CYBER VICTIMIZATION: DO RESILIENCE AND POSTTRAUMATIC STRESS PLAY A ROLE?

REBECCA MOLYNEAUX
Bachelor of Arts, Concordia University of Edmonton, 2017

A thesis submitted
in partial fulfillment of the requirements for the degree of

MASTER OF EDUCATION

in

COUNSELLING PSYCHOLOGY

Department of Education
University of Lethbridge
LETHBRIDGE, ALBERTA, CANADA

© Rebecca Molyneaux, 2022

CYBER VICTIMIZATION: DO RESILIENCE AND POSTTRAUMATIC STRESS
PLAY A ROLE?

REBECCA MOLYNEAUX

Date of Defense: July 27, 2022

Dr. E. Greidanus Thesis Supervisor	Associate Professor	Ph.D.
Dr. L. Beaudin Thesis Examination Committee Member	Associate Professor	Ph.D.
Dr. T. Gunn Thesis Examination Committee Member	Professor	Ph.D.
Dr. M. Dyck External Examiner University of Lethbridge Lethbridge, Alberta	Instructor III	Ph.D.
Dr. A. Von Heyking Chair, Thesis Examination Committee	Associate Professor	Ph.D.

Dedication

This work is firstly dedicated to my grandpa, Francis "Frank" Xavier Ahern, who inspired me with his lifelong pursuit of learning and passion for exploring the world around him. Grandpa, I wish you could have been here to see this day – thank you for everything.

To David, my loving husband, without whom I would not have finished this. There are not enough words to describe how blessed I feel to have you in my life. Thank you for your ever enduring support and love.

And to my mother. You made me who I am today, and this would not have been possible without your encouragement, strength, and wisdom. I love you.

Abstract

Within adolescent populations, correlations between cyber victimization and posttraumatic stress have been found; however, it is unknown if these experiences also occur within the general adult population. Cyber victimization's pervasiveness has led treatment planning towards developing resilience, rather than ending the perpetration of the individual. Thus, individuals from the adult population were surveyed to evaluate the occurrence of cyber victimization and then explore the relationships it may share with posttraumatic stress and resilience. Cyber victimization, posttraumatic stress, and resilience were measured via the CyberBullying Victimization Scale (CBV), the PTSD Checklist for the Diagnostic and Statistical Manual of Mental Disorders 5th Edition (PCL-5), and the Connors-Davidson Resilience Scale 25-item scale (CD-RISC-25), respectively. The data gathered yielded three significant findings in the adult population: 1) cyber victimization does occur; 2) perceived experiences of cyber victimization are positively correlated with posttraumatic stress; and 3) resilience does not share a relationship with cyber victimization.

Preface

The Human Participant Research Committee of the University of Lethbridge granted ethics approval for this research. The approved protocol number for this project is # 2020-078 and the results of this study have not yet been published.

Acknowledgements

To my supervisor, Dr. Elaine Greidanus, thank you for your continual support over the last three years. Your guidance and wisdom are two main reasons why I was able to conduct this research and finish this thesis. Thank you for giving me the opportunity to learn from you.

To my committee, Drs. Thelma Gunn and Lorraine Beaudin, thank you for all the time you dedicated to this project, for giving me the space and guidance to grow, and teaching me so much along the way.

To the "Thesis Buddies" Kathryn Kryska, Toni Labadie, and Katie Ingram, thank you for always being there, whether to laugh or cry, throughout this project. Your friendship was, is, and always will be such a blessing and I am so grateful to have met you all.

And finally, to my fathers, Tom and Peter, and my brother, Jack. Thank you for your unwavering support and all the joy you bring to my life. I love you.

Table of Contents

List of Tables

List of Abbreviations

CBV   CyberBullying Victimization Scale

CD-RISC   Connors-Davidson Resilience Scale

CD-RISC-25   Connors Davidson Resilience Scale 25-Item

CV   Cyber Victimization

PCL-5   PTSD Checklist for The Diagnostic and Statistical Manual of Mental Disorders 5th Edition

PTS   Posttraumatic Stress

PTSD   Posttraumatic Stress Disorder

List of Definitions

Cyber victimization

The use of an electronically based platform or application to bully, humiliate, or psychologically harm another individual (Hinduja & Patchin, 2008; Lapierre & Dane, 2020; Lee et al., 2017).

Digital technology

Electronically based tools, domains, and resources that create, store, and process data (Rice et al., 2016; Wartella et al., 2016).

Online Risks

Aspects of digital technologies that increase an individual's risk or susceptibility to negative consequences (Livingstone & Smith, 2014; McHugh et al., 2018).

Posttraumatic stress

Clinically diagnosable disorder that is a result of event-specific exposure to negative experiences (Briere & Elliott, 2003; Green et al., 1985; McHugh et al., 2018).

Social media

Websites, applications, and domains that allow individuals to create, share, and participate in content or networking (Rice et al., 2016; Social Media, 2013).

Trauma

A distressing experience (Agaibi & Wilson, 2005; Blevins et al., 2015; Ozer et al., 2008).

CHAPTER 1: INTRODUCTION

Digital technologies have revolutionized the way people interact and communicate with one another (Rise et al., 2016). With the development of social media applications, it has never been easier to create and share information on a worldwide scale (Social Media, 2013). However, the improvement in accessibility has increased the frequency of use of social media domains and increased the potential for negative consequences of online interactions (Rice et al., 2016; Rose & Tynes, 2015). One of these negative consequences is cyber victimization.

Cyber victimization is defined as the use of electronically based platforms or applications to bully, humiliate, or psychologically harm another individual (Hinduja & Patchin, 2008; Lapierre & Dane, 2020; Lee et al., 2017). Due to an inconsistent operational definition, the prevalence of cyber victimization is unknown (Athanasiou et al., 2018; John et al., 2018). Communication technology enables cyber perpetration to occur at any time, in any location, including in the safety of an individual's own home (Bonanno & Hymel, 2013). The perpetuation of aggressive, harmful behaviour within the undefined reaches of online contexts significantly impacts the psychological health of the victims in an aversive manner (Athanasiou et al., 2018; Bonanno & Hymel, 2013; Dooley et al., 2009; John et al., 2018), including the development of posttraumatic stress symptomology (McHugh et al., 2018).

Posttraumatic stress (PTS) is defined as a clinically diagnosable disorder that is a result of an event-specific exposure to negative experiences (Briere & Elliott, 2003; Green et al., 1985; McHugh et al., 2018). To date, PTS and cyber victimization have been primarily researched in adolescents and the literature has yet to explore this relationship within the young adult population (Beckerman & Auerbach, 2014; Maguad et al., 2013;

McHugh et al., 2018; Mitchell et al., 2011; Ranney et al., 2016). Furthermore, although the reduction of aversive mental health symptomology would be ideal, the nature of social media makes it impossible to implement the level of technological and/or social control that would be needed to reduce harm (Beckerman & Auerbach, 2014; McHugh et al., 2018; Mitchell et al., 2011; Raskauskas & Huynh, 2015). Therefore, much of cyber research suggests that treatment is best focussed on developing an individual's innate protective factors, rather than depending on cyber perpetration and victimization to stop (Beckerman & Auerbach, 2014; McHugh et al., 2018; Mitchell et al., 2011; Raskauskas & Huynh, 2015), Fortunately, resilience has been correlated with the reduction of posttraumatic stress symptomology (Agaibi & Wilson, 2005; Hoge et al., 2007; Lee et al., 2014).

Resilience, as a multifaceted construct, aids in the adaptability and recovery from experienced emotional trauma (Lazarus, 1996; Luthar & Cicchetti, 2000; McHugh et al., 2018). Mathews et al. (2016) suggests that by developing an individual's capacity for self-control in response to stressful situations, overall mental health can be improved. The literature suggests that resilience as a construct is impacted by factors such as cognition, personality, coping mechanisms, cultural origin, and subjective differences between individual life experiences (Connor & Davidson, 2003; Wu et al., 2013). Additionally, there are findings that suggest there are biological and developmental factors that influence the development and growth of resilience, as well as an individual's susceptibility to stress and trauma (Wu et al., 2013). Due to the pervasive nature of cyber victimization, researchers are hopeful that resilience will aid in the treatment of posttraumatic stress symptomology (Livingstone & Smith, 2014; McHugh et al., 2018).

The adaption to online risks to mitigate correlated mental health symptomology is the current goal of cyber research (Livingstone & Smith, 2014; McHugh et al., 2018).

Objectives of the Study

This study built on a growing literature base supporting the prevalence of cyber victimization within the young adult population and its relationship with demographic risk factors. Additionally, the sample population was assessed for rates of posttraumatic stress symptomology and resilience, which were then examined for significant associations to the perceived levels of cyber victimization.

Research Questions

1. What are the characteristics of cyber victimization in the young adult population?

2. Is there a relationship between demographic factors and cyber victimization for young adults?

3. Is cyber victimization correlated to symptomology of posttraumatic stress in young adults?

4. What is the relationship between cyber victimization and resilience in young adults?

5. How do young adults describe their experiences of cyber victimization?

Hypotheses

1. Young adults will report experiencing verbal/written, visual/sexual, and social exclusion cyber victimization in the last 30 days.

2. Demographic factors will be associated with varying types of cyber victimization in young adults.

3. Young adults who report higher rates of cyber victimization will also report more symptoms of posttraumatic stress.

4. Young adults who report higher rates of cyber victimization will also report lower rates of resilience.

5. Young adults describe their experiences of cyber victimization as significant and negative.

CHAPTER 2: LITERATURE REVIEW

2.1 Digital Technology

The world has become a place of rapid change due to the nature of digital technologies, which have revolutionized the way people interact and communicate with one another (Rice et al., 2016). Digital technologies are electronically based tools, domains, and resources that create, store, and process data (Wartella et al., 2016). Smartphones, laptop computers, and tablets are a few of the technological inventions that have made online games and multimedia formats, as well as communication media, such as emails, direct messaging (i.e., texting), and social media applications, more accessible (Rice et al., 2016; Wartella et al., 2016; Wells & Dennis, 2016). This chapter will explore literature about communication media and the risks associated with online use.

Email

The development of electronic mail (email) has been one of the most significant technical and sociological advancements of the past 50 years (Partridge, 2008). Today, email has become ubiquitous throughout an individual's work and personal life due to its asynchronous communication formatting (Wells & Dennis, 2016). Wells and Dennis (2016) suggest that email is a viable option for building interpersonal relationships and conveying information between people. However, email possesses some limitations due to being technologically based, such as the inability to convey vocal tone and/or emotion, or the lack of non-verbal communication, which researchers suggests can have a significant impact on how communicated information is interpreted (Wells & Dennis, 2016). It can also evade cultural norms, which can ultimately impact whether email is considered an appropriate format of communication (Wells & Dennis, 2016). When

compared to other communication media, email is not perceived as personal and is less utilized than text messaging (Slonje & Smith, 2008).

Texting

Texting, known previously as short messaging service (SMS), refers to the creation and deployment of concise electronic messages from one cell phone to another (Robertiello, 2018). The majority of cell phone users around the world use texting as a form of communication, often times as a substitution for phone cells when talking aloud is not possible, appropriate, or preferred (Robertiello, 2018). It allows users to respond immediately, in a concise manner, and to a single individual or to multiple recipients in a group chat (Robertiello, 2018). However, this can be problematic because personal information can be shared between users; everything sent via text can become public (Robertiello, 2018). Additionally, due to the nature of texting communication, the conversation is documented and "can be read or disseminated at a later time" and not necessarily by the original author of the text (Robertiello, 2018, pp. 1032). Therefore, it is important that users of texting communication are aware of both the benefits and risks of digitally socializing with others (Robertiello, 2018).

Online Gaming

Over the past twenty years, with the advancement of digital technologies, online gaming has become a significant source of daily entertainment and socialization for millions of people (Wei et al., 2012). Online gaming includes online and/or offline, individual or group engagement via a variety of platforms and devices, such as consoles, handheld device, mobile devices, and computers (McInroy & Mishna, 2017). Wei et al. (2012) suggests that there are four main attractions to online gaming: game design, role playing achievements, online social interactions, and psychological needs and

motivations. Due to these attractions, users can be exposed to the following risks, that include but are not limited to unintentional and/or unauthorized purchases, exposure to inappropriate and/or problematic content, excessive playing, viruses and/or malware, privacy breaches, online luring, and cyberbullying and/or harassment (Educational Computing Network of Ontario et al., 2020). However, Lufkin (2020) suggests that with the rise of social media, online gamers are no longer just interacting with strangers on the internet, but rather forging meaningful relationships; particularly during the COVID-19 pandemic, online gaming has grown and with it the use of social media as the new main outlet for connection.

Social Media

Social media has become a dominant feature within the internet and digital technology landscape, to the extent that most people use some form of social media in their daily lives (Rice et al., 2016). Social media, which can also be referred to as social networking, includes online services that allow people to construct public or semi-public profiles to share information, create content, and interact with others in virtual communities (Rice et al., 2016; Social Media, 2013). Due to the ownership and accessibility of digital technologies rapidly increasing in the last decade, the use of and engagement in social media applications and platforms have also increased (Rice et al., 2016; Social Media, 2013).

The digital technologies that drive social media sites were originally introduced in the early 1990s (Social Media, 2013). However, social networking sites did not make an appearance until the early 2000s, with the introduction of domains like Friendster, MySpace, LinkedIn, Facebook, and Twitter (Social Media, 2013). Today, the term social media encompasses a variety of platforms, domains, and applications that fall into four

major categories: social networking, which includes applications likes Facebook and

LinkedIn where users create a profile that allows them to interact and develop

connections with individuals or groups of similar interests; media sharing, which includes

applications like YouTube, Instagram, or TikTok where users can upload and share

media; microblogging, which includes applications like Twitter or Reddit where users can

create updates, comments, or statements that are sent to any other users that are

subscribed to them; and blogs, which include any online forum where users can create

and control discussions surrounding various topics (Rice et al., 2016). Within all these

categories of social media it is crucial that users actively engage with the digital content,

instead of simply taking on an observer role (Rice et al., 2016). This involvement is what

drives the types of content that are created and shared by users and ultimately effects the

overall informational landscape of social media (Rice et al., 2016). Common types of

interactions include posting, commenting, liking, sharing, saving, and direct messaging.

Posts

Posting to social media is defined as published content within an online

application or platform, and it can include text, photos, videos, and links, among other

forms of content (Constant Contact, 2021; Social Bee, 2022a). Posts can be viewed

publicly, or only by a user's network, based upon the privacy settings a user chooses to

utilize.

Comments

Comments are defined as messages that users leave as an answer or reaction to

posts made on social media platforms or applications, that can be positive, neutral, or

negative (Constant Contact, 2021; HubSpot, 2022). Users that leave negative comments

are sometimes referred to as "trolls" who are individuals that are purposefully attempting to "stir the pot" (West, 2021, Negative Comments section, para. 2).

Likes

Likes are a fast way for users to acknowledge approval of a post without commenting, sharing, or saving it (Constant Contact, 2021; Social Bee, 2022b). Although likes are considered to be engagement, they are the lowest form of interaction on social media platforms and they do not show significant levels of intent (Loomly Blog, n.d.). However, likes can inform content creation and curation, and overall social media engagement (Loomly Blog, n.d.). Users can signal "validation and approval with a single click, without having to type anything", and likes allow users to quickly determine how popular or relevant content is without reading the caption (Moffat, 2021, para. 3).

Sharing

Sharing is when users broadcast content with people in their social media networks that is either their original content, or the content of others (Constant Contact, 2021; Magenest, 2022). Bouman (2021) suggests that users share content for a variety of reasons: to bring valuable and/or entertaining to others, to define our own identity to others, to develop and enrich our relationships, to be fulfilled and connected to the world around us, to support causes, and to inform our network about ideas and principles that are important to us. The driving forces behind why we share are status and emotion; users share out of self-interest, values, beliefs, and the connection they feel to the curated content, whether positive or negative (Bouman, 2021). For content to go "viral", meaning that something becomes ubiquitous due to the amount of times it is shared, it has a strike a chord with the viewer (Bouman, 2021, The Role Emotion Plays in Social Media Sharing section, para. 2).

9

Saving

Saving is a function that some social media applications provide so users can collect and save content for future reference, like creating a personalized library of your favourite subject matter (Canning, 2019; Constant Contact, 2021). Users saving specific posts is a significant indicator that the content resonates with them and is valuable enough to come back to (Canning, 2019). Therefore, how often a post is saved is an integral part of quantifying overall engagement on social media platforms (Canning, 2019).

Direct Messages

Direct messaging (DM), otherwise known as personal messaging (PM), is a way of sending messages privately within social media platforms and applications (Constant Contact, 2021). Commonly, users will comment "DM me" on a public post to let another user know that they would like to move the conversation to a private message (Constant Contact, 2021). A direct message can only be seen by the sender and the recipient(s) within the chat; however, similar to emails and texts, the messages sent are documented and personal information can be shared publicly outside of the DM, like in a public post, so researchers suggest to act accordingly (Goldfarb, 2019).

These various formats of interactions on social media create two-way communication between people that can be reactive or proactive, direct or indirect (JC Social Media, 2015). As social interactions become increasingly digitally-based, due to the continual evolution of social media from engagement driven content curation and the advancements of digital technologies, researchers suggest that the risks and associated harms of social and communication media will also increasingly develop (Rice et al., 2016).

Risks of Digital Interactions

Within society today, online gaming, communication media, and social media platforms, are being accessed for a variety of purposes including communication, social interaction, and information acquisition (Rose & Tynes, 2015). Although there are benefits to these actions, the perpetual state of connectedness that digital technologies afford people may also increase the risk of harm (Rose & Tynes, 2015). Online risks are defined as aspects of digital technologies that increase an individual's risk or susceptibility to negative consequences and have been categorized into three main sections: content (exposure), contact (sexual solicitation and cyberbullying), and conduct (information breaches) (Livingstone & Smith, 2014; McHugh et al., 2018). As individuals increase their use of digital technologies, they are at a higher risk for harm associated with online gaming, and communication and social media use (McHugh et al., 2018). Researchers suggest that a significant consequence of digitally based risks is the impact on individuals' mental well-being (McHugh et al., 2018).

The negative effects that online risks have upon mental health related variables are related to the nature of online interactions and viewing behaviour (McHugh et al., 2018). Exposure to certain online risks may be detrimental to neural developmental growth, which has led to concern about the emotional and psychological effects of online risks for adolescents (Berryman et al., 2018; McHugh et al., 2018). These adolescents are now adults who may continue to experience the effects of the online risks encountered in their youth and additional ongoing risks associated with their adult use of social media. These negative social media experiences warrant further investigation into the online risks that are impacting individuals' mental health.

2.2 Cyber Victimization

Most individuals have been impacted by bullying at some point throughout their lives (Alavi et al., 2015; Bottino et al., 2015; Dooley et al., 2009). Bullying is defined as harmful, aggressive behaviour towards a victim, with a power imbalance that makes self defense difficult or impossible for the victim (Alavi et al., 2015; Bottino et al., 2015; John et al., 2018). Bullying can be direct or indirect, and in any form: verbal, physical, psychosocial, emotional, or cyber (Alavi et al., 2015; Dooley et al., 2009; John et al., 2018). Cyberbullying is defined as the use of electronically based platforms or applications to bully, humiliate, or psychologically harm another individual (Hinduja & Patchin, 2008; Lapierre & Dane, 2020; Lee et al., 2017). The terms cyberbullying, cyberbullying victimization, and cyber victimization are used interchangeably within the literature; this study uses the term cyber victimization to encapsulate all three terms.

Cyber victimization is still considered to be a relatively new form of bullying that is adapting and changing almost as frequently as digital technologies themselves (Bonanno & Hymel, 2013; John et al., 2018). The prevalence rates of cyber victimization are hard to define as the numbers change based on the operational definition and the age group being examined (Athanasiou et al., 2018; John et al., 2018). However, research has shown that higher levels of use is linked with greater risk for cyber victimization among individuals (Best et al., 2014; Mesch, 2009; Athanasiou et al., 2018). Additionally, due to the pervasiveness of cyber-attacks, the literature argues that cyber victimization can negatively impact individuals more so than traditional types of bullying (Bonanno & Hymel, 2013).

Cyber victimization can happen to individuals within the safety of their own homes, with the possibility of happening at any time, on any day, and with the maximum

amount of exposure (Bonanno & Hymel, 2013). This makes coping much harder for victims because there is no escape and the bully's audience is infinite (Bonanno & Hymel, 2013; Slonje & Smith, 2008). Even if an individual blocks, unfriends, or unfollows the perpetrator, the damage has been done and victims are left to pick up the pieces of what is left of their mental health status. The rapid dissemination of information or content within digital interactions and social media can also increase the audience size and the harm caused to the victim (Lee et al., 2017). A third variable that increases the impact of cyber victimization is the anonymity within social media (Best et al., 2014; Dooley et al., 2009; McHugh et al., 2018). Virtual anonymity protects the bullies while subsequently increasing feelings of fear and powerlessness in the victims, by allowing individuals to create profiles that are not representative of their actual identity (Best et al., 2014; Dooley et al., 2009; McHugh et al., 2018). For these façade style profiles, there are rarely 'real-life' consequences for the aggressors, which perpetuates the victimizing culture (Best et al., 2014; Dooley et al., 2009; McHugh et al., 2018). These contextualizing variables increase the resulting consequences of cyber victimization experiences and have consequently developed various subsections within the construct of cyber victimization.

Types of Cyber Victimization

There are three main types of cyber victimization: verbal and/or written cyber victimization which is defined as "being sent an angry, rude, or vulgar online messages or having mean things said to or about you by others who are trying to hurt you"; visual and/or sexual victimization which is defined as "being sent visually and/or sexually incriminating things such as private or humiliating pictures/videos by others trying to hurt you"; and social exclusion which is defined as "being excluded from an online group

activity or social community by someone who wanted to make you feel left out" (Lee et al., 2017, pp. 457-458).

Verbal and/or Written Cyber Victimization

Verbal and/or written cyber victimization can include purposefully sending hurtful messages, spreading secrets and/or rumours about someone else, embarrassing and/or threatening someone else, and impersonation (Dovi, 2020; Hockey Canada, n.d.). Perpetrators intentionally post, comment, and/or message content with the specific purpose of negatively impacting their chosen victim (Lee et al. 2017).

Visual and/or Sexual Cyber Victimization

Visual and/or sexual cyber victimization can include receiving sexually explicit content without consent, private and/or sexually explicit personal content sent to other people or posted publicly without consent, and sexual harassment, such as negatively commenting on physical appearances (Hockey Canada, n.d.; Lee et al., 2017). Perpetrators can also use coercion to convince victims to provide personal information and/or engage in activities that are sexual in nature (Ehman & Gross, 2019).

Social Exclusion Cyber Victimization

Social exclusion can include forcible or voluntary separation from groups that are a source of daily social interaction (Ademiluyi et al., 2022). Targets of CV may not be allowed to enter chat rooms or invited to play online games with their friends (Bauman, 2007).

The similarities throughout these three types of cyber victimization are that aggressive, harmful behaviour is being utilized within social media applications to negatively impact another individual's life (Athanasiou et al., 2018; Bonanno & Hymel, 2013; Dooley et al., 2009; John et al., 2018).

Risk Factors of Cyber Victimization

Several factors have been identified that increase the risk for harm resulting from engagement with communication and/or social media, and online gaming. The more time an individual spends online, the greater the probability that they will be exposed to online risks, and therefore the greater the chance that their mental health will be negatively impacted (Rose & Tynes, 2015). Another significant factor in the development of these negative symptoms is that the social and environmental factors of cyber victimization extend beyond physical contexts (Ademiluyi et al., 2022; Ehman & Gross, 2019; Rose & Tynes, 2015). Due to the vastness and accessibility of social media, cyber victimization can transcend physical and virtual boundaries to continually cause harm to victims (Ademiluyi et al., 2022; Ehman & Gross, 2019; Rose & Tynes, 2015).

Behavioural Risk Factors

An imbalance in power dynamics that is characterized by victims being unable to capably defend themselves, possibly due to the technological aptitude of the bully, is one characteristic that increases the risk of harm (Rose & Tynes, 2015). Having limited technological skills when it comes to the digital environment can aversively impact the potential risk of experiencing cyber victimization (Rose & Tynes, 2015). Another risk factor is the variance in behaviour that a cyberbully can exhibit throughout social media applications (Rose & Tynes, 2015). An example of this is 'baiting', where someone is deliberately posting messages to create a virtual argument; heated comments in response to the original post may or may not be an actual threat to another individual (Ehman & Gross, 2019; Willard, 2007). Therefore, context can be a significant component of understanding cyber victimization and its risk factors (Willard, 2007). Another risk factor is proximity, meaning that aggressors will use proximal individuals, likely complete

strangers, to aid in the cyber victimization of their desired target (Willard, 2007). Even if a bully is isolated within the real world, they can still utilize online 'back-up' to harm another individual (Willard, 2007). Substance use, specifically drinking alcohol has been suggested a risk factor for cyber victimization, as it impairs judgement and can make users more willing to share private information (Hinduja, 2021; Wang et al., 2019). These risk factors suggest that there are less constraints for cyber victimization than in person bullying, due to the pervasive and vast nature of online domains (Willard, 2007; Rose & Tynes, 2015).

Demographic Risk Factors

There are several demographic risk factors that have become identified in cyber victimization research: age, race/ethnicity, gender, and a previous history of trauma. Other factors such as socioeconomic status and religious affiliation have also been noted as pertinent gaps that the body of cyber research has yet to investigate (Wang et al., 2019).

Age. McHugh et al. (2018) found that for adolescents, age is a risk factor because younger people use social media more often. However, due to the lack of research within older populations it is not clear whether age is a true risk factor of cyber victimization, or if the risk of cyber perpetration is due to an increased use, regardless of age (Lee et al., 2017). Over 33% of adolescents have reported being a victim of cyber victimization (Wang et al. 2019). However, within other age groups, it is much less clear whether or not cyber victimization occurs, at what rate, and if any demographic differences are risk factors across one's lifespan (Wang et al., 2019). One study in New Zealand found that 2.2% of their adult participants experienced cyber victimization in the past month, with young adults (18-25) experiencing the highest rates and older aged adults, specifically

16

66+ years old, experiencing the lowest rates (Wang et al., 2019). However, these findings have yet to be confirmed in the North American populations. Therefore, continuing to investigate both young adults, and the general adult population, and their perceived experiences of cyber victimization will provide further evidence to age as a legitimate risk factor of cyber victimization. Additionally, research has identified that the age at the time of the first Internet use could be a confounding factor, and a longitudinal approach could be helpful in examining experiences across a lifetime (Wang et al., 2019).

  Ethnicity. It has been suggested that racialized individuals may be victimized less than individuals who are white due the proportions of representation in the North American general population being less; however, this is an emerging area of research in cyber victimization (Edwards et al., 2016; Hinduja, 2021; Wang et al., 2019). Generally, it is unclear how differences in ethnicity and/or race impact cyber victimization in the general adult population, or how racial perpetration and/or discrimination may play a role (Wang et al., 2019).

  Gender. Researchers suggest that women tend to experience more victimization from messaging services and social media, while men report more incidents of cyber victimization during online gaming (Wang et al., 2019). However, there is a lack of distinguishment in the media and/or applications through which adults may be experiencing cyber victimization (Wang et al., 2019). Even in adolescent populations, the findings have been inconclusive in defining the role of gender in cyber victimization (Hinduja, 2021). Gender is also significant when looking at individuals that identify outside of cisgender norms (Navarro, 2015). It has been suggested that individuals that do not conform to gender expectations or culturally dictated normalities are at a higher risk

of being a target of cyber perpetration (Hinduja, 2021; Navarro, 2015). Thus, gender is an important factor to investigate when evaluating the risk of cyber victimization.

History of Trauma. In adolescents, a history of trauma can make individuals vulnerable to experiences of cyber victimization (Saltz et al., 2020). However, the connection between trauma history and cyber victimization is an emerging topic in the literature, especially in the adult population, therefore more research is needed in this area to have a clear idea of the relationship between these two variables.

While these risk factors suggest that people may experience varying levels of cyber victimization, it is clear in the research that cyber victimization can have a significant negative psychological effect (Athanasiou et al., 2018; Wang et al., 2019). Due to the pervasive nature of cyber victimization and the difficulty of escaping it, the impact on victims can be great (Jenaro et al., 2018).

2.3 Aversive Outcomes

Throughout the literature, several studies have established that social media use and exposure to cyber victimization are related to aversive psychological symptomology (Lee et al., 2017; Rice et al., 2016; Rose & Tynes, 2015). Many victims of cyber victimization develop maladaptive symptomology that is consistent with several psychological disorders (Alavi et al., 2015; Athanasiou et al., 2018; Rose & Tynes, 2015).

Symptoms Experienced

Cyber victimization has been shown to have a negative impact upon an individual's mental health and increases symptoms of depression and anxiety (Alavi et al., 2015; Athanasiou et al., 2018). Although many individuals report experiencing either depression or anxiety separately, Rose and Tynes (2019) showed that comorbidity of the disorders is also common following cyber victimization. Individuals on average report

feeling withdrawn, nervous, and isolated with extreme cases reporting of suicidal related thoughts and behaviours (Alavi et al., 2015; Athanasiou et al., 2018; McHugh et al., 2018). The symptomology of depression and anxiety can also lead to emotional distress, substance abuse, and delinquent behaviours (Lee et al., 2017). However, although the previously described symptoms are common within depression and anxiety, several of them are also congruent with the presentation of posttraumatic stress (McHugh et al., 2018; Ozer et al., 2008; Perrin, et al., 2005). Therefore, researchers have recently begun exploring the relationship between posttraumatic stress and cyber victimization (McHugh et al., 2018).

Posttraumatic Stress

Posttraumatic stress (PTS) symptomology develops as a result of event-specific exposure to negative experiences (Briere & Elliott, 2003; Green et al., 1985; McHugh et al., 2018). At elevated levels, PTS can become a clinically diagnosable disorder known as posttraumatic stress disorder (PTSD) (Briere & Elliott, 2003; Green et al., 1985; McHugh et al., 2018). Although the diagnostic levels of PTSD significantly impact an individual's psychological functioning, sub-diagnostic levels of PTS can also impact functioning in a measurable way and therefore are important to investigate when examining the impact that traumatic experiences cause (Weathers et al., 2013). PTS specific symptoms include reminder avoidance, situational hyper-arousal to similar events, and intrusive thoughts about the traumatic event (McHugh et al., 2018; Perrin et al., 2005).

DSM-5 Criteria for PTSD

As shared by the National Center for PTSD, U.S. Department of Veterans Affairs (2019):

The American Psychiatric Association (APA) last revised the diagnostic criteria for PTSD in 2013, in the Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5). The following points are the diagnostic criteria for PTSD: Criterion A: Stressor (one required) – an individual witnessed, learned of, or was directly or indirectly exposed to a traumatic event(s). Criterion B: Intrusion symptoms (one required) – the traumatic event is consistently re-experienced, through things like nightmares and/or flashbacks. Criterion C: Avoidance (one required) – avoidance of stimuli (i.e., thoughts and/or feelings) that is related to the traumatic event, after the trauma has occurred. Criteria D: Negative alterations in cognition and mood (two required) – negative thoughts and/or feelings that initiated or worsened following the traumatic event (i.e., feelings of isolation, negative affect, decreased interest in activities, etc.). Criterion E: Alterations in arousal and reactivity – arousal and/or reactivity that initiated or worsened after the traumatic event (i.e., irritability, hypervigilance, difficulty sleeping, etc.). Criterion F: Duration (required) – experienced symptoms last longer than one month. Criterion G: Functional Significance (required) – symptoms cause functional impairment and/or distress. Criterion H: Exclusion (required) – experienced symptoms are not caused by substance use, medication, or other illness.

Three core predictors of developing PTS are historical or static personal characteristics such as family history or childhood trauma, trauma severity, and social support and concurrent life stressors (Ozer et al., 2008). These variables were found to be significant predictors of PTS development; however, the level of significance varies widely depending upon the individual and the trauma that was experienced (Ozer et al., 2008). Similarly, demographic variables have also been studied for their impact upon the development of PTS and it has been suggested that "none of these factors is plausibly implicated in the psychological processes of trauma response" (Ozer et al., 2008, p. 55). Therefore, demographic factors have a relatively small effect upon PTS development, and they do not result in a deep understanding of the symptomology or disorder (Ozer et al., 2008). As a result, not only is it important to consider individual factors in the occurrence of PTS but the type and severity of the trauma experience (McHugh et al., 2018; Ozer et al., 2008).

PTS symptomology and disorder development have been associated with trauma related occupations, such as the military or first responders, or life experiences, like sexual assault, war, and bullying in offline contexts (McHugh et al., 2018; Ozer et al., 2008; Spence Laschinger & Nosko, 2015). However, researchers has recently discovered that most online related risks can result in symptoms of PTS, including cyber victimization (McHugh et al., 2018).

Posttraumatic Stress and Cyber Victimization

To date, PTS and cyber victimization have been primarily researched within adolescents who were either severely traumatized (Ranney et al., 2016), within high-risk populations (Beckerman & Auerbach, 2014; Maguad et al., 2013), or a part of the general population (Mitchell et al., 2011). With this population, cyber victimization is a positive predictor of PTS (Liu et al., 2020). Although, the societal increase in social media use has been linked to PTS in psychological well-being studies, the body of research has yet to explore this relationship in the general adult population (Beckerman & Auerbach, 2014; McHugh et al., 2018; Mitchell et al., 2011). This gap in the research warrants further investigation into the relationship between cyber victimization and PTS, and the protective factors that may influence this relationship.

While overall reduction of negative experiences online would be ideal, the nature of social media does not tend to allow that level of technological or social control. In fact, some researchers have concluded that due to the nature of cyber victimization, in which victims cannot escape, any forms of treatment are best focussed on developing an individual's resilience rather than depending on the source of bullying to subside (Campbell-Sills et al., 2006; Lazarus, 1966; Luthar & Cicchetti, 2000; McHugh et al., 2018; Raskauskas & Huynh, 2015). Therefore, current research has begun considering the

role of resilience in reducing the negative impact of cyber victimization on PTS (Beckerman & Auerbach, 2014; McHugh et al., 2018; Mitchell et al., 2011; Raskauskas & Huynh, 2015).

2.4 Resilience

Resilience, also known as resiliency, is defined as the personal capacity to recover and adapt from significant emotional trauma (Campbell-Sills et al., 2006; Connor & Davidson, 2003; Lazarus, 1966; Luthar & Cicchetti, 2000), and is a skill that can be learned and increased overtime (McAllister & McKinnon, 2009; McHugh et al., 2018; Richards & Dixon, 2020). It can also be conceptualized as a dynamic process of overcoming "adversity while maintaining normal psychological and physical functioning" (Wu et al., 2013, p. 1). Resilience is a multidimensional construct that embodies biological, developmental, social, psychological, and environmental related variables, that all contribute to an individual's capacity to adapt and overcome (Vissenberg et al., 2022; Wu et al., 2013). To address this marked variability, several theories have been developed to explain resilience as a congruent, general construct (Connor & Davidson, 2003; Tsuang, 2000; Ungar, 2013; Vissenberg et al., 2022). The one measured in this study is summarized below.

An individual begins within a place of biopsychospiritual balance, referred to as homeostasis, and throughout presented intrinsic and extrinsic stressors, the individual demonstrates their ability to cope by using learned adaptions from previous disruptive experiences (Connor & Davidson, 2003; Richardson, 2002). When said adaptions are ineffective within the current situation, the individual's state of homeostasis is ultimately disturbed and therefore a reintegrative process begins, resulting in four possible outcomes: 1) the disruption creates an opportunity for resilience growth and ultimately a

higher level of homeostasis; 2) the individual resumes baseline homeostasis in an attempt to 'ride out' the disturbance; 3) the individual recovers from the disruption, but with incurred personal loss, thus resulting in a lower level of homeostasis; or 4) the individual enters a dysfunctional state that is characterized by maladaptive characteristics to merely cope throughout the presenting stressors (Connor & Davidson, 2003; Richardson, 2002). Throughout this variability, intrinsic and extrinsic stressors are presented, and an individual's ability to cope and adapt marks the representation of resilience (Connor & Davidson, 2003). Therefore, within this theory of homeostasis, resilience is conceptualized as a measurement of successful adaption to intrinsic and extrinsic stressors (Connor & Davidson, 2003). This conceptualization of the construct of resilience, as a generalized measure of adaptability to stress across all individual variability, is what was measured in this study.

The literature surrounding the construct of resilience has demonstrated it to be multidimensional with variances present in cognition, personality, coping mechanisms, and cultural origin, in addition to subjective differences between individual life experiences (Connor & Davidson, 2003; Vissenberg et al., 2022; Wu et al., 2013). There are also findings that suggest there are biological and developmental factors that influence the development and growth of resilience, as well as an individual's susceptibility to stress and trauma (Vissenberg et al., 2022; Wu et al., 2013). Therefore, it is important to outline specific factors of resilience that can provide protection against maladaptive psychological outcomes (Agaibi & Wilson, 2005; Hoge et al., 2007; Lee et al., 2014).

Resilience Factors

Individual Characteristics

   Positive Acceptance of Change. Demonstrating a positive acceptance of change, when change occurs, is a characteristic of resilience because resilient individuals are more tolerant to stressors and have a tenacious trust in personal instincts and competence (Connor & Davidson, 2003). Examples of behaviours that enable positive acceptance of change are optimism and humor. Optimism is defined as the expectation of positive outcomes and implies utilization of sufficient coping strategies, a fulfilling social life, good mental and physical health, and less occasions of hopelessness (Colby & Shifren, 2013; Galatzer-Levy & Bonanno, 2013; Gonzalez-Herero & Garcia-Martin, 2012; Stewart & Yuen, 2011; Wu et al., 2013). Humour has also been found to have several socioemotional benefits such as alleviating tension, attracting social supports, and aiding in the adjustment to new environments and situations (Cameron et al., 2010; Southwick & Charney, 2012; Vaillant, 1992; Wu et al., 2013).

   Control. A significant factor in resilience is the control that an individual demonstrates over their emotions, thoughts, and behaviours (Connor & Davidson, 2003). This control can be demonstrated through a variety of cognitive techniques and strategies such as cognitive reappraisal, changing maladaptive cognitions with positive ones (McRae et al., 2012; Wu et al., 2013), and meaning finding, continually striving to find meaning within one's life as a motivating force to continue onwards (Frankl, 2006; Wu et al., 2013).

   Social Supports. Research has found that creating, developing, and maintaining secure relationships is a key component of individuals' resilience (Connor & Davidson, 2003; Ozbay et al., 2008; Richards & Dixon, 2020; Wu et al., 2013). Having little to no

social supports can leave individuals with greater susceptibility to psychological disorders such as PTSD (Tsai et al., 2012; Wu et al., 2013).

      Spiritual influence. Traditionally, being "spiritual" has referred to religious beliefs or organized religions, but today the term also encapsulates the belief of alternative realms, the growth of the individual spirit, and the journey of discovering meaning, by emphasizing the subjective, individualistic experience (Sharma et al., 2017). In relation to resilience, having spiritual influences present within an individual's life can allow for better coping and adaption to aversive stressors (Connor & Davidson, 2003; Sharma et al., 2017).

Genetics

      There is a wide range of genes and polymorphisms that have been found to contribute significantly to resilience because many of these biologically based factors can directly impact an individual's response and adaptability to stress (Feder et al., 2009; Russo et al., 2012; Wu et al., 2013). Having this knowledge allows researchers the ability to develop drug and gene-based therapies to specifically treat those who suffer from low resilience (Wu et al., 2013)

Epigenetics

      Epigenetics is defined as modifications made to the genome of an individual without directly changing DNA sequences (Wu et al., 2013). Basically, epigenetic changes can be caused by stress-induced factors, which if they occur during critical stages of development, can significantly impact an individual's susceptibility to psychological disorders (Dudley et al., 2011; Tsankova et al., 2007; Wu et al., 2013). These modifications can also impact an individual's capacity to moderate the body's stress response (Wu et al., 2013).

Developmental Factors

The environment in which an individual develops is another critical component of resilience (Rende, 2012; Wu et al., 2013). Aversive events throughout childhood and adolescence can negatively impact the body's stress response, sometimes causing long-term damage (Wu et al., 2013). A key aspect of determining whether an experience will cause growth in resilience or neurological damage is how much control an individual has within the traumatic experience (Feder et al., 2009; Wu et al., 2013). When stressors are uncontrollable a phenomenon known as 'learned helplessness' can emerge, where an individual believes they are unable to change the situation, leading to long term dysregulation in cognition and mood (Overmier & Seligman, 1967; Wu et al., 2013). Therefore, developing within a supportive environment, where unmanageable stressors are avoided and opportunities are provided for conquering various life challenges, allows for mastery oriented learning of resilience and serves as a type of stress inoculation (Richards & Dixon, 2020; Southwick & Charney, 2012; Wu et al., 2013).

The instrument used within this study to measure resilience, the Connor-Davidson Resilience Scale (CD-RISC), measures five broad factors of resilience: "personal competence, high standards, and tenacity"; "trust in one's instincts, tolerance of negative affect, and strengthening effects of stress"; "positive acceptance of change and secure relationships"; "control"; and "spiritual influences" (Connor & Davidson, 2003, p. 80). Furthermore, the authors suggest the scale could also prove to be useful in biologically based studies of resilience, due to the existing relationship between central serotonergic function and resilience (Connor & Davidson, 2003). The CD-RISC may also aid in the screening of individuals for risk factors that predispose them to increased levels of stressors, like demographics, trauma history, or occupation (Connor & Davidson, 2003).

Resilience and Risk Factors

There are numerous factors that influence the likelihood that in individual will experience a significant impact to their overall mental health: socioeconomic status, culture, race, gender, age, sexual orientation, occupation, and disability status, among others (Campbell-Sills et al., 2006; Connor & Davidson, 2003; Lazarus, 1966; Livingstone & Smith, 2014; Luthar & Cicchetti, 2000; Vissenberg et al., 2022). Many of these areas of susceptibility fall within social risk factors (Livingstone & Smith, 2014). Social risk factors are defined as any variable that can impact someone's lifestyle, like wealth, social media, and communication (Hood & Duffy, 2018; Vissenberg et al., 2022). One social risk factor that has been significantly linked to the reduction of resilience is bullying (Livingstone & Smith, 2014; McHugh et al., 2018; Pinter et al., 2017). Research suggests that this reduction in resilience can also lead to aversive mental health outcomes, like posttraumatic stress (Livingstone & Smith, 2014; McHugh et al., 2018; Pinter et al., 2017). However, although the connection between bullying, resilience, and mental health symptomology has been made, an individual's capacity to cope from trauma-related experiences has rarely been applied to the online risk exposures of social media, like cyber victimization (Hinduja & Patchin, 2008; McHugh et al., 2018; Raskauskas & Huynh, 2015; Wills et al., 1996). This is significant because resilience training could drastically decrease the sustained impact that cyber victimization has upon an individual's overall mental health. Research suggests that it is in fact more effective to develop intrinsic protective measures to successfully adapt to various risk factors, then to expect such risks to subside or change (Campbell et al., 2006; Lazarus, 1966; Luthar & Cicchetti, 2000; Vissenberg et al., 2022). Therefore, resilience could be a key component in treatment planning for those that have experienced cyber victimization on social media.

Due to the pervasive nature of social media, researchers are no longer attempting to attain prevention of online risk exposures, but rather addressing the behaviours associated with social networking usage and building resilience (McHugh et al., 2018; Vissenberg et al., 2022). Previous research addressed the exposure to, and risk associated with technological emotional harm, but has failed to evaluate the extent to which harm is inflicted and how to heal (Livingstone & Smith, 2014; McHugh et al., 2018; Pinter et al., 2017; Slavtcheva-Petkova et al., 2015). Therefore, it is necessary to first establish the occurrence of perceived experiences of cyber victimization, then examine if psychological harm has been inflicted in the form of posttraumatic stress symptomology and to what extent, and finally explore if resilience does in fact have a correlational relationship to the impact and presentation of incurred harm.

CHAPTER 3: METHODS

Participants

Participants included anyone 18 years of age and older that had access to the social media applications Facebook, Instagram, Twitter, Reddit, Kijiji communities, and/or TikTok and who were proficient in English. Each participant had to possess a perceived history of cyber victimization, that was evaluated by the CyberBullying Victimization Scale. Exclusion criteria included individuals younger than 18 years of age, and if no event of cyberbullying had taken place based upon the score produced from the CyberBullying Victimization Scale. This was with the exception of participants who participated through the SONA platform who could have been under the age of 18 and were therefore considered emancipated adults; however due to the standardization of the survey scales used in this study, any SONA participant that indicated that they were younger than 18 years of age, their data was excluded from the final results after the data was cleaned for analysis. Participants were asked to identify their gender, which age range they belonged to, ethnicity/race, frequency of social media use, and which social media applications they used with an 'other' option to encapsulate any applications or platforms not identified within the survey. They were also asked within which application the cyber victimization occurred, with an option to select multiple options if applicable. Additionally, participants were asked if they had a history of trauma, if they had engaged in treatment for it, and whether they believed that treatment was successful, and if recovery had occurred. This demographic information was collected primarily to assess how the variances between individuals may contribute to their perceived experiences of cybervictimization and the resulting mental health symptomology.

Recruitment

For the purposes of this study, participants were recruited using convenience sampling through various social media platforms: Facebook, Instagram, Twitter, Reddit, Kijjij Communities, and TikTok, by posting the link to the online Qualtrics survey on various public pages of the social media platforms. If any of the social media pages had moderators, the researcher gained permission to post the survey before doing so. Additionally, because not all public pages within these applications allowed for outside users to post on their main page(s), the survey link was also posted within various comment sections of public pages. Participants were also recruited for this study using compensation via the University of Lethbridge's SONA system. SONA participants received 1 bonus psychology credit for their participation. Other participants who completed the study outside of the SONA system did not receive any compensation. These individuals completed the study on the basis of their own interest and willingness.

Participants received a letter of invitation to the study and indicated their consent to participate. Participation was completely voluntary, anonymous, and confidential (see Appendix 1). The participants were informed of their right to withdraw up until the point of submission, how to get more information about the study, and that the study was part of a thesis project and therefore would be presented to a committee, with the possibility of it being published in an academic journal or presentation. Participants were asked to complete the CyberBullying Victimization Scale, the PCL-5, and the CD-RISC-25, all formatted into one sequential survey. Before completing the measure of PTS, individuals were instructed to fill the form out thinking of their indicated experience(s) of cyberbullying victimization. Upon the competition of the survey, the participants were thanked for their time.

Procedure

Participants were recruited through posts made to the social media platforms Facebook, Instagram, Twitter, TikTok, Reddit, and Kijiji communities as well as SONA where participants chose to be a part of the study by clicking the survey link within the recruitment invitation post. Upon selecting the survey, the participants were invited to take part in the study's survey surrounding cyber victimization, resilience, and posttraumatic stress. The participants were informed of their right to withdraw up until the point of submission, how to get more information about the study, and that the study was part of a thesis project and therefore would be presented to a committee, with the possibility of it being published in an academic journal or presentation. The participants were also instructed that by completing the survey they confirmed that they were 18 years of age or older. For SONA individuals, anyone under the age of 18 is considered an emancipated adult and therefore eligible to participate; however due to the standardization of the survey scales used in this study, any participant that indicated that they were younger than 18 years of age, their data was excluded from the final results after the data was cleaned for analysis. Participants were then asked to complete the demographics related questions, the CyberBullying Victimization Scale, an open-ended question relating to their cyber victimization experience, the PCL-5, and the CD-RISC-25, all formatted into one sequential survey. Before completing the measure of PTS individuals were instructed to fill the form out thinking of their indicated experience(s) of cyberbullying victimization. The survey took participants an average of 10 minutes to complete. Upon the completion of the entire survey, the participants were thanked for their time. Ethics approval was submitted to the Human Subject Research Committee at

the University of Lethbridge. The completed application for ethical review of human participation is included in Appendix 2 of this document.

Measures

Demographic questions. Participants were asked to identify their gender, which age range they belonged to, ethnicity/race, frequency of social media use, and which social media applications they used with an 'other' option to encapsulate any applications or platforms not identified within the survey. They were also be asked within which application the cyber victimization occurred, with an option to select multiple options if applicable. Additionally, participants were asked if they had a history of trauma, if they had engaged in treatment for it, and whether or not they believed that treatment was successful, and if recovery occurred. This demographic information was collected primarily to assess how the variances between individuals may contribute to their perceived experiences of cyber victimization and the resulting mental health symptomology.

Cyberbullying victimization. The CyberBullying Victimization Scale (Lee et al., 2017) was validated using a sample of 286 undergraduate students aged 18 to 25. Evidence of content validity was obtained by utilizing expert panelists to select, evaluate, revise, and retain valid items for the scale (Lee et al., 2017). Internal consistency reliability was also at an acceptable level with a Cronbach's α of 0.95 (Lee et al., 2017). In 2020, Young used the scale in a sample of 618 participants, aged 18 to 77 years old.

The CyberBullying Victimization Scale defines the amount of perceived cyber victimization that the participant has gone through via 27 items that are divided into three subscales: verbal/written victimization (items 1-10), visual/sexual victimization (items

11-20), and social exclusion (items 21-27) victimization (Lee et al., 2017). These items are rated on a 5-point Likert scale (1 = *Not at all*; 5 = *Very Often*), with higher total scores having implications of greater cyberbullying victimization; no perceived experience of cybervictimization resulted in a score of 27 (Lee et al., 2017).

Open-ended question about cyber victimization. Following the CyberBullying Victimization Scale, participants were invited to describe their perceived experience(s) of cyber victimization in an open-ended response. This was the only open-ended question included within the survey. The responses to this open-ended question were counted to reinforce the categories of cyber victimization defined by the authors of the CyberBullying Victimization Scale with the young adult population (Lee at al., 2017; Rouder et al., 2021). Therefore, responses were counted and categorically summarized based on the CyberBullying Victimization Scale's sub-categorical definitions of verbal/written, visual/sexual, and social exclusion victimization. If a response indicated more than one type of cyber victimization, the response was counted in every applicable subtype of victimization. The frequency of responses in each subcategory were recorded in relation to the entire sample population to the nearest tenth of a percent.

Posttraumatic stress symptomology. The PTSD Checklist for The Diagnostic and Statistical Manual of Mental Disorders 5th Edition (PCL-5), a commonly utilized PTSD self-report measure, was used to measure the potential symptoms of posttraumatic stress (PTS). The PCL-5 has been validated on both clinical and non-clinical populations, on individuals between the ages of 18 and 62 years of age (Blevins et al., 2015; Krüger-Gottschalk et al., 2017; Wortmann et al., 2016). Previous studies have found the PCL-5 to be a reliable measure with Cronbach α ranging from 0.90 to 0.95 and test- retest

reliability ranging from 0.82 to 0.90 (Blevins et al., 2015; Krüger-Gottschalk et al., 2017; Wortmann et al., 2016).

The PCL-5 can be used to screen for possible cases of PTS and, in highly elevated cases, can provide a provisional diagnosis of PTSD (Blevins et al., 2015; Krüger-Gottschalk et al., 2017; Weathers et al., 2013; Wortmann et al., 2016). The measure is composed of 20 items that are rated on a five-point scale (0 = *Not at all*; 4 = *Extremely*), and an example item is "In the past month, how much were you bothered by having strong negative feelings such as fear, horror, anger, guilt, or shame?" (Blevins et al., 2015). A total symptom severity score (0 to 80) is determined by summing the scores for each of the 20 items together; the PCL-5 can also be scored in DSM-5 symptom cluster severity scores by summing select items together: cluster B (items 1-5), cluster C (items 6-7), cluster D (items 8-14), and cluster E (items 15-20) (Blevins et al., 2015). The cluster severity scores are based upon some of the DSM-5's criterion for PTSD: criterion B – intrusion symptoms (i.e. flashbacks); criterion C – avoidance (i.e. trauma related thoughts or feelings); criterion D: negative alterations in cognitions and mood (i.e. negative affect); criterion E – alterations in arousal and reactivity (i.e. hypervigilance) (American Psychiatric Association, 2013; Blevins et al., 2015). The National Center for PTSD, U.S. Department of Veterans Affairs (2019) suggests that across samples, a PCL-5 cutoff score between 31-33 indicates probable PTSD. The PCL-5 was described as the most similar to the PCL-S for the DSM-IV, which was the PCL-specific stressor testing instrument, one of the previous versions of the PCL-5 (Blevins et al., 2015). This was fitting to this study, as participants were instructed to anchor their responses to their experiences of cyber victimization (Blevins et al., 2015).

Resilience. The Connor-Davidson Resilience Scale 25-iten version (CD-RISC-25) was used to measure participants' resilience (Connor & Davidson, 2003). The CD-RISC-25 has been validated on several populations over the last twenty years (Aloba et al., 2016; Joyce et al., 2019; Kuiper et al., 2019; Martinez et al., 2021; Notario-Pacheco et al., 2014), including the general adult population between the ages of 18-60 years old, in the United States of America (Connor and Davidson, 2003; Gonzalez et al., 2016). Previous research has found the measure to have acceptable reliability, with a Cronbach α ranging from 0.81 to 0.88, and with sufficient evidence of validity (Aloba et al., 2016; Joyce et al., 2019; Notario-Pacheco et al., 2014).

The CD-RISC-25 purports to measure five interrelated components of resilience that are described as personal competence, acceptance of change and secure relationships, trust/tolerance/strengthening effects of stress, control, and spiritual influences (Windle et al., 2011). Participants answer 25 items on a five-point scale, ranging from 0 (*not true at all*) to 4 (*true nearly all of the time*), with a sample item being "I am able to adapt when changes occur" (Connor & Davidson, 2003). Total score amounts can range from 0 to 100 with higher total scores indicating higher psychological resilience (Connor & Davidson, 2003). Even though the scale is well validated for measuring resilience, there are no standard cut-offs for the measure as the authors argue that resilience can be influenced by two main factors: location/region and the nature of the data sample (Connor & Davidson, 2003; Joyce et al., 2019). Developers have recommended that low resilience is defined as one standard deviation below the mean, and high resilience as one standard deviation above the mean (Connor & Davidson, 2003; Joyce et al., 2019). The recommended interpretation of scoring is by finding the median score of the sample, and dividing the

sample scores into four quartiles, where the lowest quartile (Q1) is low resilience, Q2 is low-average resilience, Q3 is average resilience, and Q4 is high resilience (Connor & Davidson. 2003; Joyce et al., 2019). The scale is not included in Appendix 1 or 2 due to copyright.

Analysis

Statistical analysis was performed using IBM SPSS 27.0.1 software. There were 303 participants, and prior to utilizing the SONA system, 55 participants had completed the survey, so it is possible that 248 participants were recruited from undergraduate level psychology courses at the University of Lethbridge. After the data was cleaned, 256 remained from all recruitment sources. Data was excluded if there was missing responses and therefore a total score could not be calculated; if individuals were below the age of 18; and if no perceived experience of cyber victimization had occurred. The data was assessed for normality to determine if parametric or non-parametric analysis could be conducted. According to Shapiro-Wilks test the data was not normal ($p < 0.001$) so the variables were considered to be non-parametric. Ordinal variables were evaluated for association using Spearman Rank Order Correlations. These correlational analyses were used to determine if there was a significant relationship between cyber victimization and various demographic variables. Correlations were also used to examine the association between cyber victimization and posttraumatic stress, and if posttraumatic stress and resilience had an inverse correlational relationship following a perceived experience(s) of cyber victimization. Ordinal regressions were also run to assess the association between resilience and posttraumatic stress symptomology following an exposure to cybervictimization, however SPSS would not complete the analysis due to the number of incomplete values. This was also true for chi-square analyses, as there were too many

36

missing values to run the statistical operation (i.e., expected cell counts were consistently less than 5). Beyond the three main variables of cyber victimization, posttraumatic stress, and resilience, crosstabs utilizing Spearman Rank Order Correlations were also performed on demographic variables in relation to the other variables. The prediction for the correlational relationships was that higher levels of resilience will correlate with lower levels of posttraumatic stress, regardless of the level of cyber victimization experienced.

CHAPTER 4: RESULTS

Descriptive Statistics

Descriptive statistics were run to summarize and describe the characteristics of the data set. The frequency table for gender (Table 1) showed there were considerably more female respondents than all the other genders combined. Also, two individuals identified as outside the gender selections offered and specified themselves as "genderfluid" and "nonbinary".

Table 1

Frequency of Respondents by Identified Gender

Gender	Frequency	Percent
Male	55	21.5
Female	198	77.3
Two-Spirit	1	0.4
Other: Please Specify	2	0.8
Total	256	100.0

The frequency table for age (Table 2) showed that most respondents were between the ages of 18 to 24, with only 56 respondents being 25 years of age or older. It was expected that the participants that participated in this study would 29 years of age or younger; however, 13.2% of participants were 30 years of age or older. In order to improve the generalizability of the findings to the general adult population, these participants were not excluded from the data set.

Table 2

Frequency of Respondents by Age

Age Range	Frequency	Percent
18-24	200	78.1
25-29	22	8.6
30-34	8	3.1
35-39	7	2.7
40-44	7	2.7
45-49	6	2.3
50-54	3	1.2
55-59	2	0.8
60-64	1	0.4
Total	256	100.0

The frequency table for ethnicity/race (Table 3) showed that most respondents identified as white/Caucasian. Due to respondents being allowed to select multiple ethnicities/races, eight individuals identified with more than one of the options given, and one individual chose not to answer; this explains why the total amount of responses is more than the number of responses. Additionally, the 13 respondents who selected "other" predominantly specified themselves as a mix of two or more ethnicities/races (Table 4); for example, "Asian and Caucasian" and "Middle Eastern and East African".

Table 3

Frequency of Respondents by Ethnicity/Race

Ethnicity/Race	Frequency	Percent
Black/African American	17	6.6
Hispanic/Latino	2	0.8
Asian/Pacific Islander	19	7.4
Aboriginal/Indigenous/Native American	9	3.5
White/Caucasian	203	79.3
Other	13	5.1
Total	263	100.0

Table 4

Categorical Summary of Respondents Who Specified "Other" for Ethnicity/Race

Ethnicity/Race	Frequency	Percent
Turkish	1	0.4
Mixed	5	2.0
East Indian	1	0.4
South Asian	3	1.2
Middle Eastern	2	0.8
African	1	0.4

The frequency table for how frequently participants use social media applications showed that over 84% of respondents use these digital platforms every day, multiple times a day (Table 5). When asked to delineate which apps they were using, most participants identified that they are predominately using Snapchat, Facebook, and Instagram (Table 6). Additionally, 33 participants selected "other: please specify" and responded with answers like "YouTube", "Reddit", and "Pinterest" (Table 7).

Table 5

Frequency of Social Media Use

Usage	Frequency	Percent
Once a month	6	2.3
Once a week	6	2.3
Twice a week	1	0.4
Three to four times a week	7	2.7
Five to six times a week	7	2.7
Every day but only once per day	10	3.9
Every day, multiple times a day	217	84.8
Missing	2	0.8
Total	256	100.0

Table 6

Frequency of Respondents That Use Each Social Media Application

Social Media Application	Frequency	Percent
Snapchat	207	80.9
Twitter	71	27.7
Facebook	196	76.6
Instagram	228	89.1
TikTok	149	58.2
Other: Please Specify	33	12.9

Table 7

Categorical Summary of Respondents Who Specified "Other" for Social Media

Applications

Social Media Application	Frequency	Percent
YouTube	9	3.5
Reddit	6	2.3
Pinterest	7	2.7
Tumblr	2	0.8
LinkedIn	2	0.8
VSCO	5	2.0
Twitter	1	0.4
Discord	4	1.6
Xbox Live	1	0.4
Ifunny	1	0.4
Dating sites	1	0.4
Yubo	1	0.4
Snapchat	1	0.4
House Party	1	0.4
WhatsApp	3	1.2
None	1	0.4

The frequency table for participants to identify which social media applications they have

experienced cyberbullying on showed that Snapchat, Facebook, and Instagram are the

most common platforms (Table 8). Additionally, 27 participants selected "other: please

specify" and responded primarily with answers like "I have not experienced

cyberbullying".

Table 8

Cyberbullying Frequency Within Each Social Media Application

Social Media Application	Frequency	Percent
Snapchat	116	45.3
Twitter	19	7.4
Facebook	96	37.5
Instagram	113	44.1
TikTok	12	4.7
Other: Please Specify	27	10.5

Table 9

Cyberbullying Frequency Within Other Social Media Applications

Categories	Frequency	Percent
I have not experienced cyberbullying	10	3.9
Nexopia	3	1.2
Discord	2	0.8
Dating apps	2	0.8
YouTube	2	0.8
Ask.fm	2	0.8
Email (specifically msn messenger)	2	0.8
Yubo	1	0.4
Reddit	1	0.4
Xbox Live	1	0.4
Photobucket/Deviantart/FF.net	1	0.4
Text message	1	0.4
WhatsApp	1	0.4

Frequency tables were made to summarize if participants had a history of trauma outside

of cyberbullying (Table 10), if the participant selected *Yes*, that they have received

treatment for it (Table 11), they were then asked whether the treatment was successful

and if they have recovered (Table 12). Over 45% of participants identified that they have

had a history of trauma outside of cyberbullying and 78.9% of participants indicated

whether or not they have received treatment for trauma experiences (i.e., 21% made no

selection). Although it is not possible to delineate which participants with a trauma

history have received treatment, it is still possible to interpret the successfulness of

treatment and the perception of recovery based upon the responses. Of the 67 individuals

that have been treated, 30 participants reported that they believe their trauma treatment

was successful and they have recovered. Additionally, even if the treatment was believed

to be successful, 27 participants reported that they have not recovered from their

trauma(s) outside of cyberbullying.

Table 10

Trauma History Outside of Cyberbullying

Response	Frequency	Percent
Yes	117	45.7
No	139	54.3
Total	256	100.0

Table 11

Frequency of Treatment Participation

Response	Frequency	Percent
Yes	66	25.8
No	136	53.1
Missing Values	54	21.1
Total	256	100.0

Table 12

Frequency of Successful Treatment and Perception of Recovery

Response	Frequency	Percent
I believe treatment was successful and I have recovered	30	11.7
I believe treatment was not successful, but I have recovered	10	3.9
I believe treatment was successful, but I have not recovered	24	9.4
I believe treatment was not successful and I have not recovered	3	1.2
Missing Values	189	73.8
Total	256	100.0

Descriptive Statistics for Cyber Victimization, Posttraumatic Stress, and Resilience

Participants responded to the survey which included the CyberBullying Victimization Scale, the PCL-5 to assess PTS, and the CD-RISC-25 to assess resilience. Table 13, 14, and 15 shows the means and standard deviations of CBV, PTS, and resilience test variables, respectively. No experiences of cyber victimization were equal to 27, with higher numbers representing more instances of cyber victimization. The cut-offs for the PCL-5 composite scores and the quartiles for the CD-RISC-25 will be discussed further in the discussion section.

Table 13

Means and Standard Deviations of CBV Scores

	CyberBullying Victimization Variables			
	Verbal/Written	Visual/Sexual	Social Exclusion	Total CBV Score
Mean	19.00	17.00	14.06	54.47
Standard Deviation	7.82	6.82	4.76	17.48

Table 14

Means and Standard Deviations of PTS Scores

	PCL-5 Variables				
	DSM-5 Cluster B Scores	DSM-5 Cluster C Scores	DSM-5 Cluster D Scores	DSM -5 Cluster E Scores	Total PCL-5 Scores
Mean	5.06	2.80	8.40	6.36	22.62
Standard Deviation	4.84	2.33	7.14	5.53	18.06

Table 15

Means and Standard Deviations of Resilience Scores

	CD-RISC-25 Total Score
Mean	65.71
Standard Deviation	17.09

Cyber Victimization and Descriptive Data

Participants were asked if they had a history of trauma outside of cyber victimization and Table 16 shows the significant, inverse correlational relationship between the CBV composite score and participant's history of trauma. This means that as the amount of CBV increases a history of perceived trauma decreases. Additionally, Table 16 also displays the relationship between the visual/sexual victimization subcategory and trauma history, as this was the only cyber victimization subcategory that had a significant, inverse correlation with participants' history of trauma. This indicates that as perceived experiences of visual/sexual CBV increases, a history of perceived trauma decreases.

45

Table 16

History of Trauma and CBV Composite/Subcategory Scores Correlations

Variables	Spearman Correlational Value	Significance
CBV Composite and History of Trauma	-0.135	0.031*
Visual/Sexual and History of Trauma	-0.169	0.007*

*p <0.05

Table 17 shows the correlational relationships between the CBV composite score, and its

subcategories, and the participants' frequency of social media use. CBV as a whole and

the subcategory of social exclusion victimization are the most significantly correlated

with the frequency of use of social media applications in a positive, direct relationship.

However, all the aspects of CBV are positively correlated with the frequency of use in a

significant capacity. This means that as an individual's use of social media increases, the

amount of perceived CBV experiences increases as well. While the correlations are

significant, they are weakly correlated.

Table 17

Frequency of Social Media Use and CBV Composite/Subcategory Scores Correlations

Variables	Spearman Correlational Value	Significance
CBV Composite and Frequency of Use	0.164	0.009*
Verbal/Written and Frequency of Use	0.149	0.017*
Visual/Sexual and Frequency of Use	0.128	0.041*
Social Exclusion and Frequency of Use	0.178	0.004*

*p<0.05

Table 18 shows the correlational relationships between the CBV composite score, its

subcategories, and the participants' age. Social exclusion is the only subcategory not

significantly correlated with age. CBV as a whole and the subcategories of verbal/written

and visual/sexual victimization are correlated with age in a negative, inverse relationship.

This means that as an individual's age increases, the amount of perceived CBV

experiences, specifically in regard to visual/sexual and verbal/written victimization,

decrease. While the correlations are significant, they are weakly correlated.

Table 18

Age of Participants and CBV Composite/Subcategory Scores Correlations

Variables	Spearman Correlational Value	Significance
CBV and Age	-0.182	0.004*
Verbal/Written and Age	-0.144	0.021*
Visual/Sexual and Age	-0.226	<0.001*
Social Exclusion and Age	-0.108	0.086

*$p<0.05$

Table 19 shows the correlational relationships between the CBV subcategory of

visual/sexual victimization and the participants' gender. Visual/sexual is the only

subcategory of the CBV scale that has significant positive correlation with gender. This

means that an individual that identifies as female (coded as the high value in SPSS) is

connected to increases in the amount of visual/sexual CBV perceived experiences. While

the correlations are significant, they are weakly correlated.

Table 19

Female Participants and CBV Visual/Sexual Subcategory Scores

Variables	Spearman Correlational Value	Significance
Females and Visual/Sexual	0.143	0.022*

*$p<0.05$

Categorical Summary of Cyber Victimization

Table 20 summarizes participants' open-ended responses of their perceived cyber

victimization experience(s). When asked to describe their experience(s) of cyberbullying,

over 41.4% of the entire sample population indicated verbal/written cyber victimization,

18.4% indicated visual/sexual victimization, and 9.0% reported accounts of social

exclusion victimization. These recounts included being threatened and/or harassed about

personal appearances or identity: "harassing me online, constantly telling me to kill myself, etc." and "I have been teased online, specifically snapchat. It was just rude comments about my body and my appearance", respectively; receiving sexually explicit content without consent (i.e., "I received inappropriately sexual messages from someone that made me embarrassed and uncomfortable") and private/sexually explicit personal content being posted or sent to other people without consent (i.e., "People have sent sexual photos of me around to their friends"); and being socially excluded: "In the past 30 days, many of my friends have intentionally made it clear that they are group texting and zoom chatting without including me".

Although participants would have been excluded if they had indicated no perceived experience(s) of cyber victimization on the CyberBullying Victimization Scale, almost 8% of participants wrote in their open-ended response that they had not experienced cyber victimization. Additionally, although the question asked participants to share about their perceived cyber victimization experience(s), some participants saw the opportunity to give feedback about the survey and make predictions as to the direction society may be heading in.

Table 20

Categorical Summary of Perceived Experiences of Cyberbullying

Theme	Frequency	Percentage
Verbal/Written Cyber Victimization	106	41.4
Social Exclusion	23	9.0
Visual/Sexual Cyber Victimization	47	18.4

Posttraumatic Stress and Resilience Correlations

Correlational tables summarized the relationships between the three main variables: cyber victimization, posttraumatic stress, and resilience (Table 21). The

48

correlational relationship between CBV and PTS is significant, strong, and positive, meaning that as an individual's perceived experience(s) of CBV increases, so does their symptomology of PTS (Table 21). The correlational relationship between PTS and resilience is significant, weak, and inverse, meaning that as an individual's symptomology of PTS increases, their level of resilience decreases (Table 21). Finally, the relationship between CBV and resilience was not significantly correlated, indicating no relationship between these variables (Table 21).

Table 21

Correlational and Significance Values Between CBV, PTS, and Resilience

Variables	Spearman Correlational Value	Significance
CBV and PTS	0.546	<0.001*
Resilience and PTS	-0.264	<0.001*
CBV and Resilience	-0.074	0.239

*p<0.05

Table 22 shows moderate, significant correlational relationships between the three defined subtypes of cyber victimization and the overall posttraumatic stress composite scores. All three cyber victimization subcategories are positively correlated with posttraumatic stress, with the highest correlated subcategory being visual/sexual victimization. This means that as any subcategory of cyber victimization increases, so does the symptomology of PTS.

Table 22

Posttraumatic Stress Composite Scores and CBV Subcategories Correlations

Variables	Spearman Correlational Value	Significance
Verbal/Written and PTS	0.494	<0.001*
Visual/Sexual and PTS	0.549	<0.001*
Social Exclusion and PTS	0.416	<0.001*

*p<0.05

Table 23 provides data on the correlational relationships between the PCL-5's DSM-5 symptom cluster severity scores and the cyber victimization scale's verbal/written victimization subcategory. All PTS cluster scores are positively correlated with the CBV verbal/written subcategory in a significant, moderate capacity. This means that as each cluster of posttraumatic stress symptomology increases, so does the perceived experience(s) of verbal/written cyber victimization.

Table 23

Posttraumatic Stress Scale DSM-5 Clusters and CBV Verbal/Written Subscale Correlations

Variables	Spearman Correlational Value	Significance
DSM-5 Cluster B and Verbal/Written	0.459	<0.001*
DSM-5 Cluster C and Verbal/Written	0.456	<0.001*
DSM-5 Cluster D and Verbal/Written	0.446	<0.001*
DSM-5 Cluster E and Verbal/Written	0.437	<0.001*

*p<0.05

Table 24 provides data on the correlational relationships between the PCL-5's DSM-5 symptom cluster severity scores and the cyber victimization scale's visual/sexual victimization subcategory. All PTS cluster scores are positively correlated with the CBV visual/sexual subcategory in a significant, moderate capacity. This means that as each cluster of posttraumatic stress symptomology increases, so does the perceived experience(s) of visual/sexual cyber victimization.

Table 24

Posttraumatic Stress Scale DSM-5 Clusters and CBV Visual/Sexual Subscale

Correlations

Variables	Spearman Correlational Value	Significance
DSM-5 Cluster B and Visual/Sexual	0.480	<0.001*
DSM-5 Cluster C and Visual/Sexual	0.464	<0.001*
DSM-5 Cluster D and Visual/Sexual	0.516	<0.001*
DSM-5 Cluster E and Visual/Sexual	0.492	<0.001*

*p<0.05

Table 25 provides data on the correlational relationships between the PCL-5's DSM-5 symptom cluster severity scores and the cyber victimization scale's social exclusion victimization subcategory. All PTS cluster scores are positively correlated with the CBV social exclusion subcategory in a significant capacity. This means that as each assessed cluster of posttraumatic stress symptomology increases, so does the perceived experience(s) of social exclusion cyber victimization.

Table 25

Posttraumatic Stress Scale DSM-5 Clusters and CBV Social Exclusion Subscale

Correlations

Variables	Spearman Correlational Value	Significance
DSM-5 Cluster B and Social Exclusion	0.392	<0.001*
DSM-5 Cluster C and Social Exclusion	0.337	<0.001*
DSM-5 Cluster D and Social Exclusion	0.390	<0.001*
DSM-5 Cluster E and Social Exclusion	0.355	<0.001*

*p<0.05

Table 26 provides data on the correlational relationships between the PCL-5's DSM-5 symptom cluster severity scores and the resilience total composite scores. All the PTS

cluster scores reported are positively correlated with resilience in a significant, but weak

capacity, with clusters D and E sharing the slightly stronger associations with resilience.

This means that as each assessed cluster of posttraumatic stress symptomology increases,

resilience decreases, and vice versa.

Table 26

Posttraumatic Stress Scale DSM-5 Clusters and Resilience Composite Score Correlations

Variables	Spearman Correlational Value	Significance
DSM-5 Cluster B and Resilience	-0.178	0.004*
DSM-5 Cluster C and Resilience	-0.148	0.018*
DSM-5 Cluster D and Resilience	-0.323	<0.001*
DSM-5 Cluster E and Resilience	-0.242	<0.001*

*$p < 0.05$

Table 27 shows the inverse correlational relationships between the posttraumatic stress

composite score, as well as it's DSM-5 cluster scores. DSM-5 cluster E, which is trauma

related arousal and reactivity, is the only cluster that is not significantly correlated with

age. PTS symptomology from a holistic view, as well as the DSM-5 clusters B, C, and D,

are correlated with age in a negative, inverse relationship in a significant capacity. This

means that as an individual's age increases, the severity of PTS symptomology,

specifically in regard to intrusion, avoidance, and negative alterations in cognitions and

mood, decreases.

Table 27

Age of Participants and Posttraumatic Stress Composite and Cluster Score Correlations

Variables	Spearman Correlational Value	Significance
PTS and Age	-0.187	0.003*
DSM-5 Cluster B and Age	-0.244	<0.001*
DSM-5 Cluster C and Age	-0.197	0.001*
DSM-5 Cluster D and Age	-0.155	0.013*
DSM-5 Cluster E and Age	-0.115	0.066

*p<0.05

Table 28 shows the correlational relationships between the posttraumatic stress composite score, as well as it's DSM-5 cluster scores, and the female participants. DSM-5 cluster C is the only cluster that is not significantly correlated with the female gender, and while the other correlations are significant, they are weak. PTS symptomology from a holistic view, as well as the DSM-5 clusters B, D, and E, are correlated with the gender in a positive, direct relationship in a significant capacity. This means that an individual that identifies as female (high value) is connected to an increase in the severity of PTS symptomology, specifically in regard to intrusions, negative alterations in cognitions and mood, and alterations in arousal and reactivity.

Table 28

Female Participants and Posttraumatic Stress Composite and Cluster Score Correlations

Variables	Spearman Correlational Value	Significance
Females and Total PTS	0.179	0.004*
Females and DSM-5 Cluster B	0.124	0.048*
Females and DSM-5 Cluster D	0.182	0.004*
Females and DSM-5 Cluster E	0.183	0.003*

*p<0.05

Table 29 shows the significant, inverse correlation between the resilience scale composite scores and the participants' gender. This means that an individual that identifies as female

(high value), is connected to decreased resilience. Also, while the correlation is significant, it is weak.

Table 29

Participants' Gender and Resilience Correlation

Variable	Spearman Correlational Value	Significance
Females and Resilience	-0.173	0.005*

*p<0.05

This study aimed to first establish the occurrence of perceived experiences of cyber victimization in adults and then determine if different demographic variables were correlated with these experiences. Associations between cyber victimization and posttraumatic stress were also evaluated to determine if psychological harm had been inflicted in the form of posttraumatic stress symptomology and to what extent. Finally, the researcher endeavored to determine if resilience had a correlational relationship with the impact and presentation of incurred harm. The hypotheses posed by the research were that 1) young adults will report experiencing verbal/written, visual/sexual, and social exclusion cyber victimization in the last 30 days, 2) demographic factors will be associated with varying types of cyber victimization in young adults, 3) young adults who report higher rates of cyber victimization will also report more symptoms of posttraumatic stress, and 4) young adults who report higher rates of cyber victimization will also report lower rates of resilience. Although the original hypotheses assumed the sample would be young adults, the inclusion of older adults in the sample allowed tentative conclusions to relate to the age range of over 18 adults.

First, it was found that cyber victimization does occur within the adult population, and it has significant associations with specific demographic variables. Second, cyber

victimization does positively correlate with posttraumatic stress in adults in a significant capacity. Therefore, as adults experience higher amounts of cyber victimization, posttraumatic stress symptom occurrence and severity also increases. Third, resilience was found to have a significant, inverse correlation with posttraumatic stress, however it shared no correlational relationship with cyber victimization. This indicates that although resilience decreases as posttraumatic stress increases in adults, it does not influence the relationship between cyber victimization and posttraumatic stress due to its lack of relationship with cyber victimization.

CHAPTER 5: DISCUSSION

This study examined the occurrence of perceived experiences of cyber victimization in the adult population and its correlation to various demographic variables. It also examined if cyber victimization and posttraumatic stress symptomology were associated and to what extent, and explored if resilience had a correlational relationship to the impact and presentation of incurred harm.

Age

As previously determined within research, there is a correlation between an individual's age and the chances of them experiencing cyber victimization (Alavi et al., 2015; Alqahtani, 2016; Berryman et al., 2018; Best et al., 2014; Bottino et al., 2015; John et al., 2018; Livingstone & Smith, 2014; McHugh et al., 2018). This study took that finding one step further and found preliminary results indicating that cyber victimization has the potential to be negatively correlated with age, suggesting that as age increases, individuals are less likely to experience cyber victimization. The data also suggested that social exclusion was the only subcategory of cyber victimization that did not share a significant correlation with age, indicating that regardless of age, people potentially could have an equal likelihood of being socially excluded within the cyber environment. However, it is important to note that further studies are needed to corroborate these findings as it is unclear how the 13.2% of the sample population above the originally validated age range for the CyberBullying Victimization Scale impacted the generalizability of these results.

Gender

When evaluating the role of gender in cyber victimization, only the subcategory of visual and/or sexual victimization has a significant, positive correlation with gender. This

means that males (the low value in this study) are connected to lower accounts of visual and/or sexual cyber victimization. One possible explanation of this is only 21.5% of participants identified as male, suggesting that the relationship between cyber victimization and gender could shift if the representation in the data set of the study was consistent with that of the general population. However, this finding could be significant and is therefore important for future research to examine and evaluate.

Additionally, participants with gender identities outside of cisgender norms were underrepresented within the sample population's demographics, and therefore it is not possible to agree or disagree with the literature based upon this study's results. This gap in gender representation is consistent throughout the literature; future research should strive to begin filling this void in what is known about cyber victimization (Navarro, 2015).

Trauma History

Due to the traumatic nature of cyber victimization, it was important to account for other possible traumas that a person may have experienced to obtain a more in-depth look at the relationships present between the variables (Rose & Tynes, 2015; Slavtcheva-Petkova et al., 2015; Spence Laschinger & Nosko, 2015). In regard to cyber victimization, if an individual indicates no previous history of traumatic experiences, they have been found to score higher on the CBV scale; this suggests that individuals who have a history of trauma have less accounts of cyber victimization. Smith et al. (2018) suggests that an individual's locus of control (LOC), defined as the perception that experiences are either determined by internal or external factors such as behaviour, is an important factor in the onset and continuation of psychological disorders such as PTSD. Therefore, it is possible that those individuals who have experienced past traumas adjust

their internal LOC to minimize external risk factors, such as CV, that they are exposed to (Ozer et al., 2008; Raskauskas & Huynh, 2015; Rende, 2012; Smith et al., 2018).

Furthermore, when the CBV composite scores are broken down into the three subtypes, visual and/or sexual cyber victimization is the only subcategory that has a significant negative correlation with a previous history of trauma. This suggests that the more trauma someone has experienced prior to cyber victimization, the less likely they are to be victimized in a way that falls within the visual and/or sexual type of victimization. An explanation for this could be that someone who has been traumatized in their past may create an environment in which they are exposed to less threats, such as visual and/or sexual cyber victimization (Lapierre & Dane, 2020; Merwin et al., 2009; Smith et al., 2018).

Frequency of Use

Another significant finding is the relationship between the frequency of social media use and the number of perceived experiences of cyber victimization. This significant, positive correlation means that as an individual uses social media more, their chances of experiencing cyber victimization also increase. The strongest correlation is between frequency of use and social exclusion victimization. The Latin American Post Staff (2019) suggest that one explanation of this is that as individuals use social media more, there is more opportunities to make a 'mistake' and to be excluded from groups. There are three primary reasons behind exclusion: an insufficient contribution to the welfare of the group, possessing undesirable physical or personable attributes, and not conforming to the rules and norms of the group (Latin American Post Staff, 2019). However, other than usage being the necessary action for cyber victimization to occur,

researchers argue that frequency may not be a crucial factor in determining risk of CV, and other factors should be considered (Müller et al., 2018).

Further Implications

Cyber Victimization and Posttraumatic Stress

Based upon the definition of cyber victimization within this study, there are three types of cyber victimization that are identified within the CBV scale; the subcategories are verbal and/or written victimization, visual and/or sexual victimization, and social exclusion victimization (Lee et al., 2017). In congruence with the CBV composite scores, all three subcategories of cyber victimization that were assessed significantly correlate with the posttraumatic stress composite scores. This means that regardless of the type of cyber victimization that an individual has experienced, it shares a relationship with posttraumatic stress symptomology that indicates that as the perceived experiences of cyber victimization increase, so will posttraumatic stress symptoms. Following the PCL-5 administration and scoring criteria recommendations, 30.9% of the participants in this study fall at or above the cut off scores, indicating that they may be described as qualifying for a provisional diagnosis of PTSD (Blevins et al., 2015). However, additional research is needed to further validate these cut-off scores with this population and cyber victimization, because there is the potential that cyber victimization may warrant different cut-off scores than previously validated (National Center for PTSD, U.S. Department of Veterans Affairs, 2019).

Furthermore, when each of the PCL-5's individual DSM-5 symptom cluster severity scores are assessed for correlation with each of the three cyber victimization types, every cluster has a significant correlation with each of the victimization subcategories. This means that even if an individual does not qualify for a provisional

59

diagnosis of PTSD, the type of cyber victimization that they have experienced shares a relationship with each assessed area of the DSM-5's symptom criteria for posttraumatic stress.

Posttraumatic Stress Assessed Symptom Clusters

In continuation of the evaluation of the PCL-5's symptom severity clusters, the resilience composite score has a negative correlational relationship with each individual cluster of the symptom criteria for PTSD. This means that as resilience decreases, the severity scores in each cluster of the PCL-5 increase. Hence, when treating someone with PTS symptoms following experiences of CV, it is important to focus on building and utilizing resilience to lower the PTS symptoms experienced by the client; this is in agreement with the literature (Livingstone & Smith, 2014; McHugh et al., 2018; Pinter et al., 2017).

The least significant correlation is between resilience and cluster c criterion, which is avoidance. One possible explanation of this is that in today's society social media could almost be considered a necessity (Lim et al., 2012; Jindal & Sharma, 2018), and therefore makes it somewhat difficult for individuals to truly avoid the environmentally based reminders of the cyber victimization they have experienced (Lee et al., 2017; McHugh et al., 2018; Ranney et al., 2016). However, people are still free to avoid any associated thoughts or feelings related to the victimization, and therefore avoidance of the trauma stimuli is still possible (Pinter et al., 2017; Raskauskas & Huynh, 2015).

Posttraumatic Stress and Age

When we examine the relationship between posttraumatic stress and age, the preliminary results suggest that posttraumatic stress could share a negative correlational

relationship with age, meaning the older you are the lower your PTS severity scores will be; with one exception. Cluster E on the PCL-5 refers to the DSM-5's criterion for alterations in arousal and reactivity, and it was not significantly correlated to age (American Psychiatric Association, 2013). This suggests that individuals of any age could be equally as likely to experience an initiation or worsening of arousal and/or reactivity, like aggression and hypervigilance, after a traumatic experience (American Psychiatric Association, 2013). Interestingly, the research suggests there is significant evidence that overall levels of resilience have declined in young people (Gillespie, 2019; Perry et al., 2018). This could be one of the reasons why PTS severity scores potentially increase as the age of person decreases (Ditlevsen & Elklit, 2010; Gillespie, 2019). However, there have been no longitudinal studies to confirm that this decline continues in a significant way into adulthood, therefore further research is needed to close this gap.

Gender and Posttraumatic Stress

Similarly, posttraumatic stress in both composite scores and cluster scores, are positively correlated with gender, meaning that men may have lower accounts of posttraumatic stress, in all areas except one. Cluster C does not have a significant correlational relationship with gender and suggests that regardless of gender, individuals will attempt to avoid trauma-related thoughts, feelings, or external reminders. One limitation of this interpretation is that only 21.5% of participants identified as male, suggesting that the relationship between posttraumatic stress and gender could change if the data set was representative of the general population. This finding is not consistent with previous research which found that that gender does not factor into posttraumatic stress development (Ozer et al., 2008). This may be because the females were overrepresented within this study when compared to the general population. It could also

be a result of a lack of research conducted upon the relationship between cyber victimization and posttraumatic stress in the general population, let alone the individual factors that could increase the severity of posttraumatic stress. Further research is needed to promote advancement in the definition of the relationship between CV and PTS, and then to identify how this relationship impacts individual factors such as gender (McHugh et al., 2018; Ozer et al., 2008).

Cyber Victimization and Resilience

When compared to quartiles developed on the general population in North America (Q1= 73 or less, Q2=74-82, Q3=83-90; Q4=91-100), 66.8% of the individuals that participated in this study fall in the low resilience range (Q1), which places them in the lowest 25% of the population in terms of their resilience (Connor & Davidson, 2003). As mentioned by the CD-RISC-25 scale's authors, resilience scores are generally lower in those dealing with psychological distress such as posttraumatic stress, as well as younger adults, such as post-secondary students (Connor & Davidson, 2003). Therefore, the absence of a correlational relationship between resilience and cyber victimization could be a result of individuals reporting resilience at lower rates than what is expected of a normal distribution (Connor & Davidson, 2003; Eshel et al., 2016; Ginez-Silva et al., 2019; Ozbay et al., 2008). Due to a significant amount of this study's recruited participants coming from the SONA system, therefore being undergraduate psychology students, the theory of a lack of resilience in young adults is tentatively supported by the results of this study (Connor & Davidson, 2003).

Gender and Resilience

The last relationship to explore in regard to gender, is the one it shares with resilience. Due to it being a negative correlation, men tend to score higher on resilience

than women. However, as mentioned previously, only 21.5% of participants identified as male suggesting that the relationship between gender and resilience could alter if the gender representation present in the data set of the study was representative of the general population. When comparing these findings to the literature, the results are consistent; the literature noted that gender falls within the social risk factors that can impact how an individual experiences trauma and their overall level of resilience, which this study's results confirm (Campbell-Sills et al., 2006; Connor & Davidson, 2003; Lazarus, 1966; Livingstone & Smith, 2014; Luthar & Cicchetti, 2000). Nevertheless, the literature continues to suggest that due to the pervasive nature of cyber perpetration, it is more important to focus future research on how to build resilience within the population, then to attempt to minimize the risk factors that place individuals at risk of cyber victimization (Slavtcheva-Petkova et al., 2015; Livingstone & Smith, 2014; McHugh et al., 2018; Pinter et al., 2017).

Limitations

Within this study there were several limitations that influenced the interpretations and generalizability of the findings. Below the limitations of this research study are discussed.

Sample Demographics

The sample size and the type of self-reports used in this study also had the potential to limit the scope of the analysis. With more responses it is possible that the data would have demonstrated normalcy and parametric analyses could have been conducted. Additionally, it is unclear in what ways the sample was or was not representative of the general population. With more respondents, and the potential for more variation in the sample population, reported resilience could have fallen into a normal distribution and

possibly identified a relationship between it and cyber victimization. By increasing the sample size in future research, the resulting data will be more readily generalizable to the greater population.

Furthermore, another limitation was that the sample included in this study was not representative of the general adult population. This was due to the use of the University of Lethbridge's SONA recruitment program, in addition to postings on social media applications, for increased data collection which only undergraduate students enrolled in courses within the psychology department had access to. Additionally, they were also given additional credit in their courses for completing this survey, which could have biased their response style. SONA participants could have been more motivated to participate in the study due to this compensation, and potentially exaggerated their experiences of cyber victimization, to the extent of making up the entirety of the experience in their mind so that they were able to participate. This is an aspect that future studies should address in their recruitment methodology.

Cyber Victimization Defined

Interestingly, almost 8% of participants reported that they have no perceived experiences of cyber victimization, however, only response sets that indicated experiences of cyber victimization were keep in the data set, indicating that participants were not able to fully recognize when they experienced events of cyber victimization as defined by the literature (Lee et al., 2017). There is a significant amount of variability in the definition of cyber victimization and a gap in the layperson's understanding of what cyber victimization means and encompasses, which have led to many adults believing that they have been unaffected by cyber victimization, even after acknowledging experiences of it within the survey measures of this study (Alqahtani, 2016; Wang et al.,

2019). This gap in knowledge and the diversity in definitions may also be contributing to the inconsistencies in the actual prevalence and impact of cyber victimization in the adult population (Alqahtani, 2016; Wang et al., 2019). Adopting standardized definitions that are accessible and widely understood within today's society would not only help to further quantify the pervasiveness of cyber victimization, but also strengthen the foundation on which remediation efforts are formed (Alqahtani, 2016; Wang et al., 2019).

Trauma Defined

Within the survey used in this study, trauma was not objectively defined for participants. Therefore, participants defined trauma subjectively, according to their own life experiences and understandings, which may limit how the findings related to a history of trauma are able to be generalized to more clinical populations. Caution should be used in applying these findings as corroborative research.

Online Gaming

Although this study looked at cyber victimization within social media applications, it did not specifically look at the prevalence or types of cyber victimization that may be present specifically within online gaming. However, the online gaming market has experienced rapid growth year-over-year since the 1990s and therefore demands further research into its' potential impacts (Rykala, 2020).

Other Threats to Validity

Another potential threat to the validity of the correlations between cyber victimization and age, was that 13.2% of the participants in this study were outside of the age range that the CyberBullying Victimization Scale was validated on (Lee et al., 2017). Although there is some evidence to support its use up to the age of 77 (Young, 2020), it is

unclear how much this percent of the sample population may have impacted the generalizability of these results.

Additionally, because the 13.2% of the sample population that was 30 years of age or older were not excluded from the data analysis, the findings of this study may not be exclusively generalizable to the young adult population. Therefore, the results may have represented preliminary trends of the general adult population, instead of the young adult population, exclusively. The relationship between age and cyber victimization would have the potential to change if the data set became more equally distributed across ages.

Other Limitations

A potential limitation of this study is that it relies heavily on self-reported data and could contain sources of bias. Although, the results confirm that cyber victimization is prevalent within the adult population, it is still unclear if these results accurately reflect the true prevalence of cyber victimization (Alqahtani, 2016; Wang et al., 2019). This study's participation goals were largely met because of the survey data obtained through the University of Lethbridge's SONA recruitment program and derived from subjective, retrospective information (Alqahtani, 2016). One limitation of retrospective studies is the confounding of memory, which can significantly impact the accuracy of individual's perceived experience(s) of cyber victimization (Alqahtani, 2016; Helmstaedter et al., 1995; Wixted & Squire, 2011). Aspects of memory like selective attention, memory distortion and/or decay, and the individually based ability to retrieve stored information are likely to impact the actual prevalence of cyber victimization accounts (Alqahtani, 2016; Helmstaedter et al., 1995; Wixted & Squire, 2011).

Additionally, these testing instruments asked individuals to recall events from the last 30 days when attending to the survey items, however it is possible that individuals

recalled events that occurred outside of this timeframe when responding (Helmstaedter et al., 1995; Wang et al., 2019; Wixted & Squire, 2011). Another source of potential limitation is the self-selection bias present within this study, which refers to a participant's ability to dictate for themselves whether or not they are willing to participate in the study (Glen, 2017). However, when compared to the literature, the results of this study do not appear to be impacted by disproportionate representation, and due to the anonymity of the participants identity, as well as the non-experimental parameters, self-selection bias does appear to carry significant impact upon the results (Alavi et al., 2015; Athanasiou et al., 2018; Glen, 2017; Livingstone & Smith, 2014; McHugh et al., 2018; Ozer et al., 2008). The literature also suggests that individuals suffering from aversive mental health symptomology, following perceived traumatic experiences, are more likely to participate in applicable studies due to wanting to share about their experiences, rather than abstaining from participation (Newman et al., 2006). This means that those individuals impacted by cyber victimization would select to participate in the study, rather than not, which aligned with the intent of this study's research questions and hypotheses (Newman et al., 2006).

Clinical Implications

Having found that cyber victimization does occur within the young adult population, it is important for clinicians to be aware of this potential source of trauma that could cause individuals to experience aversive mental health symptoms like posttraumatic stress. It is also important for clinicians to develop competency in areas like resilience training, as this can improve a client's mental health, especially following experiences of cyber victimization (Livingstone & Smith, 2014; McHugh et al., 2018; Pinter et al., 2017). However, future research needs to further clarify what is required from clinicians

to address perceived experiences of cyber victimization; future research should focus on recruiting individuals effected by CV and PTS, and then utilize various frameworks of talk therapy and/or interventions to begin delineating what might be an effective course of treatment.

Future Research

There are several areas that could be explored within future research. First, the relationship between a perceived history of trauma and cyber victimization needs to be more fully explored, specifically in the area of visual and/or sexual cyber victimization. This is an aspect that future studies should address in their experimental design by accounting for an individual's locus of control and how this may directly impact their exposures to CV. This could be accomplished through a qualitative design where participants are asked a variety of questions that specifically target their perceived history of trauma and cyber victimization experiences, and their behavioural and/or emotional changes following said events.

Second, to more fully understand why social exclusion within cyber victimization increases with an individual's frequency of use. This is an aspect that future studies should address in their experimental design by further examining and defining social exclusion as a subsection of cyber victimization, and qualitatively evaluating how the increase in social media usage increases cyber social exclusion from firsthand accounts. Due to the definition of cyber victimization frequently being adjusted, it is difficult to identify the subsections that compose it and therefore, difficult to evaluate what factors put individuals at increased risk of CV. By building the literature basis of social exclusion, researchers and clinicians will be better able to understand both the risk and protective factors that are significant to this area of cyber victimization.

Third, the foundation of cyber victimization research on adults needs to expand to help the current basis of cyber knowledge evolve, become more generalizable across the adult population as a whole, and to expand the age ranges of validity of cyber victimization assessment tools. Then, further examination should be made on the potentiality of a significant relationship existing between age and the various areas of cyber victimization. Currently, there are a limited number of studies that address cyber victimization in the general adult population, so by addressing this gap in future participant recruitment, more will become understood about what adults digitally face every day. Additionally, most of what is known about adult cyber victimization is based on studies with over representation of participants under the age of 30; so, it is crucial for future researchers to recruit adults in older age ranges to ensure that the adult cyber victimization literature is proportionally representative of the general population.

Finally, it is important to fill the gap for gender representation, not just regarding males, but other gender identifications such as two-spirit, non-binary, and genderfluid. This is important because not only is the adult population under researched in the area of cyber victimization, so is gender. This would be addressed by future studies through their recruitment methodology and experimental design by purposefully studying individuals that fall within gender minorities or genders under studied within the cyber victimization literature.

Conclusion

After concluding that cyber victimization is prevalent within the adult population, it was found that certain demographic variables are significantly correlated with higher prevalence of cyber victimization. Additionally, cyber victimization is significantly correlated to posttraumatic stress, and the importance of this research has been justified.

However, because resilience does not share a relationship with cyber victimization, future exploration is needed to come to conclusive answers that not only expand what is understood about cyber victimization in adulthood, but also creates action in the development of response plans and individual victimization preparedness on a societal scale.

References

Ademiluyi, A., Li, C., & Park, A. (2022). Implications and preventions of cyberbullying
   and social exclusion in social media: Systematic review. *Journal of Medical
   Internet Research, 6*(1), 1-12. https://formative.jmir.org/2022/1/e30286

Agaibi, C. E., & Wilson, J. P. (2005). Trauma, PTSD, and resilience: A review of the
   literature. *Trauma, Violence, & Abuse, 6*(3), 195-216.
   http://ezproxy.uleth.ca/login?url=https://www.jstor.org/stable/26636658

Alavi, N., Roberts, N., Sutton, C., Axas, N., & Repetti, L. (2015). Bullying victimization
   (being bullied) among adolescents referred for urgent psychiatric consultation:
   Prevalence and association with suicidality. *The Canadian Journal of Psychiatry,
   60*(10), 427-431. https://doi.org/10.1177/070674371506001003

Aloba, O., Olabisi, O., & Aloba, T. (2016). The 10-item connor-davidson resilience scale:
   Factorial structure, reliability, validity, and correlates among student nurses in
   southwestern Nigeria. *Journal of the American Psychiatric Nurses Association,
   22*(1), 43-51. https://doi-org.ezproxy.uleth.ca/10.1177/1078390316629971

Alqahtani, S. (2016). Cyberbullying in colleges and universities: A survey of students'
   experiences and attitudes about cyberbullying. *ProQuest Dissertations Publishing.*
   Retrieved from https://www-proquest-com.ezproxy.uleth.ca/dissertations-
   theses/cyberbullying-colleges-universities-survey/docview/1870036538/se-
   2?accountid=12063

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental
   disorders* (5th ed.). Washington, DC: Author.

Anderson, M., & Perrin, A. (2017). Tech adoption climbs among older adults.
   Information Today, *34*(6), 22. Retrieved from https://link-gale-

com.ezproxy.uleth.ca/apps/doc/A497271376/CPI?u=leth89164&sid=CPI&xid=42

55fac7

Athanasiou, K., Melegkovits, E., Andrie, E. K., Magoulas, C., Tzavara, C. K.,

Richardson, C., Greydanus, D., Tsolia, M., & Tsitsika, A. K. (2018). Cross-

national aspects of cyberbullying victimization among 14-17-year-old adolescents

across seven European countries. *BMC Public Health, 18*(1), 800-815.

https://doi.org/10.1186/s12889-018-5682-4

Bauman, S. (2007, November 2-4). *Cyberbullying: A virtual menace* [Paper]. The

National Coalition Against Bullying National Conference, Melbourne, Australia.

https://www.researchgate.net/profile/Sheri-

Bauman/publication/265937264_Cyberbullying_a_Virtual_Menace/links/553e25b

10cf2522f1835efc3/Cyberbullying-a-Virtual-Menace.pdf

Beckerman, N. L., & Auerbach, C. (2014). PTSD as aftermath for bullied LGBT

adolescents: The case for comprehensive assessment. *Social Work in Mental

Health, 12*(3), 195-211. https://doi.org/10.1080/15332985.2014.888026

Berryman, C., Ferguson, C. J., & Negy, C. (2018). Social media use and mental health

among young adults. *Psychiatric Quarterly, 89*(2), 307-314.

https://doi.org/10.1007/s11126-017-9535-6

Best, P., Manktelow, R., & Taylor, B. (2014). Online communication, social media and

adolescent wellbeing: A systematic narrative review. *Child and Youth Services

Review, 41*, 27-36. https://doi.org/10.1016/j.childyouth.2014.03.001

Blevins, C. A., Weathers, F. W., Davis, M. T., Witte, T. K., & Domino, J. L. (2015). The

posttraumatic stress disorder checklist for DSM-5 (PCL-5): Development and

initial psychometric evaluation: Posttraumatic stress disorder checklist for DSM-

5. *Journal of Traumatic Stress, 28*(6), 489-498. https://doi.org/10.1002/jts.22059

Bonanno, G. A., Westphal, M., & Mancini, A. D. (2011). Resilience to loss and potential

trauma. *Annual Review of Clinical Psychology, 7*(1), 511-535.

https://doi.org/10.1146/annurev-clinpsy-032210-104526

Bonanno, R. A., & Hymel, S. (2013). Cyber bullying and internalizing difficulties: Above

and beyond the impact of traditional forms of bullying. *Journal of Youth and*

Adolescence, 42(5), 685-697. https://doi.org/10.1007/s10964-013-9937-1

Bottino, S. M., Bottino, C. M., Regina, C. G., Correia, A. V., & Ribeiro, W. S. (2015).

Cyberbullying and adolescent mental health: Systematic review. *Cadernos De*

Saúde Pública, 31(3), 463-475. https://doi.org/10.1590/0102-311X00036114

Bouman, J. (2021, July 19). *Social media sharing: The psychology of why we share.*

Everyone Social. https://everyonesocial.com/blog/the-psychology-of-how-and-

why-we-share/

Briere, J., & Elliott, D. M. (2003). Prevalence and psychological sequelae of self-reported

childhood physical and sexual abuse in a general population sample of men and

women. *Child Abuse & Neglect, 27*(10), 1205-1222.

https://doi.org/10.1016/j.chiabu.2003.09.008

Cameron, E. L., Fox, J. D., Anderson, M. S., & Cameron, C. A. (2010). Resilient youths

use humor to enhance socioemotional functioning during a day in the life. *Journal*

of Adolescent Research, 25(5), 716–742.

https://doi.org/10.1177/0743558410366595

Campbell-Sills, L., Cohan, S. L., & Stein, M. B. (2006). Relationship of resilience to
personality, coping, and psychiatric symptoms in young adults. *Behaviour
Research and Therapy, 44*(4), 585-599. https://doi.org/10.1016/j.brat.2005.05.001

Canning, N. (2019, August 21). *Instagram saves are the hot new engagement metric –
Here's why.* Later Blog. https://later.com/blog/instagram-saves/

Colby, D. A., & Shifren, K. (2013). Optimism, mental health, and quality of life: A study
among breast cancer patients. *Psychology, Health & Medicine, 18*(1), 10–20.
https://doi.org/10.1080/13548506.2012.686619

Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The
Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety, 4*(2), 76-
82. https://doi.org/10.1002/da.10113

Definitions of common social media terms. (2021, March 15). Constant Contact.
Retrieved: January 23, 2022 from
https://knowledgebase.constantcontact.com/articles/KnowledgeBase/6260-
definition-of-common-social-media-terms?lang=en_US

Ditlevsen, D. N., & Elklit, A. (2010). The combined effect of gender and age on post
traumatic stress disorder: Do men and women show differences in the lifespan
distribution of the disorder? *Annals of General Psychiatry, 9*(1), 32-
32. https://doi.org/10.1186/1744-859X-9-32

Dooley, J. J., Pyzalski, J., & Cross, D. (2009). Cyberbullying versus face-to-face
bullying: A theoretical and conceptual review. *Journal of Psychology, 217*(4),
182-188. https://doi.org/10.1027/0044-3409.217.4.182

Dovi, A. (2020, June). *Cyberbullying.* Kids Health.
https://kidshealth.org/en/parents/cyberbullying.html

Dudley, K. J., Li, X., Kobor, M. S., Kippin, T. E., & Bredy, T. W. (2011). Epigenetic

　　mechanisms mediating vulnerability and resilience to psychiatric disorders.

　　Neuroscience and Biobehavioral Reviews, 35(7), 1544–1551.

　　https://doi.org/10.1016/j.neubiorev.2010.12.016

Educational Computing Network of Ontario, Ontario Association of School Business

　　Officials: Information & Communication Technology, & the Ministry of

　　Education. (2020). *Know the risks of online gaming.* Cyber Awareness Month.

　　https://ecno.org/wp-content/uploads/2020/11/Know-the-Risks-of-Online-Gaming-

　　FINAL.pdf

Edwards, L., Kontostathis, A. E., & Fisher, C. (2016). Cyberbullying, race/ethnicity and

　　mental health outcomes: A review of the literature. *Media and Communication,*

　　4(3), 71-78. https://doi.org/10.17645/mac.v4i3.525

Ehman, A. C., & Gross, A. M. (2019). Sexual cyberbullying: Review, critique, & future

　　directions. *Aggression and Violent Behaviour, 44*, 80-87.

　　https://doi.org/10.1016/j.avb.2018.11.001

Eshel, Y., Kimhi, S., Lahad, M., & Leykin, D. (2016). Individual, community, and

　　national resiliencies and age: Are older people less resilient than younger people?

　　The American Journal of Geriatric Psychiatry, 24(8), 644-647.

　　https://doi.org/10.1016/j.jagp.2016.03.002

Feder, A., Nestler, E. J., & Charney, D. S. (2009). Psychobiology and molecular genetics

　　of resilience. *Nature Reviews Neuroscience, 10*(6), 446–457.

　　https://doi.org/10.1038/nrn2649

Frankl, V. E. (2006). *Man's Search for Meaning*. Boston, MA: Beacon Press.

Galatzer-Levy, I. R., & Bonanno, G. A. (2013). Heterogeneous patterns of stress over the

    four years of college: Associations with anxious attachment and ego-resiliency.

    Journal of Personality, 81(5), 476-486. https://doi.org/10.1111/jopy.12010

Gillespie, D. (2019). *Teen Brain*. Pan McMillan Australia. Retrieved from:

    https://sacsconsult.com.au/blog/are-young-people-less-resilient-than-they-used-to-

    be/

Gínez-Silva, M. J., Astorga, C. M., & Urchaga-Litago, J. D. (2019). Psychological

    resilience through age and sex resilience. *International Journal of Developmental*

    and Educational Psychology, 4(1), 85-

    94. https://doi.org/10.17060/ijodaep.2019.n1.v4.1513

Glen, S. (2017, July 30). *Self-Selection Bias*. Statistics How To: Elementary Statistics for

    the Rest of Us. https://www.statisticshowto.com/self-selection-bias/

Goldfarb, A. (2019, December 13). *Should you send that DM? Well…if social media is*

    your resume, DM is your inbox. The New York Times.

    https://www.nytimes.com/2019/12/10/smarter-living/how-to-send-a-direct-

    message.html

Gonzalez, S. P., Moore, E. W. G., Newton, M., & Galli, N. A. (2016). Validity and

    reliability of the connor-davidson resilience scale (CD-RISC) in competitive

    sport. *Psychology of Sport and Exercise, 23*, 31-

    39. https://doi.org/10.1016/j.psychsport.2015.10.005

Gonzalez-Herero, V., & Garcia-Martin, M. A. (2012). Personality, activities, and well-

    being: A study based on women in late adulthood. *Journal of Women and Aging*,

    24(2), 152–168. https://doi.org/10.1080/08952841.2012.639662

Green, B. L., Lindy, J. D., & Grace, M. C. (1985). Posttraumatic stress disorder toward

    DSM-IV. *The Journal of Nervous and Mental Disease, 173*(6), 633-649.

Helmstaedter, C., Pohl, C., & Elger, C. E. (1995). Relations between verbal and

    nonverbal memory performance: Evidence of confounding effects particularly in

    patients with right temporal lobe epilepsy. *Cortex, 31*(2), 345-

    355. https://doi.org/10.1016/S0010-9452(13)80367-X

Hinduja, S. (2021, October 21). *Cyberbullying in 2021 by age, gender, sexual orientation,*

    and race. Cyberbullying Research Center.

    https://cyberbullying.org/cyberbullying-statistics-age-gender-sexual-orientation-

    race

Hinduja, S., & Patchin, J. W. (2008). Cyberbullying: An exploration analysis of factors

    related to offending and victimization. *Deviant Behaviour, 29*(2), 129-156.

    https://doi.org/10.1080/01639620701457816

Hockey Canada. (n.d.). *Cyberbullying and bullying prevention.*

    https://www.hockeycanada.ca/en-ca/hockey-

    programs/safety/cyberbullying/facts/examples-kids-teens-adults

Hoge, E. A., Austin, E. D., & Pollack, M. H. (2007). Resilience: Research evidence and

    conceptual considerations for posttraumatic stress disorder. *Depression and*

    Anxiety, 4(2), 139-152. https://doi.org/10.1002/da.20175

Hood, M., & Duffy, A. L. (2018). Understanding the relationship between cyber-

    victimisation and cyber-bullying on social network sites: The role of moderating

    factors. *Personality and Individual Differences, 133*, 103-108.

    https://doi.org/10.1016/j.paid.2017.04.004

HubSpot. (2022, August 9). *Social media definitions: The ultimate glossary of terms you should know.* https://blog.hubspot.com/marketing/social-media-terms#:~:text=Comment%20%2D%20A%20comment%20is%20a,message%20on%20a%20social%20network.

JC Social Media. (2015, February 23). *Social media interaction.* https://www.jcsocialmedia.com/social-media-interaction/

Jenaro, C., Flores, N., & Frias, C. P. (2018). Systematic review of empirical studies on cyberbullying in adults: What we know and what we should investigate. *Aggressive and Violent Behavior, 38*(1), 113-122. https://doi.org/10.1016/j.avb.2017.12.003

Jindal, S., & Sharma, K. (2018). Intend to analyze social media feeds to detect behavioral trends of individuals to proactively act against social threats. *Procedia Computer Science, 132*, 218-225. https://doi.org/10.1016/j.procs.2018.05.191

John, A., Glendenning, A. C., Marchant, A., Montgomery, P., Stewart, A., Wood, S., Lloyd, K., & Hawton, K. (2018). Self-harm, suicidal behaviours, and cyberbullying in children and young people: Systematic review. *Journal of Medical Internet Research, 20*(4). https://doi.org/10.2196/jmir.9044

Joyce, S., Tan, L., Shand, F., Bryant, R. A., & Harvey, S. B. (2019). Can resilience be measured and used to predict mental health symptomology among first responders exposed to repeated trauma? *Journal of Occupational and Environmental Medicine, 61*(4), 285-292.

Krüger-Gottschalk, A., Knaevelsrud, C., Rau, H., Dyer, A., Schäfer, I., Schellong, J., & Ehring, T. (2017). The German version of the posttraumatic stress disorder checklist for DSM-5 (PCL-5): Psychometric properties and diagnostic

utility. *BMC Psychiatry, 17*(1), 379-379. https://doi.org/10.1186/s12888-017-1541-6

Kuiper, H., van Leeuwen, C. C., Stolwijk-Swuste, J. M., & Post, M. W. (2019). Measuring resilience with the connor-davidson resilience scale (CD-RISC): Which version to choose? *Spinal Cord, 57*(5), 360-366. https://doi.org/10.1038/s41393-019-0240-1

Lapierre, K. R., & Dane, A. V. (2020). Cyberbullying, cyber aggression, and cyber victimization in relation to adolescents' dating and sexual behavior: An evolutionary perspective. *Aggressive Behavior, 46*(1), 49-59. https://doi.org/10.1002/ab.21864

Latin American Post Staff. (2019). Marketers must reflect on social media as a cause of social exclusion. *Latin American Post.* Retrived from: https://latinamericanpost.com/29621-marketers-must-reflect-on-social-media-as-a-cause-of-social-exclusion

Lazarus, R. S. (1966). *Psychological Stress and the Coping Process,* McGraw-Hill, New York, NY.

Lee, J., Abell, N., & Holmes, J. L. (2017). Validation of measures of cyberbullying perpetration and victimization in emerging adulthood. *Research on Social Work Practice, 27*(4), 456-467. https://doi.org/10.1177/1049731515578535

Lee, J. S., Ahn, Y. S., Jeong, K. S., Chae, J. H., & Choi, K. S. (2014). Resilience buffers the impact of traumatic events on the development of PTSD symptoms in firefighters. *Journal of Affective Disorders, 162*, 128-133. https://doi.org/10.1016/j.jad.2014.02.031

Lim, S., Cha, S. Y., Park, C., Lee, I., & Kim, J. (2012). Getting closer and experiencing

together: Antecedents and consequences of psychological distance in social

media-enhanced real-time streaming video. *Computers in Human Behavior, 28*(4),

1365-1378. https://doi.org/10.1016/j.chb.2012.02.022

Liu, C., Liu, Z., & Yuan, G. (2020). The longitudinal influence of cyberbullying

victimization on depression and posttraumatic stress symptoms: The mediation

role of rumination. *Archives of Psychiatric Nursing, 34*(4), 206-

210. https://doi.org/10.1016/j.apnu.2020.05.002

Livingstone, S., & Smith, P. K. (2014). Annual research review: Harms experienced by

child users of online and mobile technologies: The nature, prevalence and

management of sexual and aggressive risks in the digital age. *Journal of Child

Psychology and Psychiatry, 55*(6), 635-654. https://doi.org/10.1111/jcpp.12197

Loomly Blog. (n.d.). *Likes definition.* https://blog.loomly.com/likes-

definition/#:~:text=Likes%20definition%3A%20likes%20are%20a,including%20i

n%2Dfeed%20display%20advertisements.

Lufkin, B. (2020, December). *How online gaming has become a social lifeline.* The

British Broadcasting Corporation (BBC).

https://www.bbc.com/worklife/article/20201215-how-online-gaming-has-become-

a-social-lifeline

Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: Implications for

interventions and social policies. *Development and Psychopathology, 12*(4), 857-

885. https://doi.org/10.1017/S0954579400004156

Magenest. (2022, August 9). *Social sharing 101: Definition, benefits & examples.

https://store.magenest.com/blog/social-sharing-benefits-and-examples/*

Martinez, S., Jones, J. D., Brandt, L., Hien, D., Campbell, A. N., Batchelder, S., &

    Comer, S. D. (2021). Factor structure and psychometric properties of the Connor–

    Davidson resilience scale (CD-RISC) in individuals with opioid use

    disorder. *Drug and Alcohol Dependence, 221*(108632), 1-

    7. https://doi.org/10.1016/j.drugalcdep.2021.108632

Mathews, B. L., Koehn, A. J., Abtahi, M. M., & Kerns, K. A. (2016). Emotional

    competence and anxiety in childhood and adolescence: A meta-analytic review.

    Clinical Child and Family Psychology Review, 19(2), 162-184.

    https://doi.org/10.1007/s10567-016-0204-3

McAllister, M., & McKinnon, J. (2009). The importance of teaching and learning

    resilience in the health disciplines: A critical review of the literature. *Nurse*

    Education Today, 29(4), 371-379. https://doi.org/10.1016/j.nedt.2008.10.011

McHugh, B. C., Wisniewski, P., Rosson, M. B., & Carroll, J. M. (2018). When social

    media traumatizes teens: The roles of online risk exposure, coping, and post-

    traumatic stress. *Internet Research, 28*(5), 1169-1188.

    https://doi.org/10.1108/IntR-02-2017-0077

McInroy, L. B., & Mishna, F. (2017). Cyberbullying on online gaming platforms for

    children and youth. *Child & Adolescent Social Work Journal, 34*(6), 597-607.

    https://doi.org/10.1007/s10560-017-0498-0

McRae, K., Ciesielski, B., & Gross, J. J. (2012). Unpacking cognitive reappraisal: Goals,

    tactics, and outcomes. *Emotion, 12*(2), 250-255. https://doi.org/10.1037/a0026351

Merwin, R. M., Rosenthal, M. Z., & Coffey, K. A. (2009). Experiential avoidance

    mediates the relationship between sexual victimization and psychological

    symptoms: Replicating findings with an ethnically diverse sample. *Cognitive*

Therapy and Research, 33(5), 537-542. https://doi.org/10.1007/s10608-008-9225-7

Mesch, G. S. (2009). Parental mediation, online activities, and cyberbullying. *Cyberpsychology & Behavior, 12*(4), 387-393. https://doi.org/10.1089/cpb.2009.0068

Mitchell, K. J., Finkelhor, D., Wolak, J., Ybarra, M. L., & Turner, H. (2011). Youth internet victimization in a broader victimization context. *Journal of Adolescent Health, 48*(2), 128-134. https://doi.org/10.1016/j.jadohealth.2010.06.009

Moffat, B. (2021, November 8). *The power of likes on social media: Friend or foe?* The Future of Customer Engagement and Experience. https://www.the-future-of-commerce.com/2019/10/07/the-power-of-likes-on-social-media/

Müller, C. R., Pfetsch, J., Schultze-Krumbholz, A., & Ittel, A. (2018). Does media use lead to cyberbullying or vice versa? Testing longitudinal associations using a latent cross-lagged panel design. *Computers in Human Behaviour, 81*, 93-101. https://doi.org/10.1016/j.chb.2017.12.007

National Center for PTSD, U.S. Department of Veterans Affairs. (2019, March 28). DSM-5 criteria for PTSD. *Brainline.* https://www.brainline.org/article/dsm-5-criteria-ptsd?gclid=Cj0KCQiAosmPBhCPARIsAHOen-NlROaV7mGcdILxYoK5pyikhSV_zSU4dlfR8DxTC2Xv9afLLuPzTjkaAjIUEALw_wcB

Navarro, R. (2015). Gender issues and cyberbullying in children and adolescents: From gender differences to gender identity measures. *Cyberbullying Across the Globe,* 35-61. https://doi.org/10.1007/978-3-319-25552-1_2

Newman, E., Risch, E., & Kassam-Adams, N. (2006). Ethical issues in trauma-related research: A review. *Journal of Empirical Research on Human Research Ethics, 1*(3), 29–46. https://doi.org/10.1525/jer.2006.1.3.29

Notario-Pacheco, B., Martínez-Vizcaíno, V., Trillo-Calvo, E., Perez-Yus, M. C., Serrano-Parra, D., & Garcia-Campayo, J. (2014). Validity and reliability of the Spanish version of the 10-item CD-RISC in patients with fibromyalgia. *Health and Quality of Life Outcomes, 12*(1), 14. https://doi.org/10.1186/1477-7525-12-14

Overmier, J. B., & Seligman, M. E. (1967). Effects of inescapable shock upon subsequent escape and avoidance responding. *Journal of Comparative and Physiological Psychology, 63*(1), 28–33. https://doi.org/10.1037/h0024166

Ozbay, F., Fitterling, H., Charney, D., & Southwick, S. (2008). Social support and resilience to stress across the life span: A neurobiologic framework. *Current Psychiatry Reports, 10*(4), 304–310. https://doi.org/10.1007/s11920-008-0049-7

Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2008). Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychological Trauma: Theory, Research, Practice, and Policy, 129*(1), 3-36. https://doi.org/10.1037/1942-9681.S.1.3

Partridge, C. (2008). The technical development of internet email. *IEEE Annals of the History of Computing, 30*(2), 3-29. https://doi.org/10.1109/MAHC.2008.32

Perrin, S., Meiser-Stedman, R., & Smith, P. (2005). The children's revised impact of event scale (CRIES): Validity as a screening instrument for PTSD. *Behavioural and Cognitive Psychotherapy, 33*(4), 487-498. https://doi.org/10.1017/S1352465805002419

Perry, N. B., Dollar, J. M., Calkins, S. D., Keane, S. P., & Shanahan, L. (2018).
Childhood self-regulation as a mechanism through which early overcontrolling
parenting is associated with adjustment in preadolescence. *Developmental
Psychology,* 54(8), 1542-1554. https://doi.org/10.1037/dev0000536

Pinter, A., Wisniewski, P., Xu, H., Rosson, M. B., & Carroll, J. (2017). Adolescent online
safety: Moving beyond formative evaluations to designing solutions for the future.
*Proceedings of the 2017 Conference on Interaction Design and Children, ACM,
Stanford, CA,* 352-357.

Ranney, M. L., Patena, J. V., Nugent, N., Spirito, A., Boyer, E., Zatzick, D., &
Cunningham, R. (2016). PTSD, cyberbullying and peer violence: Prevalence and
correlates among adolescent emergency department patients. *General Hospital
Psychiatry, 39*(1), 32-38. https://doi.org/10.1016/j.genhosppsych.2015.12.002

Raskauskas, J., & Huynh, A. (2015). The process of coping with cyberbullying: A
systematic review. *Aggression and Violent Behaviour, 23*(1), 118-125.
https://doi.org/10.1016/j.avb.2015.05.019

Rende, R. (2012). Behavioral resilience in the post-genomic era: Emerging models
linking genes with environment. *Frontiers in Human Neuroscience, 6*(50).
https://doi.org/10.3389/fnhum.2012.00050

Rice, E. S., Haynes, E., Royce, P., & Thompson, S. C. (2016). Social media and digital
technology use among Indigenous young people in Australia: A literature review.
International Journal for Equity in Health, 15(81), 1-16.
https://doi.org/10.1186/s12939-016-0366-0

Richards, M., & Dixon, L. B. (2020). Resilience. *Psychiatric Services, 71*(8), 878-879.
https://doi.org/10.1176/appi.ps.71804

Richardson, G. E. (2002). The metatheory of resilience and resiliency. *Journal of Clinical*

    Psychology, 4(4), 307–321. https://doi.org/10.1002/jclp.10020

Robertiello, G. (2018). Texting. In B. A. Arrigo (EDS), *The SAGE encyclopedia of*

    surveillance, security, and privacy (pp. 1032-1033). SAGE Publications.

Rose, C. A., & Tynes, B. M. (2015). Longitudinal associations between

    cybervictimization and mental health among U.S. adolescents. *Journal of*

    Adolescent Health, 57(3), 305-312.

    https://doi.org/10.1016/j.jadohealth.2015.05.002

Rouder, J., Saucier, O., Kinder, R., & Jans, M. (2021). What to do with all those open-

    ended responses? Data visualization techniques for survey researchers. *Survey*

    Practice, 1-9.

    https://doi.org/10.29115/SP-2021-0008.

Russo, S. J., Murrough, J. W., Han, M. H., Charney, D. S., & Nestler, E. J. (2012).

    Neurobiology of resilience. *Nature Neuroscience, 15*(11), 1475–1484.

    https://doi.org/10.1038/nn.3234

Rykała, P. (2020). The growth of the gaming industry in the context of creative

    industries. *Biblioteka Regionalisty*, (20), https://doi.org/124-136.

    10.15611/br.2020.1.10

Saltz, S. B., Rozon, M., Pogge, D. L., & Harvey, P. D. (2020). Cyberbullying and its

    relationship to current symptoms and history of early life trauma: A study of

    adolescents in an acute inpatient psychiatric unit. *The Journal of Clinical*

    Psychiatry, 81(1), 1-7. https://doi.org/10.4088/JCP.18m12170

Sharma, V., Marin, D. B., Koenig, H. K., Feder, A., Iacoviello, B. M., Southwick, S. M.,

    & Pietrzak, R. H. (2017). Religion, spirituality, and mental health of U.S. military

veterans: Results from the national health and resilience in veterans study. *Journal
of Affective Disorders, 217*, 197-204. https://doi.org/10.1016/j.jad.2017.03.071

Slavtcheva-Petkova, V., Nash, V. J., & Bulger, M. (2015). Evidence on the extent of
harms experienced by children as a result of online risks: Implications for policy
and research. *Information, Communication, & Society, 18*(1), 48-62.
https://doi.org/10.1080/1369118X.2014.934387

Slonje, R., & Smith, P. K. (2008). Cyberbullying: Another main type of bullying*?
Scandinavian Journal of Psychology, 49*(2), 147-154.
https://doi.org/10.1111/j.1467-9450.2007.00611.x

Smith, N. B., Sippel, L. M., Presseau, C., Rozek, D., Mota, N., Gordon, C., Horvath, M.,
& Harpaz-Rotem, I. (2018). Locus of control in US combat veterans: Unique
associations with posttraumatic stress disorder 5-factor model symptom
clusters. *Psychiatry Research, 268*, 152-
156. https://doi.org/10.1016/j.psychres.2018.07.015

Social Bee. (2022a, August 9). *Post*. https://socialbee.io/glossary/post/

Social Bee. (2022b, August 9). *Like*.
https://socialbee.io/glossary/like/#:~:text=A%20Like%20is%20an%20action,fast
%20way%20to%20display%20approval.

Social Media. (2013). Internet. In Gale (Eds.), *Gale encyclopedia of everyday law* (3rd
ed.). Gale.

Southwick, S. M., & Charney, D. S. (2012). The science of resilience: Implications for
the prevention and treatment of depression. *Science, 338*(6103), 79–82.
https://doi.org/10.1126/science.1222942

Spence Laschinger, H. K., & Nosko, A. (2015). Exposure to workplace bullying and post-traumatic stress disorder symptomology: The role of protective psychological resources. *Journal of Nursing Management, 23*(2), 252-262. https://doi.org/10.1111/jonm.12122

Stewart, D. E., & Yuen, T. (2011). A systematic review of resilience in the physically ill. *Psychosomatics 52*(3), 199–209. https://doi.org/10.1016/j.psym.2011.01.036

Tsai, J., Harpaz-Rotem, I., Pietrzak, R. H., & Southwick, S. M. (2012). The role of coping, resilience, and social support in mediating the relation between PTSD and social functioning in veterans returning from Iraq and Afghanistan. *Psychiatry, 75*(2), 135–149. https://doi.org/10.1521/psyc.2012.75.2.135

Tsankova, N., Renthal, W., Kumar, A., & Nestler, E. J. (2007). Epigenetic regulation in psychiatric disorders. *Nature Reviews Neuroscience, 8*(5), 355–367. https://doi.org/10.1038/nrn2132

Tsuang, M. T. (2000). Genes, environment and mental health wellness. *American Journal of Psychiatry, 157*(4), 489–491. https://doi.org/10.1176/appi.ajp.157.4.489

Vaillant, G. E. (1992). The historical origins and future potential of Sigmund Freud's concept of the mechanisms of defence. *International Journal of Psychoanalysis, 19*(1), 35–50.

Vissenberg, J., d'Haenens, L., & Livingstone, S. (2022). Digital literacy and online resilience as facilitators of young people's well-being? A systematic review. *European Psychologist, 27*(2), 76-85. https://doi.org/10.1027/1016-9040/a000478

Wang, M. J., Yogeeswaran, K., Andrews, N. P., Hawi, D. R., & Sibley, C. G. (2019). How common is cyberbullying among adults? Exploring gender, ethnic, and age

differences in the prevalence of cyberbullying. *Cyberpsychology, Behavior and Social Networking, 22*(11), 736-741. https://doi.org/10.1089/cyber.2019.0146

Wartella, E., Rideout, V., Montague, H., Beaudoin-Ryan, L., & Lauricella, A. (2016). Teens, health and technology: A national survey. *Media and Communication, 4*(3), 13-23. https://doi.org/10.17645/mac.v4i3.515

Weathers, F. W., Litz, B. T., Keane, T. M., Palmieri, P. A., Marx, B. P., & Schnurr, P. P. (2013). The PTSD Checklist for *DSM-5* (PCL-5). Scale available from the National Center for PTSD at www.ptsd.va.gov.

Wei, H. T., Chen, M. H., Huang, P. C., & Bai. Y. M. (2012). The association between online gaming, social phobia, and depression: An internet survey. *BioMed Central Psychiatry, 12*(92), 1-7. https://doi.org/10.1186/1471-244X-12-92

Wells, T. M., & Dennis, A. R. (2016). To email or not to email: The impact of media on psychophysiological responses and emotional content in utilitarian and romantic communication. *Computers in Human Behaviour, 54*(2016), 1-9. http://dx.doi.org/10.1016/j.chb.2015.07.036

West, C. (2021, May 25). *Your guide to social media comments: How to post and respond.* Sprout Social. https://sproutsocial.com/insights/social-media-comments/

Willard, N. E. (2007). *Cyberbullying and cyberthreats: Responding to the challenge of online social aggression, threats, and distress.* Research Press.

Wills, T. A., Blechman, E. A., & McNamara, G. (1996). Family support, coping, and competence, in Hetherington, E.M. and Blechman, E. A. (Eds), *Stress, Coping, and Resilency in Children and Families,* Routledge, New York, NY, pp. 107-133.

Windle, G., Bennett, K. M., & Noyes, J. (2011). A methodological review of resilience

    measurement scales. *Health and Quality of Life Outcomes, 9*(1), 8-25.

    https://doi.org/10.1186/1477-7525-9-8

Wixted, J. T., & Squire, L. R. (2011). The medial temporal lobe and the attributes of

    memory. *Trends in Cognitive Sciences, 15*(5), 210-217.

    https://doi.org/10.1016/j.tics.2011.03.005

Wortmann, J. H., Jordan, A. H., Weathers, F. W., Resick, P. A., Dondanville, K. A., Hall-

    Clark, B., Foa, E. B., Young-McCaughan, S., Yarvis, J. S., Hembree, E. A.,

    Mintz, J., Peterson, A. L., & Litz, B. T. (2016). Psychometric analysis of the

    PTSD checklist-5 (PCL-5) among treatment-seeking military service

    members. *Psychological Assessment, 28*(11), 1392-1403.

    https://doi.org/10.1037/pas0000260

Young, S. (2020). *The influence of ethnicity on the impact of cyberbullying among adults*.

    [Unpublished doctoral dissertation]. Walden University.

University of
Lethbridge

FIAT LUX

Participation Consent Form

Please read the following letter of information carefully before beginning the survey:

You are invited to participate in a study of cyberbullying, posttraumatic stress and resilience. This study is being conducted by Rebecca Molyneaux, a Master of Education in Counselling Psychology student at the University of Lethbridge (Canada) as part of her thesis research project.

Participation is voluntary. To participate in this study, you must be 18 years of age or older OR an undergraduate student at the University of Lethbridge who has access to SONA. You must also be proficient in English, have experienced cyberbullying, and used social media platforms such as Facebook, Instagram, Twitter, and/or TikTok.

The survey contains 82 questions that pertain to cyberbullying, posttraumatic stress, and resilience. It will take approximately 10 minutes to complete. You may choose to skip any question you prefer not to answer. You may also go back to any previously answered question in the survey and change your answer, up until the point that you submit the survey. You may withdraw your participation entirely at any time by simply closing your browser before you submit your responses and they will not be included. If you choose to withdraw from the study, the responses you provided up to that point will be destroyed. Because your answers are anonymous, after you have submitted your responses it will not be possible to withdraw your responses from the data set because they will not have any identifying information that links them to you.

As with any online survey, neither anonymity nor confidentiality can be completely guaranteed. The survey is being hosted on Qualtrics and their privacy policy can be accessed at **https://www.qualtrics.com/privacy-statement/**.

There are no direct benefits associated with participation in this study, although you will be contributing significantly to psychological research and you may also gain some insight into how your experience(s) of cyberbullying has affected you.

Participants may experience distress at having to recall memories of cyberbullying. If you are experiencing distress while completing this survey, consider reaching out to local mental health resources or other forms of support that you have accessed in the past. You can also consider calling toll free **1 (833) 456-4566 (Canada)** or **1(800) 273-8255 (USA)** if you live in Canada or the USA. If you live outside of Canada or the USA, please

consider accessing the resources listed on this page for your specific area
https://checkpointorg.com/global/ or
https://en.wikipedia.org/wiki/List_of_suicide_crisis_lines.

The responses to this survey will be kept on a password-protected computer with access restricted to Rebecca Molyneaux, Master of Education student at the University of Lethbridge and Dr. Elaine Greidanus, thesis supervisor. Additionally, the anonymous data will also be viewed by Dr. Thelma Gunn and Dr. Lorraine Beaudin, who are members of the thesis committee. The anonymous data will be securely filed for one year following the defense of the thesis and will then be destroyed.

Responses to the survey will be presented in an anonymous, aggregate form as part of Rebecca Molyneaux's Master's thesis. The anonymous, aggregated findings may also be published in scholarly presentations and publications.

For more information on this study or for a summary of the findings (available after April 30, 2021), you may contact me at rebecca.molyneaux@uleth.ca. Questions regarding your rights as a participant in this research may be addressed to the Office of Research Ethics, University of Lethbridge (Phone: 403-329-2747 or Email: research.services@uleth.ca).

This research study has been reviewed for ethical acceptability and approved by the University of Lethbridge Human Participant Research Committee.

If you wish to participate in the survey, please select *Accept* below. By selecting *Accept,* you are confirming that you are 18 years of age or older, OR that you are an undergraduate student at the University of Lethbridge with access to SONA, and you have read and understand the above consent information. Thank you in advance for your time and participation.

☐ Accept   ☐ Decline

1) What gender do you identity with?
   a) Female
   b) Male
   c) Transwoman
   d) Transmale
   e) Agender
   f) Two-Spirit
   g) Choose not to answer
   h) Other: Please specify

2) Which age range do you belong to?
   a) 16-17
   b) 18-24
   c) 25-29
   d) 30-34
   e) 35-39
   f) 40-44
   g) 45-49
   h) 50-54
   i) 55-59
   j) 60-64
   k) 65-69
   l) 70+

3) What is your ethnicity/race?
   a) White/Caucasian
   b) Hispanic/Latino
   c) Black/African American
   d) Asian/Pacific Islander
   e) Aboriginal/Indigenous/Native American
   f) Other: Please Specify

4) How frequently do you use social media applications (ex. Facebook, Instagram, TikTok, Twitter, etc)?
   a) Once a month
   b) Once a week
   c) Twice a week
   d) Three to four times a week
   e) Five to six times a week
   f) Every day but only once per day
   g) Every day, multiple times a day

5) Which social media applications do you use? (please check all that apply)
   a) Snap chat
   b) Twitter
   c) Facebook
   d) Instagram
   e) TikTok
   f) Other: please specify

6) Within which social media applications have you personally experienced cyberbullying? (Cyberbullying includes a wide variety of experiences that includes receiving intimidating and/or threatening messages; being harassed in posts, comments, or private messages; intentionally being excluded and/or blocked from online games, group chats, or messages intended to make you feel upset or left out; and/or having embarrassing and/or sexual explicit content of yourself sent to other people without your consent, or having embarrassing or sexually explicit content sent to you from someone else without your consent which then made you feel embarrassed or uncomfortable) **(please check all that apply)**
   a) Snap chat
   b) Twitter
   c) Facebook
   d) Instagram
   e) TikTok
   f) Other: please specify

7) Do you have a history of trauma outside of cyberbullying?
   a) Yes
   b) No

8) If yes, have you participated in treatment for it?
   a) Yes
   b) No

9) If yes, do you believe the treatment was successful? Do you believe you have recovered?
   a) I believe treatment was successful and I have recovered
   b) I believe treatment was not successful, but I have recovered

c) I believe treatment was successful, but I have not recovered

d) I believe treatment was not successful and I have not recovered

CYBERBULLYING VICTIMIZATION (CBV) SCALE

Instructions: The statements below concern your level of current cyberbullying victimization. Please read each statement carefully and circle one of the numbers to the right to indicate how often you have done these things *during the past 30 days*.

Drawing from your own experiences, please circle the answers that fits best, where: 1 = Not at all 2 = Rarely 3 = Sometimes 4 = Often 5 = Very often

Verbal/Written Victimization

1. I have received mean text messages on the mobile phone which made me uncomfortable.   1   2   3   4   5

2. Someone has said mean things about me on instant messengers or in chat rooms to upset me.   1   2   3   4   5

3. Someone has posted hurtful messages about me on social media platforms such as Facebook or Instagram to damage my reputation.   1   2   3   4   5

4. I have been sent threatening statements via e-mail or text message which made me insecure.   1   2   3   4   5

5. *No one has ever said mean things about me to my friends on instant messengers or in chat rooms to damage my relationship.   1   2   3   4   5

6. People have spread rumors about me online to embarrass me.   1   2   3   4   5

7. I have received insulting online messages from someone repeatedly.   1   2   3   4   5

8. I have continued to receive mean text messages or e-mails even after I have asked the sender to stop.   1   2   3   4   5

9. People have said mean things about me on websites repeatedly to embarrass the person.   1   2   3   4   5

10. I have received intentional messages from someone which made me upset.	1	2	3	4	5

11. Someone has posted embarrassing pictures or videos of me on social media platforms without my permission, to damage my reputation.	1	2	3	4	5
12. Someone has sent private pictures or videos of mine on instant messengers or in chat rooms without my permission to upset me.	1	2	3	4	5
13. People have posted humiliating pictures or videos of mine on instant messengers or in chat rooms to embarrass me.	1	2	3	4	5
14. *I have never received sexually explicit things from someone via e-mail or text message that embarrassed me.	1	2	3	4	5
15. I have received unwanted sexual suggestions from someone in chat rooms that embarrassed me.	1	2	3	4	5
16. People have made sexual jokes about me online to damage my reputation.	1	2	3	4	5
17. People have attempted to humiliate me by posting sexual comments or photos on social media platforms such as Facebook or Instagram.	1	2	3	4	5
18. People have spread sexual rumors about me online to damage my reputation.	1	2	3	4	5
19. I have been sent sexually explicit things from someone via e-mail or text message repeatedly which made me uncomfortable.	1	2	3	4	5
20. Someone has teased me about my appearance online repeatedly to upset me.	1	2	3	4	5

Social Exclusion Victimization

21. Someone has blocked me in a chat room to upset me.   1   2   3   4   5

22. Someone has blocked me on an instant messenger to upset me.   1   2   3   4   5

23. Someone has rejected my request to play online games together to upset me.   1   2   3   4   5

24. *I have never been excluded from online group activities which made me feel left out.   1   2   3   4   5

25. Someone has ignored my comments on social media platforms to embarrass me.   1   2   3   4   5

26. Someone has led members of an online community to exclude me.   1   2   3   4   5

27. I have been excluded from online group activity or online social community repeatedly which made me feel left out.   1   2   3   4   5

In your own words can you please briefly describe the experience(s) of cyberbullying that occurred? Please do not include any information that would identify you or the person(s) doing the cyberbullying. (Cyberbullying includes a wide variety of experiences that includes receiving intimidating and/or threatening messages; being harassed in posts, comments, or private messages; intentionally being excluded and/or blocked from online games, group chats, or messages intended to make you feel upset or left out; and/or having embarrassing and/or sexual explicit content of yourself sent to other people without your consent, or having embarrassing or sexually explicit content sent to you from someone else without your consent which then made you feel embarrassed or uncomfortable)
(Please remember you can skip this question, and if you are upset or distressed there are resources listed below that you can reach out to for support)

If you are experiencing distress while completing this survey, consider reaching out to local mental health resources or other forms of support that you have accessed in the past. If you are experiencing significant discomfort or distress please consider calling toll free **1 (833) 456-4566 (Canada)** or **1(800) 273-8255 (USA)** if you live in Canada or the USA. If you live outside of Canada or the USA, please consider accessing the resources listed on this page for your specific area **https://checkpointorg.com/global/** or **https://en.wikipedia.org/wiki/List_of_suicide_crisis_lines**.

The PCL-5

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. As you respond to the following questions please keep your previously indicated experiences of cyberbullying in mind. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	0	1	2	3	4
4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4

8. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0	1	2	3	4
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0	1	2	3	4
15. Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4

17. Being "superalert" or watchful or on guard?	0	1	2	3	4
18. Feeling jumpy or easily startled?	0	1	2	3	4
19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4

If you are experiencing distress while completing this survey, consider reaching out to local mental health resources or other forms of support that you have accessed in the past. If you are experiencing significant discomfort or distress please consider calling toll free **1 (833) 456-4566 (Canada)** or **1(800) 273-8255 (USA)** if you live in Canada or the USA. If you live outside of Canada or the USA, please consider accessing the resources listed on this page for your specific area **https://checkpointorg.com/global/** or **https://en.wikipedia.org/wiki/List_of_suicide_crisis_lines**.

The Connors-Davidson Resilience Scale

If you are experiencing distress while completing this survey, consider reaching out to local mental health resources or other forms of support that you have accessed in the past. If you are experiencing significant discomfort or distress please consider calling toll free **1 (833) 456-4566 (Canada)** or **1(800) 273-8255 (USA)** if you live in Canada or the USA. If you live outside of Canada or the USA, please consider accessing the resources listed on this page for your specific area **https://checkpointorg.com/global/** or **https://en.wikipedia.org/wiki/List_of_suicide_crisis_lines**.

Thank you for completing the survey.

UNIVERSITY OF LETHBRIDGE
APPLICATION FOR ETHICAL REVIEW OF HUMAN PARTICIPANT RESEARCH

The Human Participant Research Committee is mandated by University policy to examine and approve research proposals to ensure that ethical principles and standards respecting the personal welfare and rights of participants have been recognized and accommodated. The Committee follows the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans. This Policy Statement is available at: http://www.pre.ethics.gc.ca/eng/resources-ressources/news-nouvelles/nr-cp/2010-12-07/. Other guidelines may be used when appropriate to the research in question.

You are encouraged to speak with the Office of Research Ethics about any outstanding issues, and seek the advice of the Committee when appropriate.

You are asked to respond to the following items and **to submit your application and all supporting documents electronically to Susan Entz, Office of Research Ethics (susan.entz@uleth.ca).** If possible, please use a different font for your responses, and submit your application as one document including the supporting documentation (e.g., letters of introduction, interview questions, questionnaires, telephone survey scripts, letters of consent, etc.). Please note that this form is meant to accommodate many different types of research and thus some questions may not be applicable in your case. If a question clearly does not apply to your research, please simply mark it with a N/A or explain why it is not relevant/appropriate. If you are not sure if it applies, please feel free to ask.

The Committee deals with applications as expeditiously as possible. **Please allow up to one month from the date of receipt for Committee review**.

Following approval of your protocol, any changes in procedures relevant to the ethical issues involved in the treatment of human participants are to be reported immediately to the Office of Research Ethics.

If the research involves invasive procedures, a Hazard Assessment Report (available from Risk and Safety Services or on-line at: http://www.uleth.ca/risk-and-safety-services/hazard-management) must be completed and submitted to Risk and Safety Services for review. Review and approval by the Biosafety Committee may also be required.

SECTION A: GENERAL - *This information is collected under the authority of the* <u>*Alberta Post-secondary Learning Act*</u> *and will be used for administrative purposes associated with the ethical review of your human participant research protocol. It will be treated in accordance with the privacy protection provisions of Part 2 of the* <u>*Alberta Freedom of Information and Protection of Privacy Act*</u> *(*http://foip.alberta.ca/legislation/act/index.cfm*). Questions about the collection, use or disclosure of your personal information collected on this form can be directed to Susan Entz, Ethics Officer, Office of Research Ethics, University of Lethbridge, Lethbridge, Alberta T1K 3M4, Phone: (403) 329-2747 and Email:* susan.entz@uleth.ca*.*

A1.   Researcher/Applicant Information

Name: Rebecca Louise Molyneaux
Department: Master of Education in Counselling Psychology
Telephone Number: +1 (780) 898-8825
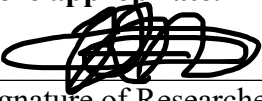Email address: rebecca.molyneaux@uleth.ca

Are you: ☐ Faculty ☐ Staff ☐ Doctoral Student

☒ Graduate Student ☐ Undergraduate Student

☐ Other:

A2.   Co-Investigator's Information

Name: N/A
Department:
Telephone Number
Email address:

Are you: ☐ Faculty ☐ Staff ☐ Graduate Student

☐ Graduate Student ☐ Undergraduate Student

☐ Other:

The protection of human participants will be assured in accordance with the Tri-Council Policy Statement or with other guidelines if these have been agreed upon as more appropriate.
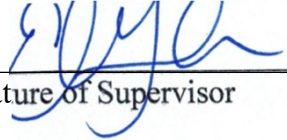
_____   August 13, 2020
Signature of Researcher/Applicant   Date

When the Researcher/Applicant is a student, the supervisor must sign the following statement:

"I have reviewed this application and I deem it ready to submit to the Human Participant Research Committee for review."

_____   ___August 12, 2020___
Signature of Supervisor   Date

_____

A3.   Student Thesis/Project Committee

a) Is this research for an undergraduate or graduate thesis/project or applied/independent study?

☒ Yes   ☐ No

b) If applicable, please provide the names, departments and phone numbers of your Committee members.

Name: Department: Email or telephone:

1. Dr. Elaine Greidanus (Supervisor)   Education   elaine.greidanus@uleth.ca
2. Dr. Lorraine Beaudin (Committee)   Education   beaulc@uleth.ca
3. Dr. Thelma Gunn (Committee)   Education   thelma.gunn@uleth.ca

_____

A4.   Title of Project:

Indicate the title of your project. If this project is funded, the title should be the same as the title of your funded research.

Cyber Victimization: Do Resilience and Posttraumatic Stress Play a Role?

_____

A5.   Location of Research

a) Indicate where the research will be conducted.

The study was constructed within Qualtrics, where participants will complete the study online, by clicking a link that will lead them to the survey. The survey can be completed from anywhere that there is access to the social media applications Facebook, Instagram, Twitter, Reddit, Kijiji Communities, and/or TikTok, and therefore will not be limited to a geographical area.

b) Does this project involve other centers, jurisdictions or countries? If so, please provide a list of the other groups who will be reviewing this protocol. (For example, the Lethbridge College Research Ethics Board must approve all posters to be posted on their campus.)

Not applicable.

c) Will this study involve schools located in Zone 6?   ☐ Yes   ☒ No
Note: If this study will involve schools within Zone 6, once HPRC approval has been granted, district/school approval will be coordinated through Research and Placement Services in the Faculty of Education prior to the start of the study. You will be notified upon receipt of district/school approval. If the study involves schools outside of Zone 6, it is the responsibility of the researcher to ensure that the appropriate district/school approval is obtained prior to the start of the research; a copy of the approval must be submitted to the Office of Research Ethics.

d) Is this a class project (i.e., not an applied or independent study)?☐ Yes   ☒ No
If so, specify the course number and title:
Note: A class project application is normally submitted by an instructor who is teaching a research course and whose students will be conducting a mini-research project for the course.

A6.   Start/End Dates of Research Involving Human Participants

Please state the proposed start and end dates of the research involving human participants. **NOTE: Research involving human participants cannot begin until Human Participant Research Committee approval has been received.**

Start date: As soon as the ethics application is approved.

End date: April 30, 2021

A7.   Scholarly Review

Some research projects may require scholarly review. What type of scholarly review has this research undergone?

☐ None
☐ External Peer Review (e.g., granting agency)
☒ Supervisory Committee (e.g., student research projects)
☐ Special Review (please provide details)

A8.   Funding

a) Is the project funded? ☐ Yes   ☒ No

Funding approved – please specify source(s):
      1. N/A

Funding pending – please specify source(s):
      1. N/A

A9.   Conflict of Interest

a) Are any of the investigators or their immediate family receiving any personal remuneration (including investigator payments and recruitment incentives but excluding trainee remuneration or graduate student stipends from the funding of this study that is not accounted for in the study budget?
    ☐ Yes   ☒ No

b) Do any of the investigators or their immediate family have any proprietary interests in the product under study or the outcome of the research including patents, trademarks, copyrights, and licensing agreements?
    ☐ Yes   ☒ No

c) Is there any compensation for this study that is affected by the study outcome?
    ☐ Yes   ☒ No

d) Do any of the investigators or their immediate family receive payments of other sorts from the funder for this study (i.e., grants, compensation in the form of equipment or supplies, retainers for ongoing consultation and honoraria)?
    ☐ Yes   ☒ No

e) Are any of the investigators or their immediate family, members of the funder's Board of Directors, Scientific Advisory Panel or comparable body?
    ☐ Yes   ☒ No

f) Do you have any other relationship, financial or non-financial, that, if not disclosed, could be construed as a conflict of interest?
    ☐ Yes   ☒ No

Please explain if the answer to any of the above questions is Yes.

SECTION B: DETAILS ABOUT THE PROJECT

B1.   Purpose of Project

Provide a brief and clear statement of the context and objectives of the project, including the key questions and/or hypotheses of the project (in two pages or less).

This study quantitatively evaluates if a relationship exists between cyberbullying, resilience, and posttraumatic stress within adults. Within the literature cyberbullying, cyber victimization, and cyberbullying victimization are used interchangeably. The term cyberbullying is used throughout this proposal and appended sections/survey because it was thought to be the most approachable of the three terms for individuals who are not necessarily within academia. The hypothesis is that a relationship between the three variables does in fact exist, and that higher presenting levels of resilience correlate with lower presenting levels of posttraumatic stress following perceived cyberbullying. This study is being conducted because of the increasing prevalence of cyberbullying, and the lack of research being conducted on the adult population in the area, and the lack of connections being made to posttraumatic stress and resilience.

B2. Description of Participants

a) Indicate who you will recruit as potential participants in this study (e.g., undergraduates, school children, seniors) including any inclusion or exclusion criteria (e.g., over 65 years of age, self-identified as gay, speaks Blackfoot, speaks English), and the number of participants required.

Potential participants are any individuals 18 years of age and older that have access to the social media applications Facebook, Instagram, Twitter, Reddit, Kijiji communities, and/or TikTok and who are proficient in English. Exclusion criteria includes individuals younger than 18, and if no event of cyberbullying has taken place. This is with the exception of participants who are participating through the SONA platform who can be under the age of 18 and are therefore considered emancipated adults. Within the SONA application the only exclusion criteria is if no event of cyberbullying has taken place. The study aims to have 250 participants, however there will be no cap upon the maximum number of participants gathered. Participant gender, age range, and ethnicity/race will be collected for demographic information, however none of these responses will result in exclusion from the study.

b) If the participants or facilities will be offered compensation or incentive for participating in the research, provide details. Specify the amount, what the compensation/incentive is for, and how payment will be determined for participants who do not complete the study.

Participants who complete this study via the University of Lethbridge's SONA system will receive 1 bonus psychology credit for their participation. If participants chose to withdraw from the survey after they have read the consent and agreed to participate, they will still receive the bonus credit as they are free to withdraw at any point once they have begun the study. Participants who withdraw early from the study or get skipped to the end due to meeting exclusion criteria should still receive the 1 percent. As the Qualtrics link is

posted on SONA, as long as the student opens and signs up for the study, they should receive the credit. Other participants who complete the study outside of the SONA system will not receive any compensation. These individuals will be completing the study on the basis of their own interest and willingness.

B3. Recruitment of Participants

a)   Briefly describe how participants will be recruited (e.g., letter, phone, poster, third party) and who will do the recruiting. Describe any existing position of authority or power between the recruiter and the participant. Researchers should avoid recruiting their own students. If this is unavoidable, researchers should provide the name of a research assistant, not associated with the course, who will do the recruiting and obtain consent when the researcher is not present.

If posters, newspaper advertisements, radio announcements or letters of invitation are being used, append these to this application. If recruiting through a third party, attach confirmation of permission from the organization if available.

Participants will be recruited through convenience sampling from anyone accessible within the online applications of Facebook, Instagram, Twitter, and TikTok. A link will be posted to the Qualtrics survey on various public pages within Facebook, Twitter, Instagram, and TikTok. Examples of these public pages include but are not limited to: Buzzfeed; Amazon Prime Video; Research Articles, Books and Literature; Research Methodology; Therapy Memes; Global News; and U of L Used Book Exchange. These public pages will be chosen based upon number of members and/or followers; frequency of posting content; and relatability to research, adults, psychology, cyberbullying, resilience, and posttraumatic stress.

Additionally, because not all public pages within these applications allow for outside users to post on their main page(s), the survey link will also be posted within various comment sections of public pages. Outside of the public networking sites, the survey will also be posted to university pages such as The University of Lethbridge page on Facebook and Instagram.

Although all pages/posts that the survey would be posted on are public, some pages may require permission to post, at which point I will pursue the proper channels and obtain permission before posting. When requesting for permission to post upon public pages, the following script would be used:

"To whom it may concern,

My name is Rebecca Molyneaux and I am a Master of Education in Counselling Psychology student at the University of Lethbridge. As part of my degree requirements, I am conducting a research study on the prevalence of cyberbullying within the adult population and exploring whether or not posttraumatic stress and resilience play a role in these experiences of cyberbullying. To reach individuals that may have been affected by these experiences I am posting the survey invitation and link on highly frequented pages of Facebook, Instagram, Twitter, and TikTok. Due to vast audience that your page

reaches, I am submitting this request to post my survey invitation on your page. Please see the invitation below:

No character limit: "Participants needed for research on cyberbullying!
We are looking for participants to take part in a study exploring cyberbullying and whether or not resilience and posttraumatic stress play a role. If you are 18 years of age or older and have experienced any form of cyberbullying, you are eligible to participate in this study! Cyberbullying includes a wide variety of experiences that includes receiving intimidating and/or threatening messages; being harassed in posts, comments, or private messages; intentionally being excluded and/or blocked from online games, group chats, or messages intended to make you feel upset or left out; and/or having embarrassing and/or sexual explicit content of yourself sent to other people without your consent, or having embarrassing or sexually explicit content sent to you from someone else without your consent which then made you feel embarrassed or uncomfortable.
The anonymous online survey will take approximately 10 minutes to complete.
If you would like to complete the study, click the link: (Qualtrics link)
Thank you in advance for your time and participation."

Character limit: "Participants needed for research on cyberbullying!
If you're 18 or older, and have experienced cyberbullying, you're eligible to participate!
The anonymous survey will take about 10 minutes to complete. Thank you in advance for your participation
https://uleth.qualtrics.com/jfe/form/SV_8qfsXQajfdWTNQ1"

By allowing my invitation to be posted on your page, more individuals who have been affected by cyberbullying have the opportunity to participate in this pivotal research. This may also allow researchers to gain meaningful insight into how adults are affected by cyberbullying, and may also encourage further research into how those individuals can be better treated and helped in their time of need following these experiences.

Please let me know if you have any questions, comments, or concerns. Thank you for your time and consideration, and I look forward to hearing from you!

Kind regards,
Rebecca Molyneaux"

When posting the link on Facebook, Instagram, and TikTok pages and comment sections, participants will read a short invitation to the study, which will look like:

"Participants needed for research on cyberbullying!
We are looking for participants to take part in a study exploring cyberbullying and whether or not resilience and posttraumatic stress play a role. If you are 18 years of age or older and have experienced any form of cyberbullying, you are eligible to participate in this study! Cyberbullying includes a wide variety of experiences that includes receiving

intimidating and/or threatening messages; being harassed in posts, comments, or private messages; intentionally being excluded and/or blocked from online games, group chats, or messages intended to make you feel upset or left out; and/or having embarrassing and/or sexual explicit content of yourself sent to other people without your consent, or having embarrassing or sexually explicit content sent to you from someone else without your consent which then made you feel embarrassed or uncomfortable.
The anonymous online survey will take approximately 10 minutes to complete.

If you would like to complete the study, click the link:
https://uleth.qualtrics.com/jfe/form/SV_8qfsXQajfdWTNQ1

Thank you in advance for your time and participation."

This invitation link will be primarily posted in the comments section of video/picture posts on Instagram and TikTok, due to the nature of these applications.

When posting the link on Twitter pages and any other social media pages with character limitations, participants will read a short invitation to the study, which will look like (heavily condensed because of character limitations):

"Participants needed for research on cyberbullying!
If you're 18 or older, and have experienced cyberbullying, you're eligible to participate!
The anonymous survey will take about 10 minutes to complete. Thank you in advance for your participation
https://uleth.qualtrics.com/jfe/form/SV_8qfsXQajfdWTNQ1"

When recruiting participants through the University of Lethbridge, this study will be posted on their SONA system which recruits undergraduate psychology students. The following recruitment invitation will be used:

"Looking for individuals to participate in a study on cyberbullying. You will be asked to complete a survey which will take approximately 10 minutes to complete. In this study we are interested in adults' experiences of cyberbullying and whether or not these perceived experiences impact mental health, specifically in relation to posttraumatic stress symptoms. Additionally, because resilience can impact symptoms of posttraumatic stress, you will also be asked about resilience in your life. Through your participation we hope to gain a better understanding of whether or not adults experience cyberbullying and how this is related to factors of well-being.

If you wish to participate, please click the link:
https://uleth.qualtrics.com/jfe/form/SV_8qfsXQajfdWTNQ1

 Thank you in advance for your time and participation."

b) When and how will people be informed of the right to withdraw from the study? What procedures will be followed for people who wish to withdraw at any point during the study? What happens to the information contributed to the point of withdrawal?

Participants will be informed of their right to withdraw from the study within the consent letter, prior to the beginning of the survey. The participants would be informed on the survey's consent page that they are free to withdraw from the study up until the submission of their responses. Due to all answers being completely anonymous the data would be impossible to retrieve and remove from the study after submission. Any information gathered within the study before the submission point would not be officially recorded, and therefore if the participant chose to withdraw before submission, all contributed information would be eliminated. Participants would also be informed that they could go back and change their answers by pressing the back button, up until the point of submission.

c) Indicate how participants can obtain feedback on the research findings.

Due to the anonymity of the survey, feedback results will not be offered to participants individually, as it will not be possible contact them, as stated in the consent form. Additionally, only aggregate data will be reported (i.e., tallies, and open-ended response themes). Participants would be informed on the survey's consent page that the study has the potential to be published after the final thesis has been completed; therefore, participants who are able to look up journal articles may have access to the findings once the article is published. Participants may also contact the researcher to obtain a summary of the findings. Contact information for the researcher will be provided upon the consent page for their use.

Does the research specifically involve Aboriginal groups or communities? ☐ Yes
☒ No
If the answer was Yes, please complete section B3d to B3j. Sections d to j were not completed due to the research study not specifically involving Aboriginal groups or communities.

B4.   Description of Research Procedures
Provide a summary of the design and procedures of the research. Provide details of data collection (instrument, location, use of recording, etc.), and time commitment for the participants, etc. If applicable, identify any special training or qualifications that may be required for data gatherers. *NOTE: all study measures (e.g., questionnaires, interview guides, surveys, rating scales, etc.) must be appended to this application. If the procedures include a blind, indicate under what conditions the code will be broken, what provisions have been made for this occurrence, and who will have the code.*

Procedure
Participants will be recruited through posts made to the social media platforms Facebook, Instagram, Twitter, TikTok, Reddit, and Kijiji communities as well as SONA where participants will choose to be a part of the study by clicking the survey link within the recruitment invitation post. Upon selecting the survey, the participants will be invited to take part in the study's survey surrounding cyber victimization, resilience, and posttraumatic stress. The participants will be informed of their right to withdraw up until the point of submission, how to get more information about the study, and that the study is a part of a thesis project and therefore will be presented to a committee, with the possibility of it being published in an academic journal or presentation. The participants will also be instructed that by completing the survey they are confirming that they are 18 years of age or older. For SONA individuals, anyone under the age of 18 is considered an emancipated adult and therefore eligible to participate. Participants would then be asked to complete the demographics related questions, the CyberBullying Victimization Scale, the PCL-5, and the CD-RISC-25, all formatted into one sequential survey. Before completing the measure of PTSD individuals would be instructed to fill the form out thinking of their indicated experience(s) of cyberbullying victimization. The survey should take participants 10 minutes to complete. Upon the competition of the survey as a whole, the participants would be thanked for their time.
Materials
Demographic Questions
Participants will be asked to identify their gender, which age range they belong to, ethnicity/race, frequency of social media use, and which social media applications they use with an 'other' option to encapsulate any applications or platforms not identified within the survey. They will also be asked within which application the cyber victimization occurred, with an option to select multiple options if applicable. Additionally, participants will also be asked if they have a history of trauma, if they have engaged in treatment for it, and whether or not they believe that treatment was successful, and if recovery occurred. This demographic information will be collected primarily to

assess the how variances between individuals that may contribute to their perceived experiences of cyber victimization and the resulting mental health symptomology.

CyberBullying victimization. The CyberBullying Victimization scale defines the amount of perceived cyberbullying that the participant has gone through via 27 items that are divided into three subscales: verbal/written victimization, visual/sexual victimization, and social exclusion victimization (Lee et al., 2017). These items are rated on a 5-point Likert scale (0 = Not at all; 5 = Very Often), with higher total scores having implications of greater cyberbullying victimization (Lee et al., 2017). Evidence of content validity was obtained by utilizing expert panelists to select, evaluate, revise, and retain valid items for the scale (Lee et al., 2017). Internal consistency reliability was also at an acceptable level with a Cronbach's a of 0.95 (Lee et al., 2017).

Resilience. Resilience is multifaceted (Bonanno et al., 2011; Campbell-Sills et al., 2006; Connor & Davidson, 2003; Joyce et al., 2019). Research suggests that one of the best scales to measure resilience is the Connors Davidson Resilience Scale (Windle et al., 2011). The Connors-Davidson Resilience Scale 25-item scale (CD-RISC-25) assesses the adaptation to, and tolerance of, experiences surrounding illness, pressure, failure, feelings, and change (Connor & Davidson, 2003; Joyce et al., 2019).

The Connors-Davidson resilience scale 25 item version. Participants answer 25 items on a five-point scale, ranging from 0 ('not true at all') to 4 ('true nearly all of the time'), with a sample item being "I am able to adapt when changes occur" (Connor & Davidson, 2003). Total score amounts can range from 0 to 100 with higher total scores indicating higher psychological resilience (Connor & Davidson, 2003). Previous research has found the measure to have acceptable reliability, with a Cronbach   ranging from 0.81 to 0.88, and with sufficient evidence of validity (Aloba et al., 2016; Joyce et al., 2019; Notario-Pacheco et al., 2014). Even though the scale is well validated for measuring resilience, there are no standard cut-offs for the measure (Joyce et al., 2019). Developers have recommended that low resilience is defined as one standard deviation below the mean, and high resilience as one standard deviation above the mean (Connor & Davidson, 2003; Joyce et al., 2019). The recommended interpretation of scoring is by finding the median score of the sample, and dividing the sample scores into four quartiles, where the lowest quartile (Q1) is low resilience, Q2 is low-average resilience, Q3 is average resilience, and Q4 is high resilience (Connor & Davidson. 2003; Joyce et al., 2019). Scale included within the research proposal in Appendix 1.

Posttraumatic stress disorder symptomology. Symptoms of posttraumatic stress (PTSD) were measured by PTSD Checklist for The Diagnostic and Statistical Manual of Mental Disorders 5th Edition (PCL-5) (Blevins et al., 2015; Krüger-Gottschalk et al., 2017; Wortmann et al., 2016). The measure is composed of 20 items that are rated on a four-point scale (0 = Not at all; 5 = extremely), and an example item is "In the past month, how much were you bothered by having strong negative feelings such as fear, horror, anger, guilt, or shame?" (Blevins et al., 2015). A total symptom severity score (0 to 80) is determined by summing the scores for each of the 20 items together (Blevins et al., 2015). Previous studies have found the PCL-5 to be a reliable measure with Cronbach a ranging from 0.90 to 0.95 and test- retest reliability ranging from 0.82 to 0.90 (Blevins et al., 2015; Krüger-Gottschalk et al., 2017; Wortmann et al., 2016).

Analysis

Statistical analysis would be performed using SPSS software. The ordinal variables would be evaluated through chi-square analyses to determine if there were relationships between

the variables and would then be further tested for linear trends to determine if posttraumatic stress and resilience have an inverse correlational relationship following perceived experience of cyberbullying. Linear regressions would assess the association between resilience and posttraumatic stress symptomology following an exposure to cyber victimization, due to the parametric nature of the data. The prediction for the linear regression analysis is that higher levels of resilience will correlate with lower levels of posttraumatic stress, regardless of the level of cyberbullying that is experienced.

B5.   Privacy Protection

The next set of questions deals with anonymity and confidentiality.   Refer to the brief descriptions below to assist you in answering these questions.

*a)   **Anonymity** refers to the protection of the identity of participants. **Anonymity protection can be provided along a continuum, from "complete" to "no" protection, where complete protection means that no identifying information will be collected and there is no direct interaction between the researcher and the participant.** We remind applicants that university researchers should treat any personal information in accordance with the privacy protection provisions of Part 2 of the Alberta Freedom of Information and Protection of Privacy Act (*http://foip.alberta.ca/legislation/act/index.cfm*). If you have any questions about the collection, use, or disclosure of personal information under the Act, please contact the FOIP Coordinator, The University of Lethbridge, 4401 University Drive, Lethbridge, Alberta   T1K 3M4, Email: foip@uleth.ca.*

1.   Will the anonymity of the participants be protected?

⊠ Yes (completely)   ☐ Yes (partially)   ☐ No

2.   If "yes", explain how anonymity will be protected, and describe how this will be explained in the consent process.
There will be no participant identifying information collected besides demographic information such as age range, gender, and ethnicity/race. Once the survey has been submitted, there will be no identifying information of the data set to distinguish and identify specific participants.

3.   If "no", justify why loss of anonymity is appropriate, and describe how this will be explained in the consent process.
Not applicable.

*b)   **Confidentiality** refers to the protection, access, control and security of the data and personal information. Confidentiality or non-disclosure agreements are recommended for all the individuals involved with the project (e.g., transcriptionists, research assistants, co-investigators, etc.). Append a copy of the confidentiality template if available.*

1.   How will confidentiality be protected and how will this be explained in the consent process? Specify which personnel will have access to the listing of names and study ID numbers as well as other study information collected (use job titles rather than individual names.) Provide details on the location, manner of storage, and the proposed retention period of the information collected.

This study does not ask for names or any identification numbers, and participants are only asked about demographic related information regarding their age range, gender, etc. The collected data will be stored upon a password protected computer with access restricted to

the researcher, Mrs. Rebecca Molyneaux, and the thesis supervisor, Dr. Elaine Greidanus in the Faculty of Education at the University of Lethbridge. The supervisor, Dr. Elaine Greidanus in the Faculty of Education at the University of Lethbridge, and committee members Dr. Thelma Gunn in the Faculty of Education at the University of Lethbridge and Dr. Lorraine Beaudin in the Faculty of Education at the University of Lethbridge, would have access to the anonymous data sets with corresponding identification numbers. After analysis of the data and the completion of the study, all the data would be destroyed 1 year after the completion of the master's thesis. The results will appear in a written thesis document, as well as possibly published in journals and presented at conferences. If there are any questions about the study or the procedures, participants would be informed that they could contact the primary researcher, Rebecca Molyneaux at rebecca.molyneaux@uleth.ca. Due to the online nature of the survey, complete confidentiality cannot be guaranteed while the data is in transit over the internet. The Qualtrics survey will not collect any personal identifying information, like IP addresses, and will remove any contact information associated with the participation. Qualtrics uses Transport Layer Security (TLS) encryption for all data, and because the survey is being conducted through a University of Lethbridge account, the survey is password protected. Additionally, Qualtrics is hosted by data centres that are audited using the SSAE-18 method, which is the industry standard. All of this information would be described to participants upon the survey's consent page.

B6. Potential Risks and Benefits

To facilitate Human Participant Research Committee review and to determine whether the study involves more than minimal risk, please respond to the following questions. Does this project involve…	Check those that apply
1. Collection of data through invasive clinical procedures that are not required for normal patient care.	N/A
2. Collection of data through noninvasive clinical procedures involving imaging or microwaves that are not required for normal patient care.	N/A
3. Any other non-therapeutic risks that arise from procedures not directly related to patient care.	N/A
4. Collection, use, or disclosure of health information or biological samples where the researcher is requesting that the requirement for informed consent be waived.	N/A
5. Any procedures involving deception or incomplete disclosure of the nature of the research for purposes of informed consent.	N/A
6. Any possibility that a breach of confidentiality could place participants at risk of criminal or civil liability or be damaging to participants' financial standing, employability or reputation.	N/A
7. Research questions or procedures that might be expected to cause participant psychological distress, discomfort or anxiety beyond what a reasonable person might expect in day to day social interactions (e.g., questions that raise painful memories or unresolved emotional issues).	X - Yes
8. Investigations in which there is a previous or existing relationship between the investigator and participants (e.g., manager/employee, therapist/client, teacher/student).	N/A

a)   Outline any risks of potential physical or emotional harm or discomfort to the participants and describe the measures that will be put in place to mitigate these risks. Explain why the research is important and the benefits of participating (compensation paid to participants is not considered a benefit).

Participants may experience distress when they recall and report about their experiences of cyberbullying and traumatic stress related symptomology. To mitigate this, participants would be informed that participation is voluntary, and they are welcome to withdraw from the study or skip questions, up to the point of submitting the survey. Participants will also be provided with a list of resources that they could reach out to if they experience any discomfort or distress, as well as encouraged to reach out to local mental health resources or other forms of support that they have accessed in the past. All of this information will be outlined on the consent page. Newman, Risch, & Kassam-Adams (2006) thoroughly explore the potential risks and harms associated with trauma-related

116

issues in ethical research, and the conclusions made within this article have been thoughtfully applied to the design of this research proposal.

The following statement will be included on the consent page and at the bottom of every page of the survey prior to submission:

"If you are experiencing distress while completing this survey, consider reaching out to local mental health resources or other forms of support that you have accessed in the past. If you are experiencing significant discomfort or distress please consider calling toll free **1 (833) 456-4566 (Canada)** or **1(800) 273-8255 (USA)** if you live in Canada or the USA. If you live outside of Canada or the USA, please consider accessing the resources listed on this page for your specific area **https://checkpointorg.com/global/** or **https://en.wikipedia.org/wiki/List_of_suicide_crisis_lines.**"

This proposed study is important because there has been limited research conducted within the adult population to explore the effects of cyberbullying, specifically in relation to the symptomology of posttraumatic stress. Additionally, resilience and posttraumatic stress have been correlated in relation to various traumatic experiences, so this study aims to develop evidence that a correlation also exists between resilience and posttraumatic stress following perceived experiences of cyberbullying.

A primary benefit includes that participants may feel as though they are contributing significantly to psychological research. The scientific community may benefit from the proposed study, as the research is innovative and novel. Participants may also gain some insight into how their experienced events of cyberbullying may be affecting them.

b) Describe the anticipated dissemination of the study findings.

Upon completion of the study, the findings will be submitted as part of a thesis defense and will then be submitted to various journals for possible publication. The study and its findings may also be presented at conferences.

c) Indicate the steps taken to inform participants of the possible consequences of releasing information in the public domain and describe how participants will be given an opportunity to review material where appropriate.

Upon the consent page of the study's survey, participants will be informed of the use of these findings for the completion of a thesis project, and the possibility that the study and its findings will be published in peer reviewed journals and it may be presented at conferences. The participants will be reminded that their responses are completely anonymous and they are welcome to review their responses and/or leave the survey up until the submission of their responses. Once the responses have been submitted, it will not be possible to retrieve their specific data points from the aggregated data set as no identifying information is being collected.

d) Outline the exit strategy for termination of the study. Some types of research involve intense or lengthy contact between a researcher and the study participant(s), which

may result in a close personal relationship, especially if the research itself involves matters close to the heart of participants. For this section, applicants should consider the possibility that a strategy may be required for participants who have difficulty in disengaging from the project after their role is completed or the project has terminated. If this does not apply to your research, please indicate N/A. If the research involves vulnerable populations, carefully clarify the boundaries between the researcher and participants.

Not applicable

B7.   Obtaining Consent

Advise the Committee how informed consent will be obtained. The Tri-Council Policy Statement ensures that informed consent be obtained in writing from all participants or, when appropriate from parents or legal guardians, unless there is a good reason for not doing so. If a consent form will be used, attach copies for the Committee. The Human Participant Research - Sample Letter of Consent is available at: http://www.uleth.ca/research/human-participant-research-guidelines-forms. Please ensure that the reading level of the consent form is appropriate to the population involved.
a)   Clearly detail who will be obtaining consent and the procedures for doing so. If appropriate, specify whether participants will be randomly assigned to groups before or after consent has been attained.

  Rebecca Molyneaux, researcher, will be obtaining consent through a cover letter of consent (see Appendix A) prior to beginning online survey (see Appendix B). By agreeing to the outlined terms and continuing onto the survey, they are providing their consent for participation. If they decline, they will be thanked for their time and sent to the end of the survey without completing it. Groups will not be randomly assigned within this study.

b)   If the participants are not able/competent to give fully informed consent (cognitive impairment, age, etc.), or if there are significant power differences in operation (professor/student, employer/employee, political or economic minorities, etc.), please specify, and describe steps you will take to obtain free and informed consent. If participants are not competent to consent, specify who will consent on their behalf.

All non-SONA participants must be 18 years of age or older, and by agreeing to the invitation letter, they are stating that they are in fact 18 years of age or older, and able to give fully informed consent. SONA participants that are under the age of 18 are considered emancipated adults and therefore are also able to give their informed consent.

c)   Do any of the procedures include the use of deception or partial disclosure of information to participants? If yes, provide a rationale for the deception or partial disclosure. Describe the procedures for debriefing the participants.

No.

d) **For the letter of consent/consent form:**

1. Extend an invitation to participate in the research project.

2. Provide a brief description of the project, including the purpose of the research, and a description of what is expected of the participant (e.g, the time commitment and the frequency of contact).

3. Describe the risks and discomforts (e.g., distress, inconvenience, psychological or social discomforts, fatigue, or physical safety issues). If the research project has the potential to identify upset, distressed or disturbed individuals, describe what arrangements will be made to assist these individuals, if need be.

4. Describe the benefits, including an explicit statement if there are no potential benefits to the participants (e.g., "You will not benefit directly from participation in this research").

5. Provide assurance of anonymity and confidentiality – this statement should describe the steps taken to ensure anonymity and confidentiality, and should include information regarding who will have access to the data collected. **NOTE: Participants should be advised that their privacy cannot be guaranteed when electronic surveys are used.**

6. Outline compensation for participation in the research project, if applicable.

7. Provide a non-coercive disclaimer – this statement should indicate that participation is voluntary, and that refusal to participate will not initiate prejudice, penalty or loss of benefits to which the participant is otherwise entitled.

8. Provide an option to withdraw – this statement should indicate that participants may discontinue participation at any time without prejudice, penalty or loss of benefits. The process for withdrawal, in addition to information on the participant's right to request the withdrawal of data, should be clearly explained along with an explanation of the conditions under which researchers would not be able to remove a participant's data from the study. Where appropriate, participants who choose to withdraw should be consulted on the fate of their data.

9. Indicate the instances when the researcher may be obligated by law to report, to law enforcement or another agency, information revealed as a result of the research. **NOTE: Questions likely to result in reportable activities must be flagged for the respondent, and the respondent must be given the option to skip these questions.**

10. Provide a brief description of the anticipated use of the data.

The study will remain active until the termination date. The results from this study will be presented in Rebecca Molyneaux's thesis defense, and will also appear within the written thesis document. The results may also be presented at conferences and sent to scholarly journal from potential publication.

11. Provide information on how participants will be informed of the results of the research.

    Due to the anonymity of the study, participants will not be given feedback about the study. If participants wish to know the results of the study, they can email the researcher to receive a link to the online study if it becomes published or once the thesis has been defended. The researcher's email is given in the consent form.

12. Provide the name of the researcher, along with their institutional affiliation, and contact information for questions/clarification about the research project. Also include the following statement: "Questions regarding your rights as a participant in this research may be addressed to the Office of Research Ethics, University of Lethbridge (Phone: 403-329-2747 or Email: research.services@uleth.ca)."

    For more information on this study or for a summary of the findings, you may contact the primary researcher, Rebecca Molyneaux at rebecca.molyneaux@uleth.ca. This research study has been reviewed for ethical acceptability and approved by the University of Lethbridge Human Participant Research Committee. Questions regarding your rights as a participant in this research may be addressed to the Office of Research Ethics, University of Lethbridge (Phone: 403-329-2747 or Email: research.services@uleth.ca).

e) **For telephone surveys**, informed consent should take place in the form of a verbal explanation of the above points. Append the script for this explanation to this application.

f) **For anonymous questionnaires**, include a cover letter that includes all the information normally provided in a consent form. Append a copy of this cover letter to this application.

See Appendix A.

B8.   Reporting Requirements

Research is subject to continuing research ethics review from the date of initial ethics approval, throughout the life of the project by submission of the required report. Continuing research ethics review shall consist of an annual progress report (multi-year research projects), and an end-of-study report (projects lasting less than one year). Select the appropriate reporting requirement for the study:

☐ Annual renewal report (due on or before annual term date)
☒ End-of-study report (for projects shorter than one year in duration

APPENDIX A: SURVEY COVER LETTER

University of
Lethbridge

Participation Consent Form

Please read the following letter of information carefully before beginning the survey:

You are invited to participate in a study of cyberbullying, posttraumatic stress and resilience. This study is being conducted by Rebecca Molyneaux, a Master of Education in Counselling Psychology student at the University of Lethbridge (Canada) as part of her thesis research project.

Participation is voluntary. To participate in this study, you must be 18 years of age or older OR an undergraduate student at the University of Lethbridge who has access to SONA. You must also be proficient in English, have experienced cyberbullying, and used social media platforms such as Facebook, Instagram, Twitter, and/or TikTok.

The survey contains 82 questions that pertain to cyberbullying, posttraumatic stress, and resilience. It will take approximately 10 minutes to complete. You may choose to skip any question you prefer not to answer. You may also go back to any previously answered question in the survey and change your answer, up until the point that you submit the survey. You may withdraw your participation entirely at any time by simply closing your browser before you submit your responses and they will not be included. If you choose to withdraw from the study, the responses you provided up to that point will be destroyed. Because your answers are anonymous, after you have submitted your responses it will not be possible to withdraw your responses from the data set because they will not have any identifying information that links them to you.

As with any online survey, neither anonymity nor confidentiality can be completely guaranteed. The survey is being hosted on Qualtrics and their privacy policy can be accessed at **https://www.qualtrics.com/privacy-statement/**.

There are no direct benefits associated with participation in this study, although you will be contributing significantly to psychological research and you may also gain some insight into how your experience(s) of cyberbullying has affected you.

Participants may experience distress at having to recall memories of cyberbullying. If you are experiencing distress while completing this survey, consider reaching out to local mental health resources or other forms of support that you have accessed in the past. You can also consider calling toll free **1 (833) 456-4566 (Canada)** or **1(800) 273-8255 (USA)** if you live in Canada or the USA. If you live outside of Canada or the USA, please

consider accessing the resources listed on this page for your specific area
https://checkpointorg.com/global/ or
https://en.wikipedia.org/wiki/List_of_suicide_crisis_lines.

The responses to this survey will be kept on a password-protected computer with access restricted to Rebecca Molyneaux, Master of Education student at the University of Lethbridge and Dr. Elaine Greidanus, thesis supervisor. Additionally, the anonymous data will also be viewed by Dr. Thelma Gunn and Dr. Lorraine Beaudin, who are members of the thesis committee. The anonymous data will be securely filed for one year following the defense of the thesis and will then be destroyed.

Responses to the survey will be presented in an anonymous, aggregate form as part of Rebecca Molyneaux's Master's thesis. The anonymous, aggregated findings may also be published in scholarly presentations and publications.

For more information on this study or for a summary of the findings (available after April 30, 2021), you may contact me at rebecca.molyneaux@uleth.ca. Questions regarding your rights as a participant in this research may be addressed to the Office of Research Ethics, University of Lethbridge (Phone: 403-329-2747 or Email: research.services@uleth.ca).

This research study has been reviewed for ethical acceptability and approved by the University of Lethbridge Human Participant Research Committee.

If you wish to participate in the survey, please select *Accept* below. By selecting *Accept,* you are confirming that you are 18 years of age or older, OR that you are an undergraduate student at the University of Lethbridge with access to SONA, and you have read and understand the above consent information. Thank you in advance for your time and participation.

■ Accept   ■ Decline

APPENDIX B: THE SURVEY

10) What gender do you identity with?
   a) Female
   b) Male
   c) Transwoman
   d) Transmale
   e) Agender
   f) Two-Spirit
   g) Choose not to answer
   h) Other: Please specify

11) Which age range do you belong to?
   a) 16-17
   b) 18-24
   c) 25-29
   d) 30-34
   e) 35-39
   f) 40-44
   g) 45-49
   h) 50-54
   i) 55-59
   j) 60-64
   k) 65-69
   l) 70+

12) What is your ethnicity/race?
   a) White/Caucasian
   b) Hispanic/Latino
   c) Black/African American
   d) Asian/Pacific Islander
   e) Aboriginal/Indigenous/Native American
   f) Other: Please Specify

13) How frequently do you use social media applications (ex. Facebook, Instagram, TikTok, Twitter, etc)?
   a) Once a month
   b) Once a week
   c) Twice a week
   d) Three to four times a week

e) Five to six times a week
f) Every day but only once per day
g) Every day, multiple times a day

14) Which social media applications do you use? (please check all that apply)
   a) Snap chat
   b) Twitter
   c) Facebook
   d) Instagram
   e) TikTok
   f) Other: please specify

15) Within which social media applications have you personally experienced cyberbullying? (Cyberbullying includes a wide variety of experiences that includes receiving intimidating and/or threatening messages; being harassed in posts, comments, or private messages; intentionally being excluded and/or blocked from online games, group chats, or messages intended to make you feel upset or left out; and/or having embarrassing and/or sexual explicit content of yourself sent to other people without your consent, or having embarrassing or sexually explicit content sent to you from someone else without your consent which then made you feel embarrassed or uncomfortable) **(please check all that apply)**
   a) Snap chat
   b) Twitter
   c) Facebook
   d) Instagram
   e) TikTok
   f) Other: please specify

16) Do you have a history of trauma outside of cyberbullying?
   a) Yes
   b) No

17) If yes, have you participated in treatment for it?
   a) Yes
   b) No

18) If yes, do you believe the treatment was successful? Do you believe you have recovered?

a) I believe treatment was successful and I have recovered
b) I believe treatment was not successful, but I have recovered
c) I believe treatment was successful, but I have not recovered
d) I believe treatment was not successful and I have not recovered

CYBERBULLYING VICTIMIZATION (CBV) SCALE

Instructions: The statements below concern your level of current cyberbullying victimization. Please read each statement carefully and circle one of the numbers to the right to indicate how often you have done these things *during the past 30 days*.

Drawing from your own experiences, please circle the answers that fits best, where: 1 = Not at all 2 = Rarely 3 = Sometimes 4 = Often 5 = Very often

Verbal/Written Victimization

11. I have received mean text messages on the mobile phone which made me uncomfortable.	1	2	3	4	5
12. Someone has said mean things about me on instant messengers or in chat rooms to upset me.	1	2	3	4	5
13. Someone has posted hurtful messages about me on social media platforms such as Facebook or Instagram to damage my reputation.	1	2	3	4	5
14. I have been sent threatening statements via e-mail or text message which made me insecure.	1	2	3	4	5
15. *No one has ever said mean things about me to my friends on instant messengers or in chat rooms to damage my relationship.	1	2	3	4	5
16. People have spread rumors about me online to embarrass me.	1	2	3	4	5
17. I have received insulting online messages from someone repeatedly.	1	2	3	4	5
18. I have continued to receive mean text messages or e-mails even after I have asked the sender to stop.	1	2	3	4	5
19. People have said mean things about me on websites repeatedly to embarrass the person.	1	2	3	4	5
20. I have received intentional messages from someone which made me upset.	1	2	3	4	5

Visual/Sexual Victimization

16. Someone has posted embarrassing pictures or videos of me on social media platforms without my permission, to damage my reputation.   1   2   3   4   5

17. Someone has sent private pictures or videos of mine on instant messengers or in chat rooms without my permission to upset me.   1   2   3   4   5

18. People have posted humiliating pictures or videos of mine on instant messengers or in chat rooms to embarrass me.   1   2   3   4   5

19. *I have never received sexually explicit things from someone via e-mail or text message that embarrassed me.   1   2   3   4   5

20. I have received unwanted sexual suggestions from someone in chat rooms that embarrassed me.   1   2   3   4   5

28. People have made sexual jokes about me online to damage my reputation.   1   2   3   4   5

29. People have attempted to humiliate me by posting sexual comments or photos on social media platforms such as Facebook or Instagram.   1   2   3   4   5

30. People have spread sexual rumors about me online to damage my reputation.   1   2   3   4   5

31. I have been sent sexually explicit things from someone via e-mail or text message repeatedly which made me uncomfortable.   1   2   3   4   5

32. Someone has teased me about my appearance online repeatedly to upset me.   1   2   3   4   5

Social Exclusion Victimization

33. Someone has blocked me in a chat room to upset me.   1   2   3   4   5

34. Someone has blocked me on an instant messenger to upset me.   1   2   3   4   5

35. Someone has rejected my request to play online games together to upset me.   1   2   3   4   5

36. *I have never been excluded from online group activities which made me feel left out.	1	2	3	4	5
37. Someone has ignored my comments on social media platforms to embarrass me.	1	2	3	4	5
38. Someone has led members of an online community to exclude me.	1	2	3	4	5
39. I have been excluded from online group activity or online social community repeatedly which made me feel left out.	1	2	3	4	5

In your own words can you please briefly describe the experience(s) of cyberbullying that occurred? Please do not include any information that would identify you or the person(s) doing the cyberbullying. (Cyberbullying includes a wide variety of experiences that includes receiving intimidating and/or threatening messages; being harassed in posts, comments, or private messages; intentionally being excluded and/or blocked from online games, group chats, or messages intended to make you feel upset or left out; and/or having embarrassing and/or sexual explicit content of yourself sent to other people without your consent, or having embarrassing or sexually explicit content sent to you from someone else without your consent which then made you feel embarrassed or uncomfortable) **(Please remember you can skip this question, and if you are upset or distressed there are resources listed below that you can reach out to for support)**

If you are experiencing distress while completing this survey, consider reaching out to local mental health resources or other forms of support that you have accessed in the past. If you are experiencing significant discomfort or distress please consider calling toll free **1 (833) 456-4566 (Canada)** or **1(800) 273-8255 (USA)** if you live in Canada or the USA. If you live outside of Canada or the USA, please consider accessing the resources listed on this page for your specific area **https://checkpointorg.com/global/** or **https://en.wikipedia.org/wiki/List_of_suicide_crisis_lines**.

The PCL-5

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. As you respond to the following questions please keep your previously indicated experiences of cyberbullying in mind. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
21. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
22. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
23. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	0	1	2	3	4
24. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
25. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0	1	2	3	4
26. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
27. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4
28. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
29. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0	1	2	3	4

30. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
31. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
32. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
33. Feeling distant or cut off from other people?	0	1	2	3	4
34. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0	1	2	3	4
35. Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
36. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
37. Being "superalert" or watchful or on guard?	0	1	2	3	4
38. Feeling jumpy or easily startled?	0	1	2	3	4
39. Having difficulty concentrating?	0	1	2	3	4
40. Trouble falling or staying asleep?	0	1	2	3	4

If you are experiencing distress while completing this survey, consider reaching out to local mental health resources or other forms of support that you have accessed in the past. If you are experiencing significant discomfort or distress please consider calling toll free **1 (833) 456-4566 (Canada)** or **1(800) 273-8255 (USA)** if you live in Canada or the USA. If you live outside of Canada or the USA, please consider accessing the resources listed on this page for your specific area **https://checkpointorg.com/global/** or **https://en.wikipedia.org/wiki/List_of_suicide_crisis_lines**.

The Connors-Davidson Resilience Scale

If you are experiencing distress while completing this survey, consider reaching out to local mental health resources or other forms of support that you have accessed in the past. If you are experiencing significant discomfort or distress please consider calling toll free **1 (833) 456-4566 (Canada)** or **1(800) 273-8255 (USA)** if you live in Canada or the USA. If you live outside of Canada or the USA, please consider accessing the resources listed on this page for your specific area **https://checkpointorg.com/global/** or **https://en.wikipedia.org/wiki/List_of_suicide_crisis_lines**.

Thank you for completing the survey