.	1.00
1.2 Social media usage	Different social media sites that participants usually use.	1.00
2.Bystander General Attitude		
2.1 Cognitive attitude	Thoughts of hypothetical/real CB incidents as a bystander or as a hypothetical victim.	0.98
2.2 Affective attitude	Feelings toward hypothetical/real CB incidents as a bystander or as a hypothetical victim.	1.00
2.3 Behavioral attitude	(Possible)actions toward hypothetical/real CB incidents as a bystander or as a hypothetical victim.	0.97
2.4 Definition	Participants' own words of visual CB.	1.00
2.5 Age-related	Attitude toward age differences on visual CB.	0.86
2.6 Gender-related	Attitude toward gender differences on visual CB.	0.90
3.Victim Coping	**Parent code:** participants' descriptions of victims' coping strategies in real CB incidents.	
3.1 Attribute to the perpetrator	Victims cognitively put responsibility of CB on the perpetrators.	1.00
3.2 Attribute to the victim	Victims cognitively put responsibility on themselves for being cyberbullied.	1.00
3.3 Move forward; Ignore	Victims cognitively ignored the incident and moved forward.	1.00
3.4 Normalize	Victims cognitively considered CB is a normal phenomenon nowadays.	1.00
3.5 Self-defeating humor	Victims joked about themselves in CB incidents.	1.00
3.6 Think positively	Victims cognitively framed the CB incidents in an optimistic way.	1.00
3.7 Victims' feelings	Participants' descriptions of victims' emotional reaction.	0.80
3.8 Avoid real-life contact	Victims tried not to have face-to-face contact with perpetrators in their real life.	1.00
3.9 Make disconnection	Victims blocked, unfriended, or unfollowed perpetrators on social media sites.	1.00
3.10 Change account setting	Victims changed their social media account settings after being cyberbullied.	1.00

Code	Definitions	κ
3.11 Collect evidence	Victims saved evidence of perpetrators' CB behaviors for further self-protection actions.	1.00
3.12 Delete account	Victims deleted their social media accounts where they experienced CB.	1.00
3.13 Delete comment/post	Victims deleted perpetrators' CB comments or the original post.	1.00
3.14 Ignore it/do nothing	Victims behaviorally ignored the harmful content on social media sites.	0.80
3.15 Leave the social media site	Victims stopped using social media sites after being cyberbullied.	1.00
3.16 Cautiously using ICTs	Victims were more aware of technology usage after being cyberbullied.	1.00
3.17 Report to social media sites	Victims reported or asked others to report CB incidents to the social media site.	1.00
3.18 Respond/confront the bully	Victims asked the perpetrators to stop the CB behavior, delete the contents, or seek revenge.	0.92
3.19 Seek social support	Victims seek practical help by talking to someone trusted.	0.80
3.20 Stop going/posting online	Victims stopped going online or stopped posting on social media sites.	1.00
4. Perpetration- Transcript	**Parent code:** participants' descriptions of perpetrators' behaviors in real CB incidents.	
4.1 Conduct	Perpetrators' intentions of CB; how perpetrator used tech skills to CB	1.00
4.2 Confidentiality	Privacy settings or personal information management mentioned in real CB incidents.	1.00
4.3 Contact	The social relationship between perpetrators and victims	0.90
4.4 Content	The format of CB content, e.g., pictures, gifs, emojis.	0.93
4.5 Context	The venue of CB incidents, e.g., Story, Feed, direct message (DM)	0.97
4.6 Age-related	Perpetration behaviors related to age differences.	0.93
4.7 Gender-related	Perpetration behaviors related to gender differences.	0.94
4.8 Victims' background	The background information of victims in real CB incidents, e.g., social media influencers	0.96
5. Perpetration-Visual inquiry	**Parent code:** CB elements shown in participants' scenarios and the associated narrative.	
5.1 Content- Personal	Generic photos or contents, e.g., a profile picture.	100
5.2 Content- Private	Visual content that the victim felt embarrassed or wanted to be kept secret.	100
5.3 Content- Alcohol/drug related	Visual content related to alcohol/drugs.	100

Code	Definitions	κ
5.4 Content- Sextual related	Visual content of a sexual nature, e.g., nudity.	100
5.5 Content- Caption	Captions of visual content in the recreated scenarios.	100
5.6 Content- Check-in	Location check-in of visual content in the recreated scenarios.	100
5.7 Content- Emoji	Emojis appeared in the recreated scenarios.	100
5.8 Content- GIF	GIFs (graphics interchange format) appeared in the recreated scenarios.	100
5.9 Content- Hashtags	Hashtags appeared in the recreated scenarios.	100
5.10 Content- Tag	Tagging someone in the recreated scenarios.	100
5.11 Context- Comments	CB behaviors presented through posting comments under an Instagram post.	100
5.12 Context- Direct Message	CB behaviors presented through contacting victims in Instagram direct messages.	100
5.13 Context- Fake account	CB behaviors presented through creating Instagram fake accounts targeting victims.	100
5.14 Context- Feed	CB behaviors presented through posting a visual post on Instagram Feed.	100
5.15 Context- Story	CB behaviors presented through posting a visual post on Instagram Story.	100
6. Microsystem	**Parent code:** personnel in the microsystem mentioned by participants.	
6.1 University personnel	Personnel affiliated with the university.	1.00
6.2 Student organization	Usually related to fraternity and sorority and other similar student groups	1.00
6.3 Peers and friends	Peers and friends appeared in real CB incidents.	0.81
6.4 Family members	Members in (victim's) family.	1.00
7. Mesosystem	**Parent code**	
7.1 Cogni. on intervention practices	Participants' cognitions on what/how the university should intervene CB that happened to students.	1.00
8. Exosystem	**Parent code:** participants' cognitions on CB regulations of the university and social media sites.	
8.1 Knowledge of university policy	Understanding of current CB-related policies.	1.00
8.2 Cognition on university policy	Thoughts of what/how university policies should address CB.	0.96
8.3 Reporting (university)	Understandings/views /past actions related to the CB reporting system in the university.	0.95

Code	Definitions	κ
8.4 Reporting (social media)	Understandings/views/past actions related to the CB reporting system on social media.	0.89
8.5 Safety practice on social media	Understandings/views of safety practice/function of social media.	0.95
8.6 SM features increase CB	Views of social media features that might worsen CB, e.g., anonymity.	0.98
9. Macrosystem	**Parent code:** personnel in the microsystem mentioned by participants.	
9.1 Social media norm	Participants' views of CB prevalence/atmosphere on social media.	0.95
9.2 Law enforcement	Participants' views/Victims' past actions in real CB incidents related to law/police engagement.	1.00

Appendix I-Policy Documents

*Documents accessed during the last week of July 2022.

1) CM0006-H Social Media
   https://policy.tennessee.edu/procedure/cm0006-h-social-media/
2) COM119 Anti-Discrimination – COM Medical Education
   https://policy.tennessee.edu/procedure/com119-anti-discrimination-com-medical-education/
3) ED200 – Discrimination Complaint Procedure
   https://policy.tennessee.edu/procedure/ed200-discrimination-complaint-procedure/
4) GP-004 – Acceptable Use of IT Resources
   https://policy.tennessee.edu/procedure/gp-004-acceptable-use-of-it-resources/
5) H200 – Use of Social Media – Patient Privacy
   https://policy.tennessee.edu/procedure/h200-use-of-social-media-patient-privacy/
6) HR0280 – Sexual Harassment & Other Discriminatory Harassment
   https://policy.tennessee.edu/policy/hr0280-sexual-harassment-other-discriminatory-harassment/
7) HR0580 – Code of Conduct
   https://policy.tennessee.edu/policy/hr0580-code-of-conduct/
8) HR0580-K Bullying Procedure
   https://policy.tennessee.edu/wp-content/uploads/HR0580K-Bullying-Procedure-FINAL.pdf
9) IT0110 – Acceptable Use of Information Technology Resources
   https://policy.tennessee.edu/policy/it0110-acceptable-use-of-information-technology-resources/
10) IT0132-C – UTC Standard: Identification and Authentication
   https://policy.tennessee.edu/procedure/it0132-c-utc-standard-identification-and-authentication-2/
11) SA110 – Student Complaint Procedure
   https://policy.tennessee.edu/procedure/sa110-student-complaint-procedure/
12) UT Chattanooga Faculty Handbook
   https://www.utc.edu/sites/default/files/2021-08/UTC%20Faculty%20Handbook%20%28updated%20version%29%20%28eff%208-2-21%29%5B30%5D%5B100%5D.pdf
13) UT Chattanooga- Policy on Sexual Harassmentm Sexual Assault, Dating and Domestic Violence and Stalking
   https://www.utc.edu/sites/default/files/2021-08/2021-2022%20SHSADDVS%20Policy%20final%2008132021.pdf
14) UT Chattanooga Student Code of Conduct
   https://www.utc.edu/sites/default/files/2021-03/studentcode_08-14-2020.pdf
15) UT Health Science Center - Policy on Sexual Harassment, Sexual Assault, Dating and Domestic Violence and Stalking
   https://www.uthsc.edu/oied/documents/title-ix-policy.pdf
16) UT Health Science Center Faculty Handbook
   https://uthsc.edu/afsa/faculty-affairs/documents/faculty-handbook.pdf

17) UT Health Science Center Student Code of Conduct
https://uthsc.edu/oem/documents/student-code-conduct.pdf
18) UT Knoxville Faculty Handbook
https://facultyhandbook.utk.edu/wp-content/uploads/sites/82/2020/12/Faculty-Handbook-2021-Final-2021-01-01.pdf
19) UT Knoxville- Policy on Sexual Harassment, Sexual Assault, Dating and Domestic Violence and Stalking
https://titleix.utk.edu/wp-content/uploads/sites/96/2021/08/2021-22-Title-IX-Policy.pdf
20) UT Knoxville Student Code of Conduct
https://studentconduct.utk.edu/wp-content/uploads/sites/53/2021/08/2m3k1ac-Fall-StudentCodeOfConduct_WEB.pdf
21) UT Martin - Policy on Sexual Harassment, Sexual Assault, Dating and Domestic Violence and Stalking
https://www.utm.edu/sexualmisconduct/_pdfs/2021-2022%20UTM%20Policy%20on%20Sexual%20Harassment%20Sexual%20Assault%20Dating%20and%20Domestic%20Violence%20and%20Stalking%2012.08.21.pdf
22) UT Martin Faculty Handbook
https://www.utm.edu/departments/acadaff/_pdfs/Faculty%20Handbook%20%20-%20Revised%20and%20Approved%20-%202019-10-14.pdf
23) UT Martin Student Handbook
https://www.utm.edu/studenthandbook/student_handbook.pdf
24) UT Southern Faculty Handbook
https://utsouthern.edu/wp-content/uploads/2022/03/UT-Southern-2021-2022-Faculty-Handbook-for-Posting.pdf
25) UT Southern- Policy on Sexual Harassment, Sexual Assault, Dating and Domestic Violence and Stalking
https://utsouthern.edu/wp-content/uploads/2021/10/Title-IX-Policy-20212022.pdf
26) UT Southern Student Handbook and Code of Conduct
https://utsouthern.edu/wp-content/uploads/2021/08/UTS-Student-Handbook-2021-2022.pdf

VITA

Li-Min Huang earned her Ph.D. degree in Communication and Information in December 2022 from the College of Communication and Information, with a concentration in Information Sciences, at the University of Tennessee. Her dissertation title is "University Students' Perspectives of Visual-based Cyberbullying on Instagram." Her dissertation committee chair is Dr. Dania Bilal. Based on this dissertation, Li-Min won second prize in the Jean Tague Sutcliffe Doctoral Student Research Poster Competition at the annual conference held by the Association for Library and Information Science Education (ALISE) in October 2022.

Li-Min earned a bachelor's and a master's degree from the Department of Library and Information Science at National Taiwan University in 2012 and 2015, respectively. When she entered the doctoral program in late 2015, she had heard about a young actress in her hometown who committed suicide after suffering from cyberbullying. Then she started to pay attention to the cyberbullying issue and brought it into her research agenda. Given the popularity of visually-based social media for the young generation, she considers it a vital need for academia to investigate the phenomenon of visually represented cyberbullying. Her long-term goal is to provide insights on visually-based cyberbullying prevention and interventions for practitioners.

Besides researching cyberbullying, she has been working on research projects related to information behavior, human and computer interaction, and social informatics. She is currently involved in a study that focuses on the cognitive and affective impact on the information behavior of fiction readers. She has taught the undergraduate courses Technologies for Information Retrieval and Information Seeking: Resources and Strategies, at the University of Tennessee.

After completing her doctoral studies, she will continue her academic career in her home country, Taiwan.