Unraveling The Impact of Past Bullying Experiences on Bystander Intervention in Cyberbullying Incidents

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Abstract

This study sought to explore, using descriptive research methods, the connection between individuals' past involvement with bullying and their tendencies to respond favorably as bystanders in cyberbullying incidents. It specifically focused on understanding how perceived harm inflicted upon the victim and empathy mediated this relationship. Drawing from theories of the bystander effect and relevant literature on bystander intervention, this research aimed to elucidate the interplay between past bullying experiences as a victim or perpetrator, perceived victim harm, and empathy. A total of 479 youths (53.4% female) aged 13 to 24 years (M = 18.19; SD = 2.37) participated in this study by completing an online questionnaire designed to measure the variables of interest and collect empirical data.

Bivariate correlations were initially utilized to examine the associations between the variables, followed by Structural Equation Modeling Analysis to investigate the serial mediating effect of perceived victim harm and empathy between past bullying experiences and bystander intervention. Pearson Chi-square tests and two-sample t-tests, revealed significant associations between the intervention and age, past victimization, perceived victim harm, and empathy. The SEM analysis revealed that past direct cyberbullying perpetration negatively affected perceived harm and empathy, while indirect perpetration had positive effects. Direct cybervictimization was positively associated with perceived victim harm and intervention, with empathy emerging as a critical mediator, and younger

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participants more inclined to take action. The implications of the study highlight the necessity for targeted interventions to enhance empathy and awareness among bystanders, with a particular focus on educational programs and victim support initiatives.

Keywords: Cyberbullying, Bystander Intervention, Past Bullying Experiences, Perceived Victim Harm, and Empathy

تأثير تجارب التنمر السابقة على تدخل المتفرجين في مواقف التنمر الإلكتروني

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الملخص :

سعت هذه الدراسة إلى استكشاف الارتباط بين تجارب الأفراد السابقة للتعرض لـ/ارتكاب التنمر وميلهم للتدخل بشكل إيجابي كمتفرجين شاهدين على حوادث التنمر الإلكتروني، باستخدام أساليب البحث الوصفي. وقد ركزت الدراسة بشكل خاص على تحديد الدور الوسيط الذي يلعبه الأذى المتُصوَّر من قبل المتفرج المُسبَّب للضحية جراء فعل التنمر ومستوى التعاطف لدى المتفرج في هذا العلاقة. بالاستناد إلى نظرية تأثير المتفرج والأدبيات ذات الصلة، هدفت هذه الدراسة إلى توضيح التفاعل بين تجارب التنمر السابقة كضحية أو كمرتكب، والأذى المتُصوَّر للضحية، والتعاطف. شاركت في هذه الدراسة عينة غير احتمالية مُلائمة من المراهقين والشباب تتألف من ٤٧٩ شخصًا (٥٣.٤% إناث) تتراوح أعمارهم من ١٣ إلى ٢٤ سنة (متوسط = ١٨.١٩؛ انحراف معياري = ٢.٣٧)، من خلال استكمال استبيان عبر الإنترنت مصمم لقياس المتغيرات المعنية وجمع البيانات.

استُخدمت الارتباطات ثنائية المتغيرات في البداية لفحص العلاقات بين المتغيرات، تلاها تحليل نموذج المعادلات الهيكلية (SEM) لاستكشاف التأثيرات الوسيطة للأذى

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المتُصوَّر الواقع على الضحية والتعاطف بين تجارب التنمر السابقة وتدخل المتفرجين. وقد كشفت اختبارات "مربع كاي" لبيرسون واختبارات "ت" للعينتين المستقلتين عن علاقات ارتباطية وفروق جوهرية ذات دلالة إحصائية بين التدخل وتجارب التنمر السابقة كضحية، والأذى المتُصوَّر للضحية، والتعاطف، والسن إذ تبين أن المشاركين الأصغر سنًا أكثر ميلًا للتدخل لتقديم المساعدة. أظهر تحليل نموذج المعادلات الهيكلية أيضا أن تجربة ارتكاب فعل التنمر الإلكتروني المباشر في الماضي تؤثر سلبًا على تصوُّر مقدار الأذى الحقيقي الواقع على الضحية ومعدل التعاطف، بينما كان لتجربة ارتكاب فعل التنمر الإلكتروني غير المباشر في الماضي تأثيرات إيجابية. كما كانت تجربة التعرض كضحية للتنمر الإلكتروني المباشر في السابق تأثير إيجابي على إدراك الأذى الواقع على الضحية والتدخل من خلال التعاطف كمتغير وسيط. بشكل عام، تسلط نتائج الدراسة الضوء على ضرورة الإجراءات المستهدفة لتعزيز التعاطف والوعي بين متفرجي حوادث التنمر الإلكتروني، مع التركيز بشكل خاص على البرامج التعليمية ومبادرات دعم الضحايا.

الكلمات الدلالية: التنمر الإلكتروني، تدخل المتفرجين، تجارب التنمر السابقة، الأذى المتُصوَّر للضحية، التعاطف

CHAPTER 1: STUDY OVERVIEW AND THEORETICAL FRAMEWORK

Introduction

Cyberbullying, a pervasive form of abuse in modern society, manifests through deliberate technological means to inflict harm upon others. While extensive research has focused on victims and perpetrators, understanding bystander dynamics remains crucial. This study aims to bridge this gap by exploring the complex connections between past bullying experiences, perceptions of harm, empathy levels, and subsequent bystander actions in cyberbullying scenarios. By uncovering these intricacies, it seeks to inform targeted interventions to mitigate cyberbullying's harmful effects and provide effective support to those affected, thereby advancing our understanding of bystander intervention mechanisms.

Bystanders, crucial actors in cyberbullying incidents, possess the potential to prevent and mitigate harm inflicted upon victims. Their intervention behaviors, ranging from direct involvement to passive observation, necessitate a nuanced understanding of influencing variables. Past bullying experiences significantly shape bystander responses, as individuals with firsthand knowledge are better equipped to recognize cyberbullying indicators and assess harm levels. This study investigates how these factors interplay, aiming to inform tailored interventions and educational initiatives that promote bystander engagement and aid cyberbullying victims effectively.

Problem Statement

Despite ample research on victims and perpetrators, bystander involvement in cyberbullying has been overlooked in Arab studies. Investigating how empathy, perceptions of harm, and past bullying experiences influence bystander behavior is a crucial aspect of this study. Understanding how these factors shape bystander responses and intervention decisions is essential for developing effective strategies to address cyberbullying. This study aims to fill this gap by exploring the interplay between these variables and their impact on bystander intervention in cyberbullying incidents.

Objectives

The main objective of this study is to explore the mediating role of perceived victim harm and empathy in the relationship between past bullying experiences and bystander intervention in cyberbullying incidents.

Sub-objectives are therefore intended to:-

a) To assess the extent to which past bullying experiences predict perceived victim harm in cyberbullying situations.

b) To investigate the mediating effect of empathy in the association between perceived victim harm and bystander intervention, controlling for past bullying experiences.

Significance

This study holds significant importance on various fronts. It tackles the pressing issue of cyberbullying, particularly pertinent in today's technologically advanced society where social media usage is widespread, especially among youth. By investigating bystander intervention in cyberbullying incidents, the study captures the essence of contemporary digital dynamics, where bystanders play a pivotal role. Furthermore, it contributes to academic literature by addressing a gap in research, particularly within Egyptian society, regarding bystander roles in cyberbullying. By delving into the intricacies of bystander behavior within the Egyptian cultural context, the study not only enriches scholarly discussions but also offers insights crucial for cyberbullying prevention and intervention efforts.

Theoretical Framework

Bystander Effect

Understanding bystander behavior in the context of cyberbullying is crucial for developing effective intervention strategies. Latané and Darley's (1970) cognitive five-step decision model, which is part of the broader bystander effect theory, provides valuable insights into the factors influencing bystander intervention. While theories such as societal alienation and disaster syndrome attempt to explain bystander inaction by attributing it to shifts in compassion principles, Latané and Darley propose that the presence of other witnesses can hinder assistance (Latané & Darley, 1970). The Decision Model of Bystander Intervention (BIM) delineates a series of sequential steps that a bystander must navigate in order to intervene effectively in an emergency situation. These steps include noticing that something is

wrong, interpreting the event as an emergency, deciding on the degree of personal responsibility, choosing a specific mode of intervention, and finally implementing the chosen intervention. Each of these decision points is influenced by various factors such as environmental cues, personal motivations, social norms, and the perceived availability of other bystanders.

However, the decision-making process for bystander intervention is not always straightforward. Latané and Darley's model has been further refined by Latané and Nida (1981) to incorporate additional factors that impact decision-making. These modifications include concepts such as cycling, blocking, and commitment, which highlight the dynamic and complex nature of decision-making in emergency situations (Latané & Nida, 1981). Cycling acknowledges that decision-making is not always a linear process; bystanders may cycle back and forth between stages as they gather new information or reassess the situation. Blocking refers to situations where bystanders become stuck at a particular stage of the decision-making process due to factors such as indecision or conflicting values. In such cases, additional support or guidance may be needed to help bystanders overcome their internal conflicts and reach a decision about whether to intervene. Commitment emphasizes the challenge of inaction once a bystander delays making a decision, as hesitating to act unintentionally commits them to continued inaction, making it increasingly difficult to intervene later.

Theory Application

The Bystander Intervention Model (BIM) has been extensively validated across various contexts, including online scenarios, demonstrating its effectiveness in understanding bystander behavior (Latané & Darley, 1968; 1970; Latané & Nida, 1981). Research in bullying has utilized the BIM, revealing the factors influencing bystander participation and validating its structure through measurement development (Nickerson et al., 2014; Eldridge & Jenkins, 2019). In

cyberbullying contexts, the BIM predicts intervention behaviors, showcasing the impact of noticing cyberbullying and the presence of other spectators on bystander responsibility (Brody & Vangelisti, 2015; Obermaier et al., 2016).

However, the non-simultaneous nature of computer-mediated communication (CMC) can complicate bystander intervention, with individuals sometimes becoming "blocked" from making decisions due to the unique challenges posed by online environments (Darley & Latané, 1968; Dillon, 2014). While the BIM principles remain relevant, online emergencies require reevaluation of key criteria, such as the recognition of emergencies and immediacy of response, considering the commonplace nature of online interactions and the subjective nature of response urgency influenced by cultural norms and contextual factors (Walther, 2011).

Conceptual Framework

This study examines the impact of individuals' prior experiences of bullying incidents on bystander behavior in cyberbullying scenarios. Previous research indicates a correlation between engagement in cyberbullying perpetration or victimization and bystander behavior, with some studies suggesting a tendency to endorse acts of cyberbullying among those with prior experiences (Cao & Lin, 2015; Kozubal et al., 2019; Leung et al., 2018; Pabian et al., 2016; Zhao et al., 2023). Conversely, other findings suggest that past experiences of cyberbullying victimization may lead to a positive intervention response (Allison & Bussey, 2017; Wang & Kim, 2021). The relationship between past bullying experiences and bystander behavior in cyberbullying scenarios is further influenced by perceived incident victim harm and empathy.

Past experiences with cyberbullying can affect individuals' perception of severity, potentially leading to desensitization effects

(Strasburger & Wilson, 2014; Konrath et al., 2011). Additionally, empathy arousal may be hindered in the cyber context due to the absence of non-verbal cues, impacting bystanders' ability to empathize with victims (Macháčková et al., 2016). The interaction between perceived severity and empathy is complex, where higher severity may heighten empathy and encourage proactive bystander responses, while lower severity may reduce empathy and discourage intervention (Wang, 2021). However, witnessing cyberbullying perpetration may lead bystanders to perceive incidents as less severe, resulting in lower empathy levels and reduced inclination to intervene (Zhao et al., 2023).

Furthermore, research has explored demographic influences on bystander intervention, with studies suggesting varying impacts of sex and age (Allison & Bussey, 2017; Olenik-Shemesh et al., 2016; Wang & Kim, 2021). While some indicate sex differences in response tendencies and victim assistance likelihood, others find no significant disparities, aligning with Latané and Darley's experiments (Latané & Darley, 1970). Regarding age, findings differ, with some studies suggesting younger bystanders are more likely to intervene in cyberbullying incidents (Allison & Bussey, 2017; Erreygers et al., 2016), while others propose older individuals as more active bystanders (Olenik-Shemesh et al., 2016). Given this mixed evidence, demographic factors will be considered as control variables in this study. Overall, the conceptual model integrates these various factors to understand the impact on bystander intervention.

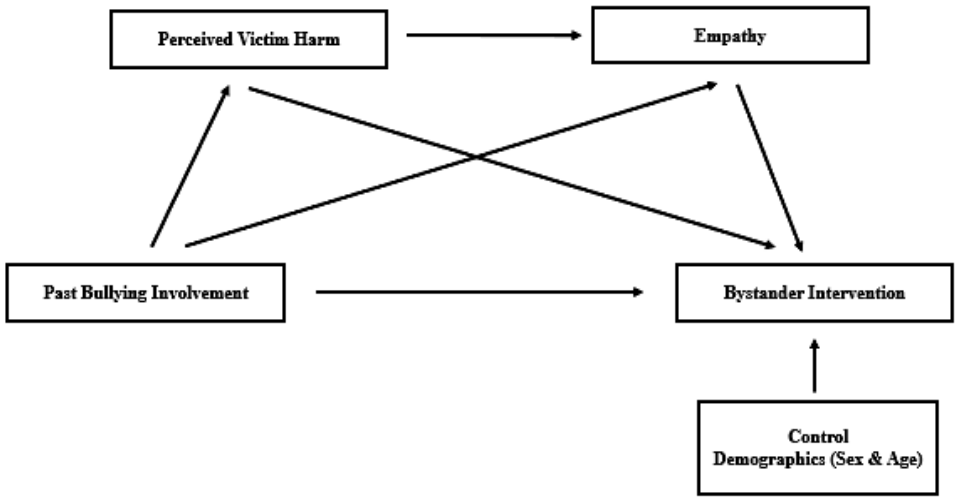

Fig. 1.1

Suggested Conceptual Framework

Hypotheses

H1: Past direct cyberbullying perpetration experience has a negative direct effect on perceived victim harm and empathy, as well as bystander intervention in cyberbullying incidents, mediated by perceived victim harm and empathy.

H2: Past indirect cyberbullying perpetration experience has a negative direct effect on perceived victim harm and empathy, as well as bystander intervention in cyberbullying incidents, mediated by perceived victim harm and empathy.

H3: Past direct cyberbullying victimization experience has a positive direct effect on perceived victim harm and empathy, as well as bystander intervention in cyberbullying incidents, mediated by perceived victim harm and empathy.

H4: Past indirect cyberbullying victimization experience has a positive direct effect on perceived victim harm and empathy, as well as bystander

intervention in cyberbullying incidents, mediated by perceived victim harm and empathy.

H5: Perceived victim harm has a positive direct effect on empathy, and both have a positive direct effect on bystander intervention in a cyberbullying incident.

Organization of the Study

The upcoming chapters will explore relevant literature on cyberbullying, past bullying experiences, perceived harm to victims, empathy, and bystander intervention. The research design and methodology will be detailed, followed by result analysis and implications. Limitations of the study will be discussed, along with recommendations for future research, highlighting the crucial role of understanding bystander intervention in cyberbullying incidents.

CHAPTER 2: REVIEW OF LITERATURE

Cyberbullying

Cyberbullying has emerged as a significant topic in recent literature, gaining attention primarily since the early 2000s, despite its initial documentation in the 1990s (Baldry et al., 2018).

Definition, Essence, and Attributes

Initially, cyberbullying research focused on aligning its characteristics with traditional bullying in school environments, adapting frameworks like Olweus' (1995) to online contexts (Smith et al., 2008). Tokunaga (2010) refined the definition, emphasizing repetitive hostile electronic communication intending harm. Subsequent research provided varied descriptions but highlighted deliberate and repeated hostile actions facilitated by technology (Langos, 2012; O'Dea & Campbell, 2012; Piotrowski, 2012). While drawing parallels with traditional bullying, scholars noted online anonymity as a significant facilitator (Smith et al., 2008). Cyberbullying exhibits distinct attributes, including

reduced empathy due to physical distance, broader audience reach, and boundary-less extension through technology, intensifying its impact (Baldry et al., 2018; Dillon, 2014). Recurrence is redefined in cyberbullying due to enduring electronic assaults, while power imbalances, though less physical, remain significant, often through emotional or social means, exacerbated by technology's omnipresence (Brody & Vangelisti, 2015; Cyberbullying Research Center, n.d.; Peter & Petermann, 2018).

Associations and Forecasts

Increased internet usage, especially on mobile devices, is linked to higher instances of cyberbullying and victimization, supported by various studies (Albikawi, 2023; Ang, 2015; Chang et al., 2015; Guo, 2016). Spending more time online, particularly on social media platforms like Facebook and Twitter, correlates with increased perpetration and victimization of cyberbullying, with Egyptian students reporting higher victimization rates (Den Hamer et al., 2014; Lee & Shin, 2017; Arafa & Senosy, 2017). Weak parent-adolescent relationships, lack of parental monitoring, exposure to violent media, and engagement in risky online activities contribute significantly to cyberbullying (Ang, 2015; Chang et al., 2015; Yudes et al., 2020; Den Hamer et al., 2014). Past bullying experiences, aggressive behavior, psychological vulnerabilities such as loneliness and depression, and dysfunctional peer interactions also increase the likelihood of cyberbullying involvement (Lee & Shin, 2017; Abdel-Wahed et al., 2022; Albikawi, 2023; Garaigordobil et al., 2020; Guo, 2016). Peer rejection, prior bullying experiences, and dysfunctional peer interactions further amplify the risk of cyberbullying involvement, with cyberbullies and victims often exhibiting traits akin to those of traditional bullies and victims (Kowalski et al., 2012; Guo, 2016).

Frequency and Extent

While "cyberbullying" is a widely used term, there exists a spectrum of concepts and measuring instruments to assess online aggression, leading to varying frequency rates across studies (Corcoran et al., 2015). Disparities in reported incidence rates are exacerbated by the use of specific terms like "electronic bullying," "cyber aggression," or "cyberstalking," with narrower definitions often yielding lower prevalence rates (Corcoran & Mc Guckin, 2014) while broader examinations of multiple internet hazards often identify cyberbullying as the most common risk (Machimbarrena et al., 2018). Demographically, cyberbullying victimization spans age groups, from adolescents to young adults (Duggan, 2017; Wang et al., 2019), with conflicting findings regarding peak victimization periods and sex differences in perpetration and victimization (Garaigordobil et al., 2020; Ronis & Slaunwhite, 2017; Wright & Wachs, 2023). While some studies suggest a higher prevalence of cyberbullying among male perpetrators, others find no significant sex differences, though female students are often reported as more frequent victims, potentially due to the subtler forms of emotional aggression associated with cyberbullying (Ronis & Slaunwhite, 2017).

Various Forms

Since the inception of cyberbullying research, diverse forms have emerged, categorized by content and perpetrator strategies (Brody & Vangelisti, 2015). Participants in studies have identified various cyberbullying subjects with different personal characteristics. Common tactics include harassment, cyberstalking, impersonation, flaming, trolling, outing, and denigration (Duggan, 2017). In Egypt, prevalent forms include ridicule, defamation, insults, identity theft, and stalking (Mohammed, 2019). Impersonation, rumor dissemination, receipt of abusive language, dissemination of pornographic images, and sexual exploitation are noted among Facebook users in Egypt, with gender

differences (Khairy et al., 2021; Arafa & Senosy, 2017). Cyberbullying in Arab societies often involves material or sexual extortion (Youssef, 2017).

Adverse Consequences

Studies emphasize the serious consequences of both traditional and cyberbullying, which intertwine to compound negative outcomes for victims (Hinduja & Patchin, 2018; Kowalski et al., 2012). Cyberbullying victimization leads to disruptions in victims' lives, ranging from minor distress to severe physical, psychological, emotional, social, and academic challenges (Fenaughty & Harré, 2013; Hinduja & Patchin, 2018; Vandoninck et al., 2012). Academic performance often suffers, resulting in truancy, declining grades, and school avoidance (Beran et al., 2012; Giumetti & Kowalski, 2016). Victims also experience internalizing difficulties like depression, loneliness, and low self-esteem, as well as externalizing behaviors such as aggression and substance abuse (Brown et al., 2014; Bottino et al., 2015; Copeland et al., 2013; Eltarabishy, & Elsayed, 2020). Perpetrators exhibit an increased risk of harmful behaviors, and bystanders face uncertainty and anxiety, showcasing the pervasive and intersecting nature of cyberbullying with traditional bullying, which intensify its adverse effects on all involved (Arafa & Senosy, 2017; Oh & Hazler, 2009).

The Role of Bystanders in Cyberbullying

In cyberbullying dynamics, bystanders play a pivotal role alongside bullies and victims, reflecting a triadic social setting (Abdel-Wahed et al., 2022; Fawzi & Goodwin, 2011; Lindsay & Krysik, 2012). Bystanders, whose roles vary, actively participate in perpetuating or mitigating cyberbullying incidents (Allison & Bussey, 2016; Eldridge & Jenkins, 2019). Theoretical perspectives conceptualize cyberbystanders as individuals witnessing online bullying, reacting from inaction to intervention, adopting roles like defending the victim or confronting the

bully (Oh & Hazler, 2009; Van Cleemput et al., 2014). Indirect intervention, such as offering support or reporting, significantly aids victims (Bastiaensens et al., 2014; Freis & Gurung, 2013), yet passive bystanders who remain uninvolved may perpetuate bullying (Hamm et al., 2015). Some bystanders may actively reinforce bullying behavior, often due to social pressure and attitudes toward bullying, highlighting the complex nature of bystander behavior (Bastiaensens et al., 2014; Luo & Bussey, 2019). Understanding bystander behavior is influenced by personality traits, psychological factors, and social norms, underscoring their critical and diverse impact on cyberbullying incidents (Huang et al., 2019; Jones & Savage, 2018).

Factors Associated with Bystander Intervention in Cyberbullying

Past Bullying Experiences. Past involvement with cyberbullying significantly influences bystander behavior, with research indicating a positive correlation between past bullying experiences and intervention tendencies (Barlińska et al., 2013; Cao & Lin, 2015). Ex-bullies may support bullies online, while victims might defend the bully or remain passive (Barlińska et al., 2013; Kozubal et al., 2019; Leung et al., 2018). Favorable attitudes towards cyberbullying, possibly stemming from exposure to aggressive behavior, may explain this association (Kozubal et al., 2019; Pabian et al., 2016). Victims, however, may experience cognitive bias and emotional distress, leading to feelings of helplessness and decreased intervention (Li et al., 2015; Navarro et al., 2018). Nevertheless, some studies suggest that past victimization and witnessing cyberbullying incidents are associated with increased intervention (Allison & Bussey, 2017; Wang & Kim, 2021). Reactions to past bullying situations as bystanders also shape future behavior, with interventions in the past influencing future actions (Brody & Vangelisti, 2015).

Perceived Victim Harm. Perceived harm inflicted on the victim significantly influences bystander intervention in cyberbullying

scenarios, with bystanders more likely to intervene when they perceive the incident as severe (Van Noorden et al., 2016; Koehler & Weber, 2018). Studies consistently show that bystanders are inclined to help in intense cyberbullying situations, though this tendency may be influenced by the number of observers present (Bastiaensens et al., 2014; Macaulay et al., 2018; Obermaier et al., 2016). Perceived incident severity also mediates between various variables and bystander behavior, with individuals less willing to intervene if they blame the victim (Koehler & Weber, 2018; Obermaier et al., 2016). Exposure to cyberbullying experiences can desensitize individuals, diminishing empathy arousal, particularly in online settings where non-verbal cues are limited (Konrath et al., 2011; Macháčková et al., 2016). However, the severity of the incident itself can influence empathy arousal, with more serious incidents eliciting greater empathy, though witnessing cyberbullying perpetration may reduce perceived severity and empathy levels among bystanders, potentially due to diminished perceived rewards for intervention (Wang, 2021; Zhao et al., 2023).

Empathy. Empathy significantly influences bystander behavior during cyberbullying incidents, as per the empathy-altruism theory, which suggests that witnessing someone's suffering prompts compassionate feelings and a desire to help (Batson, 1987). Studies confirm a positive correlation between empathy and intervention, with bystanders experiencing empathetic discomfort more likely to assist victims (Erreygers et al., 2016; Freis & Gurung, 2013; Macháčková et al., 2013; Wang & Kim, 2021). Conversely, individuals lacking empathy are more prone to passive observation or even participation in bullying (Van Cleemput et al., 2014). Empathy consists of cognitive and affective components, with research indicating a complex interplay between different empathy facets and bystander behavior (Macháčková & Pfetsch, 2016; Barlińska et al., 2013). Moreover, prior cyberbullying experiences may diminish empathy, contributing to desensitization and

hindering both perpetrators' and victims' ability to understand and respond to others' suffering (Pabian et al., 2016; Jolliffe & Farrington, 2011; Van Noorden et al., 2016).

Demographics. Demographics play a significant role in bystander intervention in cyberbullying, with varying impacts based on sex and age. Some studies suggest females are more inclined to intervene, while others note no notable sex-related differences (Allison & Bussey, 2017; Macaulay et al., 2018; Olenik-Shemesh et al., 2016; Wang & Kim, 2021; Macháčková et al., 2013; Barlińska et al., 2013). Younger students tend to intervene more positively, while older adolescents may engage in cyberbullying or remain passive, although older individuals with strong social support may be more active (Allison & Bussey, 2017; Van Cleemput et al., 2014; Olenik-Shemesh et al., 2016; Moxey & Bussey, 2019). Prior cyberbullying experiences may moderate bystander behavior by sex and age, with male victims potentially exhibiting more negative behavior, influenced by differences in bullying experience and empathy between sexes (Cao & Lin, 2015; Wang & Kim, 2021; Van Noorden et al., 2016). Cyberbullying victimization may affect cognitive empathy differently across age groups, with older individuals relying more on rational thinking styles (Zhao et al., 2023; Yan & Su, 2021).

CHAPTER 3: METHODOLOGY

Study Design

To uncover the factors influencing bystander intervention in cyberbullying incidents, a descriptive quantitative research design was opted for. Using the surveying method, the researcher sought to statistically explore the connections between past bullying experiences, perceived victim harm, empathy, and bystander intervention in cyberbullying scenarios. This approach enabled gaining insights into the decision-making processes underlying bystander actions in such situations.

Sample

Cyberbullying has emerged as a significant global issue affecting individuals of various age groups, including middle and high school students, as well as college students. Adolescents and teenagers aged 12 to 18 are particularly vulnerable due to their extensive use of technology and social media platforms (Baldry et al., 2018; Lobe et al., 2021; Wright & Wachs, 2023). Similarly, college students aged 18 to 24 face unique challenges as they heavily rely on digital communication for social and academic purposes (Wang et al., 2019). Egypt reflects this trend, with a substantial number of children and college students experiencing cyberbullying, as evidenced by studies conducted by UNICEF (2018) and Abdel-Wahed et al. (2022). Therefore, the present study utilized a non-random convenient sample consisting of 479 participants from middle, high school, and college levels (256 females, 223 males aged 13-24, M = 18.19, SD = 2.37 years old). This sample size exceeded the recommended threshold of 384 for a population of 100,000 or more, ensuring a 95% confidence level according to Krejcie and Morgan's model (1970).

Data Collection Tool

An online self-administered questionnaire served as the primary instrument for data collection in this study. This online approach was chosen due to the nature of the research topic. The questionnaire commenced with a brief overview of the subject matter. Subsequently, participants were presented with a simulated cyberbullying scenario unfolding in an online group chat. They were instructed to attentively review the scenario and envision themselves as an online participant within the group. Following this, participants were prompted to respond to inquiries regarding their intentions for favorable bystander intervention, perceptions of victim harm, levels of empathy, past experiences of cyberbullying, whether as a victim or perpetrator, and demographic information. To partially mitigate the impact of potential

sex differences, two separate scenarios were created - one tailored for male participants and another for female participants - ensuring that all other users in the scenarios shared the same sex as the participant. Additionally, all individuals within the simulated group belonged to the same age group as the participants, aiming to minimize perceived age disparities and mitigate any potential bias in intervention obligations.

Measures

The majority of measures utilized in this study were modified from diverse existing literature and tailored to suit the context of cyberbullying. Scales for each construct were established by aggregating responses to individual items. Subsequently, each measure was comprehensively examined below, accompanied by internal consistency assessments reported through Cronbach's alpha coefficient.

Bystander Intervention. Following the presentation of a specific cyberbullying scenario, participants were tasked with envisioning themselves as bystanders and determining whether to intervene on behalf of the victim. This determination was captured through a binary choice format, with a score of 1 assigned to "yes" and a score of 0 to "no". For descriptive purposes, those who selected "yes" were further prompted to articulate their preferred mode of intervention from a checklist adapted from the theoretical framework proposed by Latané and Darley (1970) encompassing actively defending the victim, confronting the bully, reporting the incident, providing social support to the victim, and privately condemning the bully's behavior. Conversely, participants opting for "no" were probed regarding their rationale for non-intervention using an eight-item checklist derived from responses gathered during interviews conducted as part of Latané and Darley's experiments validating the bystander intervention model (1970). Sample items in this checklist included items such as “I was unsure how to intervene effectively without hurting or upsetting anyone” and “I didn't

think they were speaking seriously and assumed they were joking with each other".

Perceived Victim Harm. To assess participants' perception of the harm experienced by the victim in the scenario of cyberbullying incident, a 4-point Likert-type scale was utilized. Participants were asked to rate the perceived harm inflicted upon the victim, ranging from "Not at all" to "Extremely" (1= Not at all, 2= To some extent, 3= Very, 4= Extremely). This scale, adapted from prior studies by Brody and Vangelisti (2015) and Koehler and Weber (2018), consisted of seven items aimed at capturing various dimensions of perceived harm. Participants selected the option that best reflected their perception, considering attributes such as psychological harm, emotional unimpactfulness (reversely coded), severity, funniness (reversely coded), embarrassment, seriousness, and humiliation. Possible scores ranged from 7 to 28, where higher mean scores representing stronger perception of victim harm. Reliability coefficients for the scale were determined to be .76 for Cronbach's alpha and .52 for Composite reliability.

Empathy. To assess individuals' ability to understand and emotionally connect with others' feelings, a shortened version of the Questionnaire of Cognitive and Affective Empathy (QCAE; Reniers et al., 2011), consisting of 21 items was used. The QCAE encompassed five subscales that correspond to the two dimensions of empathy – cognitive empathy and affective empathy. Cognitive empathy assessed the inclination to understand others' perspectives and infer their emotional states (Perspective taking; 6 items, and online simulation; 5 items), while affective empathy evaluated the tendency to resonate with others' emotions (Emotion contagion; 3 items, proximal responsivity; 4 items, and peripheral responsivity; 3 items). Participants rated each item on a 4-point Likert scale (1= Very untrue of me, 2= Somewhat untrue of me, 3= Somewhat true of me, 4= Very true of me), indicating the extent to which statements applied to them. A Principal Components Factor

Analysis (PCA) was conducted to assess the validity and factor structure of scale items.

The analysis confirmed factorability, with Kaiser-Meyer-Olkin (KMO) values exceeding .50 and significant results in Bartlett's test of sphericity (χ^2) for all sub-constructs, indicating sample adequacy. Factor loadings (λ) ranged from .51 to .70, the lowest communality (h^2) for items was .50, and internal consistencies for factors were satisfactory, as Cronbach's alpha surpassed the threshold of .70 and composite reliability (ρ) varied was .58 to .52 for cognitive and affective empathy, respectively. The Average Variance Extracted (AVE) exceeded .50 for all factors, suggesting high internal validity. Participants' scores were determined by summing and averaging their responses to the items loaded on each factor. Scores ranged from 11 to 44 for cognitive empathy and from 10 to 40 for affective empathy, with higher scores indicating a higher level of both dimensions.

Past Bullying Experiences. To evaluate participants' involvement in past bullying incidents as either victims or perpetrators, a set of 20 questions was adapted from the Cyberbullying and Victimization Experiences Questionnaire (CBVEQ; 10 questions for direct CB/CV behaviors and an additional 10 questions for indirect CB/CV behaviors) (Antoniadou et al., 2016). Direct CB/CV behaviors encompassed actions such as property destruction/abuse, verbal CB/CV, and threats while indirect CB/CV behaviors included social exclusion, reputation defamation, and masquerading. Participants indicated the frequency of engagement in these behaviors over the past three months using a five-point frequency scale (1= Never, 2= Rarely, 3= Sometimes, 4= Often, 5= Always). Another Principal Components Factor Analysis (PCA) was conducted to assess the validity and factor structure of scale items.

The analysis confirmed factorability, with Kaiser-Meyer-Olkin (KMO) values exceeding .50 and significant results in Bartlett's test of sphericity (χ^2) for all sub-constructs, indicating sample adequacy. Factor

loadings (λ) ranged from .54 to .89, the lowest communality (h^2) for items was .50, and internal consistencies for factors were satisfactory, as Cronbach's alpha ranged from .74 to .88, surpassing the threshold of .70 and composite reliability (ρ) varied from .51 to .57. The Average Variance Extracted (AVE) exceeded .50 for all factors, suggesting high internal validity. Participants' scores were determined by summing and averaging their responses to the items loaded on each factor. For cybervictimization and cyberbullying perpetration past experiences, scores ranged from 10 to 40, with higher scores indicating a higher likelihood of past involvement in cyberbullying, whether as a victim or a perpetrator. Direct form scores for each sub-construct ranged from 4 to 16, while indirect form scores ranged from 6 to 24.

Demographics. In order to gather demographic data, participants were asked to provide basic information regarding their sex (male/female) and age (birthdate) using single-item measures.

Validity and Reliability

Questionnaire items were developed within the overarching theoretical framework, drawing from prior research and existing scales, with slight modifications tailored to the context of cyberbullying to ensure good content validity. A comprehensive description of the study subject, objectives, and covered dimensions, along with the attached questionnaire, underwent thorough scrutiny by a panel of multidisciplinary experts, who confirmed that the included items effectively measured the intended constructs in both form and content. In addition to expert judgment, a pre-test was conducted on a small sample comprising 45 respondents of diverse sexes and ages, representing 10% of the total sample, to ascertain the clarity and efficacy of the items in eliciting the required data and to identify any potential issues that might arise when administering the questionnaire to the entire sample, with subsequent measures taken to address such concerns. Construct validity of certain scales was evaluated through Principal

Component Factor Analysis, as detailed in the measures section. Regarding the reliability of scores, internal consistency was assessed using Cronbach's alpha coefficient, with all measures surpassing the threshold of .70, ranging from .71 to .88, indicating strong stability. Additionally, composite reliability ranged from .51 to .58, exceeding the preferred value of .50, thereby demonstrating satisfactory internal consistency.

Procedures

Data collection spanned from November 25th, 2019, to March 2nd, 2020, with 520 respondents initially participating in the online survey. After excluding 41 incomplete responses, a final sample of 479 respondents was analyzed. The questionnaire, initially in English, underwent translation into Arabic and face validity testing before administration. Administered via Google Forms, the questionnaire took approximately 10 minutes to complete and was accessible to participants at their convenience, with the option to invite others.

Data Analysis

Statistical analyses were conducted using IBM SPSS software (version 20). Initially, indicators were created by summing the scores of related questions or factors. To validate and ensure the reliability of each construct, Principal Component Factor Analysis, Cronbach's Alpha, and Composite Reliability were utilized. To test the study hypotheses, pair-wise correlations were first examined using Pearson Chi-square tests for categorical demographic variables, and two-sample t-tests for all continuous variables across the entire sample. Subsequently, Structural Equation Modeling (SEM) was utilized to investigate the hierarchical relationships among the variables, including path analysis to assess mediating effects. The model demonstrated a good fit, with all goodness-of-fit metrics within acceptable ranges. The structural model was estimated using the AMOS software package, applying Maximum

Likelihood (ML) estimation and Asymptotically Distribution-Free (ADF) techniques to address issues arising from non-normal data distributions. Path significance was determined by p-values, while the magnitude of path effects was assessed through regression coefficients, with significance levels set at 0.05.

CHAPTER 4: RESULTS

Hypotheses Testing

Bivariate correlations among variables were initially assessed using Pearson Chi-square tests for intervention and demographic variables, and two-sample t-tests for independent and mediator variables. The results are presented in Table 4.1.

Table 4.1

Chi-Square and T-Test Results for Bystander Intervention

			Bystander Intervention			
			Yes	***No***	***Σ***	***Test***
Sex	***Male***	***f***	183	40	223	
		%	82.1	17.9	100.0	χ^2 =
	Female	***f***	212	44	256	.046
		%	82.8	17.2	100.0	*df* = 1
	Σ	***f***	395	84	479	*p*=
		%	82.5	17.5	100.0	.830
Age	***13-18***	***f***	308	54	362	
		%	85.1	14.9	100.0	χ^2 =
	19-24	***f***	87	30	117	7.032
		%	74.4	25.6	100.0	*df* = 1
	Σ	***f***	395	84	479	*p*=

			Bystander Intervention			
			Yes	***No***	***Σ***	***Test***
		%	82.5	17.5	100.0	.008 *C* = .120
Past Cyberbullying Perpetration Experience		***T-Test***	1.151	1.162	***P-Value***	.814
Past Direct Cyberbullying Perpetration Experience			1.156	1.205		.331
Past Indirect Cyberbullying Perpetration Experience			1.147	1.133		.772
Past Cyberbullying Victimization Experience			1.399	1.280		.033
Past Direct Cyberbullying Victimization Experience			1.398	1.274		.032
Past Indirect Cyberbullying Victimization Experience			1.400	1.284		.059
Perceived Victim Harm			2.944	2.383		.000
Empathy			3.103	2.946		.000
Cognitive Empathy			3.186	3.017		.001
Affective Empathy			3.012	2.868		.005

Upon closer examination of the p-values in the preceding table, it is clear that significant relationships with intervention were found for age (with younger individuals more likely to intervention), past cyberbullying victimization experience (overall, direct and indirect),

perceived victim harm, and empathy (including overall empathy, cognitive empathy, and affective empathy), all with p-values less than .05, except for indirect victimization experience, which was significant at $p < .1$. Conversely, sex and past cyberbullying perpetration experience (overall, direct, and indirect) showed no significant relationship with intervention, with p-values greater than .05.

Structural Equation Modeling (SEM) was utilized to examine hierarchical relationships among variables, including testing for mediating effects using path analysis. All goodness-of-fit indicators for the model suggest that the various metrics are within acceptable bounds (NFI= .97 >.90; RFI= .97 >.90; IFI= .99 >.90; TLI= .96 >.90; CFI= .99 >.90; RMSEA= .037 <.05; $\frac{\chi^2}{DF}$ = 1< 3.44 <5). Regression weights are presented in Table 4.2.

Table 4.2

Regression Weights

			β	*S.E.*	*C.R.*	*P*
Past Direct cyberbullying Perpetration Experience	→	**Perceived Victim Harm**	-.329	.06	-5.483	.000
Past Indirect cyberbullying Perpetration Experience	→	**Perceived Victim Harm**	.206	.062	3.306	.000
Past Direct cyberbullying Victimization Experience	→	**Perceived Victim Harm**	.127	.053	2.404	.016
Past Indirect cyberbullying Victimization Experience	→	**Perceived Victim Harm**	-.007	.05	-.132	.895
Past Direct cyberbullying Perpetration Experience	→	**Empathy**	-.293	.038	-7.743	.000
Past Indirect cyberbullying Perpetration Experience	→	**Empathy**	.096	.038	2.499	.012

Past Direct cyberbullying Victimization Experience	→	**Empathy**	.007	.032	.21	.833
Past Indirect cyberbullying Victimization Experience	→	**Empathy**	-.006	.03	-.195	.846
Perceived Victim Harm	→	**Empathy**	.095	.028	3.406	.000
Past Direct cyberbullying Perpetration Experience	→	**Intervention**	-.064	.048	-1.326	.185
Past Indirect cyberbullying Perpetration Experience	→	**Intervention**	.068	.047	1.462	.144
Past Direct cyberbullying Victimization Experience	→	**Intervention**	.081	.039	2.059	.039
Past Indirect cyberbullying Victimization Experience	→	**Intervention**	.004	.037	.117	.907
Empathy	→	**Intervention**	.177	.055	3.205	.001
Perceived Victim Harm	→	**Intervention**	.202	.034	5.915	.000
Sex	→	**Intervention**	.067	.038	1.772	.076
Age	→	**Intervention**	-.018	.008	-2.314	.021

Upon closer examination of the p-values in the preceding table, it is clear that prior direct cyberbullying perpetration had a negative direct effect on perceived victim harm and empathy, prior indirect cyberbullying perpetration had a positive direct effect on perceived victim harm and empathy, prior direct cybervictimization had a positive direct effect on perceived victim harm and intervention, empathy had a positive direct effect on intervention, perceived victim harm had a positive direct effect on empathy and intervention, and finally age had a negative direct effect on intervention, suggesting that intervention was

associated with lower age. Further indirect and total effects are presented in table 4.3.

Table 4.3

Direct, Indirect, and Total Effects

			Effect			
			Direct	***Indirect*** [a]	***Indirect*** [b]	***Total***
Past Direct cyberbullying Perpetration Experience	→	**Empathy**	-.293	-.031	-	-.324
Past Indirect cyberbullying Perpetration Experience	→	**Empathy**	.096	.020	-	.116
Past Direct cyberbullying Victimization Experience	→	**Empathy**	.007	.012	-	.019
Past Indirect cyberbullying Victimization Experience	→	**Empathy**	-	-	-	-
Past Direct cyberbullying Perpetration Experience	→	**Intervention**	-	-.066	-.052	-.118
Past Indirect cyberbullying Perpetration Experience	→	**Intervention**	-	.042	.017	.059
Past Direct cyberbullying Victimization Experience	→	**Intervention**	.081	.026	-	.107
Past Indirect cyberbullying Victimization Experience	→	**Intervention**	-	-	-	-

***** Indirect [a] through Perceived Victim Harm

***** Indirect [b] through Empathy

Upon closer examination of the indirect effects in the preceding table, it is clear that perceived victim harm acted as a mediator between different forms of prior cyberbullying experiences and both empathy and intervention. The impact varied: for direct cyberbullying perpetration, it decreased empathy and intervention, while indirect cyberbullying perpetration increased empathy and intervention. Direct cybervictimization increased both empathy and intervention. Empathy itself mediated the relationship between prior cyberbullying perpetration and intervention, showing a negative impact for direct cyberbullying and a positive impact for indirect cyberbullying.

Based on the path analysis results, H1was partially accepted as prior experience of direct cyberbullying perpetration had a negative direct effect on perceived victim harm (β= -.33, P < .001), a negative direct effect on empathy (β= -.29, P < .001), a negative indirect effect on empathy through perceived victim harm (β= -.03, P < .001), and a negative indirect effect on bystander intervention through both perceived victim harm and empathy (β= -.07; -.05, P < .001). However, prior experience of direct cyberbullying perpetration did not have a significant direct effect on bystander intervention.

H2 was totally rejected as prior experience of indirect cyberbullying perpetration had a positive direct effect on perceived victim harm (β= .21, P < .001), a positive direct effect on empathy (β= .10, P < .05), a positive indirect effect on empathy through perceived victim harm (β= .02, P < .001), and a positive indirect effect on bystander intervention through both perceived victim harm and empathy (β= .04; .02, P < .001). However, prior experience of indirect cyberbullying perpetration did not have a significant direct effect on bystander intervention.

H3 was partially accepted as prior experience of direct cyberbullying victimization had a positive direct effect on perceived victim harm (β= .13, P < .05), a positive indirect effect on empathy through perceived victim harm (β= .01, P < .05), a positive direct effect

on bystander intervention (β= .08, P < .05) and a positive indirect effect on bystander intervention through perceived victim harm (β= .03, P < .001) but not empathy. Also, prior experience of direct cyberbullying victimization did not have a significant direct effect on empathy.

H4 was totally rejected as prior experience of indirect cyberbullying victimization did not have any significant direct or indirect effect on perceived victim harm, empathy, or bystander intervention (p > .05). H5 was totally accepted as perceived victim harm had a positive direct effect on empathy (β= .10, P < .001), and both of them had a positive direct effect on bystander intervention (β= .20; .18, P ≤ .001).

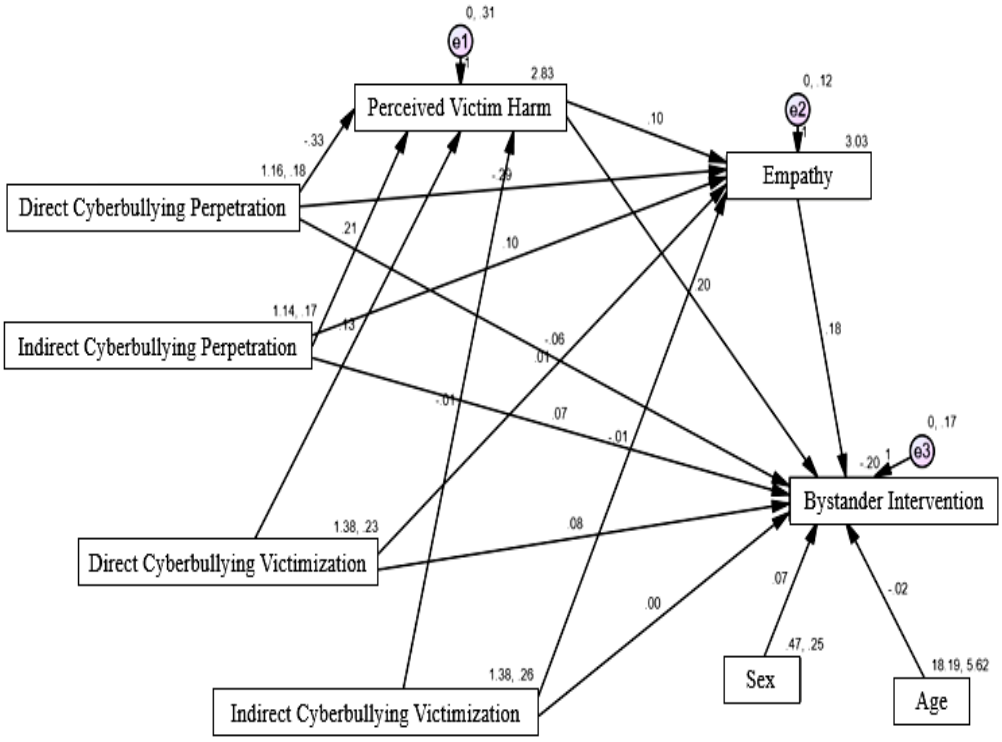

Fig. 4.1

Path Analysis for Bystander Intervention

CHAPTER 5: DISCUSSION

Discussion of Findings

The study's findings provide a multifaceted understanding of the variables influencing bystander intervention in cyberbullying scenarios. Initial bivariate correlations revealed significant relationships between intervention and various demographic and independent variables, such as age, past victimization, perceived victim harm, and empathy. Notably, younger individuals and those with higher empathy levels exhibited a greater propensity to intervene. These observations are consistent with existing literature, which underscores the pivotal role of age (Allison & Bussey, 2017; Van Cleemput et al., 2014) and empathy (Allison & Bussey, 2017; Erreygers et al., 2016; Freis & Gurung, 2013; Macháčková et al., 2013; Pabian et al., 2016; Wang & Kim, 2021) in shaping bystander behavior.

The absence of a significant relationship between sex and intervention, however, contradicts previous research that suggested females are more likely to intervene in cyberbullying incidents (Allison & Bussey, 2017; Macaulay et al., 2018; Olenik-Shemesh et al., 2016; Wang & Kim, 2021). This discrepancy may stem from cultural or contextual differences in the study population or variations in the operationalization of intervention behaviors across studies.

The Structural Equation Modeling (SEM) analysis afforded a comprehensive examination of the hierarchical and interdependent relationships among the variables, allowing for the assessment of both direct and indirect effects. Notably, prior direct cyberbullying perpetration exhibited a negative direct effect on both perceived victim harm and empathy. This finding suggests a desensitization effect wherein direct experience of harmful behaviors diminishes sensitivity to others' suffering, aligning with findings reported by Barlińska et al.

(2013), Jolliffe & Farrington (2011), Pabian et al. (2016), Strasburger & Wilson (2014), and Zhao et al. (2023).

Conversely, indirect cyberbullying perpetration was found to positively influence perceived victim harm and empathy. This unexpected result may be attributable to the less personal nature of indirect perpetration, which might allow individuals to maintain an objective perspective on the victim's distress. This heightened awareness could foster empathy and a greater inclination to intervene, challenging the generalized notion that all forms of perpetration contribute to desensitization. This divergence from prior studies accentuates the necessity of considering the specific contexts and modalities of cyberbullying behaviors when analyzing their impacts (Macháčková et al., 2013).

Further, direct experiences of cybervictimization were positively associated with both perceived victim harm and the likelihood of intervention. This supports the hypothesis that personal experiences of harm can heighten awareness and sensitivity to similar situations, thereby motivating bystander intervention. Individuals who have endured victimization may possess a heightened recognition of the severity of such incidents and feel a stronger compulsion to act, a notion supported by Allison & Bussey (2017), Van Cleemput et al. (2014), and Wang & Kim (2021)

Interestingly, while empathy did not exhibit a significant direct effect on intervention in the context of direct victimization, it emerged as a critical mediator. This indicates that while empathy alone may not directly drive intervention, it significantly influences other variables that contribute to intervention behaviors. This finding aligns with the empathy-altruism hypothesis, which posits that empathetic concern can motivate altruistic actions (Batson, 1987). The lack of a direct effect suggests the involvement of additional factors, such as perceived self-

efficacy or prevailing social norms, which may modulate the influence of empathy on intervention behaviors.

Implications for Theory and Practice

The study's findings have significant theoretical and practical implications. Theoretical implications include an enhanced understanding of cyberbullying and bystander behavior models. The differentiation between direct and indirect perpetration adds depth to the theoretical framework of cyberbullying. Direct perpetrators exhibit desensitization, reducing their sensitivity to victim harm, while indirect perpetrators might develop increased empathy and awareness. This challenges the simplistic view that all forms of perpetration lead to desensitization and suggests a more complex interplay of factors. The study also supports and refines existing models of bystander behavior, emphasizing the role of personal experiences and psychological factors like empathy. It underscores the importance of considering individual differences and the context of bullying when predicting and explaining bystander actions.

As for practical implications, enhancing empathy and awareness of victim harm encourages bystander intervention, particularly for direct perpetrators who might mitigate their negative impact by understanding the consequences of their actions. Educational programs that simulate cyberbullying scenarios through role-playing, virtual reality, or storytelling can foster empathy among bystanders by emphasizing the victim's perspective. Providing platforms for victims to share their experiences enhances bystanders' understanding of cyberbullying's severity, evoking stronger emotional responses and a sense of responsibility to intervene. Schools and organizations incorporating these insights into anti-bullying policies and training programs can create supportive environments that promote proactive bystander behavior. By implementing these strategies, stakeholders can more effectively reduce the prevalence and impact of cyberbullying.

Study Limitations and Future Research Directions

Despite its valuable contributions, this study has several limitations that should be addressed in future research. The reliance on self-reported data raises the possibility of social desirability bias, where participants may over-report positive behaviors such as empathy and intervention. To address this, future studies should employ longitudinal designs to confirm the directionality of these effects and understand how bystander behaviors evolve over time. Additionally, the sample used in this study might not be representative of all populations, limiting the generalizability of the findings. Expanding future research to include more diverse samples would ensure broader applicability of the results.

Moreover, qualitative research could provide deeper insights into the motivations and barriers to bystander intervention, complementing the quantitative findings of this study. Such qualitative approaches could uncover the nuanced reasons behind why individuals choose to intervene or not in cyberbullying situations. Investigating the role of contextual factors, such as the type of online platform and the nature of the cyberbullying incident, can help in understanding how different environments shape bystander responses. These nuances are crucial for developing more tailored and effective interventions.

Additionally, examining the interplay between individual differences - such as personality traits and prior experiences with bullying - and bystander behavior could provide a more comprehensive understanding of the factors influencing intervention. Integrating these findings with insights from related fields, such as social psychology and human-computer interaction, could further enhance the effectiveness of anti-cyberbullying strategies. By addressing these limitations and exploring these areas, future research can build on the current study's findings to develop more effective approaches to reducing the prevalence and impact of cyberbullying.

Conclusion

In summary, this study represents a significant step forward in comprehending the multifaceted dynamics that influence bystander intervention in the context of cyberbullying. The findings underscore the fundamental roles played by empathy and the perception of victim harm in motivating individuals to intervene, while also illuminating the nuanced distinctions between direct and indirect forms of cyberbullying perpetration and victimization. These insights offer invaluable insights for the development of targeted and effective interventions aimed at curbing the prevalence and detrimental effects of cyberbullying.

By taking into account various demographic factors, individual experiences, and psychological constructs such as empathy, interventions can be tailored to address the intricate interplay of variables shaping bystander behavior. Looking ahead, it is imperative to continue investigating these relationships, striving to refine interventions and deepen our understanding of the underlying mechanisms driving bystander responses across diverse populations. Such ongoing research holds the potential to foster a more proactive and supportive bystander culture, ultimately fostering safer online environments for all.

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