

Beyond Cyberbullying: Investigating When and How Cybervictimization Predicts Suicidal Ideation

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Abstract

Cybervictimization is a public health concern in adolescence. Victims of cyberbullying may present with important short- and long-term sequelae. Specifically, past research has demonstrated positive associations between being cybervictimised and risk of suicide among adolescents. Nonetheless, the underlying mechanisms that may mediate or moderate this relationship remain unclear. The present research examined perceived stress as a mediator and forgiveness as a moderator to explore the relationship between cybervictimization and suicidal ideation. Specifically, vengeance, avoidance, and benevolence motivations, as a means of measuring forgiveness experienced, were analyzed as moderators in the relations between cybervictimization and suicidal ideation. The sample included 1,821 adolescents (954 girls) who ranged in age from 12 to 17 years from nine centers. Adolescents' self-reported perceived stress levels, cybervictimization, and forgiveness were collected. A mediation and a moderated mediation analyses were used to explore the aim of the present study. Results suggest that, after controlling for sex and age, perceived stress partially mediates the association between cybervictimization and suicidal ideation. Furthermore, the mediation effects

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of perceived stress were independently moderated by vengeance and avoidance. Thus, revenge and avoidance might intensify the adverse impact of perceived stress on suicidal ideation. These results highlight how and when cybervictimization is related to suicidal ideation. We discuss the results in relation to previous research and consider their practical implications. These findings suggest that adolescents' perceived stress, together with vengeance and avoidance motivations, may be key targets for prevention and intervention programs dealing with cybervictimization. This highlights the need to implement treatment and prevention programs focused on decreasing such motivations.

Keywords

cybervictimization, perceived stress, suicide risk, revenge, avoidance, adolescence

Cyberbullying has been defined as “any behavior performed through electronic or digital media by individuals or groups that repeatedly communicates hostile or aggressive messages intended to inflict harm or discomfort on others” (Tokunaga, 2010, p. 278). Cybervictimization, or peer victimization occurring via different forms of electronic media (Tokunaga, 2010), is a significant public health concern which has recently gained increased attention from the general public and researchers, due to its serious impact on victims, including depression, stress, low self-esteem, loneliness, and suicide risk (Bonanno & Hymel, 2013; Fisher et al., 2016; Kowalski et al., 2014). In this regard, cybervictims have been found to be significantly more likely to present with suicidal ideation and suicide attempts, compared with uninvolved individuals (Bonanno & Hymel, 2013; Katsaras et al., 2018). Furthermore, the associations between cybervictimization and both suicidal ideation and suicide attempts were stronger than analogous relationships between school bullying victimization and suicidal ideation and suicide attempts (Katsaras et al., 2018; Van Geel et al., 2014).

Although a growing body of research (e.g., Bonanno & Hymel, 2013; Katsaras et al., 2018; Van Geel et al., 2014) has investigated the link between cybervictimization and suicidal risk, comparably little is known about which specific factors may explain (mediate) and which may buffer (moderate) the relationship between cybervictimization and suicidal ideation. As a result, some scholars have called for the identification of factors that may intensify or weaken the association between cybervictimization and suicidal ideation among adolescents, as a means of informing future prevention and intervention programs (Fisher et al., 2016; Kowalski et al., 2014).

The Mediating Role of Perceived Stress

One potential mechanism linking cybervictimization to suicidal ideation may be perceived stress. Psychological stress can be viewed as a particular relation between the person and the environment, which is appraised by the person as threatening or exceeding available resources and which is found to adversely affect his or her physical and psychological health (Lazarus, 2006; Raskauskas & Huynh, 2015). In the case of adolescents, such perceived stress has been linked with an increased risk of suicidal ideation (Buitron et al., 2016; Kleiman et al., 2018). A cyberbullying experience can be perceived as stressful on the basis of the internal state of the victim (i.e., negative affect, disturbing thoughts, and heightened arousal; Kowalski et al., 2014). This internal state is linked to different appraisal strategies and decision processes that may lead to engaging in particular responses to the situation: Some persons might do nothing or call for help when suffering from cyberbullying, whereas others respond by engaging in cyberbullying in response to victimization (Kowalski et al., 2014). Thus, how adolescents perceive the experience is an important factor that influences their reaction to that stress and, relatedly, their mental health (Albdour et al., 2017). In considering a mediation approach in which perceived stress is theoretically expected to be a causal mechanism contributing to the cyberbullying–mental health relationship, one may also consider why cybervictimized adolescents who experience these online transgressions as interpersonal stressors (González-Cabrera et al., 2017; Worthington, 2006) often develop negative motivational responses that can lead to higher risk for suicidal thoughts (Katsaras et al., 2018; Toussaint et al., 2016). However, little research has thus far explored the associations between cybervictimization and perceived stress or the mediating effect of perceived stress—as observed in cases of cybervictimization—on suicidal ideation.

The Moderating Role of Transgression-Related Interpersonal Motivations

Within Lazarus and Folkman's (1984) stress and coping model, forgiveness has been argued to be an emotion-focused coping mechanism. Of late, it has been applied to the bullying and cyberbullying context (Flanagan et al., 2012; Quintana-Orts et al., 2021). However, there is not universal agreement on the conceptualization of forgiveness, with scholars using many different definitions and theoretical constructs (e.g., decisional or emotional; intrapersonal, interpersonal, or intergroup; as a set of components, including benevolence, avoidance, and revenge; forgiveness of self, others, and situation—Neto et al., 2007; Toussaint et al., 2015; Worthington et al., 2015).

McCullough and colleagues (McCullough & Hoyt, 2002) have proposed a three-dimensional model based on the three interpersonal responses to transgressions. "When people forgive," they assert, "they experience (a) reduced motivations to seek revenge, (b) reduced motivations to avoid their transgressors, and (c) increased benevolence or goodwill for their transgressors" (McCullough & Hoyt, 2002, p. 1556). Based on this view, McCullough et al. (2003) developed the Transgression-Related Interpersonal Motivations Inventory (TRIM-18) as a means of measuring the degree and nature of forgiveness experienced by a person. Specifically, the TRIM assesses three motivations toward the offender after a particular transgression: one positive dimension of forgiveness (benevolence) and two negative dimensions of forgiveness (avoidance and revenge). Greater forgiveness is considered to be present when people report high benevolence motivation, together with low avoidance motivation and low revenge motivation (McCullough et al., 2003). Nevertheless, there is considerable debate as to whether benevolence motivation and positive feelings toward the offender are essential components of forgiveness or, relatedly, whether they are a prerequisite to achieving forgiveness (Thompson et al., 2005; Wong et al., 2014).

Current evidence focuses on the relationships between forgiveness and different types of transgressions in adolescence, such as bullying. A growing number of studies indicates that forgiveness may alleviate the negative outcomes of being bullied (Barcaccia et al., 2018; Liu et al., 2013), having been found to be associated with better mental health in bullying and cyberbullying contexts (Egan & Todorov, 2009; Skaar et al., 2016). For instance, among bullied adolescents, forgiveness presents a moderating role so that those with high forgiveness have been found to report less suicidal ideation (Liu et al., 2013). Regarding the three-dimensional model (McCullough et al., 2003), higher vengeance and avoidance motivations were found to positively correlate with engagement in bullying behaviors and psychological maladjustment as a whole (e.g., conduct-based issues or emotional problems; Nabuzoka et al., 2009). In contrast, lower revenge and avoidance appeared to be beneficial for adolescents' mental health on the whole (Barcaccia et al., 2017). Together, these findings suggest that the three motivations might present different moderating effects on adolescent's mental health.

Despite such findings, there are still few studies that contribute in meaningful ways to our understanding of forgiveness in context of cybervictimization or its impact on mental health. Moreover, much of the current research (e.g., Barcaccia et al., 2017; Wong et al., 2014) on the benevolence motivation of forgiveness remains controversial. Thus, taking into consideration the clinical and psychosocial importance of the above-mentioned findings, it is

of both theoretical and practical salience to examine the association among cybervictimization, forgiveness, and suicidal ideation.

The Present Study

The purpose of this study is to extend our knowledge regarding how and when cybervictimization is related to suicidal ideation, by examining perceived stress as a mediator and forgiveness as a moderator. To achieve this purpose, we first examined the relations among cybervictimization, perceived stress, suicidal ideation, and motivations for revenge, avoidance, and benevolence. Next, we tested a conceptual model of the process with a twofold aim: (a) to explore whether adolescents' perceived stress mediates the relation between cybervictimization and suicidal ideation, and (b) to determine whether the indirect association between cybervictimization and suicidal ideation, as possibly mediated by perceived stress, will be moderated by avoidance, revenge, and/or benevolence. Taken together, this moderated mediation model addresses questions about both mediation (i.e., How does cybervictimization relate to suicidal ideation among adolescents?) and moderation (i.e., When is this relationship most potent?) in a single model. Based on the aforementioned literature, the following exploratory hypotheses are stated:

Hypothesis 1: Cybervictimization will increase adolescents' perceived stress, which, in turn, will increase suicidal ideation, that is, perceived stress will mediate the link between cybervictimization and suicidal ideation.

Hypothesis 2: Avoidance and revenge will positively predict adolescent suicide, whereas benevolence will negatively predict adolescent suicidal ideation. Furthermore, the direct effect of cybervictimization on suicidal ideation and the indirect effect of perceived stress on the cybervictimization–suicidal ideation will be independently moderated by revenge, avoidance, and benevolence. That is, each element of forgiveness (i.e., revenge, avoidance, and benevolence) would moderate the association between each path of the mediation: (a) each element of forgiveness would moderate the positive relationship between cybervictimization and perceived stress, such that this relationship is weaker for high (vs. low) forgiveness; (b) each element of forgiveness would moderate the positive relationship between perceived stress and suicidal ideation, such that this relationship is weaker for high (vs. low) forgiveness; and (c) each element of forgiveness would moderate the positive relationship between cybervictimization and suicidal ideation, such that this relationship is weaker for high (vs. low) forgiveness.

Method

Participants

Participants were 1,821 adolescents (954 girls, 867 boys) who ranged in age from 12 to 17 years ($M = 14.53$, $SD = 1.67$). They were selected from nine middle and high schools from Andalusia (Spain). Of the adolescents, 93.6% reported being of Spanish nationality. Regarding academic courses in Spain, 322 were first graders in compulsory secondary education, 357 were in the second grade, 315 were in the third grade, and 312 were in the fourth grade (i.e., in the United States, from seventh grade to 10th grade); 327 students were first graders in post-secondary education and 188 were second graders at that level (i.e., in the United States, 11th and 12th grades, respectively).

Measures

Independent variable. Cybervictimization was assessed using the European Cyberbullying Intervention Project Questionnaire (ECIPQ; Brighi et al., 2012; Ortega-Ruiz et al., 2016). This scale contains 22 items, which evaluate the dimensions of cybervictimization and cyberaggression. For the current study, we only used the Cybervictimization subscale (11 items). This subscale measures whether the participant has been a cybervictim of specific behaviors in the prior 2 months. The items were rated on a 5-point Likert-type scale ranging from 0 (*never*) to 4 (*more than once a week*). Higher scores indicate greater frequency. This subscale has shown good internal consistency in Spanish samples (Ortega-Ruiz et al., 2016). In the present sample, Cronbach's alpha for the Cybervictimization subscale was .85.

Dependent variable. Suicidal ideation was assessed using the Frequency of Suicidal Ideation Inventory (FSII; Chang & Chang, 2016), a five-item questionnaire that measures the frequency of suicidal ideation over the previous 12 months. Respondents indicate frequency using a 5-point Likert-type scale, ranging from 1 (*never*) to 5 (*almost every day*). For this study, participants completed the Spanish version of the FSII (Sánchez-Álvarez et al., 2020). In this study, the value of Cronbach's alpha for this scale was .89.

Mediator. Perceived stress was assessed using the short form of the Perceived Stress Scale (PSS-4, Vallejo et al., 2018; adapted from the PSS, Cohen et al., 1983). Respondents are asked to rate the frequency during the previous month that they have experienced stress; a scale of five response options, from 0 (*never*) to 4 (*very often*), is used. We administered a well-validated Spanish version (Vallejo et al., 2018). In this study, Cronbach's alpha for this instrument was .60.

Moderators. Benevolence, revenge, and avoidance motivations were measured using the TRIM-18 (Fernández-Capo et al., 2017; McCullough et al., 2003). This inventory consists of three subscales: the six-item Benevolence subscale assesses motivation to act benevolently toward the transgressor, the five-item Revenge subscale measures motivation to seek retaliation, and the seven-item Avoidance subscale assesses motivation to evade the transgressor. Participants indicate on a 5-point Likert-type response scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), their agreement with each item. We used the well-validated Spanish version of the TRIM-18 (Fernández-Capo et al., 2017). In the present sample, reliability was good for the three subscales: Cronbach's alphas were .88 for revenge, .85 for avoidance, and .87 for benevolence.

Procedure

All aspects of this research comply with the Declaration of Helsinki and were rated favorably by the Research Ethics Committee of the hosting university (Spain). The data were collected between December 2017 and March 2018. The schools were selected by convenience based on their agreement to participate in the research; permission to recruit at the selected schools was obtained from each administration. For each school, parental consent was given before data collection, using the condition of "passive parental permission": Parents were informed in the same form to return the parental consent only if they refuse their child's participation in the study. The survey was conducted by trained undergraduate students (last year degree students) and graduate students (master's and doctoral students) in psychology and criminology. Previously, the principal researcher trained the research assistants in the fundamentals and instructions of collecting data to assure the consistency of the survey.

The participants completed a paper-and-pencil questionnaire during one class hour. At the beginning of the session, the students were instructed to provide responses to the questionnaire. Researchers particularly emphasized the confidentiality and anonymity of the survey, as well as the voluntary nature by advising students that they could withdraw from the questionnaire at any point.

Statistical Analyses

We first conducted the correlations, using SPSS 22 software. Next, we tested whether the impact of cybervictimization on suicidal ideation in adolescents was mediated by perceived stress, using the PROCESS macro (Model 4; Hayes, 2013). Finally, we further examined whether the relationships among

cybervictimization, perceived stress, and suicidal ideation were moderated by forgiveness (Model 59; Hayes, 2013). Specifically, moderation of all paths by each element of forgiveness (i.e., avoidance and revenge) was tested, except for benevolence. Bootstrapping method was applied and produced 95% bias-corrected confidence intervals (CIs) from 5,000 resamples of the data. Sex and age were controlled in all analyses.

Results

Preliminary Analyses

The results showed that cybervictimization ($M = 0.17$, $SD = 0.35$, range = 0–4) was positively associated with perceived stress ($M = 1.57$, $SD = 0.80$, range = 0–4) and suicidal ideation ($M = 8.21$, $SD = 3.94$, range = 5–25) ($r = .17$, $p < .001$ and $r = .29$, $p < .001$, respectively). In addition, cybervictimization was positively associated with avoidance ($M = 3.20$, $SD = 1.01$, range = 1–5) and revenge ($M = 2.17$, $SD = 1.04$, range = 1–5) ($r = .10$, $p < .001$ and $r = .14$, $p < .001$, respectively). Besides, perceived stress was positively correlated with suicidal ideation ($r = .47$, $p < .001$), avoidance ($r = .10$, $p < .001$), and revenge ($r = .06$, $p < .05$). Finally, suicidal ideation was positively associated with avoidance and revenge ($r = .11$, $p < .001$ and $r = .15$, $p < .001$, respectively). However, benevolence ($M = 2.82$, $SD = 1.03$, range = 1–5) did not show associations with cybervictimization, perceived stress, or suicidal ideation.

Testing for the Mediation Effect

In Hypothesis 1, this study anticipated that perceived stress will mediate the link between cybervictimization and suicidal ideation. To examine this hypothesis, Model 4 (mediation model) of the PROCESS macro (Hayes, 2013) was used. As seen in Figure 1, after controlling for the covariates (sex and age), cybervictimization was found to be positively associated with perceived stress ($b = 0.38$, $p < .001$)—which, in turn, would affect suicidal ideation ($b = 2.03$, $p < .001$). It is pointed out that the residual direct effect was significant ($b = 3.27$, $p < .001$), which indicates that perceived stress partially mediated the relationship between cybervictimization and suicide risk (indirect effect = 0.77, $SE = 0.14$, 95% CI = [0.53, 1.06]). For the assessment of the effect size of the mediation paths, completely standardized indirect effect (ab_{cs}) was used (Hayes, 2018; Preacher & Kelley, 2011). Using the functions of PROCESS macro (Hayes, 2018), the indirect effect was indicated as $ab_{cs} = 0.07$, $SE = 0.01$, 95% CI = [0.05, 0.09].

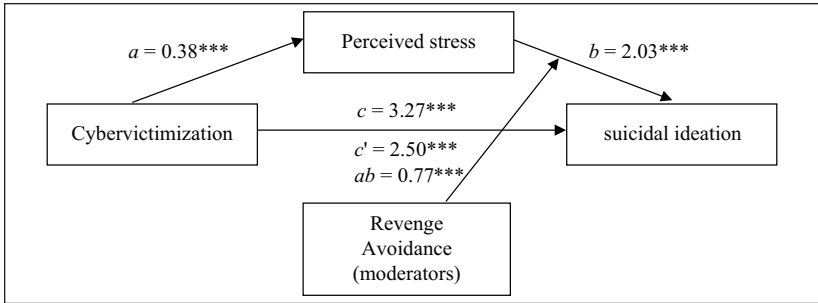


Figure 1. The mediating role of perceived stress in the relationship between cybervictimization and suicidal ideation.

Note. *a*, *b*, *c*, and *c'* represent unstandardized regression coefficients: *a* = direct association between cybervictimization (independent variable) and perceived stress (mediator); *b* = direct association between perceived stress (mediator) and suicidal ideation (dependent variable); *c* = total effect between cybervictimization (independent variable) and suicidal ideation (dependent variable) (not accounting for mediator); *c'* = direct effect between cybervictimization (independent variable) and suicidal ideation (dependent variable) (accounting for mediator); *ab* = indirect effect between cybervictimization and suicidal ideation operating through perceived stress.

*** $p < .001$.

This model accounted for 52% of the variance in suicidal ideation among adolescents. Thus, Hypothesis 1 was supported.

Testing for Moderated Mediation

As aforementioned, Hypothesis 2 predicted that revenge, avoidance, and benevolence will moderate the indirect associations between cybervictimization and suicidal ideation. Given that benevolence motivation was not correlated with the variables of interest, we did not further test the moderator effect on the mediation process. Thus, we considered only the two negative dimensions of forgiveness—that is, avoidance and revenge—for the moderated mediation analyses.

For revenge and avoidance, this Hypothesis 2 was examined using two moderated mediation analyses (Model 59; moderated mediation model) of the PROCESS macro (Hayes, 2013). This research tested the moderating effect of revenge and avoidance on the relation between cybervictimization and suicidal ideation, the relation between cybervictimization and perceived stress, and the relation between perceived stress and suicidal ideation.

Regarding both motivations, only the interaction effect of perceived stress and revenge/avoidance on suicidal ideation was significant (see Figure 1).

Table 1. Coefficients for the Moderated Mediation Model ($n = 1,818$).

Variables	Coefficient	SE	LLCI	ULCI
Perceived stress				
Constant	-1.39***	0.17	-1.71	-1.06
Sex	0.32***	0.04	0.25	0.39
Age	0.07***	0.01	0.04	0.08
X: Cybervictimization (CV)	0.40***	0.06	0.29	0.52
MO: Revenge (R)	0.06**	0.02	0.02	0.09
XMO: CV \times R	-0.09	0.05	-0.19	0.00
$R^2 = .30$				
$F(5, 1810) = 34.94***$				
Suicidal ideation				
Constant	6.44***	0.74	4.99	7.88
Sex	0.88***	0.16	0.56	1.20
Age	0.03	0.05	-0.06	0.12
X: Cybervictimization (CV)	2.53***	0.26	2.03	3.03
ME: Perceived stress (PS)	1.99***	0.10	1.79	2.19
MO: Revenge (R)	0.44***	0.08	0.29	0.59
XMO: CV \times R	-0.39	0.21	-0.81	0.03
MEMO: PS \times R	0.18*	0.09	0.00	0.37
$R^2 = .54$				
$F(7, 1808) = 92.10***$				

Note. LLCI = lower limit of the 95% confidence interval; ULCI = upper limit of the 95% confidence interval; X = independent variable; MO = moderator; XMO = interaction between independent variable and moderator; ME = mediator; MEMO = interaction between mediator and moderator.

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

Specifically, as shown in Table 1, the interaction effect of perceived stress and revenge on suicidal ideation was $b = 0.18$ ($p < .05$). As seen in Table 2, the interaction effect of perceived stress and avoidance on suicidal ideation was $b = 0.22$ ($p < .05$). Therefore, Hypothesis 2 was supported. For descriptive reasons, this study plotted predicted suicidal ideation against perceived stress, independently for low and high levels of revenge and avoidance (1 standard deviation above the mean and 1 standard deviation below the mean; Figure 2). As demonstrated in Figure 2, simple slope analyses indicated that, for adolescents who scored high in revenge motivation, a higher level of perceived stress was related to higher suicidal ideation ($b = 2.36$, $p < .001$). In contrast, for adolescents who reported lower revenge motivation, the impact of perceived stress on suicidal ideation was weaker ($b = 1.96$, $p < .001$). In

Table 2. Coefficients for the Moderated Mediation Model ($n = 1,816$).

Variables	Coefficient	SE	LLCI	ULCI
Perceived stress				
Constant	-1.31***	0.17	-1.64	-0.98
Sex	0.29***	0.04	0.22	0.36
Age	0.06***	0.01	0.04	0.08
X: Cybervictimization (CV)	0.36***	0.05	0.26	0.47
MO: Avoidance (A)	0.03	0.02	-0.01	0.06
XMO: CV × A	0.04	0.05	-0.07	0.14
$R^2 = .29$				
$F(5, 1810) = 32.53***$				
Suicidal ideation				
Constant	7.06***	0.75	5.59	8.53
Sex	0.70***	0.16	0.38	1.02
Age	0.01	0.05	-0.09	0.10
X: Cybervictimization (CV)	2.52***	0.24	2.03	2.97
ME: Perceived stress (PS)	2.01***	0.10	1.81	2.22
MO: Avoidance (A)	0.14	0.08	-0.02	0.30
XMO: CV × A	-0.19	0.23	-0.64	0.27
MEMO: PS × A	0.22*	0.09	0.03	0.41
$R^2 = .53$				
$F(7, 1808) = 98.65***$				

Note. LLCI = lower limit of the 95% confidence interval; ULCI = upper limit of the 95% confidence interval; X = independent variable; MO = moderator; XMO = interaction between independent variable and moderator; ME = mediator; MEMO = interaction between mediator and moderator.

* $p < .05$. *** $p < .001$.

the same direction, simple slope analysis showed that the relation between perceived stress and suicidal ideation was stronger for high avoidance ($b = 2.44, p < .001$) than for low avoidance ($b = 1.94, p < .001$).

Discussion

The aim of our study constructed a moderated mediation model to examine the role of perceived stress and that of interpersonal motivations in the association between cybervictimization and suicidal ideation in a sample of adolescents. Consistent with our hypotheses and the stress and coping theory of forgiveness (Watson et al., 2015b; Worthington & Scherer, 2004), findings showed that cybervictimization was indirectly related to suicidal ideation

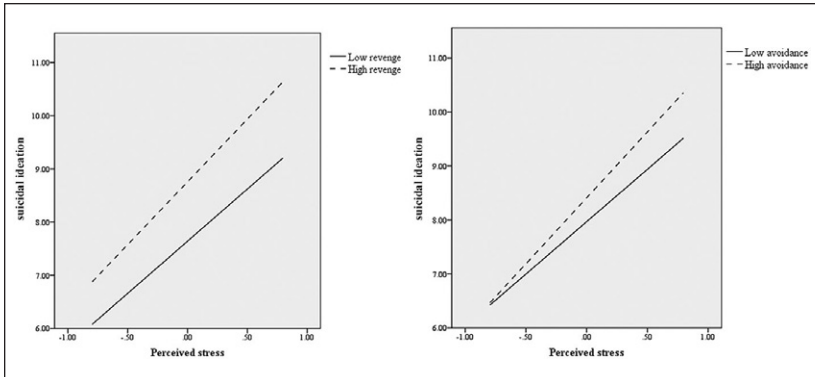


Figure 2. Suicidal ideation as a function of perceived stress and revenge/avoidance. Note. Functions are graphed for two levels of revenge/avoidance: 1 standard deviation above the mean and 1 standard deviation below the mean.

through perceived stress, and that this process was moderated by avoidance and revenge. These results are in line with previous studies demonstrating that, when cyberbullying—as the interpersonal stressor—is appraised as overwhelming one’s own available resources, the adolescent might have a stress response of negative emotions. This can be alleviated in a variety of ways, such as exacting revenge or avoiding the bully (Kowalski et al., 2014; Quintana-Orts & Rey, 2018); some such responses may be maladaptive and lead to worse psychological adjustment (Barcaccia et al., 2017; Nabuzoka et al., 2009).

The Mediating Role of Perceived Stress

As hypothesized, this research found that cybervictimization was positively related to perceived stress—which, in turn, triggered suicidal ideation among adolescents. Therefore, perceived stress may be considered an important mechanism through which cybervictimization affects adolescent suicidal thoughts. Following the stress and coping theory (Lazarus & Folkman, 1984), cybervictimization can be perceived as an interpersonal stressful event for adolescents. According to this conceptual model, stressors—especially those that are uncontrollable and chronic (as often characterize cybervictimization)—contribute to the development of internalizing symptoms (e.g., suicidal ideation) through negative emotions that can emerge in response to the interpersonal stressor (Quintana-Orts et al., 2021; Worthington & Scherer, 2004). Such responses can lead to suicidal ideation and even suicide attempts

(Zhang et al., 2012). Our results are in line with several studies supporting this view: Cybervictimization is significantly related to higher psychological stress (Garaigordobil & Machimbarrena, 2019; González-Cabrera et al., 2017), which in turn is linked to increased odds of suicidal ideation (Buitron et al., 2016; Kleiman et al., 2018).

The Moderating Role of Forgiveness

Benevolence. The present study showed that the benevolence motivation of forgiveness was not related to cybervictimization, perceived stress, or suicidal ideation. These findings are in line with prior research (Wong et al., 2014; Worthington, 2006) showing the debatable role of benevolence in the construct of forgiveness. Indeed, our results support those of Barcaccia et al. (2018), who found no mental health benefits for increasing the benevolence dimension of forgiveness in bullying contexts. A plausible explanation can be related to the features of cyberbullying as an interpersonal transgression. Recent research (Gerlsma & Lugtmeyer, 2018) has indicated that the type and severity of offenses may engender varying responses in the victims. If we consider the features of cyberbullying, it might be that certain characteristics of the phenomenon do not elicit benevolence toward the offender. It is possible that benevolence motivation after interpersonal stressors is more likely to occur in close or valued relationships (e.g., in a romantic relationship; Gerlsma & Lugtmeyer, 2018; Kaleta & Mróz, 2018), as coming to terms with the transgression is more effortful, complicated, and/or time-intensive than just decreasing negative reactions toward the offender (McCullough et al., 2003). For instance, people harmed or victimized by former partner with whom they no longer interact tend to display low motivation toward benevolence (Fernández-Capo et al., 2017). It is therefore possible that, due to the nature of many instances of cybervictimization (e.g., anonymity and/or distance of the offender), this kind of offense is less likely to elicit feelings of benevolence. Future studies should assess participants' perception of the severity of cyberbullying, for instance, by examining the presence or absence of imbalance of power, anonymity, repetition, or intentionality (Palladino et al., 2017). Screening severity of cyberbullying could help counselors and clinicians to further identify what kind of reactions and coping strategies adolescents at risk are using. This might contribute to more appropriate support and therapy to help these adolescents to manage the negative impact on their feelings, thoughts, and behaviors. In this sense, it will be important to determine whether our findings can be generalized to other types and dimensions of forgiveness (i.e., self-forgiveness, emotional forgiveness, etc.).

Revenge. As hypothesized, we found that revenge motivation moderated the relation between perceived stress and adolescents' suicidal ideation, with the effect between perceived stress and suicidal ideation being weaker for adolescents with low levels of revenge. According to the stress and coping model, cybervictims can engage in a cycle of violence as a response to stressful situations of cybervictimization. It is possible that a vengeful attitude, adopted to cope with the interpersonal stressor of cyberbullying, will affect the perception, processing, and management of social information—and, in fact, justify the use of retaliation against the transgressor (Gerlsma & Lugtmeyer, 2018; Kowalski et al., 2014). The end result can be an experience of even more intense negative emotions (Ak et al., 2015) and, as a consequence, higher internalization and greater propensity for suicidal thoughts (Zhang et al., 2017). In addition, research has shown that cybervictims' negative feelings (e.g., anger, resentment, hostility) and thoughts can lead to interpreting social cues in a hostile way (Ak et al., 2015; Camodeca & Goossens, 2005) and, for some, becoming cyberbullies themselves (Quintana-Orts & Rey, 2018). Hence, to the extent the cyberbullying victim can cope with the ensuing stress without becoming vengeful, the negative health-related effects can be mitigated, if not prevented altogether (Toussaint et al., 2016).

Avoidance. In a similar fashion to revenge, our results on avoidance have shown that low avoidance would buffer the effect of perceived stress on suicidal ideation in the cyberbullying context. In contrast, the present study suggests that a response style of unwillingness to continue being subjected to an interpersonal stressful event, such as cyberbullying, may be a potential pathway to the development of suicidal ideation. These findings are consistent with prior studies (e.g., Blankstein et al., 2007) that have found avoidance coping positively associated with suicidal ideation. Although avoidance motivation may at first sight seem less harmful (Gerlsma & Lugtmeyer, 2018), researchers have typically highlighted deleterious effects, both physical and psychological, in the long term (Elliot et al., 2011; Zvolensky et al., 2016). Avoidance may initially restrain negative emotions in the short term, but it does little to resolve unhelpful responses to transgressions in the long term (Worthington & Sotoohi, 2009)—and, in fact, can readily lead to suicidal ideation (Brausch & Woods, 2018; Zvolensky et al., 2016). Thus, avoidant responses after suffering an interpersonal stressor might contribute to the emotional consequences of victimization and the development of suicide risk. A more precise understanding of the effects of avoidant motivations can therefore also help to delineate the relationship between cybervictimization, perceived stress, and suicidal ideation.

Limitations

There are several limitations that should be noted. First, the cross-sectional nature of the analysis means that we cannot attribute causality or temporality to the theoretical model. In this regard, although the moderated mediation model used was based on empirical and theoretical research, it is possible that the associations between the variables of interest are bidirectional. Therefore, future research should use experimental or longitudinal designs to better validate the results found in this study. Second, the study was limited due to the use of self-reports. Although this method is commonly applied to assess constructs related to personal experiences in adolescents and is considered reliable (Whitcomb & Merrell, 2013), responses relating to cybervictimization, psychological adjustment, and motivations may be biased. Although the TRIM-18 is the most utilized instrument in this area of research (Worthington et al., 2015), there is a debate about inclusion of the benevolence construct within the definition of forgiveness (Wong et al., 2014). Other measures of forgiveness might provide useful information about how and when the construct relates to cybervictimization and its outcomes. In the same vein, the results of the present research may be limited by the low reliability of PSS-4. Although a Cronbach's alpha $\geq .60$ seems adequate for short scales (i.e., less than 10 items; Loewenthal, 1996) and for exploratory studies (Huh et al., 2006), to generalize our findings, further studies with other scales to assess the analyzed variables will be necessary. For example, future research could include a multi-informant approach (self-, peer-, and teacher-reports) to measure variables more precisely and to reduce potential bias.

Implications: Research and Practice

Despite these limitations, our findings have relevant practical implications in the context of cybervictimization. There is a growing body of research (Barcaccia et al., 2017; Egan & Todorov, 2009), suggesting that forgiveness and the negative dimensions of forgiveness are critical, not only for understanding some mechanisms of bullying but also for designing programs to prevent traditional bullying and cyberbullying, and their negative consequences. Our study has contributed to the current literature of the stress-coping framework in understanding the role of the negative dimensions of forgiveness in suicidal ideation in the cyberbullying context. First, our findings provide novel evidence that perceived stress may be a relevant mechanism linking cybervictimization and suicidal ideation. If cyberbullying, as the interpersonal stressor, is appraised as menacing and difficult to cope with, adolescents might

have a stress response of negative emotions and motivations (Kowalski et al., 2014; Quintana-Orts et al., 2021). Thus, how adolescents cope with this chronic stressor might be relevant to preventing mental health problems linked to cybervictimization experiences. Educators can develop better awareness to identify the presence of stress symptoms to refer adolescents to relevant assistance (i.e., clinicians and therapists). Paying closer attention to the existence of stress symptoms is especially important for diverse population who are considered more likely to suffer from cyberbullying and its consequences, such as the LGBQ (lesbian, gay, bisexual, pansexual and queer) community (Myers et al., 2017) or students with disabilities (Kowalski et al., 2016). These efforts are crucial in reducing stress symptoms and related mental health problems on these vulnerable populations. In fact, developing and implementing screening procedures of the perception of stress and the suffering of the victim (e.g., by asking about the levels of stress and the severity of cyberbullying transgression) may be relevant to detect adolescents at high risk for suicide and to deal with stress symptoms in a more appropriate way. Such early detection procedures could prevent the emergence of stress symptoms in adolescents who may be suffering from cyberbullying and decrease negative affective states that can lead to suicide risk in adolescents with clinically relevant levels of stress symptoms.

Second, our results suggest that both revenge and avoidance motivations in adolescents, as may arise as part of negative stress perceptions in the course or aftermath of cybervictimization, increase the risk of developing suicidal ideation. This highlights the need to implement treatment and prevention programs focused on decreasing such motivations. It suggests that interventions should help cybervictims establish more adaptive strategies to deal with the stressful experience of cyberbullying. It is also necessary for families and educators to help adolescents decrease revenge and avoidance, as opposed to encouraging such responses. These findings are supported by literature, which suggests the importance of adults as powerful role models who foster certain types of motivations and behaviors (Quintana-Orts et al., 2021; Watson et al., 2015a). A social environment that promotes more productive responses might serve to bolster better psychological development as a whole (Quintana-Orts et al., 2021; Watson et al., 2015a). Thus, parents and school personnel have to begin to recognize the importance of revenge and avoidance motivations on adolescents' adjustment, while also providing healthier socioemotional skills training to relieve stress and to prevent cyberbullying. In this sense, educators can help change beliefs about the role of forgiveness, revenge, and avoidance by creating spaces for conversations about socioemotional functioning and interpersonal transgressions management. Moreover, school staff (i.e., educators and counselors) could be more

vigilant and aware of potential risk factors such as avoidance and revenge behavior. Indeed, detecting revenge motivations and behaviors could prevent not only from suffering psychological maladjustment but also from cyber-victims becoming cyberbullies themselves (Quintana-Orts & Rey, 2018). Thus, obtaining a better understanding of personal factors in predicting the psychological impact of cybervictimization may help families, school personnel, and community members to design more effective prevention/intervention efforts aimed at treating adolescents subjected to cyberbullying (Zych et al., 2019). Although the study of forgiveness in cyberbullying interactions is in its initial stages, our findings suggest an important contribution of decreasing the repertoires of negative coping strategies and motivations when designing intervention programs aimed at reducing suicidal ideation in adolescent students.

In sum, this study contributes to the extant literature by testing a moderated mediation model, which provides a unique approach on understanding how and when cybervictimization relates to suicidal ideation among adolescents. It provides evidence that the relationship between cybervictimization and suicidal ideation is partially mediated by perceived stress. Importantly, the findings revealed that revenge and avoidance intensify the adverse impact of perceived stress on suicidal ideation. These findings highlight that adolescents' perceived stress together with vengeance and avoidance motivations may be suitable targets for prevention and intervention programs to tackle cybervictimization.

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