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# Exploring the Experiences of Female Students Regarding Cyber Bullying and Academic Performance in the Age of Artificial Intelligence

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**Abstract**
*This study investigates the lived experiences of female university students regarding cyber bullying and its effects on academic performance in the age of artificial intelligence. Cyber bullying has emerged as a serious challenge in higher education, particularly as universities increasingly rely on AI-mediated learning environments such as learning management systems, online assessments, and digital communication platforms. The purpose of this paper was to explore how female students experience cyber bullying in these environments and how such experiences influence their academic engagement and performance. The research focused on the central objective of understanding the personal, emotional, and academic consequences of cyber bullying within AI-supported educational settings. Data were collected at the University of Narowal using a qualitative research design. The study population consisted of female university students and a purposive sample of n=20 participants were selected based on their experiences with online learning and cyber bullying. Semi-structured interviews were used as the primary data collection method. The data were analyzed using manual thematic analysis to identify recurring themes and sub-themes. The findings showed that female students experienced cyber bullying in the form of online harassment, social exclusion, and misuse of digital and AI-based academic platforms. These experiences led to anxiety, reduced self-confidence, fear of online participation, and decreased academic motivation. Many participants reported that cyber bullying negatively affected their concentration, class participation, and overall academic performance. The study also found limited institutional support and a lack of effective reporting mechanisms. This research contributes to our understanding of the intersection between gender, cyber bullying, and AI-mediated education. It highlights the need for stronger institutional policies, supportive systems, and ethical AI design to ensure safe and inclusive learning environments for female students.*

***Keywords:*** *Cyber bullying, Academic Performance, Artificial Intelligence*

**Introduction**

Cyber bullying has emerged as a serious challenge within higher education, particularly for female university students. The rapid expansion of digital platforms, learning management systems, and artificial intelligence driven communication tools has increased students' exposure to online interactions. These interactions extend beyond social engagement and directly intersect with academic life. Cyber bullying refers to repeated aggressive behavior carried out through digital means with the intent to harm others (Kowalski et al., 2022). Female students are often more vulnerable due to gendered harassment, social surveillance, and online power imbalances (Patchin & Hinduja, 2023). In the age of artificial intelligence, cyber bullying has become more complex, as AI tools can amplify harassment through anonymity, automated content generation, deep fakes, and rapid information spread (Floridi et al., 2023).

Academic performance is closely linked with students' psychological wellbeing, sense of belonging, and engagement in learning activities. Exposure to cyber bullying has been associated with anxiety, reduced concentration, absenteeism, and lower academic motivation among university students (Zhu et al., 2022). Female students experiencing online harassment often report emotional distress that interferes with their academic focus and participation (Wang & Wang, 2024). Artificial intelligence mediated platforms such as recommendation algorithms, automated feedback systems, and AI based social media moderation shape how cyber bullying is experienced and managed. However, these systems may also fail to adequately protect victims or may unintentionally intensify harmful interactions (Borenstein & Howard, 2022). Understanding the lived experiences of female university students is essential for capturing the nuanced ways cyber bullying affects academic performance in AI driven learning environments. A qualitative focus on lived experiences allows for deeper insight into personal meanings, coping strategies, and perceived institutional responses. This study addresses a critical gap by exploring how female students interpret and navigate cyber bullying within contemporary digital and academic contexts shaped by artificial intelligence.

**Research objectives**

The main objective of this study is to explore the lived experiences of female university students regarding cyber bullying and its influence on their academic performance in the age of artificial intelligence.

**Research question**

How do female university students experience cyber bullying, and how do these experiences affect their academic performance in AI mediated educational environments?

**Problem of the statement**

Cyber bullying has become an increasingly pervasive issue in higher education, yet institutional responses remain limited and fragmented. Female university students face unique forms of online harassment that intersect with gender norms, visibility, and academic expectations. Existing research has largely focused on prevalence and quantitative outcomes, with limited attention to students' subjective experiences and meanings (Kowalski et al., 2022). Moreover, the integration of artificial intelligence into educational and social platforms has transformed the nature of cyber bullying, making it more automated, persistent, and difficult to trace (Floridi et al., 2023). Despite these developments, there is insufficient empirical understanding of how female students experience cyber bullying within AI driven environments and how it directly influences their academic performance. This lack of insight restricts universities' ability to design effective support systems, policies, and ethical AI interventions. Addressing this problem requires an in depth exploration of lived experiences to inform context sensitive and gender responsive strategies.

**Rationale of the study**

This study is justified by the growing reliance on artificial intelligence in higher education and the parallel rise of cyber bullying incidents among university students. Female students' voices remain underrepresented in qualitative research on this issue, particularly in relation to academic performance. By focusing on lived experiences, the study provides rich evidence that can inform institutional policy, student support services, and AI governance frameworks. The research also responds to global calls for ethical and inclusive use of artificial intelligence in education (UNESCO, 2023). Understanding how cyber bullying is experienced in AI mediated contexts is essential for developing safer digital learning environments.

**Significance of the study**

The study holds significance for multiple stakeholders within higher education. For female students, it highlights their experiences and challenges, contributing to greater visibility and advocacy. For educators and university administrators, the findings provide insights into how cyber bullying disrupts academic engagement and performance, supporting the development of targeted interventions. For policymakers and technology developers, the study offers evidence to guide ethical AI design and digital safety policies in educational settings. Academically, the research contributes to the literature on cyber bullying, gender, and artificial intelligence by integrating psychological, educational, and technological perspectives.

**Limitations of the study**

The study is limited by its qualitative nature, which focuses on depth rather than generalizability. Findings will reflect the experiences of a specific group of female university students and may not represent all institutional or cultural contexts. Self-reported experiences may also be influenced by recall bias or emotional sensitivity. Additionally, the rapidly evolving nature of artificial intelligence technologies means that students' experiences may change over time, which may limit the long term applicability of the findings.

**Literature Review**

Cyber bullying has become a critical issue in higher education, particularly for female students who are disproportionately affected by online harassment due to social and gendered vulnerabilities (Patchin & Hinduja, 2023). It is broadly defined as deliberate, repeated aggressive behavior conducted via digital platforms, including social media, messaging apps, and online academic environments, intended to harm the target (Kowalski et al., 2022). While initial research on cyber bullying focused largely on adolescents, studies increasingly highlight that university students face similar challenges, which are intensified by academic pressures and online dependency. Several quantitative studies link cyber bullying to negative academic outcomes. Zhu et al. (2022) reported that students experiencing cyber bullying show reduced engagement, lower GPA scores, increased absenteeism, and diminished motivation. Similarly, Wang and Wang (2024) emphasized that emotional distress induced by online harassment directly interferes with learning, causing poor concentration, disrupted study habits, and reluctance to participate in class activities. These findings underline the importance of addressing cyber bullying as both a social and academic issue.

Recent scholarship has focused on the intersection of cyber bullying and emerging AI technologies. AI-mediated platforms, including learning management systems, AI chatbots, social media algorithms, and content moderation systems, have changed the landscape of online interaction. Floridi et al. (2023) argued that AI can function both as a tool for harm and as a protective mechanism. For instance, automated moderation can filter abusive messages, but algorithmic amplification, deepfake generation, and anonymity features can intensify harassment (Borenstein & Howard, 2022). This dual role of AI has created new challenges for

understanding cyber bullying in higher education. A gap in the literature emerges regarding qualitative, experience-based research. Most existing studies focus on prevalence, correlations, and psychological outcomes (Kowalski et al., 2022; Zhu et al., 2022). Few studies explore lived experiences of female students navigating cyber bullying in AI-mediated academic environments. This is particularly critical as AI tools now mediate social interactions, grading feedback, and peer communications, potentially shaping students' experiences in complex ways. Patchin and Hinduja (2023) highlighted that institutional interventions often fail to recognize AI-specific dynamics, leaving female students exposed to harassment in both academic and social contexts.

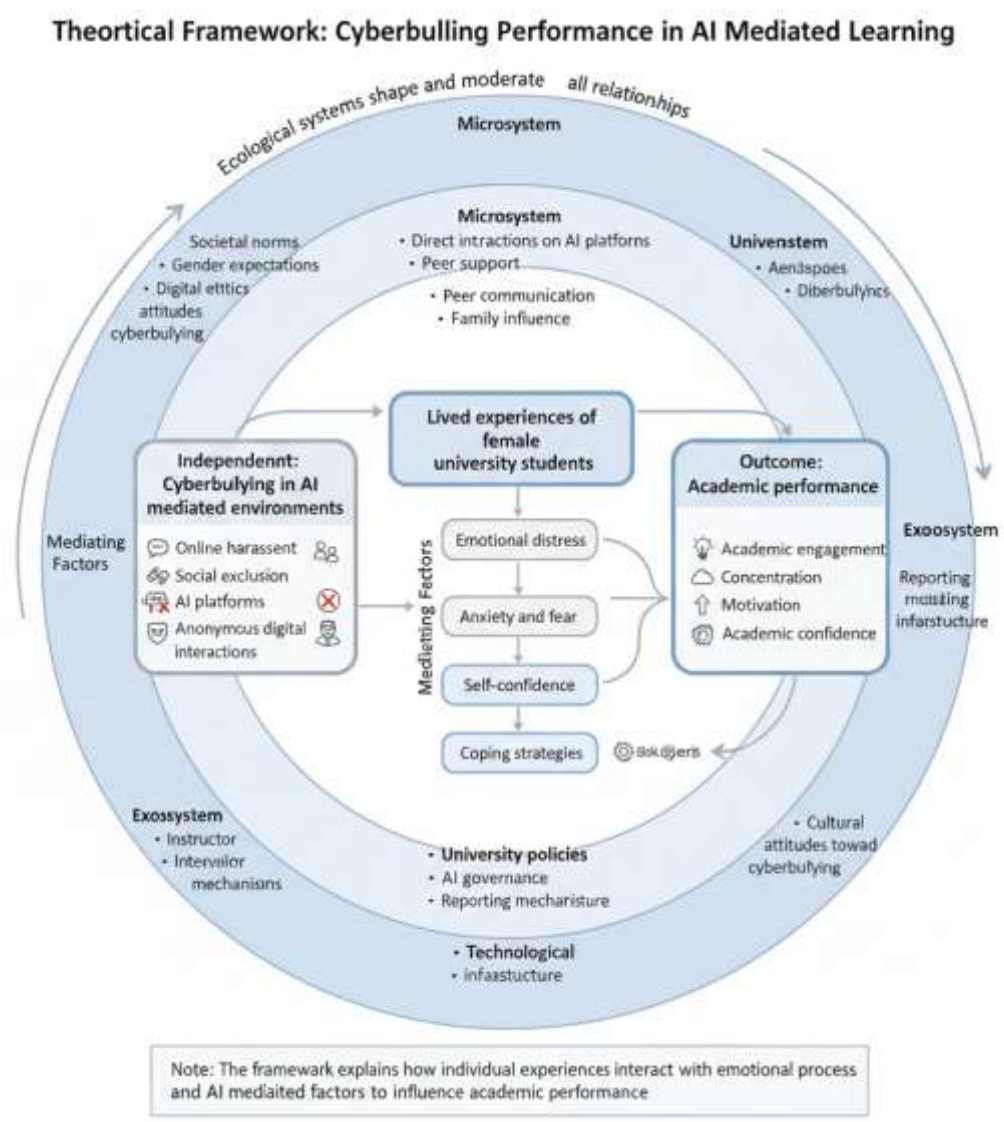
Furthermore, research rarely addresses intersectional factors, such as gender, digital literacy, and socio-cultural norms, which shape students' vulnerability and coping mechanisms. Studies in Western contexts may not generalize to other cultural settings where social norms and online behavior differ significantly (UNESCO, 2023). This lack of localized, qualitative insight limits universities' ability to design context-sensitive interventions. This study addresses these gaps by focusing on female students' lived experiences of cyber bullying, examining both direct academic consequences and psychological coping strategies, while situating the inquiry in AI-mediated educational environments. By exploring these experiences phenomenological, the study captures rich narratives that provide actionable insights for policy, pedagogy, and ethical AI design.

**Theoretical Framework**

The study adopts Bronfenbrenner's Ecological Systems Theory (EST) (1979) as its primary framework. EST conceptualizes individual behavior and experiences as situated within multiple interacting systems:

1. **Microsystem:** Direct interactions on AI-mediated platforms, including social media, academic forums, and peer communication channels. Students' immediate online interactions influence stress, engagement, and performance.
2. **Mesosystem:** Relationships between academic and social contexts, such as peer support, instructor intervention, and family influence, which moderate the impact of cyber bullying.
3. **Exosystem:** Institutional policies, AI governance, and technological infrastructure that indirectly affect students' experiences of online harassment.
4. **Macrosystem:** Societal norms, gendered expectations, and technological ethics that shape perceptions of cyber bullying and the acceptability of intervention measures.

EST provides a holistic lens to analyze how cyber bullying affects academic performance, accounting for both individual experiences and systemic factors. Alternative frameworks, such as Social Learning Theory (Bandura, 1977) or Stress and Coping Theory (Lazarus & Folkman, 1984), could illuminate behavioral or emotional mechanisms but would not adequately capture the multilayered systemic and AI-mediated dynamics central to this study. Key terms for this research include cyberbullying, academic performance, AI-mediated learning, gendered harassment, and coping strategies. EST allows the integration of these concepts, showing how individual, social, institutional, and technological factors interact to shape female students' experiences.




Note: The framewark explains how individual experiences interact with emotional process and AI mediaited factors to influence academic performance

The literature demonstrates the established negative consequences of cyberbullying for university students, particularly females, across psychological and academic domains (Kowalski et al., 2022; Zhu et al., 2022; Wang & Wang, 2024). It also highlights the emerging influence of AI in both mitigating and exacerbating online harassment (Floridi et al., 2023; Borenstein & Howard, 2022). However, existing research is limited in three main ways:

1. **Methodological gap**: Predominantly quantitative studies have neglected qualitative, lived experiences of female students. Understanding personal narratives and coping strategies requires phenomenological approaches that capture the depth and nuance of experiences.
2. **Contextual gap**: Most research is Western-centric and does not consider socio-cultural, institutional, or gender-specific variations in other educational settings. AI-mediated interactions may manifest differently across cultures.
3. **Technological gap**: Few studies explore how AI directly shapes cyber bullying experiences, such as algorithmic amplification of harmful content, automated harassment, or ineffective AI moderation.

This study contributes to the field by addressing these gaps. It combines phenomenological research methods, gender-focused inquiry, and AI-related analysis to provide a comprehensive understanding of cyber bullying and its impact on academic performance. It also advances

theoretical insights by applying EST to the AI-mediated academic context, linking individual experiences with systemic and technological factors.

## Research Methodology

### Research Design

This study employed a qualitative phenomenological research design to explore the lived experiences of female university students regarding cyber bullying and its impact on academic performance in the age of artificial intelligence. Phenomenology was selected because it emphasizes understanding participants' subjective experiences, perceptions, and emotions in relation to a phenomenon (Creswell & Poth, 2018). Cyber bullying is an intensely personal and socially mediated issue, and its consequences on academic performance can be subtle and context-specific. A phenomenological approach allowed the researcher to investigate the phenomenon in depth, capturing participants' interpretations of their experiences and their meaning-making processes in AI-mediated academic and social environments. This design facilitated a rich understanding of the emotional, social, and academic consequences of cyber bullying and provided insights into the complex interplay between technology, gendered experiences, and academic outcomes.

### Research Setting

The research was conducted at the University of Narowal, Pakistan, which offers a diverse academic and technological environment for female students. The university utilizes learning management systems, AI-driven feedback tools, and online discussion forums for academic activities, making it an ideal setting to explore cyberbullying in AI-mediated contexts. These digital platforms not only facilitate learning but also create spaces where students are vulnerable to harassment, anonymity-enabled attacks, or algorithmically amplified negative interactions. By situating the study in this university, the research captured the experiences of female students within a real-world academic environment where AI tools intersect with learning, social communication, and assessment. The campus setting provided accessibility to participants while ensuring privacy and a safe environment for sharing sensitive experiences.

### Population and Sampling

The target population for this study comprised female students enrolled at the University of Narowal, including both undergraduate and postgraduate levels. The study employed purposive sampling to select participants who had direct experience with cyber bullying or were familiar with AI-mediated harassment in academic and social contexts. Purposive sampling was chosen to ensure that participants could provide rich, relevant, and insightful data necessary for phenomenological inquiry (Patton, 2015). A total of 20 female students participated, including 12 undergraduates and 8 postgraduates, representing various faculties and disciplines. This sample size was deemed sufficient to reach data saturation, where no new themes or patterns emerged from the interviews, consistent with qualitative research norms (Guest et al., 2020). The diversity of participants in terms of academic background, year of study, and digital engagement ensured that the findings reflected a range of experiences related to cyber bullying and its impact on academic performance.

### Data Collection Instrument

Data were collected exclusively through semi-structured, in-depth interviews, which allowed participants to narrate their experiences in detail while providing the researcher with flexibility to probe emerging topics. The interview guide was designed to explore participants' experiences of cyber bullying, the role of AI in shaping these experiences, emotional and psychological impacts, academic consequences, and coping strategies. Questions encouraged participants to describe specific incidents, reflect on the perceived causes and effects, and discuss institutional

or peer support mechanisms. Interviews were conducted in-person in private locations on campus to ensure confidentiality, comfort, and trust. Each interview lasted approximately 40–60 minutes, providing sufficient time for participants to elaborate on their experiences. All interviews were audio-recorded with participants' consent and manually transcribed for detailed analysis.

**Data Analysis**

The collected data were analyzed using manual thematic analysis, following Braun and Clarke's (2006) six-step approach. The first step involved familiarization, where the researcher repeatedly read the transcripts to understand the overall content and context. During initial coding, significant statements, recurring expressions, and meaningful experiences were highlighted and assigned descriptive codes. The theme development stage involved grouping related codes into broader categories that reflected recurring patterns across participants. The researcher then reviewed themes to ensure that they accurately represented participants' experiences and captured nuanced differences. Each theme was defined and named to clearly convey its essence, and sub-themes were identified to highlight specific aspects of participants' experiences. Finally, the findings were organized into a structured report linking cyber bullying experiences to academic performance within AI-mediated environments. Manual thematic analysis was chosen for its ability to foster deep engagement with data, encourage researcher reflection, and allow for flexible interpretation of nuanced experiences, which is critical when exploring complex phenomena such as cyber bullying.

**Data Analysis and Findings**

The study explored the lived experiences of 20 female students at the University of Narowal regarding cyber bullying and its impact on academic performance in AI-mediated educational environments. Data were collected exclusively through semi-structured interviews and analyzed using manual thematic analysis following Braun and Clarke's (2006) procedure. Participants shared their experiences with online harassment through social media, messaging platforms, and AI-driven learning tools. The analysis revealed four main themes and several sub-themes that captured the multifaceted nature of cyber bullying and its academic consequences.

**Theme 1: Nature and Forms of Cyber bullying in AI-Mediated Environments**

Participants described diverse forms of cyber bullying, including verbal abuse, spreading rumors, exclusion from group activities, and AI-amplified harassment. Many highlighted that AI-mediated platforms, such as automated messaging or grading systems, created new vulnerabilities.

**Sub-theme 1.1: Direct Harassment**

Students experienced aggressive messages, threats, or derogatory comments online. *"I received threatening messages on the university's learning portal. Sometimes it was from someone I didn't know, but the system allowed anonymous messages, and it scared me."* (Participant 4)

**Sub-theme 1.2: Social Exclusion and Isolation**

AI-driven group assignments sometimes enabled exclusion or marginalization. *"In our group project, the AI platform notified everyone about my submissions late, even when I submitted on time. Some classmates joked online about it, which made me feel left out."* (Participant 11)

**Sub-theme 1.3: AI-Amplified Harassment**

Participants noted that AI tools sometimes unintentionally magnified harmful interactions.

*"The AI chatbot shared my previous posts publicly on the student forum due to an algorithm error. I felt humiliated because some peers mocked me."* (Participant 16)

**Theme 2: Emotional and Psychological Impact**

Cyberbullying caused **anxiety, stress, and emotional distress**, which directly affected students' concentration and motivation.

**Sub-theme 2.1: Anxiety and Fear**

Students reported constant worry about interacting online.

*"I was afraid to participate in online class discussions because I knew someone might make fun of me or criticize me publicly."* (Participant 2)

**Sub-theme 2.2: Loss of Confidence**

Repeated harassment undermined students' self-esteem and academic confidence. *"I stopped submitting assignments on time because I felt my work would always be criticized online."* (Participant 9)

**Sub-theme 2.3: Mental Fatigue and Stress**

The psychological burden impacted students' overall academic engagement.

*"I used to spend extra hours checking my posts and messages, which left me too tired to study effectively for exams."* (Participant 14)

**Theme 3: Impact on Academic Performance**

Participants identified a **direct link** between cyberbullying and academic challenges, including decreased participation, lower grades, and disrupted study routines.

**Sub-theme 3.1: Reduced Participation in Online Learning**

Fear of harassment led students to avoid discussions or activities on AI-mediated platforms.

*"I stopped attending online forums because I didn't want classmates to comment negatively on my contributions."* (Participant 6)

**Sub-theme 3.2: Decreased Academic Motivation**

Emotional distress caused by cyberbullying reduced interest and engagement in coursework.

*"After facing cyberbullying on the assignment portal, I lost interest in submitting projects and barely completed my tasks."* (Participant 12)

**Sub-theme 3.3: Performance and Grades**

The combination of stress, anxiety, and avoidance affected measurable outcomes. *"My grades dropped because I was too anxious to focus during online exams and assignments, especially when AI feedback felt public."* (Participant 19)

**Theme 4: Coping Strategies and Institutional Support**

Students described coping mechanisms and challenges in seeking support from peers or university authorities.

**Sub-theme 4.1: Peer Support**

Students relied on friends for emotional support and guidance.

*"I talked to my roommates about what happened, and they encouraged me not to respond to the messages, which helped a little."* (Participant 1)

**Sub-theme 4.2: Limited Institutional Response**

Participants highlighted inadequate support structures for AI-mediated cyberbullying. *"When I reported harassment through the university system, nothing really changed. The AI platform kept showing the harmful comments."* (Participant 7)

**Sub-theme 4.3: Personal Coping Mechanisms**

Some students developed strategies to reduce exposure or manage stress. *"I started turning off notifications and limiting my online activity, but it also affected my participation in class, which is frustrating."* (Participant 15)

The findings indicate that female students experience cyber bullying in multifaceted ways, including direct abuse, exclusion, and AI-amplified harassment. The psychological effects stress, anxiety, and reduced confidence directly impacted academic performance, including reduced participation, lower motivation, and declining grades. Although students employed personal coping strategies and relied on peers for support, institutional measures were often insufficient to address cyber bullying in AI-mediated environments. The study highlights the urgent need for AI-aware policies, digital literacy, and gender-sensitive support systems to mitigate the effects of online harassment in higher education.

**Discussion**

The current study explored the lived experiences of female university students regarding cyber bullying and its impact on academic performance in AI-mediated educational environments at the University of Narowal. The phenomenological approach allowed a deep understanding of participants' subjective experiences, capturing the emotional, social, and academic dimensions of cyber bullying. The findings reveal that cyber bullying in AI-mediated environments manifests in multiple forms, produces significant psychological and academic consequences, and highlights gaps in institutional support. These insights are discussed in relation to the research objectives, data analysis, and Bronfenbrenner's Ecological Systems Theory (EST).

**Cyber bullying Experiences in AI-Mediated Environments**

Participants described direct harassment, social exclusion, and AI-amplified abuse as the primary forms of cyber bullying. The findings indicate that AI-mediated platforms, such as learning management systems and online forums, not only facilitate academic activities but also create vulnerabilities for online abuse. For instance, Participant 16 noted, *"The AI chatbot shared my previous posts publicly on the student forum due to an algorithm error. I felt humiliated because some peers mocked me."* This reflects how technological mediation can unintentionally amplify harassment, which aligns with the EST's microsystem, where direct interactions in online spaces influence immediate experiences.

Existing literature emphasizes that cyberbullying among university students often involves psychological, relational, and academic components (Kowalski et al., 2022; Zhu et al., 2022). This study extends prior research by showing that AI-mediated academic platforms create new pathways for harassment. While traditional cyberbullying studies focus on social media interactions, the integration of AI tools in learning environments presents additional risks, such as algorithmic errors, automated notifications, and anonymity features that can intensify negative interactions.

**Psychological and Emotional Impacts**

The analysis demonstrated that cyberbullying resulted in anxiety, fear, loss of confidence, and mental fatigue. Participant 2 reported, *"I was afraid to participate in online class discussions because I knew someone might make fun of me or criticize me publicly."* These experiences show how cyber bullying affects students' mental health, leading to stress that interferes with learning. According to Bronfenbrenner's microsystem and mesosystem, these experiences are shaped both by immediate digital interactions and relationships between students, peers, and instructors. The participants' narratives also reflected the emotional ripple effect of cyber bullying, where negative online experiences affect offline academic engagement and motivation. These findings are consistent with previous research indicating that cyber bullying leads to

psychological distress and reduced academic engagement (Wang & Wang, 2024; Patchin & Hinduja, 2023). However, this study uniquely situates these experiences within AI-mediated academic contexts, demonstrating that technology not only facilitates learning but can exacerbate emotional vulnerability.

**Academic Consequences**

The study found a direct relationship between cyber bullying and academic performance. Participants reported decreased participation in online forums, reduced motivation for coursework, and declining grades. Participant 12 stated, *"After facing cyber bullying on the assignment portal, I lost interest in submitting projects and barely completed my tasks."* Similarly, Participant 19 noted anxiety during AI-assisted exams affected performance. From a theoretical perspective, Bronfenbrenner's exosystem helps explain how institutional structures, such as AI-driven assessment platforms or automated feedback systems, indirectly influence academic outcomes. While students' immediate interactions (microsystem) cause direct distress, systemic factors like inadequate moderation policies and AI design amplify negative consequences. This aligns with EST's emphasis on multilayered influences on individual experiences, showing that cyber bullying is not only a personal problem but also a systemic and technological issue.

The findings also reinforce the importance of considering AI-specific dynamics in academic performance research. Traditional studies often link cyber bullying to absenteeism, disengagement, and grade decline (Zhu et al., 2022). This study contributes by showing that AI-mediated environments create additional pressures, where algorithmic feedback, online visibility, and automated grading can magnify the effects of harassment on students' academic outcomes.

**Coping Mechanisms and Institutional Support**

The participants described various strategies to cope with cyber bullying, including peer support, personal stress management, and limiting online activity. Participant 1 noted, *"I talked to my roommates about what happened, and they encouraged me not to respond to the messages, which helped a little."* However, most participants highlighted limited institutional support, with universities failing to address AI-mediated harassment effectively. Participant 7 mentioned, *"When I reported harassment through the university system, nothing really changed. The AI platform kept showing the harmful comments."* These findings demonstrate that Bronfenbrenner's macrosystem societal norms, gendered expectations, and institutional culture plays a crucial role in shaping responses to cyber bullying. The lack of AI-aware policies and gender-sensitive intervention mechanisms illustrates systemic gaps that exacerbate students' vulnerabilities. While individual coping strategies provide temporary relief, the study indicates that sustainable solutions require structural interventions at the institutional and technological levels.

**Integration with Theoretical Framework**

Bronfen brenner's Ecological Systems Theory (EST) effectively contextualized the findings. The microsystem included students' direct experiences with peers and AI-mediated tools. The mesosystem involved interactions between peers, instructors, and academic platforms. The exosystem encompassed institutional structures, policies, and AI platform governance, which indirectly influenced students' experiences. Finally, the macrosystem reflected societal attitudes toward female students, digital harassment, and technological ethics. By applying EST, this study demonstrates that cyber bullying is not merely an individual or technological problem; it is an interaction of personal, social, institutional, and systemic factors. The discussion confirms that cyber bullying in AI-mediated environments is a multidimensional phenomenon, with emotional, academic, and systemic implications for female university students. Participants' narratives

demonstrate that experiences of harassment are deeply intertwined with AI tools, which can both facilitate learning and exacerbate vulnerabilities. Integrating the Ecological Systems Theory provides a holistic understanding of these interactions and emphasizes the need for interventions across multiple levels personal, institutional, and technological. This study contributes to the literature by highlighting the unique challenges posed by AI-mediated educational platforms for female students and offers practical insights for policy, pedagogy, and technological governance.

**Conclusion**

This study explored the lived experiences of female university students regarding cyber bullying and its impact on academic performance in AI-mediated educational environments. Using a qualitative phenomenological design, data were collected through semi-structured interviews and analyzed using manual thematic analysis, allowing an in-depth understanding of participants' perceptions, emotions, and coping mechanisms. The findings revealed that cyber bullying manifests in multiple forms, including direct harassment, social exclusion, and AI-amplified abuse, reflecting the complex interaction between human and technological systems. Participants reported that AI-mediated academic platforms, while designed to enhance learning, sometimes unintentionally exacerbated harassment. These experiences produced significant psychological and emotional consequences, including anxiety, fear, loss of confidence, and mental fatigue, which in turn negatively affected students' academic engagement, motivation, and performance. The study's results clearly demonstrate that cyber bullying in AI-mediated environments is not only a social or interpersonal issue but also a systemic problem influenced by technological design and institutional practices. The research also highlighted coping strategies and institutional gaps. Female students relied on peer support and personal strategies such as limiting online participation to manage cyber bullying's effects. However, institutional interventions were often inadequate, failing to address harassment effectively within AI-enabled learning systems. This underscores the importance of policy-level solutions, digital literacy programs, and gender-sensitive support structures in mitigating the impact of cyber bullying.

Applying Bronfenbrenner's Ecological Systems Theory provided a robust lens for understanding the interplay between personal experiences, technological environments, institutional structures, and societal norms. The microsystem captured students' direct interactions with peers and AI platforms, the mesosystem emphasized relationships between peers and instructors, the exosystem highlighted institutional and systemic factors, and the macrosystem reflected broader cultural and gendered influences. This theoretical framing confirmed that cyber bullying and its academic consequences are multilayered, requiring interventions at multiple levels to achieve meaningful change. This study findings contribute to the growing body of knowledge on cyberbullying in higher education, particularly within AI-driven academic contexts, which remain underexplored. They also provide practical implications for universities, policymakers, and educational technology designers. Institutions should implement AI-aware monitoring, reporting mechanisms, and support structures that protect female students from cyber harassment while fostering safe and inclusive learning environments. While the study provides rich, context-specific insights, it has limitations. The sample was restricted to female students at a single university, limiting the generalizability of the findings. Self-reported experiences may have been influenced by recall bias or social desirability, and rapid advancements in AI technology mean that students' experiences may evolve over time. Future research should explore comparative studies across multiple institutions, include male students and other demographic groups, and investigate the long-term effects of cyber bullying on academic trajectories in AI-mediated learning contexts. This research highlights the critical

intersection of gender, technology, and education, emphasizing that cyber bullying is a complex phenomenon shaped by personal, social, and technological factors. Addressing it requires holistic approaches combining awareness, support, and institutional responsibility. By understanding students' lived experiences, universities can design safer, AI-mediated educational environments that foster both academic achievement and psychological well-being, ensuring equitable access to learning opportunities for all students.

**Recommendations**

Based on the findings of this study, several practical and policy-oriented recommendations are proposed to address cyber bullying and its academic consequences for female university students in AI-mediated educational environments.

1. Universities should develop and implement clear institutional policies on cyber bullying that explicitly cover AI-mediated learning platforms such as learning management systems, AI-based assessment tools, and online discussion forums. These policies should define cyber bullying behaviors, outline reporting procedures, and specify disciplinary actions. Clear policy communication can reduce ambiguity and increase students' confidence in institutional support systems.
2. Higher education institutions should establish confidential and accessible reporting mechanisms integrated within digital and AI-supported academic platforms. Participants in this study reported hesitation in reporting cyber bullying due to fear of retaliation and lack of response. Embedding reporting tools within academic systems can encourage timely disclosure and ensure rapid institutional intervention.
3. Universities should invest in gender-sensitive counseling and psychological support services tailored to the needs of female students experiencing cyber bullying. The data showed that emotional distress and anxiety directly affected academic engagement and performance. Professional counseling services can help students manage stress, rebuild confidence, and maintain academic focus.
4. Faculty members should receive professional development training on recognizing and responding to cyber bullying in AI-mediated learning environments. Teachers play a critical role in shaping online academic climates. Training can enable instructors to identify early signs of digital harassment, foster respectful online interactions, and provide appropriate academic and emotional support to affected students.
5. Educational institutions should integrate digital citizenship and AI literacy programs into university curricula. Such programs can help students understand ethical online behavior, responsible AI use, and the consequences of cyber bullying. Awareness and education can reduce harmful behaviors while empowering students to navigate AI-driven platforms safely and confidently.
6. Technology developers and university administrators should collaborate to design AI systems with built-in safeguards, such as content moderation, bias detection, and alert mechanisms for harmful interactions. The study highlighted that AI systems can unintentionally amplify harassment. Ethical and inclusive AI design can minimize these risks and promote safer learning environments.
7. Policymakers and higher education authorities should prioritize national-level guidelines for addressing cyber bullying in digital and AI-based education. Standardized frameworks can support universities in implementing consistent prevention and response strategies, particularly in developing educational contexts.

Finally, future researchers should conduct longitudinal and multi-institutional studies to examine the long-term academic and psychological impacts of cyber bullying in AI-mediated education.

Expanding research to diverse populations and institutional contexts will strengthen evidence-based interventions and contribute to more inclusive digital learning environments.

**References**

Bandura, A. (1977). *Social learning theory*. Prentice Hall.
Borenstein, J., & Howard, A. (2022). Emerging challenges in AI and the ethics of digital harm. AI and Society, 37(4), 1401–1412. https://doi.org/10.1007/s00146-021- 01383-9
Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa
Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage Publications.
Floridi, L., Cowls, J., Beltrametti, M., Chatila, R., Chazerand, P., Dignum, V., Luetge, C., Madelin, R., Pagallo, U., Rossi, F., Schafer, B., Valcke, P., & Vayena, E. (2023). AI governance and the ethics of online interaction. *Minds and Machines, 33*(1), 1–27. https://doi.org/10.1007/s11023-022-09608-3
Guest, G., Namey, E., & Chen, M. (2020). A simple method to assess and report thematic saturation in qualitative research. *PLoS ONE, 15*(5), e0232076. https://doi.org/10.1371/journal.pone.0232076
Kowalski, R. M., Limber, S. P., & McCord, A. (2022). A developmental approach to cyberbullying. *Journal of Adolescent Health, 70*(2), 191–198. https://doi.org/10.1016/j.jadohealth.2021.09.019
Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.
Patchin, J. W., & Hinduja, S. (2023). Cyberbullying in higher education. Routledge.
Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). Sage Publications.
UNESCO. (2023). *Guidance for generative AI in education and research*. UNESCO Publishing.
Wang, Y., & Wang, X. (2024). Cyberbullying, emotional distress, and academic engagement among university students. Computers and Education, 197, 104742. https://doi.org/10.1016/j.compedu.2023.104742
Zhu, C., Huang, S., Evans, R., & Zhang, W. (2022). Cyberbullying and academic performance in university students. *Educational Psychology, 42*(6), 745–760. https://doi.org/10.1080/01443410.2021.1987195