

What is the Role of Resilience in Predicting Cyber Bullying Perpetrators and Their Victims?

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This study examined the role of resilience in the lives of cyberbullying perpetrators and their victims. Turkish adolescents ($n = 444$; 245 girls, 55.2%, and 199 boys, 44.8%) 15–19 years of age (mean age of 16.58 years, $SD = 0.789$) were recruited from different high schools. The participants completed the Cyberbullying Scale (Arıcak, Kinay, & Tanrikulu, 2012), the Cybervictimisation Scale (Arıcak, Tanrikulu, & Kinay, 2012), and the Child and Youth Resilience Measure (Arslan, 2015). The data were analysed using Pearson's correlation coefficient and simple regression. The Pearson correlations revealed that there were negative and significant correlations between cyberbullying perpetration and resilience ($r = -.146, p < .01$). There were negative and significant correlations between cybervictimisation and resilience ($r = -0.203, p < 0.01$). Simple regression also revealed that resilience was a significant individual predictor for both cyberbullying perpetration ($\beta = -0.146, t = -3.094, p < .001$) and cyber victimisation ($\beta = -0.203, t = -4.357, p < .001$).

■ **Keywords:** cyberbullying, victimisation, resilience, adolescent

The 2000s made history as an era in which technology rapidly developed and spread. These years led to significant changes in lifestyles. People now share their anger, joy, and sadness on social networks called cyber environments using their smart phones, computers, and the internet.

Adolescents are the group most negatively affected by this new lifestyle and mode of expression (Santrock, 2015). Like adults, adolescents express their happiness, sadness, anger, and frustration with their peers on social networks using smart phones and the internet. Bullying was first defined as a behavioural problem in the 1970s by Olweus (1977), and it has emerged in this new environment with a new name. Like traditional bullying, cyberbullying and cybervictimisation have been found by studies in Spain (Calvete, Orue, Estévez, Villardón, & Padilla, 2010),

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Serbia (Popović-Čitić, Djurić, & Cvetković, 2011), the United Kingdom (Smith et al., 2008), the United States (Li, 2007), Taiwan (Huang & Chou, 2010), Japan (Kumazaki, Suzuki, Katsura, Sakamoto, & Kashibuchi, 2011), China (Zhou et al., 2013), Malaysia (Faryadi, 2011), and Turkey (Şahin, Aydın, & Sarı, 2012) to be global problems.

Cyberbullying Perpetrators and Their Victims

The behavioural problem of cyberbullying has been studied since the 2000s. Cyberbullying has been defined as an intentional (Hinduja & Patchin, 2008; Williams & Guerra, 2007), repetitive (Kowalski, Morgan, & Limber, 2012; Li, 2006, 2007; Slonje, Smith, & Frisén, 2012), and continuous (Huang & Chou, 2010; Menesini et al., 2012; Li, 2006) act, carried out by anonymous groups or individuals (DeHue, Bolman, & Völlink, 2008; Juvoven & Gross, 2008; Langos, 2012; Ybarra, Espelage, & Mitchell, 2007) in electronic environments, using text messages, pictures, video clips, phone calls, emails, chat-rooms, instant messages, and websites (Shariff, 2008; Smith et al., 2008; Vandebosch & Van Cleemput, 2008), targeting victims who are not able to defend themselves (Hinduja & Patchin, 2008; Rigby & Smith, 2011; Topçu, Erdur-Baker, & Capa-Aydin, 2008). Individuals who carry out bullying behaviour are called cyberbullying perpetrators, and individuals affected negatively by this behaviour are called cyber victims. The concept of cybervictimisation emerged in the 2000s in tandem with cyberbullying. Cyber-victims are individuals who are subjected to cyberbullying repetitively (Brown, Demeray, & Secord, 2014) and considered less strong than cyberbullying perpetrators (Kowalski et al., 2012). Tokunaga (2012) briefly described cyber-victims as individuals who are exposed to cyberbullying, which he classified as a more widespread problem than assumed. He also underlined the inadequate amount of research on this topic.

It is essential to examine certain characteristics of cyberbullying perpetrators to understand the nature of cyberbullying. Cyberbullying perpetrators are prone to violence (Sarı & Camadan, 2016; Willard, 2007), being alone (Şahin, 2012) or in poor peer relationships (Brown et al., 2014; Gámez-Guadix et al., 2013), and aggression (Klein & Kuiper, 2006). They use destructive humour (Sarı, 2016). They have low self-respect (Patchin & Hinduja, 2010), criminal tendencies (Hinduja & Patchin, 2011), and low capacity for empathy (Steffgen & König, 2009; Steffgen, König, Pfetsch, & Melzer, 2011). They may be depressed (Gámez-Guadix, Orue, Smith, & Calvete, 2013; Schneider, O'Donnell, Stueve, & Coulter, 2012; Wang, Nansel, & Iannotti, 2011) or even have suicidal thoughts (Bauman, Toomey, & Walker, 2013; Hinduja & Patchin, 2010). Research has also been done to understand the nature of cybervictimisation. The number of these studies is limited, but they describe cyber-victims as lonely (Şahin, 2012), having low self-respect (Patchin & Hinduja, 2010), depressed (Schneider et al., 2012), and prone to violence (Sarı & Camadan, 2016).

The studies mentioned above are important for understanding cyberbullying. The frequency of cyberbullying incidents has been increasing. Thus, it is important to find out which variables can explain cyberbullying. Measures intended to prevent adolescents from becoming cyberbullying perpetrators or victims can benefit from

these studies. This study evaluated the resilience of cyberbullying perpetrators and their victims.

The Relationship Between Resilience and Being a Cyberbullying Perpetrator or Victim

The concept of resilience began to be studied in the United States during the 19th century. According to Rigsby (1994), the strong psychological make-up of the characters in Horatio Alger's stories was defined as resilience. However, the first research that attempted to conceptualise resilience was carried out on children and adolescents. The first and most comprehensive research on resilience was carried out by Werner and Smith (1982). It began in 1955 and lasted 40 years. The study evaluated the psychology of children in families of low socio-economic status who migrated from the Hawaiian island of Kaua'i to the United States mainland. Participants who were considered to be at risk due to environmental factors were re-evaluated when they reached the age of 30. Although most of these children at risk had serious problems in their early years, most of them were not involved in any criminal activity or were even very successful adults (Werner & Smith, 1982). According to Masten (2001), in the wake of this research, since 1970 other researchers have conducted detailed investigations of the resilience of individuals at risk.

Resilience is defined as positive adaptation in the presence of negative experiences (Masten & Coatsworth, 1998), the strength to recover (Terzi, 2008), and the ability to overcome adverse conditions (Henderson & Milstein, 1996). In other words, resilience is considered an adaptive, stress-resistant trait that is conducive to personal growth, even in the presence of adversity (Ahern, Ark, & Byers, 2008). In addition, two factors are necessary for resilience. The first is encountering a serious threat or problem. The other is successful adaptation to an environment in which an individual goes through serious traumas during developmental periods (Masten, 2001; Masten & Coatsworth, 1998).

Several studies have been carried out with adolescents to explain the nature of resilience. There is a significant correlation between high-level resilience and other factors, including quick recovery from depression (Rak & Patterson, 1996), stress (Dumont & Provost, 1999), and adaptation problems (Masten & Coatsworth, 1998). Other studies of adolescents have shown that there is a significant correlation between low resilience and poor peer relationships (Criss, Pettit, Bates, Dodge, & Lapp, 2002; Kumpfer, 2002; Richardson, Neiger, Jensen, & Kumpfer, 1990), criminal tendencies (Dutton & Greene, 2010; Nash & Bowen, 1999; Smith, Park, Ireland, Elwyn, & Thornberry, 2013), aggressive behaviours (Jackson et al., 2011), substance abuse (Engle, Castle, & Menon, 1996) and being ill tempered or shy (Öz & Yilmaz, 2009).

Consequently, a correlation is apparent between definitions of cyberbullying and resilience. The point that comes to our attention is that when cyberbullying behaviours and cybervictimisation appear, a decrease in the resilience levels of adolescents may also occur. Cyberbullying perpetrators and victims behave similarly to adolescents with low levels of resilience and have psychological traits similar to them. The relationship between these two concepts was investigated in traditional bullying studies. Studies found that adolescents who displayed bullying

behaviour and those who were exposed to it had low resilience. Researchers found a correlation between bullying perpetrators threatening (Bowes, Maughan, Caspi, Moffitt, & Arseneault, 2010), humiliating (Beightol, Jeverson, Gray, Carter, & Gass, 2009), and sometimes using physical violence (Rivers & Cowie, 2006) against their peers, as well as low levels of resilience. According to Dumont and Provost (1999), cyberbullying perpetrators cannot anticipate the possible consequences of their behaviours. As a consequence of abusing their peers, they become lonely, depressed misfits.

In the last five years, some researchers have reached similar findings. Şahin (2012) found that cyberbullying perpetrators and victims become lonely as the result of their behaviour. Gámez-Guadix et al. (2013) indicated that adolescents who have been cyberbullying perpetrators have more symptoms of depression due to high levels of anxiety related to cyberbullying, and maladaptive peer relationships as a consequence of this. The same applies for victims. Patchin and Hinduja (2010) claim that victims of cyberbullying cannot cope with the situation, and that their self-perception is affected negatively and their self-respect is eroded. There is only one study in the literature that examined the relationship between these two variables, conducted by Giancesini and Brighi (2015). They found that resilience was a valuable and significant variable for understanding the nature of cyberbullying perpetration and cybervictimisation. Their results indicated that cyberbullying perpetrators and victims were unable to adapt to the problematic relationships and consequences caused by cyberbullying, and they also displayed a variety of psychological symptoms.

Purpose and Hypothesis

Based on the results of the studies mentioned above, in this study the role of resilience in predicting cyberbullying perpetrators and their victims was investigated. In light of the fact that there are not enough findings in the literature to explain the relationship, this study will make an important contribution to better understanding cyberbullying behaviour.

To this end, the following hypotheses were developed for the present study:

Hypothesis 1: There is a negative correlation between resilience and cyberbullying perpetration.

Hypothesis 2: There is a negative correlation between resilience and cybervictimisation.

Hypothesis 3: Resilience significantly predicts cyberbullying perpetration and cybervictimisation.

Method

Participants and Procedure

Turkish adolescents ($n = 444$; 245 girls, 55.2%, and 199 boys, 44.8%) aged 15–19 years (mean age of 16.58 years, $SD = 0.789$) were recruited from different high schools. Three hundred and seventy-seven of the participants had smart phones. All of them had internet access at home or at school. Before the administration of the measurement instruments, permissions were received from each school

manager. The instruments were administered by the authors to groups of students in a classroom environment. Before the administration of the instruments, the students were given the requisite information about the aim of the research and how the measurement instruments should be answered. Six students had to be excluded because they did not respond properly to all the instruments, so the final study group consisted of 444 participants.

Instruments

The Cyberbullying Scale (CBS), Cybervictimisation Scale (CVS), and Child and Youth Resilience Measure (CYRM) were used as instruments. Permission to use the instruments was received from the authors who developed the instruments.

Cyberbullying Scale (CBS). The CBS was developed in a study on 515 high school students by Aricak et al. (2012). The measurement consisted of 24 items on a 4-point Likert-type scale (0 = *never*, 1 = *rarely*, 2 = *mostly*, 3 = *all times*). According to the results of the exploratory factor analysis of the validity of the measurement instrument, total variance was found to account for 50.58%. In the analysis of the reliability of the measurement, Cronbach's alpha coefficient was 0.95. The reliability coefficient of the test after 4 weeks was 0.70. 'I send infected messages to other people on the internet' and 'I teased another person or my friends on the internet' are some examples from the scale. Total scores on the CBS ranged from 0 to 72 (Aricak et al., 2012). With a view to questioning the validity of the factors in the original scale for the present study, confirmatory factor analysis (CFA) via LISREL 8.51 verified the one-factor structure ($\chi^2/df = 1.75$, GFI = 0.91, RMSEA = 0.05, and SRMR = 0.06) with an internal consistency of 0.91. The high scores taken from the scale showed that cyberbullying levels had increased.

Cybervictimisation Scale (CVS). The CVS was developed in a study of 532 high school students by Aricak et al. (2012). The measurement consisted of 24 items on a two-level (yes/no) scale. According to the results of the exploratory factor analysis of the validity of the measurement instrument, total variance was found to account for 30.17%. In the analysis of the reliability of the measurement, Cronbach's alpha coefficient was 0.89. The reliability coefficient of the test after 4 weeks was 0.75. 'They threatened me on the internet' and 'They ridiculed me on the internet' are some examples from the scale. Total scores on the CVS ranged from 0 to 24 (Aricak et al., 2012). With a view to questioning the validity of the factors in the original scale for the present study, a CFA via LISREL 8.51 verified the one-factor structure ($\chi^2/df = 1.71$, GFI = 0.90, RMSEA = 0.05, and SRMR = 0.05) with an internal consistency of 0.88. The high scores taken from the scale showed that cybervictimisation levels had increased.

Child and Youth Resilience Measure (CYRM). This scale was developed by Arslan (2015) for 256 students studying at different high and middle schools. The scale consists of 12 items on a 5-point Likert-type (1 = *does not describe me completely* to 5 = *describes me completely*). According to the results of the confirmatory factor analysis of the validity of the measurement instrument, total variance was found to account for 51.28%. In the analysis of the reliability of the measurement,

TABLE 1
Normality Distribution and Descriptive Statistics for Variables

Variable	Min.	Max.	Mean	SD	Skewness	Kurtosis
1. Cyberbullying perpetration	2	70	25.353	6.714	1.851	2.836
2. Cybervictimisation	3	24	21.472	7.333	1.472	2.603
3. Resilience	13	58	47.317	3.744	1.333	3.655

Cronbach's alpha coefficient was 0.91. 'I feel as if I belong to my school' and 'I love my parents' family traditions and culture' are some examples from the scale. Total scores on the CYRM ranged from 12 to 60. According to the results of the CFA of the validity of the measurement instrument, the goodness-of fit index was found to be sufficient ($\chi^2/SD = 2.03$; GFI = 0.94, AGFI = 0.89, CFI = 0.97, NFI = 0.94, and RMR = 0.039; Arslan, 2015). With a view to questioning the validity of the factors in the original scale for the present study, a CFA via LISREL 8.51 verified the one-factor structure ($\chi^2/df = 1.95$, GFI = 0.93, RMSEA = 0.05, and SRMR = 0.03) with an internal consistency of 0.90. The high scores taken from the scale showed that resilience level had increased.

Data Analysis

First, the normal distribution of the data was controlled using the Skewness-Kurtosis Normality Test. After the normality was determined, the statistical analysis was performed using the Pearson product-moment correlation coefficient and a simple regression analysis. SPSS software (Statistical Package for the Social Sciences, version 17.0, SPSS Inc., Chicago, USA) and LISREL 8.51 were used for the data analysis.

Results

First, the data for the analysis were identified. The levels of the cyberbullying perpetrators (mean = 25.353, $SD = 6.714$), and likewise the scores of their victimisation levels (mean = 21.472, $SD = 7.333$) and resilience levels (mean = 47.317, $SD = 3.744$), were calculated using the mean scores, because there is no cut-off score on the scales. High scores on the scales mean high levels of cyberbullying perpetration, cybervictimisation, and resilience. The mean and standard deviation values are shown in Table 1. Subsequently, a normality assumption was tested to complete the analysis. Skewness and kurtosis coefficient values were calculated in order to determine whether the variables had normal distributions. These values, along with the descriptive statistics results, are shown in Table 1.

For a normal distribution of the variables, in social science researches, skewness should be less than |3.0| and kurtosis should be less than |10.0| (Kline, 2011, p. 63). Based on this, it was seen that kurtosis and skewness for cyberbullying perpetrators ($SD = 6.714$, skewness = 1.851, kurtosis = 2.836), cybervictims ($SD = 7.333$, skewness = 1.472, kurtosis = 2.603), and resilience ($SD = 3.744$, skewness = 1.333, kurtosis = 3.655) were less than the values mentioned above. According to these values, it was determined that the data have normality. Then,

TABLE 2

Correlations Between Variables

Variable	(1)	(2)	(3)
(1) Cyberbullying perpetration	1	0.373 ^a	-0.146 ^a
(2) Cybervictimisation		1	-0.203 ^a
(3) Resilience			1
Mean	25.353	21.472	47.317
SD	6.714	7.333	3.744

Note: ^a $p < .001$.**TABLE 3**

Simple Regression Analysis for Cyberbullying Perpetration

Variable	B	SE	β	t	F	r	r^2
Constant	2.151	0.220		14.485 ^a	9.573 ^a	.13	.09
Resilience	-0.143	0.046	-0.146	-3.094 ^a			

Note: ^a $p < .001$.**TABLE 4**

Simple Regression Analysis for Cybervictimisation

Variable	B	SE	β	t	F	r	r^2
Constant	1.730	1.129		6.340 ^a	18.892 ^a	.15	.12
Resilience	-0.111	0.025	-0.203	-4.357 ^a			

Note: ^a $p < .001$.

the correlation analyses were done using the Pearson correlation coefficients technique. The participants completed a range of standardised measures to assess cyberbullying perpetration, victimisation, and resilience. Based on the Pearson correlation analyses, there were negative and significant correlations between cyberbullying perpetration and resilience ($r = -.146$, $p < .01$). There were also negative and significant correlations between cybervictimisation and resilience ($r = -.203$, $p < .01$). These results are shown in [Table 2](#).

Then, a simple regression analysis was conducted with resilience as a predictor variable and cyberbullying perpetration as a criterion variable. It was seen that resilience significantly predicted cyberbullying perpetration ($\beta = -0.146$, $t = -3.094$, $p < .001$). In addition, it was determined that the total variance related to cyberbullying accounts for 9% of resilience. The results are shown in [Table 3](#).

Next, a simple regression analysis was conducted with resilience as a predictor variable and cyberbullying victimisation as a criterion variable. It was found that resilience significantly predicts cybervictimisation ($\beta = -0.203$, $t = -4.357$, $p < .001$). Moreover, it was determined that the total variance of cybervictimisation accounts for 12% of resilience. The results are shown in [Table 4](#).

Discussions and Implications

The present study examined the relationship between resilience, cyberbullying perpetrators, and cybervictims. According to the first results of the present study, there was a negative correlation between resilience and cyberbullying perpetrators and cybervictims (H1 and H2). Moreover, it was determined that through a simple regression analysis, resilience was a significant predictor of both cyberbullying perpetration and cybervictimisation (H3).

In this study, first it was revealed that resilience and cyberbullying perpetration had a negative correlation and that resilience was a significant predictor. Recent studies have found that cyberbullying perpetrators are always affected by the consequences of their behaviours because cyberbullying distorts individuals' in-group relations (Brown et al., 2014; Gámez-Guadix et al., 2013), leads to loneliness (Şahin, 2012), increases aggression and violent tendencies (Sarı & Camadan, 2016) and criminal tendencies (Hinduja & Patchin, 2014), and eventually makes individuals cybervictims (Li, 2007; Tokunaga, 2010). In addition, studies indicate that cyberbullying perpetrators have psychological symptoms as a consequence of their bullying behaviour, including anxiety (Navarro, Yubero, Larrañaga, & Martínez, 2012), stress disorders (Wang et al., 2011), mood disorders (Gámez-Guadix et al., 2013; Schneider et al., 2012), and hostility (Şahin et al., 2012). These findings are evidence that cyberbullying perpetrators cannot adapt to the situations they create, and that their psychosocial development is affected negatively. Therefore, it could be said that their levels of resilience drop, because the definition of resilience implies that if an individual accommodates oneself to negative conditions, then his or her level of resilience is high (Masten & Coatsworth, 1998; Terzi, 2008). Masten (2001) emphasises that individuals with high levels of resilience have no developmental setbacks despite traumatic events they face during their lives. These findings are essential for determining the relation between cyberbullying and resilience.

In addition to these findings, studies carried out to better understand resilience in adolescents and determine its relation to other aspects, have found that adolescents with high levels of resilience recover from stress more quickly (Rak & Patterson, 1996; Schwartz & Thompkins, 2009), adapt to environments rapidly (Criss et al., 2002; Kumpfer, 2002), and have adaptive personalities (Masten & Coatsworth, 1998). According to Richardson (2002), high resilience in adolescents means overcoming unfortunate and unpredictable conditions by showing healthy, successful, and adaptive coping skills. Ahern et al. (2008) explain that high resilience is a personal trait that fosters healthy adaptation and mitigates the harmful effects of stress. The same correlation is found in traditional bullying studies, too. According to these studies, bullies are individuals with low resilience due to the hostile and destructive nature of bullying. Adolescents who display such behaviour are prone to crime (Shariff, 2008) and violence (Sarı & Camadan, 2016), have poor empathic skills (Ang & Goh, 2010; Steffgen & König, 2009; Topcu & Erdur-Baker, 2012), and cannot cope with their problems (Lodge & Frydenberg, 2007; Riebel, Jaeger, & Fischer, 2009; Price & Dalglish, 2010). Therefore, they have low resilience. It is also important to mention that only one quantitative study has investigated the relationship between cyberbullying and resilience. Like this study, Ganesini and Brighi

(2015) found that resilience was an important variable in explaining the behaviour of cyberbullying perpetrators. They found that cyberbullying perpetrators wanted to shine in peer groups by displaying maladaptive and problematic behaviours. Cyberbullying perpetrators have low resilience because they create poor peer groups and are detrimental to themselves. This makes them maladaptive individuals.

This study's second finding was about the resilience of cybervictims. According to the results, resilience is a significant variable in explaining the nature of victimisation. Cybervictims have been studied less than cyberbullying perpetrators. When the nature of cybervictimisation was studied, the results indicated that cybervictims are lonely (Şahin, 2012), prone to violence (Sari & Camadan, 2016), depressed (Gámez-Guadix et al., 2013; Schneider et al., 2012), stressful (Brown et al., 2014; Wang et al., 2011), and anxious (Campbell, 2005; Kowalski & Limber, 2013; Navarro et al., 2012). These psychological symptoms are signs of their inability to respond to cyberbullying. It is important to understand that they cannot deal with being bullied. Recent studies show that cyberbullying victims refrain from talking about their victimisation even with their closest friends or families (Lipton, 2011). There are couple of reasons for this, including not knowing their rights (Beran, Rinaldi, Bickham, & Rich, 2012), being afraid of cyberbullying perpetrators (Doolley, Shaw, & Cross, 2012), and fearing the reactions of teachers (Holfeld & Grabe, 2012). Thus, cybervictims, like perpetrators, cannot manage the crisis they experience. They are incapable of overcoming the problem and finding a solution. At this point, it is important to remember the definition of resilience. Individuals with high resilience manage stress (Rak & Patterson, 1996; Wallace, Harcourt, Rumsey, & Foot, 2007), come up with quick solutions for their problems (Pinkerton & Dolan, 2007), and are adaptive (Siqueira & Diaz, 2004). Cybervictims do the exact opposite. Studies about traditional bullying show that bullying victims have low resilience (Bowes et al., 2010; Sapouna & Wolke, 2013) because they cannot manage stress when they are bullied. In addition to these studies, there has only been one study of the resilience of cybervictims (Gianesini & Brighi, 2015). They found resilience to be a good predictor of cybervictims, too. According to their study, the resilience of victims diminishes because they cannot manage stressful and anxious situations and cannot escape from problems. This study and other studies indicate that cybervictims have low resilience because their reactions to and psychological symptoms of cyberbullying are signs that they cannot emancipate themselves from their problems in a healthy way, cannot return to normal, and are incapable of resolving their problems.

Conclusion and Limitations

Resilience is a valuable and significant variable for understanding cyberbullying perpetration and cybervictimisation. This study found that cyberbullying perpetrators and their victims have low resilience. This study has some limitations. The first concerns the sample. The sample was limited to three schools, because in other schools there were problems with data collection (e.g., unwillingness to fill out the measurement tools, giving incorrect information on purpose). The second limitation is that the research was conducted in only one city due to time and budget limitations, and the fact that that the study was not carried out within a project or funded.

Implications

Theoretical implications. We think this study is significant for cyberbullying studies. Researchers define cyberbullying as a negative behaviour. This problem is rooted in traditional bullying. Traditional bullying is also defined as a problem of aggression. Therefore, it is possible to explain cyberbullying in terms of aggression. Studies have already proved that cyberbullying perpetrators are prone to aggression and violence. Similarly, this study proved that adolescents who are aggressive and prone to violence have low resilience. Hence, it is important for both perpetrators and victims to take resilience into consideration when trying to understand the nature of the problem. Moreover, in the last 20 years, although the relationship of resilience to diverse variables (e.g., violence, aggression, loneliness, psychological symptoms) has been studied, it is also important to consider using positive psychology concepts. One notable point in the literature is researchers' focus on psychological symptoms, which may change in future if more variables from the concept of positive psychology are used. It should also be noted that cybervictims are the group most affected by cyberbullying behaviour, and studies of their psychological symptoms are also important, including the variables related to positive psychology. This will help in understanding the reasons for bullying.

Managerial implications. Prevention is the main theme of suggestions on the issue of cyberbullying perpetrators and their victims. Recent studies underline that efforts to prevent bullying benefit from a holistic approach (i.e., collaboration between teachers, students, parents, and the school). The framework of suggestions for prevention based on this study consists of parents, teachers, and school guidance counsellors. In this context, the first component in this framework is parents. Family support especially can form the basis of resilience interventions that seek to promote resilience preventatively, before stressors occur. It is known that family is an important explanatory factor during the development of resilience. The literature on resilience says that strong communication within a family has a supporting role in coping with the difficulties that individuals face in their lives. It is important for families to ensure children feel that they are always ready to help. It is recommended that children be taught how to use familial support when they encounter a problem. It is also recommended that parents inform their children what to do if they face cyberbullying in online environments like social networks and the internet. Parents are recommended to protect their children from harm in these environments by taking precautions such as using a filtering software.

The second component in this framework is teachers. When a child's social environment is considered, teachers also form part of it. Teachers are the most trusted people in schools. Teachers should warn students during courses and leisure time about possible harm in online environments. They should teach children how to deal with adaptation issues caused by exposure to cyberbullying. These methods of coping will also contribute to the development of the child's psychological resilience.

The final component in this framework is school guidance counsellors. They should inform students and teach them skills to deal with cyberbullying in individual or group counselling. Especially, they should tell children what kind of adaption issues they may go through if they cyberbully by explaining its consequences. They

should use this method to enhance students' resilience. Moreover, they should detect and identify cybervictims in schools and inform them about how to address this situation. If needed, students' coping mechanisms should be strengthened with individual guidance counselling. Also, counsellors could plan 8–10 weeks of psychoeducational group intervention for cybervictims at school, tell students how to cope with cyberbullying, and organise events about enhancing resilience. Although there is an intervention program in the literature on cyberbullying and cybervictimisation, it seems that very few aim to gain skills to strengthen their resilience. Intervention programs to strengthen resilience depend upon enhancing the coping abilities of individuals through family and environmental experiences. It is recommended that family and environment-based skills should be added to intervention programs to prevent cyberbullies from becoming potential cybervictims over time and to be able to cope with cybervictims' negative experiences.

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