AN EMPIRICAL STUDY ON THE RELATIONSHIP BETWEEN CYBERBULLYING PERPETRATION, AGGRESSION AND LONELINESS AMONG COLLEGE STUDENTS

A

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LIST OF ABBREVIATIONS

Abbreviation	Full Form
AQ	Agression Questionnaire
BGCM	Barlett-Gentile Cyberbullying Model
CBP	Cyberbullying Perpetration Scale
GAM	General Aggression Model
GST	General Strain Theory
IPC	Indian Penal Code
IT Act	Information Technology Act
M	Mean
M.A.	Master of Arts
MIER	Model Institute of Education and Research
MPS	Master of Psychology (Subject Code)
N	Sample Size
r	Pearson Correlation Coefficient
SD	Standard Deviation
SPSS	Statistical Package for the Social Sciences
t	t-statistic
TPB	Theory of Planned Behavior
UCLA	University of California, Los Angeles
UGC	University Grants Commission

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ABSTRACT

Cyberbullying perpetration has emerged as a significant psychosocial concern in the digital age, particularly among college students who are developmentally vulnerable and highly engaged with online environments. The present study examined the relationships between cyberbullying perpetration, aggression, and loneliness among college students from various educational institutions of the Jammu region. A quantitative research design was employed, and data were collected from a purposive sample of 151 college students (67% female, 33% male) aged 18–25 years using both online and offline modes. Three standardized instruments were administered: the Cyberbullying Perpetration Scale (Lee, Abell, & Holmes, 2017), the Aggression Questionnaire (Buss & Perry, 1992), and the UCLA Loneliness Scale, Version 3 (Russell, 1996). Statistical analyses including descriptive statistics, Pearson correlation, and independent samples t-test were conducted using SPSS Version 26.0.

Results indicated a significant positive relationship between cyberbullying perpetration and aggression ($r = .223$, $p < .01$), as well as between aggression and loneliness ($r = .263$, $p < .01$). Cyberbullying perpetration was significantly associated with physical aggression ($r = .221$, $p < .01$), verbal aggression ($r = .179$, $p < .05$), and anger ($r = .225$, $p < .01$). However, the relationship between cyberbullying perpetration and loneliness was not statistically significant ($r = .061$, $p > .05$). Hostility showed a significant positive relationship with loneliness ($r = .397$, $p < .001$). Independent samples t-tests revealed no significant gender differences in cyberbullying perpetration, aggression, or loneliness. The findings highlight the interconnected nature of cyberbullying perpetration and aggressive tendencies among college students and underscore the importance of targeted psychological interventions in higher education settings.

Keywords: Cyberbullying Perpetration, Aggression, Loneliness, College Students, Digital Behavior, Jammu

CHAPTER 1

1.1 Introduction

Today's college students must negotiate a quickly digitalizing world where peer connections, social engagement, and identity creation are all increasingly influenced by online surroundings. Social media gives young adults a way to express themselves and interact with others, but it also puts them at risk for psychological problems including emotional anguish and cyberbullying. Once restricted to in-person interactions, bullying has evolved into chronic, technology-mediated behaviors that can negatively impact students' mental health, social functioning, and general wellbeing (Smith et al., 2008; Hinduja & Patchin, 2015). Students are particularly susceptible to stress, anxiety, and emotional swings throughout the crucial developmental stage of college, which is characterized by growing independence, identity discovery, and increased academic responsibilities (Arnett, 2016).

According to research, a growing number of college students are experiencing mental health issues, including depression, loneliness, and social alienation (Auerbach et al., 2018). Simultaneously, their social contexts are shaped in complicated ways by their constant use of digital gadgets and social networking sites, which both facilitate communication and expose them to threats including online harassment, cyberbullying, and exclusion (Best et al., 2014). According to Kowalski et al. (2014), these unfavorable online encounters can exacerbate emotional discomfort, disrupt interpersonal connections, and jeopardize psychological well-being. Therefore, addressing the psychological issues college students experience in today's digital environment requires an awareness of how elements like loneliness and hostility connect to cyberbullying perpetration. Additionally, new research indicates that emotional vulnerabilities like loneliness might increase the risk of hazardous online behaviors because socially isolated people may use digital platforms to seek attention, control, or revenge (Kokkinos & Antoniadou, 2019). Similarly, engagement in cyberbullying has been repeatedly associated with aggressive behaviors, both proactive and reactive, suggesting that online aggressiveness may be an extension of more general behavioral patterns (Wright, 2017; Barlett & Gentile, 2012). In this regard, it becomes crucial to know the psychological difficulties college students encounter in today's digital environment by understanding how loneliness and violence combine with cyberbullying perpetration.

Bullying is a pervasive and longstanding social problem that affects children, adolescents, and adults across diverse settings, including schools, workplaces, and online environments. According to Olweus (1993, 2013), it is typically described as a type of deliberate and persistent violent conduct that takes place in a relationship where there is an imbalance of power and the offender dominates the victim physically, socially, or psychologically. This concept, which was created over many years of empirical research, is still fundamental to comprehending bullying in modern social and educational settings. Dan Olweus's groundbreaking work laid the groundwork for rigorous research on bullying in Scandinavia throughout the 1970s. According to Olweus (1994), bullying can involve verbal abuse, relational hostility, and social isolation in addition to physical assault. Since then, studies have demonstrated that bullying may take many different forms, such as relational bullying (destroying social ties, spreading rumors), verbal bullying (threats, insults), and physical bullying such as striking, shoving (Espelage & Swearer, 2003). According to Hawker and Boulton (2000), bullying of any kind can have a significant negative impact on victims, leading to consequences including anxiety, depression, avoiding school, and poor academic performance. Although conventional bullying has spread into new media over the past 20 years due to the growth of digital communication, offline bullying is still a big global problem. Research continuously shows that bullying has detrimental effects on social functioning, emotional growth, and long-term mental health for both victims and offenders (Wolke & Lereya, 2015). While offenders are more likely to engage in antisocial activities in the future, victims frequently endure ongoing anxiety, loneliness, and low self-esteem (Ttofi & Farrington, 2011). In order to comprehend, recognize, and deal with bullying, schools and other educational institutions are essential. Evidence-based treatments emphasize the value of whole-school preventative programs, teacher training, and supportive peer situations (Swearer & Hymel, 2015). Ongoing study is necessary to create effective preventative tactics and to comprehend the psychological factors such as aggressiveness, loneliness, and emotional regulation that impact involvement in bullying, since bullying continues to change in form and context. Bullying can take several forms, each involving intentional harm, power imbalance, and repeated aggression. The major types include: Physical bullying includes overt acts such as hitting, pushing, kicking, or damaging someone’s belongings. Verbal bullying relies on spoken or written words to insult, threaten, ridicule, or demean, often through name-calling or derogatory comments. Social bullying is more subtle and aims to damage an individual’s relationships or social standing through exclusion, spreading rumors, silent treatment, or public

humiliation. With the proliferation of digital communication, cyberbullying has emerged as a significant concern, involving harmful behaviors conducted through social media, messaging platforms, or other online spaces, such as sending abusive messages, impersonation, or sharing hurtful content. Sexual bullying involves unwanted sexual comments, gestures, jokes, or actions that create discomfort or humiliation, while prejudicial bullying targets individuals based on characteristics such as race, caste, gender, religion, disability, or other identity markers. Together, these forms highlight the multifaceted nature of bullying and the diverse contexts in which it can occur.

Although India does not have a single, comprehensive statute that explicitly defines or exclusively addresses cyberbullying, a combination of existing cyber laws, criminal provisions, and institutional regulations collectively function to curb such behavior and provide legal remedies (Hinduja & Patchin, 2015; Banerjee, 2021). The Information Technology Act, (2000) plays a central role in addressing cyberbullying-related offenses, particularly through Section 67, which penalizes the publication or transmission of obscene or sexually explicit content in electronic form with imprisonment of up to five years and monetary fines that may extend to ten lakh rupees (Information Technology Act, 2000, Section 67). In addition, Section 66E of the Act safeguards individual privacy by criminalizing the intentional capturing, transmission, or dissemination of private images without consent an offense frequently associated with cyberbullying tactics such as image-based abuse and online harassment (Information Technology Act, 2000, Section 66E; Citron, 2014). Complementing these provisions, the Indian Penal Code, 1860 extends legal coverage to cyberbullying behaviors through Section 507, which addresses criminal intimidation carried out through anonymous communications and prescribes imprisonment of up to two years, thereby recognizing the psychological harm caused by threats and harassment in digital spaces (Indian Penal Code, 1860, Section 507; Patchin & Hinduja, 2010).

Beyond statutory legal frameworks, educational institutions in India are entrusted with significant responsibility in preventing and responding to bullying and cyberbullying among students (Swearer & Hymel, 2015; Banerjee, 2021). Although no standalone anti-bullying legislation governs schools and colleges, the Ministry of Education and the University Grants Commission (UGC) have mandated the formation of anti-ragging and disciplinary committees within educational institutions to monitor, prevent, and address incidents of bullying, harassment, and

cyber misconduct on campus (University Grants Commission, 2009). These committees are empowered to impose disciplinary actions ranging from formal warnings and suspension to rustication in severe cases, thereby reinforcing institutional accountability (Menon, 2018). Additionally, under the Code of Criminal Procedure, 1973, college students engaging in acts of cyberbullying, intimidation, or harassment may be subjected to criminal proceedings (Code of Criminal Procedure, 1973). Importantly, the legal treatment of minors differs from that of college-aged individuals, as those below 18 years fall under the Juvenile Justice (Care and Protection of Children) Act, 2015, which emphasizes rehabilitation rather than punitive measures (Juvenile Justice Act, 2015; Sharma & Gupta, 2020). Collectively, these legal provisions and institutional mechanisms demonstrate that cyberbullying in India is neither legally ignored nor socially tolerated, but instead addressed through an interconnected framework of cyber legislation, criminal law, and educational governance aimed at deterrence, accountability, and student well-being.

1.2 Cyberbullying Perpetration

Cyberbullying perpetration refers to the deliberate use of digital or electronic platforms to send repeated hostile, threatening, or harmful messages toward another individual or group (Tokunaga, 2010). These acts may be carried out openly or anonymously, and although they can take place within school environments, they most often occur outside formal settings. College students are not exempt from this phenomenon. Lund and Ross (2017), in their review of 14 studies, found that between 3.8% and 9.9% of university students engage in cyberbullying perpetration. Similarly, Faucher et al. (2014) reported that 3% to 40% of college students have participated in cyberbullying behaviors. Although many of these studies rely on non-representative samples, limiting their generalizability, they consistently highlight the active involvement of university students in cyberbullying. Regarding gender patterns, most studies indicate that male students are more likely to be cyberbullies (Erdur-Baker et al., 2016). Given the adverse effects of cyberbullying on psychological well-being, interpersonal relationships, academic performance, and mental health (Campbell et al., 2013; Schenk et al., 2013), understanding perpetrators' behavioral patterns is essential for developing prevention strategies in higher education settings.

Cyberbullying emerged alongside the rapid growth of digital communication technologies in the late 20th century, transforming traditional patterns of aggressive behavior from offline to online

contexts (Hinduja & Patchin, 2008). Early instances of online harassment were documented in the late 1990s through email, chat rooms, and instant messaging platforms such as Yahoo! Chat and AOL Instant Messenger, where anonymity, rapid communication, and broad audience reach distinguished cyberbullying from face-to-face bullying (Kowalski et al., 2014). The widespread adoption of mobile phones and internet access in the early 2000s led to a noticeable rise in cyberbullying incidents, prompting researchers to formally define the phenomenon. Smith et al. (2008) and Hinduja and Patchin (2010) conceptualized cyberbullying as intentional and repetitive harm inflicted through electronic means, highlighting its heightened severity due to anonymity, constant accessibility, and the permanence of digital content. The expansion of Web 2.0 and social networking sites in the mid-2000s, including Facebook, Orkut, and later Instagram, further intensified cyberbullying by enabling the instant dissemination of text, images, and videos to large audiences (Boyd, 2014). As digital platforms evolved, cyberbullying behaviors diversified to include harassment, impersonation, denigration, exclusion, and cyberstalking (Willard, 2007). In India, increased internet penetration and the availability of affordable smartphones after 2010 significantly expanded young people's online engagement, correspondingly increasing exposure to cyberbullying risks (Internet and Mobile Association of India, 2019). By the 2020s, cyberbullying had become a global public health and educational concern. Contemporary research emphasizes that psychological factors such as aggression, loneliness, self-esteem, and emotional regulation are key predictors of cyberbullying victimization and perpetration, underscoring cyberbullying as a complex psychosocial issue shaped by evolving digital environments (Kowalski et al., 2019).

Research suggests that cyberbullies often possess distinct personality characteristics (Fanti & Henrich, 2015), many theoretical models have not fully incorporated personality as a key factor. Consequently, personality traits may help explain why some individuals are more predisposed to engage in cyberbullying. To address this gap, the present study adopts the uses and gratifications theory (Blumler & Katz, 1974) to examine how personality traits influence cyberbullying motivations among university students, despite originating in 1974, it remains highly relevant to today's digital communication landscape. The posits that individuals actively use media, are aware of their needs and motives, intentionally choose media channels that meet these needs, and that personality shapes both motivations and the gratification obtained (Ruggiero, 2000; Alonzo &

Aiken, 2004). Applying this framework to cyberbullying suggests that psychological traits such as aggression, narcissism, moral disengagement, or online disinhibition may predispose individuals to harm others online. When people recognize their motives and the affordances of digital environments, they may intentionally select cyberbullying as a means of achieving interpersonal or emotional goals. Empirical research supports this reasoning: cyberbullying perpetration is associated with traits such as low self-control, offline aggression, and low self-esteem (Bayraktar et al., 2014). Studies also show that young people consciously choose to bully or cyberbully others (Dempsey et al., 2011; Pettalia et al., 2013; Tanrikulu & Campbell, 2015). Moreover, the unique features of online interaction reduced social cues, anonymity, temporal delays, permanent digital records, and large audiences make cyberbullying an appealing strategy for those seeking to harm others (Runions, 2013).

1.2.1 Theoretical framework

Understanding cyberbullying perpetration requires examining the psychological and social processes underlying aggressive online behavior. This study integrates three complementary theoretical frameworks to investigate cyberbullying among college students. The Barlett-Gentile Cyberbullying Model emphasizes how repeated online interactions cultivate anonymity beliefs and favorable attitudes toward cyberbullying through learning processes (Barlett et al., 2017). General Strain Theory explains cyberbullying as a maladaptive coping response to psychological strain and negative emotions (Paez, 2018). The Theory of Planned Behavior conceptualizes cyberbullying as intentional behavior shaped by attitudes, social norms, and perceived behavioral control (Pabian & Vandebosch, 2014). Together, these frameworks provide a comprehensive understanding of cyberbullying perpetration in digital contexts.

- **Barlett Gentile Cyberbullying Model by Barlett et al. (2017)**

The Barlett Gentile Cyberbullying Model (BGCM) is a learning-based theoretical framework specifically developed to explain cyberbullying perpetration (Barlett & Gentile, 2012; Barlett et al., 2017). The model proposes that repeated exposure to online interactions leads individuals to develop cyber-specific beliefs, particularly beliefs related to online anonymity and the perceived irrelevance of physical strength. Unlike traditional bullying, which often depends on physical

dominance, cyberbullying allows perpetrators to exert power through technological skills and anonymous digital identities. Over time, individuals learn that anonymity reduces accountability and minimizes the risk of punishment, thereby reinforcing positive attitudes toward cyberbullying. These favorable attitudes increase the likelihood of engaging in cyberbullying behaviors, and repeated involvement further strengthens anonymity beliefs through reinforcement, creating a self-perpetuating cycle. Empirical studies have supported the model by demonstrating that anonymity beliefs and positive attitudes toward cyberbullying mediate the relationship between prior online experiences and future cyberbullying perpetration (Barlett et al., 2017; Wright, 2017).

- **General Strain Theory given by Paez (2018)**

General Strain Theory (GST), originally proposed by Agnew (1992) and later applied to cyberbullying by Paez (2018), explains cyberbullying as a maladaptive coping response to psychological strain. According to the theory, individuals experience strain when they encounter negative life events, fail to achieve valued goals, or lose meaningful relationships. These stressors generate negative emotional states such as anger, frustration, anxiety, and loneliness. When individuals lack effective coping mechanisms or adequate social support, they may resort to deviant behaviors, including cyberbullying, as a means of releasing emotional tension or regaining a sense of control. In online contexts, cyberbullying becomes an especially accessible outlet for displaced aggression because digital platforms offer anonymity, reduced fear of retaliation, and immediate emotional gratification (Paez, 2018). The theory is particularly useful in explaining how emotional distress, social rejection, academic pressure, and loneliness among adolescents and college students can translate into aggressive online behavior.

- **Theory of Planned Behavior given by Pabian & Vandebosch (2014)**

The Theory of Planned Behavior (TPB) conceptualizes cyberbullying as a deliberate and intentional behavior governed by cognitive decision-making processes (Ajzen, 1991; Pabian & Vandebosch, 2014). According to the theory, an individual's intention to engage in cyberbullying is shaped by three core determinants: attitudes toward the behavior, subjective norms, and perceived behavioral control. Attitudes reflect whether individuals perceive cyberbullying as acceptable, entertaining, or justified; subjective norms refer to perceived peer approval or social

acceptance of online aggression; and perceived behavioral control involves the individual's belief in their ability to engage in cyberbullying effectively without facing consequences. In digital environments, high perceived behavioral control often facilitated by anonymity and technological competence can significantly increase cyberbullying intentions. Research applying this theory to cyberbullying has consistently shown that favorable attitudes toward cyberbullying and peer norms that tolerate or encourage online aggression are strong predictors of cyberbullying perpetration (Pabian & Vandebosch, 2014; Kowalski et al., 2019).

1.3 Aggression

Aggression refers to a range of behaviors and actions that have the potential to cause both physical and psychological harm to yourself, others, or objects in the environment. Aggression centers on hurting another person either physically or mentally. It can be both direct and indirect, impulsive or planned. In common sense, aggressiveness is frequently linked to actions like yelling, striking, or smashing items to vent displeasure. But not all detrimental behaviors like wounds sustained during combat or injuries sustained in competitive sports are always seen as acts of aggressiveness. It can be difficult to determine if a behavior counts as aggressiveness since it can take many different shapes and intensities, from simple actions like name-calling to violent crimes like assault or killing. According to Bushman and Huesmann (2010) and DeWall et al. (2012), aggressiveness is defined as actions meant to cause injury to another individual who is driven to prevent such harm. In a similar vein, Anderson and Bushman (2002) define aggressiveness as any action taken against another person with the immediate purpose to do damage and the conviction that the target would be harmed by the conduct. Aggression was further defined by Baron (1972) as goal-directed action intended to harm someone who tries to avoid such treatment. These definitions emphasize the participation of a victim who does not want to be injured, the social dimension of aggressiveness, and the existence of harmful intent. Aggression is not a single, consistent concept; it can be overt or hidden, direct or indirect, spontaneous or planned. While indirect aggression can place without direct contact, such as by spreading stories or manipulating social connections, direct aggression entails face-to-face injury, such as striking or physical assault (Morgan, 1986). Early aggressive conduct is seen by Shaw et al. (2000) as a deliberate act with a commonly acknowledged aggressive aim to harm or intimidate another person. Reynolds and Kamphaus (2004) also emphasize the multifaceted aspect of aggressiveness, pointing out that it encompasses

both verbal acts (such as threatening, insulting, and criticizing) and physical acts (such as striking or damaging property).

Aggression can come in a wide variety of forms, and many different types of aggression have been identified in literature (Parrott and Giancola, 2007; Krahé, 2013). When categorizing aggressive behavior, response mode is one of the most often used differences. According to Bushman and Huesmann (2010), physical, verbal, or relational aggression are the most common types of aggression. Physically injuring someone else is referred to as physical aggression (e.g., punching, kicking, stabbing, or shooting). Verbal aggression is when someone uses words to hurt another person (e.g., yelling, cursing, or name-calling). Relational aggression, also known as social aggression, is when someone hurts another person by destroying their social connections or making them feel excluded or unaccepted (e.g., spreading rumors, failing to invite someone to a social function, or urging others not to hang out with someone). According to Kraň (2013) and Parrott and Giancola (2007), it has also been suggested that aggressiveness may be postural in character, such as making menacing gestures or encroaching on someone's personal space. However, this classification is less frequent than the other reaction modalities. In a similar vein, some scholars, such as Parrott and Giancola (2007), recommend classifying theft and property destruction as separate types of violence as long as they are committed with the intention of hurting other people. Social psychologists concur that verbal and physical hostility are both possible. Physical aggressiveness is defined as aggression that includes causing bodily injury to another person, such as striking, kicking, stabbing, or shooting them. Aggressiveness that does not result in bodily injury is referred to as non-physical aggressiveness. It encompasses relational or social aggression, which is characterized as purposefully damaging another person's social ties, as well as verbal aggressiveness (yelling, screaming, cursing, or name-calling). This type of hostility includes things like talking about someone else, cutting them off from friendships, or treating them silently (Crick and Grotpeter, 1995). Sexual, racist, and homophobic jokes and epithets that are intended to hurt others are also examples of nonverbal violence. Some instances of the many forms of non-physical aggressiveness that have been seen in both children and adults are included in the paragraph that follows (Archer and Coyne, 2005). Physical aggressiveness may have more visible negative effects, but non-physical hostility also has costs for the victim. According to Craig (1998), children who have experienced bullying exhibit higher levels of anxiety, loneliness, sadness, and peer rejection than other kids. According to Sharp (1995), 20% of teenagers in Great Britain say

they have been the target of bullying by someone who has circulated false information about them. According to Olafsen and Viemero (2000), girls who experience non-physical hostility are more likely to smoke or think about suicide. According to Paquette and Underwood (1999), social hostility was regarded by both boys and girls as causing them to feel more depressed and unpleasant than physical violence.

Aggression is a multifaceted behavioral construct shaped by an interplay of psychological, environmental, biological, and sociocultural factors. Psychological influences include emotional states such as anger, frustration, and negative affect, as well as personality traits like impulsivity, low empathy, and poor emotion regulation (Bettencourt et al., 2006). Individuals experiencing mental health difficulties such as depression, anxiety, or unresolved trauma may also show heightened aggressive tendencies, particularly when coping strategies are limited. Environmental factors play an equally important role: exposure to family conflict, harsh or inconsistent parenting practices, peer rejection, and community violence can normalize or reinforce aggressive behavior across development (Dodge et al., 2006). Media exposure, especially to violent digital content, has also been shown to desensitize individuals and increase aggressive scripts that guide behavior (Anderson et al., 2010). Biologipredispositions further contribute to aggression. Research suggests that genetic factors, hormonal influences (e.g., higher testosterone levels), and neurobiological differences in regions responsible for impulse control and emotional processing may increase vulnerability to aggressive behavior (Raine, 2008). Importantly, anger, hostility, and violence are related but distinct concepts: anger is an emotional state, hostility refers to negative or suspicious attitudes, and violence represents extreme aggression intended to cause severe harm. Learning processes also shape aggressive tendencies. As Bandura (1973) argued, individuals can acquire aggressive behaviors through observation, imitation, and reinforcement particularly when such behaviors appear to lead to rewards or social approval. Because aggressive actions vary in form, origin, and intensity, scholars conceptualize aggression as a complex, multi-determined phenomenon influenced by multiple interacting factors (Nakaya & Habu, 1980).

1.3.1 Theoretical Framework

This study employs two foundational theoretical frameworks to explore the antecedents of cyberbullying perpetration. Social Learning Theory posits that aggression is acquired through observation, imitation, and reinforcement, whereby individuals learn aggressive behaviors by

watching models and observing whether such actions are rewarded or punished (Bandura, 1977). The General Aggression Model extends this understanding by explaining how personal factors and situational variables interact to influence internal states—including cognition, emotion, and arousal—which ultimately shape aggressive responses through appraisal and decision-making processes (Anderson & Bushman, 2002). Together, these complementary frameworks illuminate how aggressive behaviors are both learned through social observation and activated through dynamic person-situation interactions in cyberbullying contexts.

- **Social Learning Theory given by Bandura (1977)**

Social Learning Theory, proposed by Bandura, explains that human behavior including aggression is learned through observation, imitation, and reinforcement within social environments. According to this theory, individuals do not need to experience consequences directly; instead, they acquire behaviors by watching models such as parents, peers, teachers, or media figures and observing the outcomes of their actions (Bandura, 1977). When aggressive behaviors are rewarded or go unpunished, they become more likely to be repeated. Bandura's earlier work also emphasized that aggression can be strengthened through reinforcement and shaped by environmental cues (Bandura, 1973). In digital spaces, where anonymity and constant exposure to aggressive content are common, observational learning becomes even more influential, making the theory particularly relevant for understanding cyberbullying perpetration.

- **General Aggression Model given by Anderson & Bushman (2022)**

The General Aggression Model is one of the most widely used frameworks for understanding why people engage in aggressive behavior. According to the model, aggression results from the continuous interaction of personal factors (e.g., traits, attitudes, biological predispositions) and situational factors (e.g., provocation, frustration, exposure to aggressive media) which influence an individual's internal state, their thoughts, emotions, and physiological arousal (Anderson & Bushman, 2002). These internal states shape how a person interprets a situation (appraisal), leading either to impulsive, aggressive reactions or more thoughtful, non-aggressive responses. Over time, repeated exposure to aggressive contexts can reinforce aggressive scripts, desensitize individuals to violence, and strengthen aggressive personality tendencies. Therefore, it helps explain both short-term aggressive acts and long-term development of aggressive traits, making it highly relevant for understanding behaviors such as cyberbullying perpetration.

1.4 Loneliness

Loneliness is the state of distress or discomfort that results when one perceives a gap between one's desires for social connection and actual experiences of it (Peplau & Perlman, 1982). A strong sense of emptiness and loneliness characterizes the emotional state of loneliness. There is more to loneliness than merely the need for company or to engage in activities with someone. It is thought of as a sense of alienation, disconnection, or cutoff from other people. It is particularly prevalent among teenagers and is impacted by a number of variables, including expectations, identity issues, social and developmental concerns, and more. Because it is both high and low, it affects teenagers' futures. According to Tillich (1963), loneliness is the misery of being by oneself. He also emphasized that the word "solitude," which seeks to communicate the splendor of being alone, is what gave rise to the language of loneliness. Weiss (1973) stated that loneliness is a separation discomfort brought on by the lack of a genuine intimate relationship or attachment figure. He continued to investigate and evaluate the social and emotional aspects of loneliness. He went on to evaluate that social loneliness is less unpleasant than emotional loneliness. Moustakas (1961) distinguished between two sorts of loneliness: loneliness anxiety and existential loneliness. In contrast to loneliness anxiety, which he defined as a bad feeling stemming from a fundamental separation between man and man, existential loneliness is an inherent aspect of human existence, involving times of self-confrontation and a path for self-growth. It frequently causes feelings of self-doubt, social incompetence, and the conviction that one is misinterpreted by others. When these emotions continue, people may become less confident and avoid social settings because they are afraid of being rejected again. Prolonged loneliness can exacerbate symptoms of clinical depression by creating a feeling of inner emptiness in more severe instances. Numerous situations in life might lead to loneliness. Feeling socially isolated can be exacerbated by a lack of meaningful friendships during childhood and adolescence, physical or emotional distance from significant persons, and interruptions in intimate connections. Because they take away a person's main sources of emotional support, major life upheavals like divorce, moving, losing a loved one, or being cut off from established social groups can cause loneliness. These experiences can have long-lasting psychological impacts, even though they are usually transient, if they are accompanied by persistent grief or withdrawal. According to researchers, loneliness is more about the experience of isolation than it is about the actual condition of being alone (Cacioppo et al., 2008). For instance, a soldier stationed among coworkers or a university student living among peers may nonetheless

experience extreme loneliness if they don't have a significant emotional connection. As a result, loneliness varies greatly among people and might be mistaken for similar concepts like sadness, low self-esteem, or social anxiety. Nevertheless, loneliness is still a unique emotional experience that is influenced by individual interpretation.

Loneliness is influenced by a combination of individual, social, and environmental factors. Personal characteristics such as low self-esteem, poor social skills, introversion, and negative thinking patterns have been linked to higher loneliness (Heinrich & Gullone, 2006). Psychological conditions, including depression, anxiety, and social anxiety disorder, can also heighten feelings of isolation by reducing motivation for social engagement. Social influences such as limited peer support, lack of close friendships, or strained family relationships play a critical role in shaping loneliness across different developmental stages (Qualter et al., 2015). Environmental factors such as transition periods (e.g., entering college, relocating), cultural barriers, or digital overuse can further contribute to feelings of disconnection, especially among emerging adults. Additionally, increased reliance on online communication may sometimes hinder the formation of deeper interpersonal bonds, thereby intensifying loneliness despite frequent virtual interactions (Nowland, Necka, & Cacioppo, 2018). These factors collectively highlight that loneliness is a multifaceted construct shaped by one's internal experiences as well as interpersonal and contextual conditions. Throughout life, loneliness has a substantial impact on behavioral outcomes, social functioning, and psychological well-being. Numerous detrimental effects on mental health, such as an elevated risk of depression, anxiety, tension, and suicidal thoughts, have been linked to persistent loneliness (Cacioppo & Hawkley, 2009). Chronically lonely people frequently exhibit increased emotional sensitivity, poor self-evaluations, and maladaptive cognitive habits, such as mistrusting others or anticipating rejection, which further hinder their capacity to establish and sustain meaningful connections. This leads to a vicious cycle where social disengagement and mental suffering both cause and are caused by loneliness.

From a developmental standpoint, the fast social, emotional, and identity-related changes that occur between adolescence and emerging adulthood make these times especially susceptible to loneliness. Feelings of inadequacy, loneliness, and perceived social incapacity might worsen if solid friendships or love connections are not formed during this period. As they deal with the demands of school, being away from home, competitive social settings, and the difficulty of

creating new social networks, college students in particular may feel more alone (Diehl et al., 2018).

Additionally, loneliness has significant behavioral effects. According to research, lonely people may try to control their negative feelings or get social validation by using maladaptive coping mechanisms including excessive internet usage, substance misuse, or violent behaviors (Holt-Lunstad et al., 2015). Loneliness has also been demonstrated to affect social information processing and interpersonal judgments. According to Cacioppo et al. (2014), lonely people are more likely to perceive unclear social cues as threatening or rejecting, which might result in defensive or aggressive reactions in social situations. Relationship quality may suffer and feelings of alienation may be strengthened by this increased sensitivity. These tendencies may eventually lead to more general issues with empathy, social skills, and emotional control.

1.4.1 Theoretical Framework

This study draws upon two complementary theoretical frameworks to explore the nature and experience of loneliness. Attachment Theory, expanded by Weiss (1973), emphasizes that early emotional bonds shape interpersonal functioning throughout life and distinguishes between emotional loneliness stemming from the absence of close attachment figures and social loneliness arising from inadequate social networks or peer connections. Cognitive Discrepancy Theory posits that loneliness emerges from the perceived gap between desired and actual social relationships, highlighting that loneliness is a subjective emotional state influenced by personal expectations, social skills, self-esteem, and past experiences rather than simply objective social isolation (Perlman & Peplau, 1981). Together, these frameworks illuminate how loneliness reflects both relational deficits and cognitive evaluations of social connection.

- **Attachment Theory given by Weiss (1973)**

Attachment Theory, originally proposed by Bowlby (1969) and later expanded by Weiss (1973), emphasizes the critical role of early emotional bonds in human development, suggesting that the quality of relationships formed during childhood particularly with primary caregivers shapes emotional regulation, interpersonal functioning, and social connectedness across the lifespan. Building on this framework, Weiss (1973) conceptualized loneliness as arising from deficits in meaningful relationships and distinguished between two forms namely emotional loneliness,

which results from the absence of a close, intimate attachment figure such as a best friend or romantic partner, and social loneliness, which emerges from a lack of broader social networks, group belonging, and peer relationships.

- **Cognitive Discrepancy Theory given by Perlam & Peplau (1981)**

Cognitive Discrepancy Theory, proposed by Perlman and Peplau (1981), is one of the most widely cited frameworks for understanding loneliness and posits that loneliness arises from a perceived discrepancy between the social relationships an individual desires and those they actually experience. According to this theory, loneliness is not merely a consequence of being alone but is a subjective emotional state shaped by personal expectations, perceptions, and social needs, such that individuals with similar social networks may experience differing levels of loneliness. Factors such as social skills, self-esteem, and past social experiences play a crucial role in influencing how individuals evaluate their relationships and perceive this gap between desired and actual social connections.

1.5 Need and Significance of the Study

The present study is undertaken to address the growing concern of cyberbullying perpetration among college students in the context of increasing digital engagement during a critical developmental period. Although previous research has identified aggression as a key predictor of cyberbullying and has separately linked loneliness to maladaptive online behaviors, there is a clear gap in the literature integrating these variables within a single framework, particularly among college students and within the Indian context, also no significant gender differences were found. Most existing studies focus on adolescents, emphasize cyberbullying victimization rather than perpetration, or examine psychological factors in isolation, thereby limiting a holistic understanding of the mechanisms underlying online aggression. College students experience heightened independence, social pressure, emotional regulation challenges, and reliance on technology, which may intensify feelings of loneliness and aggressive tendencies, increasing the risk of cyberbullying behaviors. By examining the combined influence of aggression and loneliness on cyberbullying perpetration, the present study aims to fill this empirical gap and provide a deeper psychological explanation of online aggressiveness. The findings are expected to inform counselors, educators, and policymakers in developing targeted prevention strategies, mental health interventions, and awareness programs that promote emotional regulation, empathy,

and social connectedness, ultimately contributing to a safer and more supportive online environment for the college student population.

1.6 Statement of the Problem

The study aims to investigate the relationship between Cyberbullying Perpetration, Aggression and Loneliness, in college students from various educational institutions of Jammu region.

1.7 Operational Definitions

1.7.1 Cyberbullying Perpetration

The deliberate and repeated use of digital platforms to harass, threaten, or harm others. It is measured by frequency of cyberbullying behaviours across digital media.

1.7.2 Aggression

A multidimensional construct involving physical aggression, verbal aggression, anger and hostility, with the potential to cause physical or psychological harm.

1.7.3 Loneliness

A subject state of distress arising from a perceived discrepancy between desired and adult social connections, encompassing emotional and social dimensions.

1.8 Objectives of the Study

1. To examine the relationship between Cyberbullying Perpetration and Aggression among college students.
2. To examine relationship between Cyberbullying Perpetration and Loneliness among college students.
3. To examine the relationship between Aggression and Loneliness among college students.
4. To examine the gender differences on Cyberbullying Perpetration, Loneliness and Aggression.

1.9 Hypothesis of the study

Based on review of literature, following hypotheses are proposed:

- **H1:** There will be a positive relationship between Cyberbullying Perpetration and Aggression.
- **H2:** There will be a positive relationship between Cyberbullying Perpetration and Loneliness.
- **H3:** There will be a positive relationship between Aggression and Loneliness.
- **H3:** There will be significant difference between males and females on Cyberbullying Perpetration, Aggression and Loneliness.

1.10 Delimitations of the study

- It is a quantitative study.
- The use of purposive sampling and a restricted age range (18-25 years) for the sample.
- It does not include students outside formal educational institutions.
- Reliance on self-report questionnaires may introduce social desirability and response biases that affect data accuracy

CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

In recent years, the psychological and social well-being of college students has gained considerable attention, particularly due to the growing influence of technology and social media. The emergence of cyberbullying has become a serious behavioral concern, affecting emotional stability, relationships, and overall mental health. Aggression has been identified as a key factor contributing to cyberbullying perpetration, reflecting patterns of hostility and poor emotional regulation. Similarly, loneliness has been linked to both cyberbullying and victimization, suggesting that socially isolated individuals may express their frustrations through online aggression or become targets of such behavior. Understanding the relationship between cyberbullying perpetration, aggression, and loneliness is essential, as these variables reflect the emotional and social functioning of college students in digital environments. The following review is conducted to interlink these variables and establish their predictive relationships as presented, followed by relevant empirical findings highlighting their impact on students' psychological well-being.

2.2 Studies related to Cyberbullying Perpetration. Aggression and Loneliness

Finn (2004) conducted one of the earliest studies exploring online harassment and cyberbullying among university students. The study surveyed 339 students at the University of New Hampshire to assess their experiences with email and instant message harassment. The findings showed that 10%–15% of students had received repeated unwanted emails or messages, and 7% reported feeling threatened by such communication. The study also found that female students were more likely to experience online harassment than males. Finn concluded that cyber harassment was an emerging problem in university settings, reflecting the increasing risks of digital communication in student populations.

Güzeller et al. (2013) conducted a study with 150 Turkish university students to examine the relationship between cyberbullying perceptions and psychological aggression behaviors. The study found a significant positive correlation, indicating that students who perceived cyberbullying

as prevalent or serious were more likely to engage in aggressive behaviors online. This suggests that awareness of cyberbullying does not necessarily reduce aggressive tendencies; in fact, it may coincide with personal inclinations toward aggression. The findings highlight the need for educational interventions in Turkish universities that address both awareness of cyberbullying and strategies to manage aggressive behaviors in online settings.

Doane et al. (2014) examined 195 college students in the United States to identify predictors of cyberbullying perpetration using the theory of reasoned action. The study found that students' attitudes toward cyberbullying, subjective norms, and behavioral intentions significantly influenced their likelihood of engaging in online aggression. These results suggest that cyberbullying is not solely an individual behavioral issue but is shaped by social and cognitive factors, including peer influences and perceived social acceptability. This underscores the importance of culturally sensitive programs in American universities that target normative beliefs and promote prosocial online behaviors.

Varghese and Pistole (2017) studied 172 American college students to explore the effects of self-esteem, depression, loneliness, and attachment on cyberbullying. The results showed that students with lower self-esteem, higher levels of depressive symptoms, greater loneliness, and insecure attachment were more likely to be involved in cyberbullying, either as perpetrators or victims. This indicates that psychological vulnerabilities significantly contribute to cyber aggression among university students. The study emphasizes the need for mental health support services and preventive interventions in U.S. higher education institutions to mitigate risk factors related to self-esteem and emotional well-being.

Wright (2017) conducted a study in the United States to test an integrated model of cyberbullying perpetration, aggression, social skills, and Internet self-efficacy among college students. Using a sample of 201 university students, the study examined predictors of cyberbullying based on the General Aggression Theory (GAT). The results showed that verbal aggression consistently predicted higher levels of cyberbullying perpetration, emphasizing the role of trait aggression in online aggression. A significant moderating effect of internet self-efficacy was observed, when self-efficacy was low, verbal aggression and social skills had minimal influence on cyberbullying; however, at high levels of Internet self-efficacy, students who were both high in verbal aggression

and high in social skills were substantially more likely to engage in cyberbullying. The findings highlight the importance of considering interactive effects between personality traits and technological competence in designing interventions for cyberbullying in college settings.

Martínez-Monteagudo et al. (2019) examined 1,102 Spanish adolescents to investigate how aggressiveness and emotional intelligence relate to cyberbullying. Although focused on adolescents, the mechanisms identified, aggression, emotional regulation, and online behavior are highly relevant for understanding cyberbullying among college students. Using validated scales, the study found that physical aggressiveness was the strongest predictor of all cyberbullying roles (perpetrators, victims, and victim–aggressors), followed by anger, indicating that offline aggressive tendencies and emotional reactivity strongly influence online aggression. Verbal aggression and hostility were weaker predictors. Emotional intelligence especially emotional understanding and regulation acted as significant protective factors, reducing the likelihood of involvement in cyberbullying. Perpetrators exhibited lower emotional and social skills, while gender analyses showed emotional intelligence had a stronger protective effect for females.

Kokkinos and Antoniadou (2019) conducted research with 250 undergraduate student teachers in Greece using the General Aggression Model (GAM). They found that personality traits such as impulsivity and hostile attribution style, combined with online experiences, significantly predicted both cyberbullying and cyber-victimization. Students who tended to interpret ambiguous online interactions as hostile were at higher risk of engaging in or experiencing cyber aggression. These findings highlight the interplay of personality and situational factors in shaping online behaviors, suggesting the need for programs that promote emotional regulation and healthy online interaction patterns among Greek university students.

Özden Yildirim (2019) investigated 200 Turkish emerging adults to examine how loneliness and malicious envy relate to cyberbullying behaviors. The findings revealed that individuals who reported higher levels of loneliness were more likely to engage in cyberbullying, suggesting that unmet social needs and feelings of social exclusion may contribute to aggressive behavior in online settings. Additionally, malicious envy emerged as a significant psychological predictor, indicating that negative social comparisons and resentment toward others can fuel harmful online actions. The study emphasizes the importance of strengthening social support systems and implementing

interventions that foster emotional regulation, empathy, and social connectedness within Turkish higher education contexts to effectively reduce cyberbullying behaviors.

Wong et al. (2018) conducted a study involving 400 Chinese university students to examine gender differences in cyberbullying perpetration within a higher education context. The findings indicated that male students were significantly more likely than female students to engage in acts of cyberbullying, reflecting a consistent pattern reported in prior research on online aggression. However, the authors noted that these gender disparities were also shaped by broader cultural and contextual influences, such as social norms surrounding masculinity, peer group dynamics, and the perceived anonymity of digital environments. The study emphasizes that effective prevention efforts must take these gender-specific and cultural factors into account.

Zsila et al. (2018) examined cyberbullying across diverse age groups including college aged young adults, found clear gendered patterns in online aggressive responses. The study demonstrated that males were significantly more likely than females to engage in cyberbullying perpetration, particularly when they had experienced prior online victimization. This suggests that men tend to display more retaliatory or reactive forms of cyber-aggression, whereas women showed comparatively lower involvement even when exposed to similar victimization experiences. Although the sample included a broader adult population rather than exclusively university students, the consistency of the gender difference strongly aligns with findings from higher-education settings, where male students also typically exhibit higher perpetration levels. The study therefore provides valuable cross-context evidence that male individuals are more prone to cyberbullying behaviors.

Cava et al. (2020) conducted a study with 220 Spanish adolescents who had experienced cyber dating violence to examine the emotional and psychological consequences of cyberbullying within romantic relationships. The findings demonstrated that exposure to cyber aggression was strongly associated with higher levels of loneliness and depressive mood, highlighting the profound emotional distress caused by harmful online behaviors in intimate contexts. Because dating relationships typically involve emotional closeness and trust, cyberbullying within these relationships can be especially damaging, as victims may experience feelings of betrayal, isolation, and reduced self-worth. The study emphasizes that cyberbullying in romantic relationships differs

from peer-based cyberbullying in its intensity and psychological impact, underscoring the need for targeted prevention and intervention efforts that address digital abuse..

Al Qudah et al. (2020) examined cyberbullying behavior among 300 Jordanian university students, focusing on the predictive roles of psychological security, loneliness, and age. The findings indicated that students who experienced lower levels of psychological security characterized by feelings of instability, fear, and lack of emotional safety were significantly more likely to engage in cyberbullying. Loneliness also emerged as a strong risk factor, suggesting that socially isolated students may resort to online aggression as a maladaptive means of coping or asserting control. Additionally, younger students were found to be at greater risk of engaging in cyberbullying compared to their older peers, pointing to the influence of developmental and adjustment-related factors in early university years.

Dou et al. (2020) investigated the relationship between cyberbullying victimization and cyberbullying perpetration in a sample of 1,183 Chinese college students from a university in Liaoning Province, China, using validated measures of cyberbullying, trait anger, and moral disengagement. The study found that cyberbullying victimization was positively correlated with cyberbullying perpetration, indicating that students who were bullied online were more likely to engage in cyberbullying themselves. Further analysis showed that trait anger and moral disengagement mediated this relationship, with two distinct pathways: a separate mediating effect of moral disengagement and a sequential mediation through trait anger leading to increased moral disengagement. These findings highlight the important roles of emotional (trait anger) and cognitive (moral disengagement) processes in the transition from being a victim of cyberbullying to becoming a perpetrator, suggesting that interventions should target both emotional regulation and moral cognition to reduce cyber aggression.

Alrajeh et al. (2021) investigated the relationship between cyberbullying, cybervictimization, and depressive symptoms among 400 university students in Qatar, providing important insights into the mental health consequences of online aggression within a Middle Eastern higher education context. The findings revealed a strong positive association between involvement in cyberbullying both as a perpetrator and as a victim and elevated levels of depressive symptoms, indicating that cyberbullying participation is closely linked to psychological distress. Students who were

repeatedly exposed to or engaged in online harassment reported greater emotional strain, feelings of sadness, and reduced psychological well-being, highlighting the pervasive impact of digital aggression beyond academic life. The study underscores that cyberbullying is not merely a behavioral or disciplinary issue but a significant mental health concern, necessitating a comprehensive institutional response

Lam et al. (2022) examined the relationships between cyberbullying, social anxiety, and social comparison in a sample of 486 undergraduate students recruited from southern Texas and northern Ohio in the United States. The study assessed students' experiences with cyberbullying (both perpetration and victimization), social anxiety, and social comparison through an online survey. The results indicated that social anxiety was positively associated with both cyberbullying victimization and perpetration, suggesting that students with higher anxiety levels were more likely to be involved in cyberbullying, either as victims or aggressors. In contrast, social comparison was not significantly related to cyberbullying, and cyberbullying victimization did not moderate the relationship between social comparison and social anxiety.

Varela et al. (2022) examined 350 Chilean youth and adult university students during the COVID-19 pandemic to assess the psychological impact of cyberbullying within a context of heightened social isolation and increased reliance on digital communication. The findings indicated that students who experienced cyberbullying reported significantly higher levels of loneliness and depressive symptoms, highlighting the compounding effect of online victimization during a period marked by limited face-to-face interaction and reduced social support. The pandemic-related restrictions appeared to intensify the emotional consequences of cyberbullying, as students had fewer opportunities to seek peer connection or informal coping resources. These results underscore that cyberbullying can have particularly severe mental health implications during times of social disruption.

Talwar (2022) conducted a study involving 280 Malaysian university students to identify key sociodemographic predictors of cyberbullying perpetration. The findings revealed clear demographic patterns: male students reported significantly higher levels of cyberbullying than female students, suggesting that gender remains a salient factor in online aggression within Malaysian university contexts. Additionally, younger students particularly those in their early

years of study were more prone to engaging in cyberbullying behaviors compared to senior students. This pattern may reflect developmental factors, varying levels of digital maturity, and differential exposure to online environments across academic stages.

Heiman and Olenik-Shemesh (2022) investigated cyber-victimization among 400 Israeli university students, focusing on the roles of social support, loneliness, and self-efficacy in shaping students' vulnerability to online harassment. The findings demonstrated that students who reported stronger social support networks and higher levels of self-efficacy were significantly less likely to experience cyberbullying, suggesting that interpersonal resources and personal confidence function as important protective factors in digital environments. In contrast, loneliness emerged as a significant risk factor, increasing students' susceptibility to cyber-victimization by weakening emotional resilience and reducing access to supportive coping mechanisms. The study highlights that cyberbullying risk is influenced not only by online behaviors but also by broader psychosocial conditions.

Sheikh et al. (2023) examined cyberbullying perpetration and victimization among 350 university students in Bangladesh to understand its prevalence, psychological impact, and students' responses to online aggression. The findings revealed moderate rates of both cyberbullying involvement and victimization, indicating that online harassment is a persistent concern within Bangladeshi higher education settings. Notably, the study found low levels of help-seeking behavior among affected students, suggesting limited awareness of available support services, fear of stigma, or lack of trust in institutional responses. These results underscore the need for Bangladeshi universities to develop structured counseling services, clear reporting mechanisms, and awareness programs that encourage students to seek help and ensure timely and effective intervention against cyberbullying.

Fang et al. (2023) examined a sample of 300 Chinese college students to investigate the complex interplay between parental attachment, loneliness, and cyberbullying perpetration. The study revealed that parental attachment did not directly predict cyberbullying behavior but exerted an indirect influence through increased or reduced levels of loneliness. Students with insecure parental attachment tended to experience greater loneliness, which in turn heightened their likelihood of engaging in cyberbullying. Additionally, interdependent self-construal, an important cultural dimension within collectivistic societies was found to moderate this mediating pathway.

Specifically, students with stronger interdependent self-construal were less likely to translate loneliness into cyberbullying behaviors, suggesting a protective cultural effect.

Jin et al. (2023) conducted an empirical investigation with a sample of 450 Chinese university students to assess both the prevalence and psychological correlates of cyberbullying involvement. The findings revealed notably high rates of cyberbullying perpetration and victimization within the student population, indicating that online aggression remains a pervasive issue in Chinese higher education contexts. Moreover, cyberbullying involvement was significantly associated with elevated levels of anxiety, depression, and perceived stress, underscoring the profound psychological burden experienced by affected students. The study highlights how cyber aggression not only disrupts peer relationships but also contributes to a broader decline in emotional well-being and academic functioning.

Asiamah (2024) conducted a study in the United States at Illinois State University to examine the prevalence and experiences of cyberbullying among college students. Using a mixed-methods approach, the researcher collected data from 278 undergraduate students, exploring both the incidence of cyberbullying and students' awareness of the issue. Results indicated that 44.8% of students had experienced cyberbullying, with females, international students, and those identifying with sexual minorities being more likely to report victimization. The study identified Snapchat as the most prevalent platform for cyberbullying. Participants also noted that cyberbullies often targeted random individuals. These findings underscore the need for enhanced awareness and education programs on cyberbullying in higher education, particularly targeting vulnerable student populations, and highlight gaps in institutional responses to online harassment.

Brecht (2024) explored the relationship between social media use, loneliness, and cyberbullying among college students, grounding the study in the Evolutionary Theory of Loneliness and Jensen-Campbell's Stress Model of Peer Victimization. Findings indicated that loneliness played a dual role, predicting both cyberbullying perpetration and victimization. Lonely students, lacking supportive social ties, were more likely to engage in cyberbullying as a maladaptive self-preservation response, while also being more vulnerable to becoming victims. Cyberbullying perpetration was associated with increased physical symptoms, depression, and anxiety, whereas victimization predicted heightened stress and state anxiety. The study emphasized that loneliness

triggers self-focused behaviors that can manifest as online aggression, contributing to a cycle of worsening mental and physical health. Overall, the findings highlight the importance of addressing loneliness directly within college populations to reduce cyberbullying involvement and its harmful health consequences.

Cesur et al. (2024) conducted a cross-sectional study at Cumhuriyet University in Turkey to investigate the relationship between cyberbullying, cybervictimization, and loneliness among university students. The results indicated that 22% of students engaged in cyberbullying, while 64% reported being victims of cyberbullying. Students who engaged in cyberbullying reported lower loneliness scores, suggesting that perpetration may serve as a coping or social mechanism, whereas victims reported higher levels of loneliness. Correlational analysis revealed a significant negative relationship between cyberbullying and loneliness, while the relationship between cybervictimization and loneliness was negative but not statistically significant. The study highlights the need for guidance, training programs, and legal regulations to manage cyberbullying and mitigate its psychological impact on students, emphasizing the prevalence of loneliness and cybervictimization in university populations.

Talwar et al. (2024) conducted a study involving 320 Malaysian university students to investigate the mediating role of loneliness in the relationship between self-esteem and cyberbullying perpetration, while also assessing gender as a moderating variable. The results demonstrated that loneliness significantly mediated the association between low self-esteem and engagement in cyberbullying behaviors, suggesting that individuals with diminished self-worth may resort to online aggression as a maladaptive coping mechanism for feelings of social disconnection. Furthermore, the mediating pathway was found to be stronger among male students, indicating that gender plays a meaningful role in shaping the psychological processes underlying cyberbullying involvement.

Tong et al. (2024) conducted a longitudinal study with 1,200 Chinese university students from six universities across five cities in China to examine the reciprocal relationship between cyberbullying and loneliness. Participants completed online questionnaires three times over one year. The study found that cyberbullying, including both perpetration and victimization, predicted increases in loneliness over time, while higher levels of loneliness also predicted increased

cyberbullying, indicating a bidirectional relationship between these constructs. Additionally, general trust acted as a significant mediator cyberbullying was associated with lower trust, which in turn contributed to higher loneliness, and loneliness similarly reduced trust, which increased cyberbullying behaviors. These findings suggest that cyberbullying and loneliness are dynamically interconnected among university students, and that interpersonal trust is a key psychological mechanism influencing this relationship.

Aparisi et al. (2025) conducted a study involving 350 Spanish university students to explore the complex interplay between cyberbullying, victimization, aggressiveness, social anxiety, and adjustment to university life. Using structural equation modeling, the researchers demonstrated that both cyberbullying perpetration and victimization were strongly linked to higher levels of aggressiveness and heightened social anxiety. These psychological difficulties, in turn, were found to hinder students' academic functioning, reduce their sense of belonging, and impair their overall adaptation to the university environment. The study highlights that the consequences of cyberbullying extend beyond immediate interpersonal conflict, influencing students' emotional well-being, peer relationships, and engagement with academic tasks.

Chu et al. (2025) investigated the role of shyness in cyberbullying perpetration among 1,377 Chinese college students from four universities in Shandong, Sichuan, Zhejiang, and Hubei provinces. Guided by the general aggression model, the study tested a moderated mediation model with relative deprivation and anger rumination as mediators and Internet morality as a moderator. The results showed that relative deprivation and anger rumination both independently and sequentially mediated the relationship between shyness and cyberbullying perpetration, indicating that shy students were more likely to experience social comparison and dwell on anger, which in turn increased their involvement in cyberbullying. Additionally, Internet morality significantly moderated the effects of shyness and anger rumination on cyberbullying, such that higher Internet morality weakened these associations.

Lee et al. (2025) examined cyberbullying involvement among South Korean college students, focusing on peer influence as a moderating factor in the relationship between cyberbullying victimization and offending. The sample consisted of 244 undergraduate students (132 males and 112 females). The descriptive statistics revealed that male students reported significantly higher

mean levels of cyberbullying perpetration compared to their female counterparts, indicating that men in this university context were more actively engaged in online aggressive behaviors. Beyond gender differences in perpetration, the study also showed that peer involvement in cyberbullying played a stronger moderating role for female students, meaning that women were more likely to become involved in offending behaviors when their peers engaged in cyberbullying. However, despite this moderation effect, men consistently displayed higher baseline perpetration levels, supporting the broader evidence that male students are more prone to cyberbullying offending.

Zhang et al. (2025) investigated roles of self-esteem and trait anger, 847 Chinese college students were examined to explore how cybervictimization leads to cyberbullying. The study found that cybervictimization positively predicted cyberbullying, and self-esteem mediated this relationship students with lower self-esteem were more likely to perpetrate cyberbullying. Trait anger moderated these effects, with stronger associations for students high in anger. The findings highlight that emotional regulation and self-concept play key roles in the cycle of cyberbullying, suggesting the importance of interventions targeting self-esteem and anger management in Chinese universities.

In conclusion, the examined research shows that a complex interplay between aggressiveness, loneliness, and emotional control, as well as social and environmental variables like gender and peer norms, influences cyberbullying among college students. Cyberbullying perpetration is reliably predicted by aggressiveness, and loneliness is both a risk factor and a result of online violence. However, there is little integrative research on perpetration among college students, especially in non-Western contexts, and the majority of studies either look at these factors separately or concentrate on victims. In order to close this gap, the current study looks at how loneliness and aggressiveness work together to perpetrate cyberbullying in order to provide specific preventative and intervention techniques for higher education.

CHAPTER 3

METHODOLOGY

3.1 Overview

This study is an empirical study that looks at the connection between loneliness, aggression, and cyberbullying among college students. The study aims to examine the relationship between cyberbullying behaviors in online settings and emotions of loneliness and aggression using a quantitative research methodology and standardized psychological assessments. The study attempts to discover important psychological determinants of cyberbullying perpetration with a focus on college students, a developmentally vulnerable cohort with high levels of digital interaction. It is anticipated that the results will advance knowledge about online violence and guide the creation of focused preventative and mental health treatments in higher education environments**.**

3.2 Reseach Design

3.2.1 Method

The present study adopted a quantitative research design. A correlational method was used to examine the relationship between Cyberbullying Perpetration, Aggression and Loneliness among college students and gender differences were assessed using t-test analysis.

3.2.2 Population

The population targeted for this study will be college students, including both male and female participants, within the age range of 18-25 years. Individuals will be recruited from various educational institutions of Jammu region.

3.2.3 Sample of the study

The study will include a sample of 150 college students, both male and female, aged 18-25 years. Participants will be selected using Purposive Sampling and the sample will be drawn from various educational institutions, including Colleges and Universities of Jammu region.

3.2.4 Inclusion

- College students between the age range of 18 – 25 years.
- Able to read and understand the language of the questionnaire.
- Willing to provide informed consent.

3.2.5 Exclusion

- Participants submitting partially filled questionnaires will be excluded.
- Participants below 18 years or above 25 years of age will be excluded.

3.2.6 Data Collection

Data were collected through both online and offline modes to ensure wider reach and participation. Online data were gathered via Google Forms shared through institutional networks and social media platforms. Offline data were collected through direct administration of the questionnaire in college premises with prior institutional permission. Informed consent was obtained from all participants before data collection.

3.3 Tools employed

The study will use the following standardized psychological scales:

3.3.1 Cyberbullying Perpetration Scale given by Lee, Abell, and Holmes (2017)

The Cyberbullying Perpetration Scale (CBP) developed by Lee, Abell, and Holmes (2017) consists of 20 items designed to measure the frequency of individuals' involvement in cyberbullying behaviors across digital platforms. The scale has demonstrated high internal consistency, with reported Cronbach's alpha values ranging from .85 to .91, indicating good reliability. Its validity has been established through factor-analytic evidence supporting its construct structure, as well as convergent validity shown by positive correlations with aggression and related antisocial behaviors.

3.3.2 The Aggression Questionnaire given by Buss and Perry (1992)

The Aggression Questionnaire (AQ) developed by Buss and Perry (1992) is a 29-item self-report measure assessing aggression across four dimensions: physical aggression, verbal

aggression, anger, and hostility. The scale demonstrates strong reliability, with an overall Cronbach's alpha of approximately .89, and subscale reliability coefficients ranging from .72 to .85. The validity of the AQ is well established, with consistent support for its four-factor structure and evidence of convergent and criterion-related validity through associations with behavioral and self-report measures of aggression.

3.3.3 The UCLA Loneliness Scale given by Russell (1996)

The UCLA Loneliness Scale (Version 3) developed by Russell (1996) comprises 20 items that assess subjective feelings of loneliness and perceived social isolation. The scale has shown excellent reliability, with Cronbach's alpha coefficients ranging from .89 to .94, along with strong test-retest reliability. Its validity is supported by robust evidence of construct and content validity, demonstrated through meaningful correlations with related constructs such as social support, depression, and psychological well-being, making it a widely accepted measure of loneliness in psychological research.

3.4 Statistical Analysis

Descriptive analysis, such as mean and Standard Deviation will be computed to summarize the demographic characteristics. Data will be analyzed using Statistical Package for Social Sciences (Version 26.0). Correlation analyses and t-test will be applied to determine relationships between variables and gender differences.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

4.1 INTRODUCTION

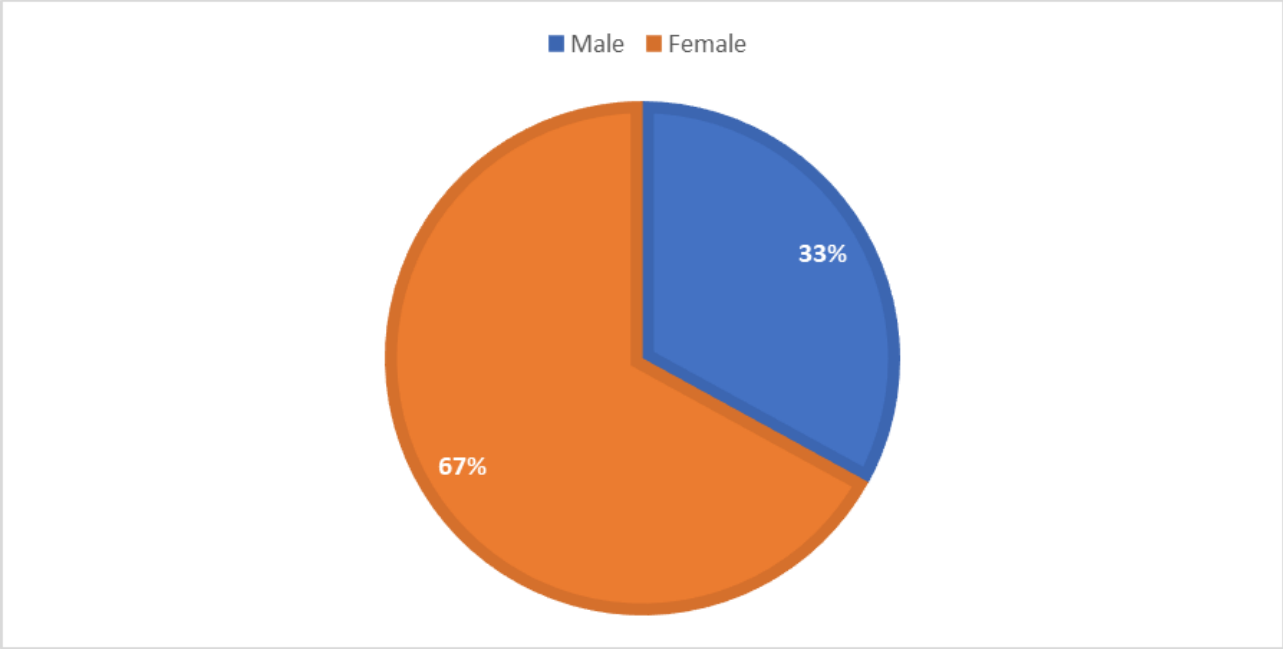
This chapter presents the analysis and interpretation of data collected to examine the relationship between cyberbullying perpetration, aggression, and loneliness among college students. Using appropriate statistical methods, data collected from the participants was carefully processed and examined. To investigate the relationships and differences between the study variables, descriptive statistics, correlation analysis, and independent samples t-tests were used. The findings from these analyses are presented in the subsequent tables, accompanied by their interpretation and discussion.

4.2 RESULTS AND FINDINGS

4.2.1 Demographic Profile of the Sample

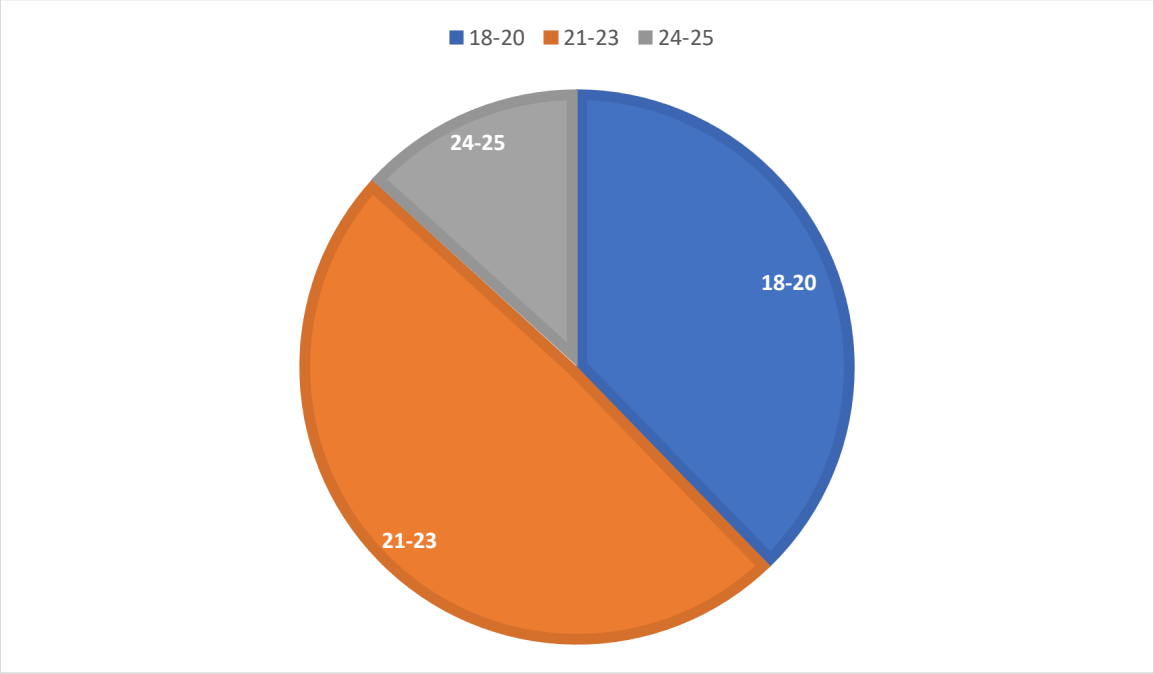
The demographic characteristics of the participants were analysed prior to the main statistical analysis. The descriptive statistics indicated that the sample consisted of 67% females and 33% males, as illustrated in Figure 1.

Figure 1. *Total no. of sample on the basis of Gender*



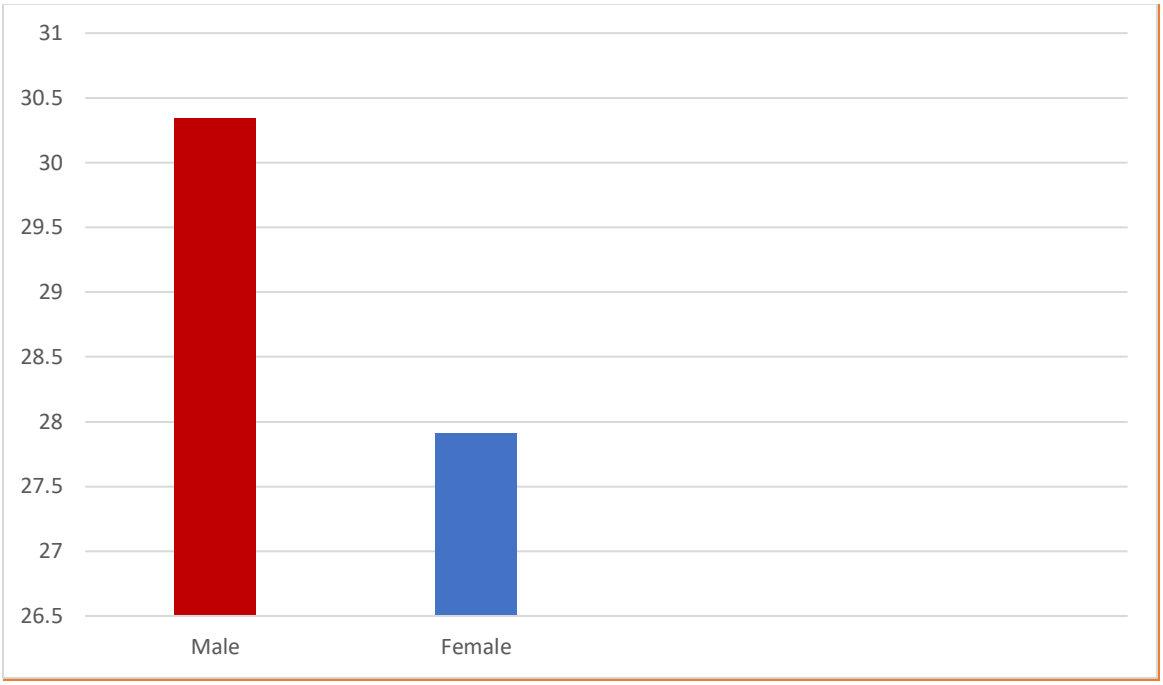
The age distribution of the sample was also measured. The results showed that 37.7% of the participants belonged to the age group of 18-20years, 49% were in the age range of 21-23 years and 13.2% fell within the age group of 24-25 years. The distribution of participants across the different age categories is illustrated in Figure 2.

Figure 2. *Total no. of sample on the basis of Age*



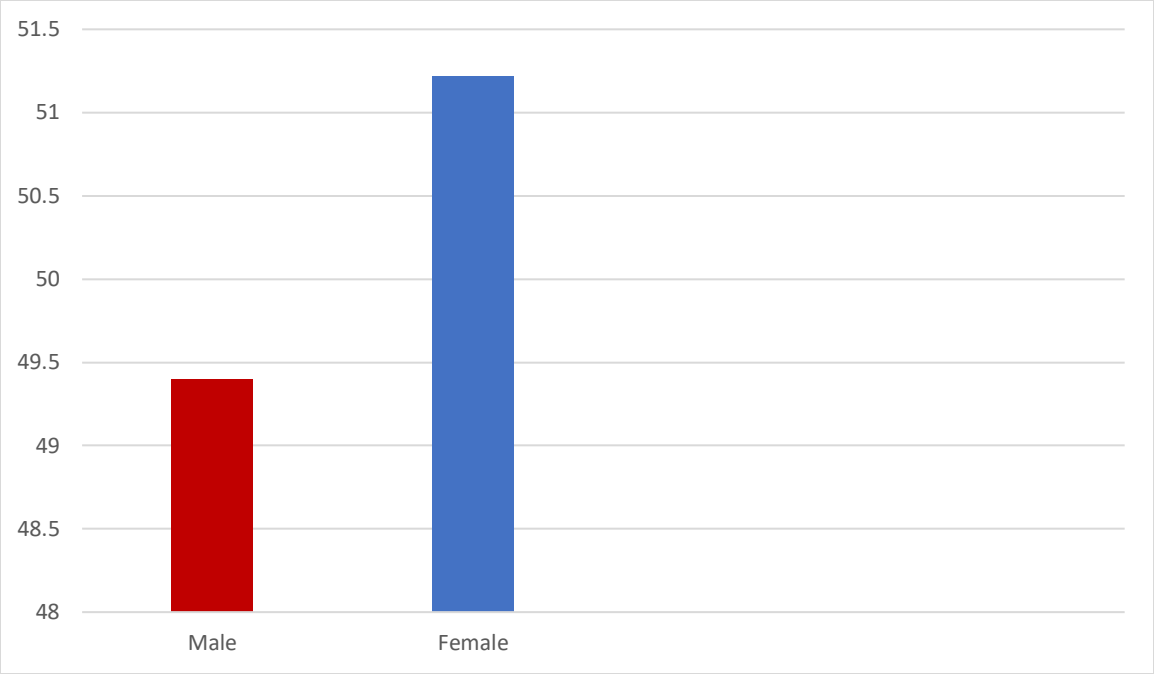
Descriptive statistics were also computed to examine the mean scores of the study variables across gender. The results indicated that male and female participants differed slightly in their mean scores on Cyberbullying Perpetration, Aggression and Loneliness . The mean score for cyberbullying perpetration among males was 30.34 while for females it was 27.91 as shown in Figure 3.

Figure 3. *Mean on the basis of Gender on Cyberbullying Perpetration*



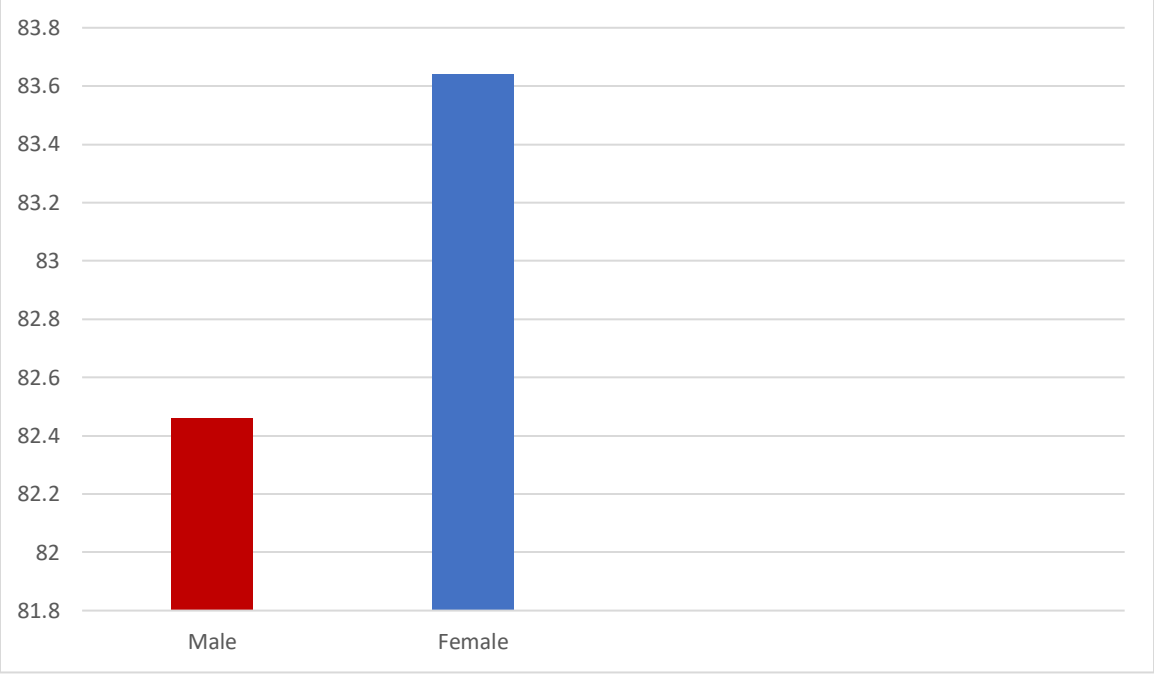
The mean scores for Loneliness were also computed. The results indicated that the mean score for loneliness among males was 49.40 whereas for females it was 51.21 as illustrated in Figure 4.

Figure 4. *Mean on the basis of Gender on Loneliness*



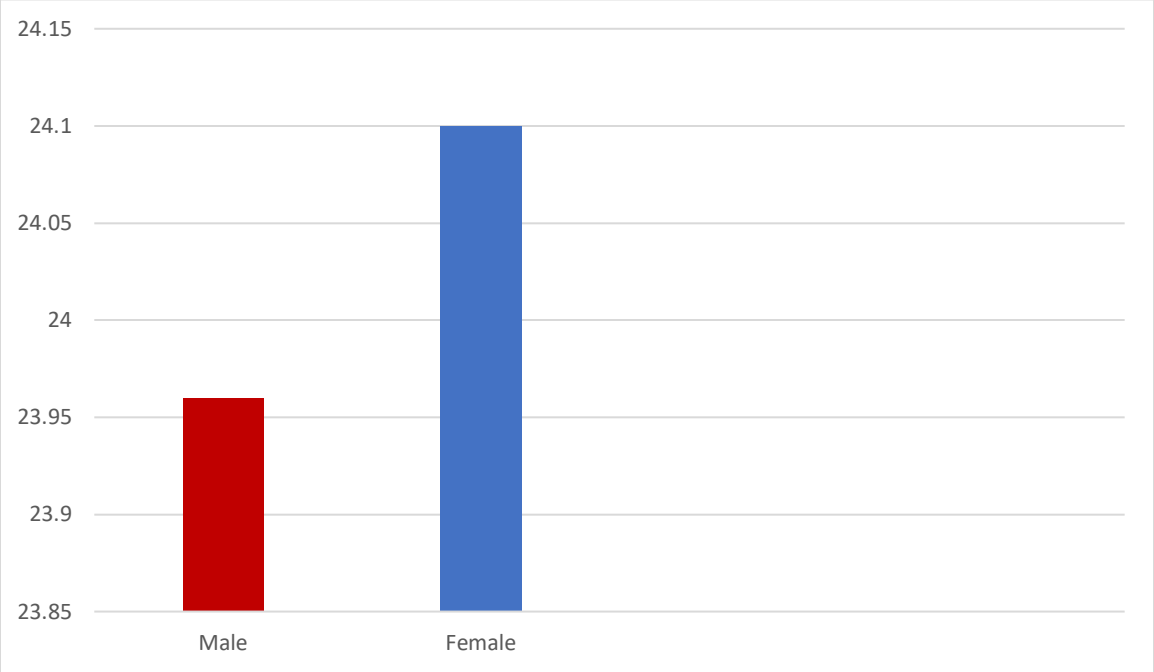
Similarly, the mean scores for Aggression were calculated which showed that males had a mean score of 82.46 while females had a mean score of 83.64 as shown in Figure 5.

Figure 5. *Mean on the basis of Gender on Aggression*



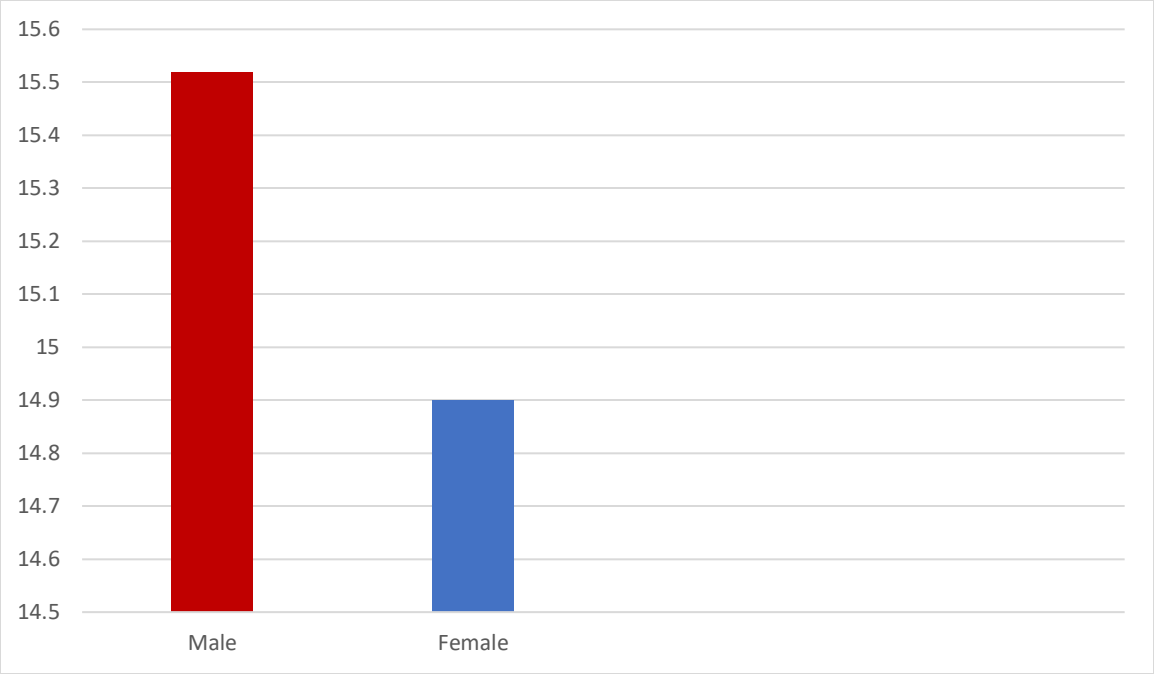
Additionally, the mean scores for the sub-dimensions of aggression were also computed. For Physical Aggression, the mean scores for males were 23.96 and 24.10 for females as illustrated in Figure 6.

Figure 6. *Mean on the basis of Gender on Physical Aggression*



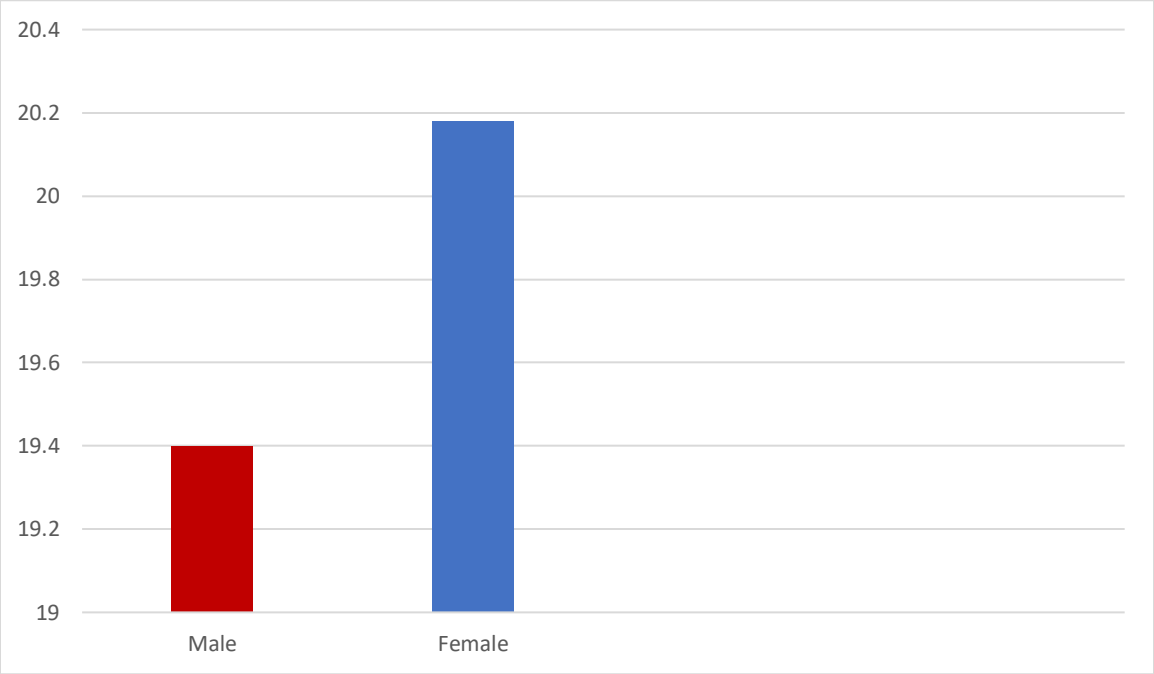
For Verbal Aggression, the mean scores for males were 15.52 and 14.90 for females as illustrated in Figure 7.

Figure 7. *Mean on the basis of Verbal Aggression*



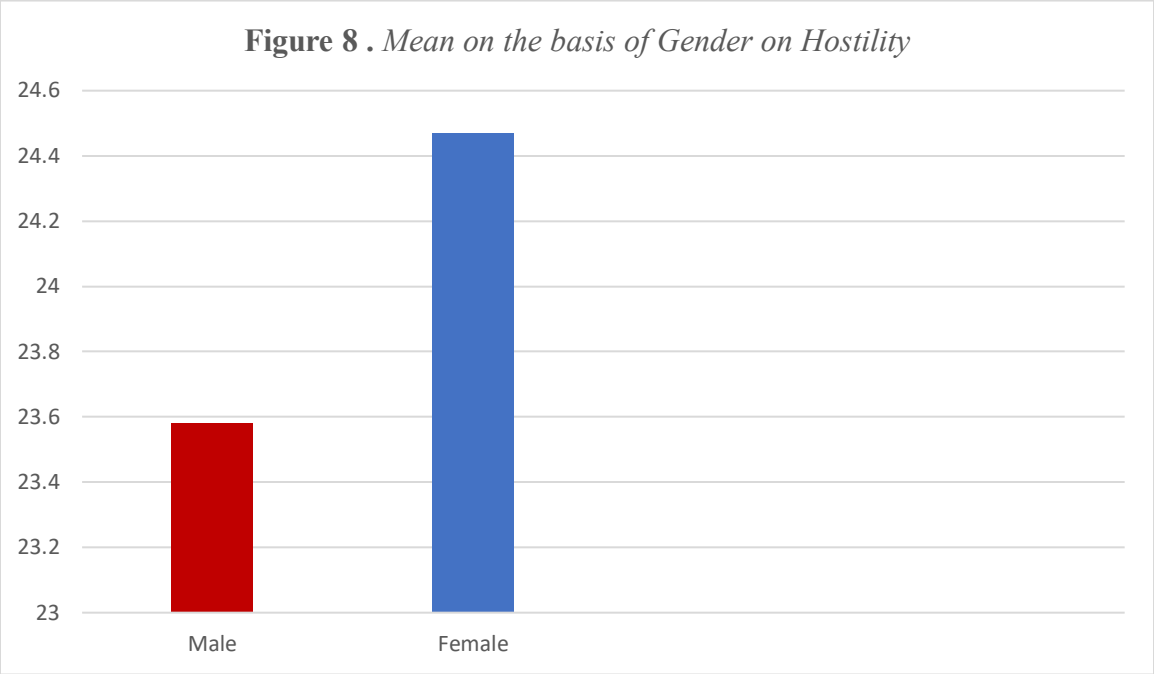
For Anger, the mean scores for males were 19.40 and 20.18 for females as illustrated in Figure 8.

Figure 8. *Mean on the basis of Gender on Anger*



For Hostility, the mean scores for males were 23.58 and 24.47 for females as illustrated in Figure 9.

Figure 9. *Mean on the basis of Gender on Hostility*



4.2.2 Research Objective 1,2,3 : To examine the relationship between cyberbullying perpetration, aggression, and loneliness among college students

To address this objective, Pearson's Product Moment Correlation was computed along with descriptive statistics (Mean and Standard Deviation) for all study variables and their sub-dimensions. The results are presented in Table 1.

Table 1
Descriptive Statistics and Correlation for Study Variables

Variable	N	M	SD	1	2	3	4	5	6
1. Cyberbullying Perpetration	151	28.71	11.95	—					
2. Aggression	151	83.25	19.32	.22**	—				
3. Physical Aggression	151	24.05	6.32	.22**	.85***	—			
4. Verbal Aggression	151	15.11	4.12	.18*	.83***	.62***	—		
5. Anger	151	19.92	5.52	.23**	.90***	.69***	.70***	—	
6. Hostility	151	24.17	6.40	.14	.86***	.59***	.65***	.70***	—
7. Loneliness	151	50.62	9.14	.06	.26**	.19*	.15	.13	.40***

Note. $*p < .05$. $**p < .01$. $***p < .001$.

The table presents the descriptive statistics and Pearson's correlations among cyberbullying perpetration, aggression, and loneliness among college students. The results indicated a statistically significant positive relationship between cyberbullying perpetration and aggression ($r = .22$, $p < .01$), suggesting that higher levels of cyberbullying perpetration are associated with higher levels of aggression. Cyberbullying perpetration also showed significant positive correlations with physical aggression ($r = .22$, $p < .01$), verbal aggression ($r = .18$, $p < .05$), and anger ($r = .23$, $p < .01$). However, the relationship between cyberbullying perpetration and hostility ($r = .14$, $p > .05$) as well as loneliness ($r = .06$, $p > .05$) was found to be non-significant.

Further analysis revealed that aggression was significantly and positively correlated with all its sub-dimensions, including physical aggression ($r = .85$, $p < .001$), verbal aggression ($r = .83$, $p < .001$), anger ($r = .90$, $p < .001$), and hostility ($r = .86$, $p < .001$). Additionally, aggression showed a significant positive relationship with loneliness ($r = .26$, $p < .01$), indicating that higher levels of aggression are associated with greater feelings of loneliness.

With respect to the sub-dimensions of aggression, physical aggression showed significant positive correlations with verbal aggression ($r = .62$, $p < .001$), anger ($r = .69$, $p < .001$), hostility ($r = .59$, $p < .001$), and loneliness ($r = .19$, $p < .05$). Verbal aggression was significantly positively correlated with anger ($r = .70$, $p < .001$) and hostility ($r = .65$, $p < .001$); however, its relationship with

loneliness (r = .15, p > .05) was non-significant. Anger demonstrated a significant positive correlation with hostility (r = .70, p < .001), whereas its relationship with loneliness (r = .13, p > .05) was not significant. Notably, hostility showed a significant positive relationship with loneliness (r = .40, p < .001), suggesting that individuals with higher levels of hostility tend to experience greater feelings of loneliness.

Since significant positive relationships were established between cyberbullying perpetration and aggression (and its sub-dimensions), the hypothesis (H1: There is a significant positive relationship between cyberbullying perpetration and aggression among college students) was accepted. However, as no significant relationship was found between cyberbullying perpetration and loneliness, the related hypothesis was rejected.

4.2.3 Research Objective 4: To determine whether there are gender differences in cyberbullying perpetration, aggression, and loneliness among college students

To address this objective, an Independent Samples t-test was conducted to compare the mean scores of male and female participants on cyberbullying perpetration, aggression, and loneliness. The results are presented in Table 2.

Table 2 : *Independent Samples t-Test for Gender Differences in Study Variables (N = 151)*

S No.	Variables	Males N= 50		Females N= 151		t- value	p-value
		M	S.D.	M	S.D.		
1	Cyberbullying Perpetration	30.34	13.26	27.91	11.23	1.18	.24
2	Aggression	82.46	21.72	83.63	18.11	.35	.72
3	Loneliness	49.40	9.27	51.21	9.05	1.14	.251

*p<.05.**p<.0.1.***p<.001

The results of the independent samples t-test revealed that there was no statistically significant gender difference in cyberbullying perpetration between male and female participants, $t(149) = 1.18$, $p = .24$. Although the mean score of the male group ($M = 30.34$, $SD = 13.26$) was slightly higher than the female group ($M = 27.91$, $SD = 11.23$), this difference was not statistically significant and may have occurred by chance. This indicates that male and female college students did not differ significantly in their levels of cyberbullying perpetration.

Similarly, no statistically significant gender difference was found in aggression, $t(149) = .35$, $p = .72$. Male participants ($M = 82.46$, $SD = 21.72$) and female participants ($M = 83.63$, $SD = 18.11$) reported comparable levels of aggression, suggesting that gender does not significantly influence aggressive behaviour in the present sample.

With respect to loneliness, the results again revealed no statistically significant gender difference, $t(149) = 1.14$, $p = .251$. Female participants ($M = 51.21$, $SD = 9.05$) scored marginally higher than male participants ($M = 49.40$, $SD = 9.27$); however, this difference was not statistically meaningful. This implies that both male and female college students reported similar levels of loneliness.

Since no statistically significant gender differences were found in cyberbullying perpetration, aggression, or loneliness, the hypothesis (H2) was rejected,

4.3 SUMMARY OF THE FINDINGS

Taken together, the findings of the present study provide clear and consistent answers to all research objectives. First, a statistically significant positive relationship was established between cyberbullying perpetration and aggression ($r = .22$, $p < .01$), as well as with its sub-dimensions of physical aggression ($r = .22$, $p < .01$), verbal aggression ($r = .18$, $p < .05$), and anger ($r = .23$, $p < .01$), indicating that cyberbullying perpetration is meaningfully associated with aggressive behaviour. However, no significant relationship was found between cyberbullying perpetration and loneliness ($r = .06$, $p > .05$). Importantly, hostility demonstrated a significant positive association with loneliness ($r = .40$, $p < .001$), while overall aggression was also significantly related to loneliness ($r = .26$, $p < .01$). Second, no significant gender differences were found in cyberbullying perpetration [$t = 1.18$, $p = .24$], aggression [$t = .35$, $p = .72$], or loneliness [$t = 1.14$, $p = .251$], suggesting that all three constructs operate comparably across male and female college students.

CHAPTER V
FINDINGS, CONCLUSION, DISCUSSION, FUTURE IMPLICATIONS AND SUGGESTIONS

5.1 INTRODUCTION

College students represent a population uniquely vulnerable to psychosocial stressors arising from the convergence of academic pressures, identity development, interpersonal challenges, and rapid technological integration into everyday social life. In an era characterized by the pervasive use of digital communication platforms and social media, cyberbullying has emerged as a significant and growing concern among young adults. The present study, titled "Exploring the Relationship between Cyberbullying Perpetration, Aggression, and Loneliness among College Students," was undertaken with the primary aim of examining the relationships among cyberbullying perpetration, aggression, and loneliness in a sample of college students from the Jammu region.

Cyberbullying perpetration refers to the intentional and repeated use of digital technologies to harm, harass, threaten, or intimidate others. Aggression, as conceptualized by Buss and Perry (1992), is a multidimensional construct consisting of physical aggression, verbal aggression, anger, and hostility. Loneliness, defined by Perlman and Peplau (1982), refers to the perceived discrepancy between desired and actual social relationships and is increasingly recognized as a major mental health concern among college-going youth. The present study further sought to determine whether gender differences exist in cyberbullying perpetration, aggression, and loneliness among college students.

5.2 MAJOR FINDINGS

5.2.1 Research Objective 1: To examine the relationship between cyberbullying perpetration and aggression among college students

The mean score of participants on Cyberbullying Perpetration was M = 28.71 (SD = 11.95), while the mean score on Aggression was M = 83.25 (SD = 19.32), indicating moderate levels of both variables in the present sample. Pearson's Product Moment Correlation revealed a statistically

significant positive relationship between cyberbullying perpetration and overall aggression ($r = .22$, $p < .01$), indicating that college students with higher aggressive tendencies are more likely to engage in cyberbullying behaviour.

Among the sub-dimensions of aggression, significant positive correlations were found with physical aggression ($r = .22$, $p < .01$), verbal aggression ($r = .18$, $p < .05$), and anger ($r = .23$, $p < .01$). However, the relationship between cyberbullying perpetration and hostility ($r = .14$, $p > .05$) was found to be non-significant, suggesting that the more active and emotionally expressive dimensions of aggression are more strongly associated with cyberbullying behaviour than the cognitive dimension of hostility. Since a statistically significant relationship was found between cyberbullying perpetration and aggression, the first hypothesis (H1) was accepted.

5.2.2 Research Objective 2: To examine the relationship between cyberbullying perpetration and loneliness among college students

The mean score of participants on Loneliness was $M = 50.62$ ($SD = 9.14$). Pearson's correlation analysis revealed a non-significant relationship between cyberbullying perpetration and loneliness ($r = .06$, $p > .05$). This finding suggests that loneliness does not significantly predict cyberbullying perpetration among college students in the present sample and supports theoretical perspectives that distinguish cyberbullying perpetration from cyberbullying victimisation, with loneliness being more strongly associated with the latter. Since no statistically significant relationship was found between cyberbullying perpetration and loneliness, the second hypothesis (H2) was rejected.

5.2.3 Research Objective 3: To examine the relationship between aggression and loneliness among college students

A statistically significant positive relationship was found between overall aggression and loneliness ($r = .26$, $p < .01$), indicating that college students who report higher levels of aggression also tend to experience greater feelings of loneliness and social isolation. Among the sub-dimensions of aggression, hostility demonstrated the strongest positive association with loneliness ($r = .40$, $p < .001$), while physical aggression also showed a significant positive relationship ($r = .19$, $p < .05$). However, verbal aggression ($r = .15$, $p > .05$) and anger ($r = .13$, $p > .05$) did not reach statistical significance.

These findings suggest that the cognitive and negative attitudinal component of aggression, particularly hostility, is most strongly associated with loneliness among college students. Since a statistically significant relationship was found between aggression and loneliness, the third hypothesis (H3) was accepted.

5.2.4 Research Objective 4: To determine whether there are gender differences in cyberbullying perpetration, aggression, and loneliness among college students

The Independent Samples t-test revealed no statistically significant gender differences in cyberbullying perpetration [$t = 1.18$, $p = .24$], aggression [$t = .35$, $p = .72$], or loneliness [$t = 1.14$, $p = .251$]. Although male participants scored marginally higher on cyberbullying perpetration ($M = 30.34$, $SD = 13.26$) compared to female participants ($M = 27.91$, $SD = 11.23$), and female participants scored slightly higher on loneliness ($M = 51.21$, $SD = 9.05$) compared to males ($M = 49.40$, $SD = 9.27$), none of these differences reached statistical significance.

These findings indicate that cyberbullying perpetration, aggression, and loneliness operate similarly across male and female college students in the present sample. Accordingly, the fourth hypothesis (H4) was rejected.

To summarize the findings, cyberbullying perpetration was significantly and positively related to aggression and its active sub-dimensions, whereas its relationship with loneliness was found to be non-significant. Aggression, in turn, demonstrated a significant positive relationship with loneliness, particularly through the hostility dimension. Furthermore, no statistically significant gender differences were found across any of the study variables. These findings collectively emphasize the central role of aggressive tendencies, rather than loneliness alone, in predicting cyberbullying perpetration among college students.

5.3 CONCLUSION AND DISCUSSION

The present study established a statistically significant positive relationship between cyberbullying perpetration and aggression among college students ($r = .22$, $p < .01$), leading to the acceptance of

the first hypothesis. College students with higher levels of physical aggression, verbal aggression, and anger were found to be more likely to engage in cyberbullying perpetration. This finding is theoretically supported by the General Aggression Model proposed by Anderson and Bushman (2002), which explains that aggressive personality traits and situational influences interact to produce aggressive behaviour, including within online environments. The findings are also consistent with Social Learning Theory proposed by Bandura (1977), which suggests that individuals learn and reproduce aggressive patterns of behaviour through observation and reinforcement across different social contexts, including digital platforms. Empirically, the findings align with studies conducted by Dou et al. (2020), Ak et al. (2015), and Wang et al. (2017), all of which reported significant positive associations between aggression and cyberbullying perpetration among university students.

The non-significant relationship between cyberbullying perpetration and loneliness ($r = .06$, $p > .05$) resulted in the rejection of the second hypothesis. This finding suggests that loneliness may not directly contribute to cyberbullying perpetration among college students. The finding is theoretically coherent with the Stress Exposure Model proposed by van den Eijnden et al. (2014), which indicates that loneliness is more strongly associated with cyberbullying victimisation than perpetration. Han et al. (2021) similarly reported that loneliness was significantly associated with victimisation experiences rather than perpetration behaviours. In addition, Social Compensation Theory (Valkenburg & Peter, 2011) suggests that lonely individuals may use online interactions primarily to seek social connection and emotional support rather than engage in harmful online activities, thereby explaining the absence of a direct relationship in the present study.

The significant positive relationship between aggression and loneliness ($r = .26$, $p < .01$), particularly the strong association between hostility and loneliness ($r = .40$, $p < .001$), supports the acceptance of the third hypothesis. These findings indicate that students experiencing higher levels of hostility and aggressive tendencies are also more likely to experience feelings of loneliness and social isolation. The Frustration-Aggression Hypothesis proposed by Dollard et al. (1939) and later revised by Berkowitz (1989) explains that social frustration and unmet interpersonal needs may generate negative emotional states that contribute to aggressive tendencies. Attachment Theory proposed by Bowlby (1969) also supports the findings by suggesting that insecure attachment

patterns may predispose individuals to both hostility and loneliness through difficulties in interpersonal functioning and negative perceptions of others. Similar findings have been reported by Yavuzer et al. (2019) and Brinker et al. (2023), who found meaningful positive relationships between aggression and loneliness among young adults.

The rejection of the fourth hypothesis confirms the absence of statistically significant gender differences in cyberbullying perpetration, aggression, and loneliness among college students. These findings are consistent with the meta-analysis conducted by Barlett and Coyne (2014), which concluded that gender differences in cyberbullying are considerably less pronounced than those observed in traditional bullying due to the anonymous and indirect nature of online interactions. The Online Disinhibition Effect proposed by Suler (2004) further explains that anonymity and reduced social accountability within digital environments may minimize traditional gender-based behavioural differences. With regard to aggression, the use of a multidimensional aggression measure in the present study may have balanced potential gender variations across different aggression sub-dimensions, resulting in an overall non-significant gender effect.

From a practical perspective, the findings of the present study highlight the importance of addressing aggressive tendencies, particularly anger, physical aggression, and verbal aggression, as important psychological risk factors associated with cyberbullying perpetration among college students. Since no significant gender differences were observed, intervention programmes aimed at reducing cyberbullying and aggression may be implemented universally across both male and female students. Programmes incorporating emotional regulation training, anger management strategies, social skills development, counselling services, and digital citizenship education may help reduce cyberbullying behaviours while simultaneously addressing aggression and feelings of loneliness among college students. Overall, the findings contribute to the growing body of literature on cyberbullying and psychosocial functioning among young adults and emphasize the importance of evidence-based preventive interventions within educational institutions.

5.4 Limitations of the study

While the present study contributes meaningfully to the existing literature, certain limitations must be acknowledged to contextualise the findings appropriately:

- The study was conducted exclusively within colleges and universities in the Jammu region, which limits the generalizability of the findings to other regions of India or other countries with different cultural, social, and demographic contexts.
- The use of purposive sampling, while appropriate for the study's goals, introduces the possibility of sampling bias. The sample may not be fully representative of the broader population of college students in the region.
- The cross-sectional nature of the study captures data at a single point in time, making it impossible to establish causal relationships among cyberbullying perpetration, aggression, and loneliness, or to track changes in these variables over time.
- All three variables were assessed using self-report measures, which are susceptible to social desirability bias and subjective interpretation, particularly in the context of cyberbullying perpetration, which carries social stigma and may be underreported.
- The study examined only three primary constructs. Future research could expand the scope to include variables such as emotional regulation, social support, empathy, academic stress, and social media usage patterns to develop a more comprehensive model of cyberbullying risk among college students.
- Several potentially important moderating and mediating variables — including hostile attribution bias, online disinhibition, peer group norms, and family environment — were not examined, which limits the depth of mechanistic understanding that can be derived from the present correlational findings.
- The exclusive use of quantitative measures did not allow for an in-depth exploration of participants' subjective experiences of cyberbullying, aggression, or loneliness. A mixed-methods approach in future research would provide richer and more contextually grounded insights.

5.5 FUTURE IMPLICATIONS AND SUGGESTIONS

The findings of this study carry significant implications for mental health practitioners and educators working with college students. Counsellors and mental health professionals can design integrative intervention programmes that simultaneously address aggressive dispositions through cognitive-behavioural techniques, anger management strategies, and social skills training, while also targeting the social connectedness deficits associated with loneliness. Given the significant association between hostility and loneliness observed in the present study, interventions that cultivate secure interpersonal orientations, foster trust in social relationships, and address maladaptive attribution patterns may be particularly effective in interrupting the self-reinforcing cycle of isolation and aggression among college students.

At the institutional level, universities and colleges should consider embedding digital citizenship education and cyberbullying prevention programmes within their student support frameworks. Practically accessible initiatives such as peer mentoring, community-building activities, social connectedness workshops, and emotional regulation training can serve as low-cost yet high-impact strategies for reducing cyberbullying risk while simultaneously addressing the psychosocial vulnerabilities aggression and loneliness that the present study identified as its most significant correlates.

From a research perspective, future studies should employ longitudinal designs to track the development of cyberbullying perpetration, aggression, and loneliness across the college years, enabling stronger causal inference. Experimental and intervention-based studies that test whether aggression reduction programmes effectively reduce cyberbullying perpetration would further advance both theoretical understanding and applied programming. Future research should also formally test mediation and moderation models examining variables such as emotional dysregulation, hostile attribution bias, empathy, and social support as mechanisms linking the three constructs examined in the present study. Such models would deepen theoretical understanding and provide direct guidance for the design of targeted, evidence-based interventions.

Replicating this study across diverse cultural, religious, and geographical contexts across India and South Asia is essential for evaluating the generalizability of the present findings. The present study represents one of a limited number of investigations into these relationships within an Indian college student context, and the field requires substantially more such work to understand how

cultural values, gender norms, family structures, and institutional environments shape the psychological dynamics of cyberbullying, aggression, and loneliness among young adults.

At the policy level, cyberbullying, aggression, and loneliness deserve formal recognition as interconnected psychosocial risk factors in national mental health strategies targeting college-aged youth. Policymakers should consider integrating the development of emotional regulation capacities, social connectedness resources, and digital literacy skills into broad-based mental health and higher education policies, acknowledging that inner dispositions toward aggression and social isolation are not peripheral concerns but foundational to the psychological safety and sustained well-being of the college student population. Together, these recommendations point toward a more holistic, risk-informed, and resource-oriented approach to college student mental health one that takes seriously the empirical interplay of aggression, loneliness, and cyberbullying perpetration as mutually reinforcing challenges of young adulthood.

SUMMARY

TOPIC: AN EMPIRICAL STUDY ON THE RELATIONSHIP BETWEEN CYBERBULLYING PERPETRATION, AGGRESSION AND LONELINESS AMONG COLLEGE STUDENTS

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Semester IV

INTRODUCTION

The rapid expansion of digital communication technologies has significantly transformed the social landscape of college students, making cyberbullying a growing psychosocial concern. College students, navigating a critical developmental period characterized by identity formation, emotional regulation challenges, and heightened social pressures, are particularly vulnerable to online aggression. Cyberbullying perpetration the deliberate use of digital platforms to harm others is associated with various psychological factors, including aggression and loneliness, both of which can predispose individuals to maladaptive online behaviors.

Aggression, encompassing physical, verbal, and relational dimensions, has been consistently identified as a predictor of cyberbullying perpetration. Simultaneously, loneliness the subjective experience of a gap between desired and actual social connections has been linked to increased online aggression, as socially isolated individuals may seek attention, control, or revenge through digital platforms. Understanding the interplay of cyberbullying perpetration, aggression, and loneliness is therefore essential for developing effective psychological interventions in higher education settings.

NEED AND SIGNIFICANCE OF THE STUDY

The present study addressed a significant gap in the existing literature by integrating cyberbullying perpetration, aggression, and loneliness within a single empirical framework among Indian college students a population that has been understudied in this context. Most prior research has concentrated on adolescents, victimization rather than perpetration, or isolated psychological variables. By focusing on college students in the Jammu region, this study contributes contextually relevant evidence and has direct practical implications for counselors, educators, and mental health policymakers working in higher education settings.

STATEMENT OF THE PROBLEM

The present study examines the relationship between Cyberbullying Perpetration, Aggression and Loneliness in college students from various educational institutions of the Jammu region.

OBJECTIVES OF THE STUDY

1. To examine the relationship between Cyberbullying Perpetration and Aggression among college students.
2. To examine the relationship between Cyberbullying Perpetration and Loneliness among college students.
3. To examine the relationship between Aggression and Loneliness among college students.
4. To examine the gender differences on Cyberbullying Perpetration, Loneliness and Aggression.

HYPOTHESES OF THE STUDY

H1: There will be a positive relationship between Cyberbullying Perpetration and Aggression.
H2: There will be a positive relationship between Cyberbullying Perpetration and Loneliness.
H3: There will be a positive relationship between Aggression and Loneliness.
H4: There will be a significant difference between males and females on Cyberbullying Perpetration, Aggression and Loneliness.

SAMPLE OF THE STUDY

A purposive sample of 151 college students (67% female, 33% male) aged 18–25 years was drawn from various educational institutions in the Jammu region. Data were collected through both online and offline modes.

TOOLS USED

Cyberbullying Perpetration Scale (Lee, Abell, & Holmes, 2017): A 20-item scale measuring the frequency of cyberbullying behaviors. Cronbach's alpha ranges from .85 to .91.
Aggression Questionnaire (Buss & Perry, 1992): A 29-item measure assessing four dimensions of aggression: physical aggression, verbal aggression, anger, and hostility. Cronbach's alpha ≈ .89.
UCLA Loneliness Scale, Version 3 (Russell, 1996): A 20-item scale assessing subjective feelings of loneliness and perceived social isolation. Cronbach's alpha ranges from .89 to .94.

RESULTS OF THE STUDY

The following results were obtained from the statistical analyses:

Regarding Objective 1 (Cyberbullying Perpetration and Aggression): A significant positive relationship was found between cyberbullying perpetration and overall aggression ($r = .223$, $p < .01$). Cyberbullying perpetration was also positively correlated with physical aggression ($r = .221$, $p < .01$), verbal aggression ($r = .179$, $p < .05$), and anger ($r = .225$, $p < .01$). H1 was therefore supported.

Regarding Objective 2 (Cyberbullying Perpetration and Loneliness): No significant relationship was found between cyberbullying perpetration and loneliness ($r = .061$, $p > .05$). H2 was therefore not supported.

Regarding Objective 3 (Aggression and Loneliness): A significant positive relationship was found between aggression and loneliness ($r = .263$, $p < .01$). Hostility demonstrated the strongest link with loneliness ($r = .397$, $p < .001$). H3 was therefore supported.

Regarding Objective 4 (Gender Differences): No significant gender differences were found in cyberbullying perpetration ($t = 1.18$, $p = .24$), aggression ($t = -.35$, $p = .72$), or loneliness ($t = -1.14$, $p = .25$). H4 was therefore not supported.

CONCLUSION

The findings of the present study highlight that cyberbullying perpetration among college students is meaningfully linked to aggressive tendencies, particularly physical aggression, verbal aggression, and anger. The absence of a significant direct relationship between cyberbullying perpetration and loneliness suggests that loneliness may operate through indirect pathways, possibly via hostility, which showed a strong association with loneliness. The lack of significant gender differences in all three variables indicates that cyberbullying perpetration, aggression, and loneliness are equally prevalent across genders in this sample.

These findings underscore the need for targeted psychological interventions in higher education settings that address aggressive coping styles and foster emotional regulation, empathy, and social connectedness. Mental health professionals, educators, and institutional policymakers should prioritize awareness programs and counseling services that promote safer digital behaviors and reduce the psychosocial risk factors associated with cyberbullying perpetration among college students.

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APPENDICES

APPENDIX A: CYBERBULLYING PERPETRATION SCALE (Lee, Abell, & Holmes, 2017)

The following statements describe different online behaviors. Please read each statement carefully and indicate how often you have engaged in each behavior over the past 12 months. There are no right or wrong answers. Please respond honestly.

Note: All responses are confidential and will be used for research purposes only.

Rating Scale: 1 = Never 2 = Rarely 3 = Sometimes 4 = Often

Item No.	Statement	Never (1)	Rarely (2)	Sometimes (3)	Often (4)
1	I have posted mean, hurtful comments about someone online.				
2	I have sent threatening messages to someone using technology.				
3	I have spread rumors about someone online.				
4	I have shared private photos or videos of someone without their permission.				
5	I have created a fake profile to make fun of or hurt someone.				
6	I have hacked into someone's account to cause harm.				
7	I have excluded or ignored someone on purpose in online groups.				

Item No.	Statement	Never (1)	Rarely (2)	Sometimes (3)	Often (4)
8	I have posted embarrassing photos or videos of someone to hurt them.				
9	I have impersonated someone online to get them in trouble.				
10	I have used technology to threaten or intimidate someone repeatedly.				
11	I have sent unwanted, offensive sexual messages to someone online.				
12	I have encouraged others to harass a specific person online.				
13	I have deliberately shared someone's personal information online without consent.				
14	I have posted false information online to damage someone's reputation.				
15	I have used social media to mock or ridicule someone.				
16	I have sent hateful messages about someone to their friends or family online.				
17	I have used online platforms to stalk someone.				
18	I have used the internet to sabotage someone's relationships.				

Item No.	Statement	Never (1)	Rarely (2)	Sometimes (3)	Often (4)
19	I have made fun of someone's appearance or characteristics online.				
20	I have used online platforms to continuously bother or annoy someone.				

Scoring: Sum of all 20 items. Higher scores indicate higher frequency of cyberbullying perpetration. Total score range: 20–80.

APPENDIX B: AGGRESSION QUESTIONNAIRE (Buss & Perry, 1992)

The following statements concern how you typically react or feel. Please read each statement and indicate how characteristic or true it is for you by choosing the number that best describes you.

Rating Scale: 1 = Extremely uncharacteristic of me 2 = Somewhat uncharacteristic 3 = Neither uncharacteristic nor characteristic 4 = Somewhat characteristic 5 = Extremely characteristic of me

Item No.	Statement	Subscale	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
1	Some of my friends think I am a hothead.	Physical Aggression					
2	If I have to resort to violence to protect my rights, I will.	Physical Aggression					
3	When people annoy me, I may tell them what I think of them.	Verbal Aggression					
4	I have threatened people I know.	Physical Aggression					
5	I get into fights a little more than the average person.	Physical Aggression					
6	I often find myself disagreeing with people.	Verbal Aggression					

Item No.	Statement	Subscale	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
7	If somebody hits me, I hit back.	Physical Aggression					
8	When frustrated, I let my irritation show.	Anger					
9	At times I feel like a powder keg ready to explode.	Anger					
10	I am an even-tempered person.*	Anger					
11	People who constantly annoy me deserve to be hit.	Physical Aggression					
12	I flare up quickly but get over it quickly.	Anger					
13	Given enough provocation, I may hit another person.	Physical Aggression					
14	I can't help getting into arguments when people disagree with me.	Verbal Aggression					

Item No.	Statement	Subscale	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
15	I have become so mad that I have broken things.	Anger					
16	Sometimes I fly off the handle for no good reason.	Anger					
17	I wonder why sometimes I feel so bitter about things.	Hostility					
18	If I have to fight to defend my rights, I will.	Physical Aggression					
19	My friends say that I'm somewhat argumentative.	Verbal Aggression					
20	Sometimes I lose my temper for no good reason.	Anger					
21	I know that 'friends' talk about me behind my back.	Hostility					

Item No.	Statement	Subscale	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
22	There are people who pushed me so far that we came to blows.	Physical Aggression					
23	I am sometimes eaten up with jealousy.	Hostility					
24	I can think of no good reason for ever hitting a person.*	Physical Aggression					
25	I have trouble controlling my temper.	Anger					
26	I sometimes feel that people are laughing at me behind my back.	Hostility					
27	I have threatened people I didn't know.	Physical Aggression					
28	When people are especially nice, I wonder what they want.	Hostility					

Item No.	Statement	Subscale	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
29	I have used physical fighting to work out my frustrations.	Physical Aggression					

Subscales: Physical Aggression (9 items), Verbal Aggression (5 items), Anger (7 items), Hostility (8 items). Items marked (*) are reverse-scored. Overall Cronbach's alpha ≈ .89.

APPENDIX C: UCLA LONELINESS SCALE, VERSION 3 (Russell, 1996)

The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described. There are no right or wrong answers; the best answer is the one that reflects your experience most accurately.

Rating Scale: 1 = Never 2 = Rarely 3 = Sometimes 4 = Always

Item No.	Statement	Never (1)	Rarely (2)	Sometimes (3)	Always (4)
1	I am unhappy doing so many things alone.				
2	I have nobody to talk to.				
3	I cannot tolerate being so alone.				
4	I lack companionship.				
5	I feel as if nobody really understands me.				
6	I find myself waiting for people to call or write.				
7	There is no one I can turn to.				
8	I am no longer close to anyone.				
9	My interests and ideas are not shared by those around me.				
10	I feel left out.				
11	I feel completely alone.				
12	I am unable to reach out and communicate with those around me.				

Item No.	Statement	Never (1)	Rarely (2)	Sometimes (3)	Always (4)
13	My social relationships are superficial.				
14	I feel starved for company.				
15	No one really knows me well.				
16	I feel isolated from others.				
17	I am unhappy being so withdrawn.				
18	It is difficult for me to make friends.				
19	I feel shut out and excluded by others.				
20	People are around me but not with me.				

Scoring: Sum of all 20 items. Higher scores indicate greater loneliness. Score range: 20–80. Cronbach's alpha ranges from .89 to .94. A score of 40 or above may indicate moderate to high loneliness.

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