Cyberbullying: Definition, Prevalence, Effects, Risk and Protective Factors

Siber Zorbalık: Tanımı, Yaygınlığı, Etkileri, Risk ve Koruyucu Faktörleri

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ABSTRACT

Cyberbullying is defined as intentional, repetitive, and harmful behaviors carried out using computers, cell phones, or other electronic devices. In recent years, there has been an increase in the rates of cyberbullying parallel to the rise in Internet usage. Particularly among adolescents, the prevalence of cyberbullying and cyber victimization are quite high. Adolescents who cyberbully or cyber victim face serious mental health problems. In this reason, efforts should be made to prevent adolescents from being exposed to these negative effects. It is crucial to identify the risk factors and protective factors related to cyberbullying, as they can guide preventive interventions. The review aims to provide a comprehensive perspective on the risk factors and protective factors influencing cyberbullying. Furthermore, information was provided regarding the definition, historical trend, prevalence, and consequences of cyberbullying. In this review, firstly, the definition of cyberbullying is provided, followed by a detailed discussion of its history, prevalence, risk factors, and protective factors. It is expected that the study, which comprehensively explains the factors related to cyberbullying, will contribute to the literature on cyberbullying and provide guidance to professionals working in this field."

Keywords: Cyberbullying, prevalence, risk factors, protective factors, adolescence

ÖZ

Siber zorbalık, bilgisayar, cep telefonu veya diğer elektronik cihazlar kullanılarak gerçekleştirilen kasıtlı, tekrarlayıcı ve zarar verici davranışlar olarak tanımlanmaktadır. Son yıllarda, İnternet kullanımındaki artışa paralel olarak siber zorbalık oranlarında artış meydana gelmiştir. Özellikle ergenler arasında siber zorbalık yapma ve siber zorbalığa maruz kalma yaygınlığı oldukça yüksektir. Siber zorbalık yapan veya siber zorbalığa maruz kalan ergenler ciddi ruhsal problemlerle karşı karşıya kalmaktadır. Bu sebeple, ergenlerin bu olumsuz etkilere maruz kalmasını önlemeye yönelik çalışmalar gerçekleştirilmesi gerekmektedir. Siber zorbalıkla ilişkili risk faktörlerinin ve koruyucu faktörlerin belirlenmesi, siber zorbalığı önlemeye yönelik çalışmalara yol göstermesi açısından oldukça önemlidir. Bu derleme çalışmasında, siber zorbalığa etki eden risk faktörlerine ve koruyucu faktörlere ilişkin kapsamlı bir bakış açısı sunulması ve siber zorbalığın tanımı, tarihsel gelişimi, yaygınlığı ve sonuçları hakkında bilgi aktarılması amaçlanmıştır. Bu çalışmada, öncelikle siber zorbalığın tanımı yapılmakta, ardından sırasıyla, tarihçesi, yaygınlığı ve risk faktörleri ile koruyucu faktörler detaylı olarak ele alınmaktadır. Siber zorbalığa ilişkin faktörleri kapsamlı olarak ele alan bu çalışmanın ilgili alan yazına katkı sağlaması ve bu alanda çalışan uzmanlara yol göstermesi beklenmektedir

Anahtar sözcükler: Siber zorbalık, yaygınlık, risk faktörleri, koruyucu faktörler, ergenlik

Introduction

In recent years, the Internet has become an integral part of our daily lives. People frequently engage in online environments due to their facilitation of learning, access to entertainment, socialization, and communication (Kim et al. 2017). The utilization of technology and the Internet is on the rise across all age groups, with internet use being particularly prevalent among adolescents (Kowalski et al. 2019). Adolescents commonly utilize online media for educational purposes, such as completing assignments and entertainment, including computer games, as well as socializing and maintaining relationships with their peers through platforms like social media sites (Gross 2004).

The widespread adoption of the Internet offers practical means for people to socialize, communicate, learn, and make the most of their free time. However, it also provides a foundation for problematic behaviors, such as cyberbullying (Englander et al. 2017; Kim et al. 2017). Cyberbullying encompasses deliberate, repetitive, and

harmful actions carried out using computers, mobile phones, or other electronic devices (Hinduja and Patchin 2017).

The negative impacts of cyberbullying and cyber victimization have been observed on individuals' cognitive, emotional, social, and academic development, both in the short and long term (Kowalski et al. 2019). Cyberbullying leads to the experience of negative emotions, including sadness, anger, disappointment, shame, and fear (Hinduja and Patchin 2017). Consequently, adolescents who are exposed to cyberbullying often exhibit higher rates of depression and social anxiety (Fahy et al. 2016). Furthermore, there exists a positive correlation between cyberbullying and cyber victimization and academic difficulties (Watts et al. 2017), problematic Internet use (Gámez-Guadix et al. 2013), and substance abuse (Zsila et al. 2018).

While the prevalence rates of cyberbullying vary widely, Brochado et al. (2017) reported in their review study that prevalence rates reach up to 79.3% for cyberbullying and 56.9% for cyber victimization. Given the high prevalence rates and their profound impact on individuals, it is imperative to conduct preventive research on cyberbullying. The initial step in undertaking these preventive efforts is to identify the risk and protective factors associated with cyberbullying and cyber victimization.

This study aims to provide a comprehensive perspective on the definition, prevalence, effects, risk, and protective factors of cyberbullying. The study first establishes the definition of cyberbullying, followed by a thorough examination of its history, prevalence, risk factors, and protective factors. It is worth noting that the existing literature presents limited comprehensive studies that examine individual, family, peer, and school factors about cyberbullying. Therefore, this study, which compiles research from Turkey and the international literature on cyberbullying, is expected to enrich the relevant literature by offering a comprehensive perspective, raising awareness about the prevalence, effects, and risk factors of cyberbullying, and serving as a resource for initiatives aimed at preventing cyberbullying.

Definition, Types, and History

Traditional bullying, often referred to as peer bullying, involves a situation where a student is subjected to recurrent acts of violence, encompassing physical, verbal, or relational behaviors, over an extended period characterized by a power imbalance or an asymmetrical power dynamic (Olweus 2013). Conversely, cyberbullying consists of deliberate, repetitive, and harmful actions carried out using computers, mobile phones, or other electronic devices (Hinduja and Patchin 2017). According to an alternative definition, cyberbullying encompasses behaviors that entail the repetitive transmission of messages containing hostility or aggression to individuals or groups through electronic or digital media with the intent to cause discomfort or harm (Elsaesser et al. 2017). In the literature, several terms such as "cyberbullying," "cybercriminalization," "online harassment," "electronic aggression," "electronic victimization," or "internet harassment" are also employed interchangeably with the concept of cyberbullying (Selkie et al. 2016).

Li (2007) and Willard (2007) identified seven types of cyberbullying: Flaming involves sending angry, disrespectful, or rude messages about a person to a group or to that person. Online harassment takes the form of sending aggressive messages repeatedly. Cyberstalking takes online harassment a step further and involves the attacker sending threatening messages to the victim. Denigration is when the bully sends untrue or damaging messages about another person to others. Masquerading involves the bully pretending to be someone else and sending or publishing threatening or harmful information about someone to other people. Trickery is defined as when the bully tricks the other person into sending or posting embarrassing, private, or sensitive information to others for them to view. Exclusion involves the bully intentionally excluding individuals from an online group, thereby automatically stigmatizing the excluded person.

Cyberbullying and traditional bullying share certain similarities and differences. The primary criteria for both forms of bullying include deliberate and repetitive behaviors coupled with a power imbalance between the involved parties. Notably, individuals engaged in cyberbullying and cyber victims often have a connection to traditional bullying as well (Hinduja and Patchin 2017). Moreover, traditional bullying and cyberbullying exhibit comparable risk and protective factors, suggesting that they are influenced by similar variables (Kowalski and Limber 2007).

Despite their shared characteristics, cyberbullying stands out from traditional bullying in several distinct ways, rendering it potentially more detrimental (Kim et al. 2017, Kowalski et al. 2019). Anonymity emerges as a key feature distinguishing cyberbullying from traditional bullying. In the latter, the identity of the bully is typically known, whereas, in cyberbullying, the perpetrator's identity may remain obscured. A study conducted by

Kowalski and Limber (2007) among middle school students revealed that approximately half (48%) of those exposed to cyberbullying could not identify the individuals responsible for their cyberbullying experiences. In cyberbullying, the power imbalance is characterized by technological proficiency and anonymity, in contrast to traditional bullying (Dooley et al. 2009, Rose and Tynes 2015).

In the realm of cyberbullying, the element of "repetition" takes on a unique form. Online messages can be repeatedly viewed and have long-lasting effects. The ease of sharing and the permanence of online messages mean that cyberbullying behaviors, once initiated, can be viewed or shared by others multiple times (Tokunaga 2010). Additionally, unlike traditional bullying, which typically occurs within specific timeframes, cyberbullying's inherent nature allows it to transpire at any time and in any location. Furthermore, while traditional bullying tends to occur within the school environment, cyberbullying can manifest both within and beyond school premises. Finally, in traditional bullying, the bully's influence is generally limited to those in their immediate surroundings, while in cyberbullying, the cyberbully can target individuals worldwide, provided they have online access, and these victims may remain unfamiliar to the bully (Englander et al. 2017, Watts et al. 2017)."

Currently, numerous countries are conducting studies on both traditional bullying and cyberbullying. Research into traditional bullying has a history dating back to the 1970s, spanning about 50 years, during which a substantial body of knowledge has been amassed regarding the nature and dynamics of traditional bullying. Notably, the foundation for studies on cyberbullying is rooted in the research on traditional bullying, which has also yielded valuable insights into the characteristics and dynamics of cyberbullying (Zych et al. 2017). While investigations into aggressive behaviors have a more extended history, systematic studies on bullying emerged in the early 1970s. In 1973, Dan Olweus authored the pioneering book on bullying, titled "Aggression in Schools: Bullies and Victims (Whipping Boys)," marking the inception of bullying research. During the early 1980s, a surge in suicides among boys in Norway led the Norwegian media to link these tragedies to bullying. In response to this crisis and with the support of the Norwegian Ministry of Education, Olweus and Limber (1983) developed the first anti-bullying intervention program, known as the "Olweus Bullying Prevention Program." This program was implemented among students in grades 5-8 in Norway between 1983 and 1985, aiming to reduce existing bullying issues, prevent the emergence of new cases, and foster positive peer relations within schools. The comprehensive program encompassed various levels, including school-wide initiatives (e.g., establishing a bullying prevention coordination committee at schools), classroom-level efforts (e.g., conducting regular class meetings), individual-level interventions (e.g., formulating individual plans for students involved in bullying), and community-level actions (e.g., promoting anti-bullying messages and practices within the community). Long-term evaluations of the program demonstrated significant reductions in both traditional bullying and adolescent victimization to bullying. Moreover, it played a pivotal role in decreasing antisocial behaviors and enhancing the school environment. Bullying prevention initiatives were introduced in numerous countries during the 1990s and 2000s, building upon the success of this program (Zych et al. 2017).

The origins of research on cyberbullying can be traced back to the late 1990s and early 2000s. The proliferation of technological advancements during this period led to the emergence of cyberbullying incidents, prompting the initiation of research in this field (Zych et al. 2017). Early studies on cyberbullying delved into its characteristics and risk factors (e.g., Ybarra and Mitchell 2004, Patchin and Hinduja 2006). Subsequently, the number of studies in this domain has steadily grown. As the use of technology has become more prevalent worldwide and children are exposed to technological devices at a very young age, the rise in cyberbullying and exposure to it has driven researchers to investigate the prevalence of these behaviors. Consequently, researchers began to develop intervention programs to combat cyberbullying (Ortega-Ruiz et al. 2012, Gradinger et al. 2015, Cross et al. 2016).

In Turkey, the first studies on cyberbullying were conducted in the early 2000s. These initial investigations in Turkey explored the nature and risk factors associated with cyberbullying (Erdur Baker and Kavşut 2007, Topcu et al. 2008, Erdur Baker 2009, Burnukara and Uçanok 2010, Şahin et al. 2010). Furthermore, efforts were made to develop and adapt scales for assessing cyberbullying (e.g., Ayas and Horzum 2010, Topcu and Erdur Baker 2010). In the subsequent years, intervention programs were formulated to combat cyberbullying (e.g., Nedim Bal and Kahraman 2015, Peker and İskender 2015).

Prevalence

Although cyberbullying is prevalent in every developmental stage, regardless of age, it is especially common among adolescents. In a study by Kowalski and Limber (2007) involving 3600 middle school students, the rate of cyberbullying in the previous two months was 11%, and the rate of exposure to cyberbullying was 18%. In a

longitudinal study performed with 1972 adolescents in Canada, two separate assessments were carried out one year apart. In the initial assessment, 4.9% of the participants admitted to engaging in cyberbullying, 5.1% reported being victims of cyberbullying, and 1.4% acknowledged both cyberbullying and victimization. In the subsequent assessment, 4.7% of the participants confessed to cyberbullying, 6.1% reported being victims of cyberbullying, and 2.7% indicated experiencing both cyberbullying and victimization (Cappadocia et al. 2013). In a study involving middle and high school students in Italy, 11% of the 438 students aged between 10 and 20 reported being bullied, while 15.4% experienced cyberbullying (Palermiti et al. 2017).

The prevalence rates of cyberbullying vary significantly. In their comprehensive review, Brochado et al. (2017) noted that the prevalence of cyberbullying ranged from 1.9% to 79.3%, with cyber victimization varying from 1.6% to 56.9%. These disparities in prevalence rates are attributed to differing criteria for defining cyberbullying, the developmental stage of the sample, and the diverse measurement tools employed (Brochado et al. 2017, Kowalski et al. 2019). The timeframe considered in cyberbullying varies considerably; some studies inquire about experiences within the last 30 days, while others cover the entire school year or the past year. The variation in how researchers define and measure cyberbullying contributes to the differences in reported prevalence rates (Selkie et al. 2016).

Prevalence studies in Turkey also indicate substantial variation in prevalence rates. A study by Özdemir and Akar (2011) involving 336 high school students in Ankara and Istanbul revealed that 14% of the participants experienced cyberbullying in the past month, while 10% engaged in cyberbullying. In a study conducted by Eyüboğlu et al. (2021) with 6202 students aged 11–18, the prevalence of cyber victimization among adolescents was 17%, and the prevalence of cyberbullying was 10.4%. In a study conducted by Çalışkan Pala et al. (2021) among high school students, the prevalence of cyberbullying among adolescents was found to be 65.3%. Additionally, in a study by Baştürk-Akca et al. (2015) involving 7th and 8th-grade students, the rate of students who are cyber victims was 9.5%, the rate of students engaging in cyberbullying was 7%, and the rate of those experiencing both cyberbullying and victimization was 7.5%. Another study with primary school students found that 18.6% were cyber victims, and 11.6% were involved in cyberbullying at least once (Ayas and Horzum 2012). A study investigating the relationship between cyberbullying and traditional bullying reported that 26% of adolescents aged 14–18 were victims of both traditional bullying and cyberbullying, while 32% experienced both traditional bullying and cyberbullying victimization (Erdur-Baker 2010). Given the high prevalence rates, cyberbullying continues to be an escalating problem.

Consequences

Cyberbullying behaviors yield various adverse outcomes—adolescents who experience cyberbullying exhibit elevated rates of depression and social anxiety (Fahy et al. 2016). In comparison to traditional bullying, cyberbullying induces more pronounced levels of anxiety (Campbell et al. 2012). Moreover, a study involving individuals aged 11–18 found that cortisol levels in cyber victims, as well as in cyberbullies and bystanders, were significantly higher than in individuals who only engaged in cyberbullying and bystanders (Gonzalez-Cabrera et al. 2017).

Watts et al. (2017) propose that cyber victims encounter heightened academic and psychological challenges, which can perpetuate their involvement in cyberbullying or continued cyber victimization. Cyberbullying engenders negative emotions such as sadness, anger, frustration, shame, or fear, and these emotions are linked to guilt and interpersonal violence among adolescents (Hinduja and Patchin 2017). In a study encompassing 2,917 middle and high school students in Jakarta, it was observed that boys exposed to cyberbullying experienced more externalizing problems, while girls faced more significant internalizing problems. Cyber victim boys exhibited higher rates of smoking and alcohol consumption compared to their peers, whereas girls had higher rates of suicide attempts and alcohol consumption than their counterparts (Wiguna et al. 2018). Additionally, a positive association exists between cyberbullying, cyber victimization, problematic internet usage (Gámez-Guadix et al. 2013), and the use of psychoactive substances (Zsila et al. 2018).

Studies from Turkey have established associations between cyberbullying and problematic internet use (Erdur-Baker 2010, Ünver and Koç 2017), aggression (Peker 2015a), a lack of empathy (Horzum et al. 2021), loneliness (Şahin 2012), impulse control and mindfulness issues (Gül et al. 2019), depression, anxiety, and stress levels (Çetin et al. 2012), psychoticism (Özden and İçellioğlu 2014), socialization difficulties (Peker 2015b), and somatization problems (Horzum and Ayas 2014). In their study involving university students, Dursun et al. (2020) emphasized that cyber victims face issues such as anger, anxiety, sadness, sleep disturbances, and concentration problems. In light of these detrimental consequences, it is imperative to conduct preventive

initiatives addressing cyberbullying and cyber victimization. However, identifying the risk and protective factors associated with cyberbullying is essential for the development and implementation of effective prevention strategies.

Risk and Protective Factors

The research literature reveals a wide array of risk and protective factors associated with cyberbullying and cyber victimization. These encompass not only the duration and purpose of technology use but also various individual attributes, family dynamics, the school environment, peer relationships, and societal influences that impact cyberbullying.

Technology Use

The use of social media platforms is on the rise among adolescents. Spending more time online and engaging with social media heightens the risk of cyber victimization. Moreover, engaging in risky behaviors such as addiction to online gaming poses a significant risk for cyberbullying (Kowalski et al. 2019). In a longitudinal study involving 845 adolescents aged 13 to 17, examining the influence of online time on cyber victimization, it was found that experiencing cyberbullying at the initial measurement time significantly predicted problematic internet usage at the subsequent measurement time (Gámez-Guadix et al. 2013). In a study conducted by Zsila et al. (2018) with 6,237 adolescents and young adults aged 15 to 22, it was concluded that social media usage and problematic internet use significantly predicted both cyberbullying and cyber victimization. Turkish studies have also indicated that adolescents who use the Internet for more than three hours a day are more likely to engage in cyberbullying than their peers (Ünver and Koç 2017).

The intended purpose for which online platforms are used can also influence cyberbullying behaviors. A greater reliance on social media increases the likelihood of cyberbullying. Festl and Quandt (2013) reported that 51.6% of participants who admitted to cyberbullying in a study involving adolescents aged 12 to 19 employed social media for bullying activities. In another study involving university students in the USA, 19% of students disclosed victimization on social media, while 46% reported witnessing instances of cyberbullying on these platforms (Gahagan et al. 2016). In a Turkish study by Taylan et al. (2017), which included middle school students, it was found that participants who used the Internet for social media engagement, online gaming, and video consumption were more likely to engage in cyberbullying.

Internet service providers and social media platforms have implemented certain policies and practices to safeguard children and adolescents from cyberbullying. These measures aim to shield them from potential risks encountered on social media and other online environments. Internet service providers offer filtering options to prevent children and adolescents from accessing sites that may be detrimental to their development. Meanwhile, social media platforms provide users with tools to block, report, unfollow, and complain about individuals exhibiting bullying behaviors when they receive bullying-related messages. Additionally, most social media sites enforce a minimum age requirement of 13 for membership (Milosevic 2016). Alongside these measures, parental behavior control plays a critical role in regulating adolescents' technology use and mitigating the risk of cyberbullying.

Individual Risk and Protective Factors

Depending on whether adolescents have experienced traditional bullying, their age, gender, sexual orientation, personality, beliefs, and behaviors, they may be more or less prone to engage in or be exposed to cyberbullying. Victimization to traditional bullying significantly elevates the risk of involvement in cyberbullying. Traditional bullies are five times more likely to engage in cyberbullying compared to non-bullies (Baldry et al. 2016). Zsila et al. (2019) demonstrated that individuals with a history of both traditional bullying and cyberbullying are more predisposed to cyber victimization.

Cyberbullying and cyber victimization tend to intensify as children transition to adolescence (Cross et al. 2015). As risk-taking behaviors increase during adolescence, adolescents exhibit higher rates of cyberbullying and cyber victimization (Baldry et al. 2015). However, findings regarding the effects of age on cyberbullying during adolescence are inconsistent (Chan et al. 2021). In most studies involving adolescents, rates of cyberbullying and cyber victimization increase with age (Süslü and Oktay 2018, Taştekin and Bayhan 2018, Pichel et al. 2021). Nonetheless, some studies report no significant age-related differences in the rates of cyberbullying and cyber victimization (Dalmaç Polat and Bayraktar 2016, Ünver and Koç 2017, Hood and Duffy 2018).

While some studies examining the relationship between cyberbullying and gender found no differences (e.g., Hinduja and Patchin 2008), most studies indicated that gender plays a significant role (e.g., Wong et al. 2018, Wang et al. 2021). In studies where a significant gender difference was observed, it was generally noted that the rate of cyberbullying was higher among boys than among girls. In contrast, the rate of cyber victimization was lower among boys (Kowalski et al. 2019). Turkish studies yielded similar results to international literature, with male students more likely to engage in cyberbullying than their female counterparts (e.g., Özdemir and Akar 2011, Baştürk-Akça et al. 2015). However, Süslü and Oktay (2018) reported that boys had higher cyberbullying rates, while no significant difference was found in terms of cyber victimization.

A limited number of studies on adolescents who constitute a minority in terms of sexual orientation show that LGBTI adolescents have a higher risk of cyberbullying compared to their heterosexual peers (Abreu and Kenny 2018). For example, a study of 1037 adolescents in Belgium found that LGBTI adolescents become victims of more traditional bullying and exhibited more cyberbullying behaviors compared to their peers (DeSmet et al. 2018). Similarly, Schneider et al. (2012) revealed that high school adolescents in the US who identified themselves as non-heterosexual were approximately twice as likely to be cyber victims in the past year compared to their heterosexual peers.

There are several factors related to the personality traits, beliefs, and behaviors of children and adolescents that increase their risk of cyberbullying exposure. Self-esteem is a significant risk factor for adolescents in middle and high school. Low self-esteem can function as both an antecedent and consequence of bullying (Baldry et al. 2015). Moreover, antisocial personality traits such as psychopathy and narcissism are also significant predictors of cyberbullying (Peterson and Densley 2017). Another important risk factor for cyberbullying is low levels of empathy. Low empathy is an important predictor of both traditional bullying and cyberbullying (Baldry et al. 2015). The temperamental characteristics of adolescents also pose a risk for cyberbullying and cyber victimization (Duo et al. 2020). Children and adolescents with difficult temperaments experience internalization and externalization problems in their social relationships (Buil et al. 2017, Delgado et al. 2018). In a longitudinal study by Buil and colleagues (2017) with 411 adolescents, children with negative reactivity were found to have lower social desirability in the following years. As a result, they tended to exhibit more antisocial behavior.

Research shows a positive relationship between cyberbullying and behavioral problems. There was a significant positive relationship between internalizing-externalizing problems and cyber victimization in a study conducted with 10930 adolescents aged 14–17 in Spain, Poland, the Netherlands, Romania, Iceland, and Greece (Tsitsika et al. 2015). Cyber victimization has a significant relationship with suicidal ideation, depression, anxiety, and self-esteem among internalizing problems and with self-harm, substance use, and social difficulties among externalizing problems (Fisher et al. 2016). Another study among middle and high school adolescents showed that internalizing problems were more common in those who were cyber victims, and externalizing problems were more common in those who engaged in cyberbullying (Kubiszewski et al. 2013).

Other individual risk factors identified for cyber victim adolescents encompass ethnicity, disability, weight, lack of self-control, social anxiety, aggressive thoughts, low social intelligence, and moral dissolution (Kowalski et al. 2019).

Certain individual factors, however, mitigate adolescents' risk of cyberbullying and cyber victimization. For instance, adolescents who employ adaptive emotion regulation strategies are less likely to engage in cyberbullying and become cyber victims (Chen et al. 2017). In a longitudinal study by Turliuc et al. (2020) involving adolescents, the cognitive reappraisal emotion regulation strategy was observed to weaken the relationship between cyberbullying and depression. High self-esteem, on the other hand, is negatively correlated with cyberbullying and cyber victimization (Baldry et al. 2015, Chen et al. 2017).

Adolescents with well-developed social problem-solving skills are also less likely to engage in cyberbullying behaviors. Those with high social competencies who exhibit more positive social behaviors tend to have lower rates of cyberbullying and cyber victimization compared to their peers (Cook et al. 2010). Moreover, high levels of empathy have been associated with reduced rates of cyberbullying among adolescents (Kowalski et al. 2014, Zych et al. 2019).

In conclusion, numerous individual factors influence adolescents' involvement in cyberbullying and their cyber victimization. In particular, developing preventive strategies for adolescents with a history of bullying, those who belong to minority sexual orientation groups, and those with low self-esteem and antisocial personality traits would be beneficial in reducing the risk of cyberbullying. Equally important is the development of adaptive emotion regulation strategies and problem-solving skills in adolescents for the prevention of cyberbullying.

Peer Risk and Protective Factors

Factors related to adolescents' peers are very critical for both cyberbullying and traditional bullying. While the role of parents and teachers is dominant in children's behaviors during childhood, the influence of peers comes to the fore with adolescence (Sasson and Mesch 2017). Adolescents monitor their behavior and the behavior of their peers in social interactions and shape their behavior accordingly (Bayar and Uçanok 2012). This approach can sometimes lead to deviations from social norms accepted by society (Hinduja and Patchin 2013).

Being a member of a peer group where bullying behavior is supported enhances the likelihood of cyberbullying. Friendship with people who exhibit adverse behaviors online, lack of peers who exhibit positive social behaviors, motivation to achieve social dominance, and peer rejection are among the significant predictors of cyberbullying (Baldry et al. 2015, Bayraktar et al. 2015). A study carried out with 4,400 6th–12th-grade students in the USA revealed that adolescents who had a perception that their peers behaved like them and believed that adults would not sanction them had higher rates of cyberbullying (Hinduja and Patchin 2013).

On the one hand, peer-encouraging and supportive behaviors may increase cyberbullying, but on the other hand, peer-provided social support may decrease the likelihood of cyber victimization (Bayar and Uçanok 2012). High peer status and peer support have a negative relationship with cyberbullying and cyber victimization. As peer status and peer support increase, cyberbullying and cyber victimization decrease (Kowalski et al. 2014, Baldry et al. 2015). Menesini and colleagues (2012) conducted a study with middle school students and concluded that peer support effectively reduced cyberbullying and cyber victimization.

When peer-related factors are examined, adolescents' rejection by their peers is considered to be a significant risk factor. In addition, being a member of a peer group with norms that support negative behaviors also poses a risk for cyberbullying behaviors. For this reason, psychosocial support for adolescents with these risk factors, improving peer relationships, and increasing peer support will be helpful in the prevention of cyberbullying.

Family Risk and Protective Factors

Although the influence of peers on the decisions and behaviors of individuals increases during adolescence, relationships with the family remain essential in the lives of adolescents. The risk of cyberbullying and cyber victimization tends to increase when adolescents have cold and unsupportive relationships with their family members when they perceive low levels of social support from their family, and when parents fail to monitor their children's online behavior. In a study conducted by Larrannaga et al. (2016) with seventh and tenth-grade students, it was found that there were strong relationships between family communication problems and cyberbullying and cyber victimization. Similarly, inadequate parent-child communication and the child's feeling of loneliness significantly predicted cyberbullying and cyber victimization (Ybarra and Mitchell 2004). In addition, authoritarian and permissive parenting styles pose a risk for cyberbullying (Zurcher et al. 2018). In a study conducted with children and adolescents aged between 9 and 13, it was found that the parents of cyber victims had high-stress levels and practiced permissive parenting styles. In contrast, the parents of cyberbullies had low parenting competence (Garaigordobil and Machimbarrena 2017).

The other risk factor related to the family is that parents do not control their children's online behavior. Children are generally more competent at using technology than their parents. When parents do not have sufficient skills in using and understanding online environments, they may be inadequate in controlling their children's online behavior and coping with cyberbullying (Ybarra and Mitchell 2004). This situation leads to an increase in children's cyberbullying rates (Barlett and Fennel 2016). In a study conducted by Baldry et al. (2019) with 4390 adolescents aged 13–18, 35.9% of the participants stated that their parents did not supervise them in online environments, and 43.6% indicated that their parents did not provide them with any training on safe internet use. In addition, the study revealed that adolescents who cyberbullied and were cyber victims had weaker parental control.

During adolescence, it is possible to experience conflict in parent-child interactions. However, parental support and mutual communication play a crucial role in developing adolescents' social competence and preventing their problematic behaviors (Padilla-Walker and Son 2019). In terms of cyberbullying and cyber victimization, adolescents' warm interaction with their parents, perceived social support from the family, and parents' control of adolescents' online activities are of great importance.

Parents have a profound influence on their children's behavior. Adolescents with supportive and warm parents are less likely to commit crimes (Elsaesser et al. 2017). Even in cases where parents cannot directly control their children's behavior, the positive relationship between parent and child can protect the child from exhibiting

risky behaviors (Hinduja and Patchin 2013). Having parents who adopt a democratic parenting style has a protective effect on children and adolescents against the risk of cyberbullying and cyber victimization (Zurcher et al. 2018). Legate et al. (2019) conducted a study with 1004 parent-child dyads. They revealed that children of parents who understand adolescents' perspectives and support their autonomy are less likely to cyberbully than children of more controlling parents. In addition, positive emotional support from the family reduces the likelihood of the child being a cyber victim (Kowalski et al. 2019). Perceived social support from the family also leads to a decrease in depression and anxiety symptoms and an increase in the well-being of cyberbullies and cyber victims (Hellfeldt et al. 2020).

Parents' behavioral control is another protective factor that is critical in preventing cyberbullying (Aoyama et al. 2012). Parents' monitoring and controlling their children's online behavior reduces the risk of cyberbullying and cyber victimization (Kokkinos et al. 2016, Sasson and Mesch 2017). Moreover, establishing standard rules regarding the parent and child's internet activities or online safety reduces the likelihood of cyberbullying and cyber victimization (Navarro et al. 2013). Instead of parents setting restrictive rules to control their children's online activities, developing collaborative strategies is more effective in preventing cyberbullying (Elsaesser et al. 2017, Sasson and Mesch 2017).

The role of parents in the behavior of adolescents is vital. Adolescents with warm, supportive, democratic parents with high levels of behavioral control have lower rates of cyberbullying and cyber victimization. Conversely, poor parent-adolescent relationships and high levels of psychological control perceived by parents increase the risk of cyberbullying among adolescents. For this reason, including parents in the prevention of cyberbullying will strengthen the effectiveness of the study.

Risk and Protective Factors at the School and Community Level

Societal risk factors related to cyberbullying have rarely been examined. Studies in this field generally focus on school-related factors (Baldry et al. 2015). Children spend most of their days at school. For this reason, the school climate is influential in children's development. School climate is based on an individual's school experiences and refers to norms, goals, values, interpersonal relationships, and educational practices. School climate includes many dimensions in the school environment, such as teacher support, rules and expectations, student commitment to school, peer interactions, disciplinary rules, and safety issues. Schools with an adverse school climate, high levels of conflict and trust issues, and low levels of supervision, positive peer interactions, and school engagement pose a great risk for cyberbullying (Bartolo et al. 2019, Hellfeldt et al. 2020). Low teacher support and a lack of clear rules regarding cyberbullying also lead to an increase in cyberbullying rates (Baldry et al. 2015).

Moreover, as perceived school safety and satisfaction increase, the risk of cyberbullying and cyber victimization decreases (Kowalski et al. 2019). In a study involving 1,263 middle and high school students from six different regions of Turkey, it was discovered that adolescents who remained untouched by cyberbullying had more positive perceptions of their school and teachers than those who were cyberbullies or cyber victims (Bayar and Uçanok 2012). Similarly, Bartolo et al. (2019) reported that as the positive school climate increases, cyberbullying behaviors decrease. Perceived teacher support also leads to a decrease in the depression and anxiety symptoms of both cyberbullying and cyber victims (Hellfeldt et al. 2020). In addition, there is a negative relationship between academic achievement and cyber victimization. As academic achievement increases, the rates of cyberbullying and cyber victimization decrease (Cook et al. 2010).

Factors related to school, such as school climate, perceptions of school security, relationships with school and teachers, and academic performance, influence adolescent cyberbullying and cyber victimization. In this regard, the adoption of an ecological approach to the prevention of cyberbullying in adolescents, in which individual, peer, family, and school factors are addressed together, will enhance study success.

Discussion

In parallel with technological developments, internet use has become quite widespread. COVID-19, which started in 2019 and turned into a pandemic in 2020, has led many countries to talk measures to prevent the pandemic (e.g., distance education, remote working, and curfews). As a result, online environments have become more frequently used for many purposes, such as education, work, shopping, and socializing. Despite its advantages, the widespread use of the Internet has also brought along some problems that adversely impact the development of individuals, such as cyberbullying. As an example, there has been an increase in the rates of cyberbullying and cyber victimization among adolescents during the pandemic (Jain et al. 2020).

Cyberbullying and traditional bullying have similar characteristics. However, some specific features distinguish cyberbullying from traditional bullying, such as anonymity, the power imbalance being related to the ability to use technology instead of physical force, and the fact that bullying behavior can be carried out anytime and anywhere, regardless of time and place. These characteristics make cyberbullying more risky than traditional bullying. Cyberbullying behaviors negatively affect individuals' cognitive, emotional, social, and academic development (Kowalski et al. 2019). Research findings have shown that cyberbullying and cyber victimization leads to many adverse outcomes, such as depression, anxiety, stress, anger, shame, internalizing and externalizing problems, low self-esteem, problematic internet use, and low academic achievement (Cook et al. 2010, Baldry et al. 2015, Chen et al. 2017).

There are many risk and protective factors associated with cyberbullying. Along with individual characteristics such as age, gender, personality traits, emotion regulation skills, and problem-solving skills, factors related to the duration of internet use, family, peers, school, and society can also pose a risk or be protective in terms of cyberbullying and cyber victimization (Kowalski et al. 2019). Considering the harmful effects of cyberbullying on the development of children and adolescents, it is very critical to carry out studies to determine the prevalence, risk, and protective factors of this problem and to carry out comprehensive preventive intervention programs in light of the information obtained, so that children and adolescents can healthily continue their development.

The rapid change in the digital field brings along a shift in risk and protective factors related to cyberbullying behaviors. With technological developments, new risk factors may emerge, or the impact of existing factors may increase. For example, the prevalence of social media use has increased considerably in the last ten years. The widespread use of social media applications has increased the risk of cyberbullying and cyber victimization to these applications (Giumetti & Kowalski 2022). Social media applications have become one of the online environments where cyberbullying and cyber victimization are most common (Whittaker & Kowalski 2015). Changing risk factors and social conditions necessitate new studies investigating these risk factors.

Early research on cyberbullying dates back to the late 1990s, while the history of cyberbullying studies in Turkey spans the past two decades (Zych et al. 2017). Despite numerous published studies during this time, the need for new research in this field remains. Several limitations are noticeable, particularly in studies conducted in Turkey. Most of these studies were cross-sectional and involved limited sample sizes. There is also a scarcity of cross-cultural studies on cyberbullying.

Additionally, there are only a few preventive intervention programs, with the majority focusing on student psychoeducation programs. An example is the human values-oriented psychoeducation program conducted by Peker and İskender (2015) to prevent cyberbullying and problematic internet use in adolescents, in which participants were provided with information on topics such as recognizing behaviors in the cyber environment, awareness of responsibility, friendship, peacefulness, respect, honesty, and tolerance. As a result of the study, the psychoeducation program was reported to be effective in reducing the rates of cyberbullying and problematic internet use.

Similarly, in the group psychoeducation program conducted by Nedim Bal and Kahraman (2015) with gifted students attending the 7th and 8th grades, participants were informed about the definition of cyberbullying, their rights, information privacy, and security in the online environment, as well as measures that can be taken against online abuse and peer pressure. The results of the study showed that the program was effective in raising awareness about cyberbullying and preventing cyber victimization. However, more comprehensive and longitudinal studies with a larger sample, including different school types, socioeconomic status individuals, and age group participants, are suggested to be conducted. In addition, there is a need for comprehensive preventive intervention programs that include families, teachers, and other stakeholders. The findings of the studies will enable the formulation of preventive intervention programs and public policies that will minimize and eliminate the risk of cyberbullying.

Conclusion

To summarize, this review study has addressed the historical development, prevalence, and consequences of cyberbullying in adolescence and provided a comprehensive perspective on the risk and protective factors associated with cyberbullying. In this respect, this study is expected to guide future studies and experts working in this field. However, since there is no single agreed-upon definition and measurement tool for cyberbullying, the studies that have been looked at have found different prevalence rates, risk factors, and protective factors. Thus, it would be beneficial to conduct studies to determine the universally accepted definition and criteria of

cyberbullying and to develop measurement tools with high cross-cultural validity per these criteria. It is also recommended to develop comprehensive intervention programs that include individual, peer, family, school, and community factors related to cyberbullying.

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