The Impact of Cyberbullying Victimization on Teachers' Work Stress, Job Inefficacy, and Turnover Intentions

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Abstract

The present research explores the occurrence of cyberbullying victimization among teachers from both students and their parents and assess the consequences of such victimization. The results indicate that 15.4 percent of teachers reported experiencing cyberbullying victimization by students and/or parents. The examination of the impact of cyberbullying on multiple outcomes shows a concerning pattern: victimized teachers are more likely to experience higher levels of work-related stress, diminished job effectiveness, and increased intend to leave their teaching career. There is a pressing need for school administrators to recognize the severity of the issue and implement policies and intervention strategies.

Key Words: Cyberbullying Victimization, Teachers, School Violence, Physical/Emotional Distress, Teacher Turnover

Introduction

Teacher victimization at school has become a growing concern and an increasing body of empirical studies (see Bare et al., 2021; Maeng, Malone, & Cornell, 2020; McMahon et al., 2014; Moon & McCluskey, 2020; Qiao & Patterson, 2021) has found a relatively high prevalence of teachers experiencing victimization by students. A recent meta-analysis of 24 empirical studies on violence directed against teachers at school indicates that the occurrence of any type of victimization (e.g., verbal abuse and physical assault) ranged from 20% to 75% over a two-year period (Longobardi, Badenes-Ribera, Fabris, Martinez, & McMahon, 2019). The meta-analysis study also highlights that the prevalence rates of less severe, non-violent victimization such as verbal abuse and non-physical contact aggression (e.g., students throwing/kicking objects in front of teachers) were notably high. On the contrary, more severe and serious teacher victimization (e.g., physical assault and sexual harassment) occurred less frequently, although the rates were nonetheless concerning. A series of empirical studies (Moon et al., 2015; Wilson, Douglas, & Lyon, 2011; Moon, McCluskey, & Morash, 2019) have also investigated the adverse consequences of these victimization experiences among victimized teachers, and the findings suggest an increased risk of emotional and physical distress, resulting in heightened levels of stress, job dissatisfaction, student distrust, and turnover among victimized teachers.

While the current body of research has advanced our understanding of violence directed against teachers, there have been limited empirical studies aimed at comprehending the prevalence and adverse consequences associated with cyberbullying victimization among teachers by students and/or their caregivers. Over the recent decades, the internet and its related technologies and online platforms have become integral part of daily routines. This integration

is widely and extensively expanding into school classrooms, evident in various forms such as online classes, lectures, discussion, and assignments - a trend that has been accelerated and expedited by the COVID-19 pandemic. Yet, amid the advantages and the continuous advancement of technology in both society and educational settings, teachers face a growing risk of being targeted, harassed, and/or bullied online from students and/or their parents. Limited initial empirical findings indicate that cyberbullying victimization among teachers by students is widespread with prevalence rates ranging from 6% to 20% (see McMahon et al., 2014; Moon, McCluskey, Saw, 2022; Qiao & Patterson, 2021) and victimized teachers were found to often report feelings of embarrassment and hurt, leading to psychological, emotional, and even physical trauma (see Kopecký & Szotkowski, 2017; Vogl-Bauer, 2014).

With a sample of 3,771 middle and high school teachers drawn from among 50 largest public-school districts in the United States, the present research seeks to contributes to the current body of knowledge on teacher cyberbullying victimization by addressing some of these limitations and knowledge gaps. First, this research is the first large-scale attempt to investigate the prevalence and negative effect of cyberbullying victimization among randomly selected teachers within urban school settings across 19 states nationwide, following the full return to in-person classes. Second, the present study contributes to the emerging literature on teacher victimization by exploring instances of teacher cyberbullying victimization, measuring not only interactions with students but also interactions with their parents/caregivers. This expands upon almost all previous studies, which focused solely on cyberbullying victimization among teachers originating from students. Third, this research examines the effects of cyberbullying victimization on teachers' work stress levels, job inefficacy (burnout), and their likelihood of

considering leaving the teaching profession – areas that have not been previously investigated as outcomes of cyberbullying.

Below, we first review prior evidence on the prevalence of different forms of teacher victimization, especially focusing on cyberbullying victimization from students and their parents. Second, we review the existing literature on the negative consequences of teacher victimization (including cyberbullying victimization) on the physical and psychological well-being of victimized teachers, as well as its impact on their job performance. Third, we describe the data collection procedure and provide a detailed description of the key independent and dependent variables in the methodology section. Fourth, multiple regression and structural equation modeling analyses are performed to examine the interrelationships of cyberbullying victimization from students and their parents on teachers' emotional wellbeing, job performance and their intention to exit their career. Fifth, the main results and their policy implications are discussed in the discussion/conclusion section.

Prevalence of violence directed against teachers: Cyberbullying victimization

A growing number of empirical studies (McMahon et al., 2014; Moon et al., 2015; Yang et al., 2019) show that teacher victimization is widespread across various cultures and countries. For example, the 2013 School Crime and Safety Report (Robers et al., 2014) found that 5.4 percent of public-school teachers reported being physically attacked or facing threats of injury by a student during the 2011-2012 school fiscal year. McMahon et al. (2014), utilizing a non-random sample of 2,998 K-12 teachers, explored the prevalence of various forms of teacher victimization, including physical attacks and sexual harassment. Their findings indicated that 44 percent of participants reported victimization through physical attacks, with roughly three-

quarters experiencing various forms of harassment including sexual harassment. Using a random sample of 1,628 teachers in a southwestern U.S. city, Moon et al. (2020) found that verbal abuse/threat (41%) and non-physical contact aggression (34%) emerged as the most frequently reported victimization experiences among middle/high school teachers. While victimizations by physical assault and sexual harassment were relatively less common, approximately one out of 10 teachers in the sample still reported experiencing a physical assault or sexual harassment. Unfortunately, there is a dearth of empirical studies exploring cyberbullying victimization among teachers in the United States, even though research with samples of teachers in other countries such as Israel and Turkey (Dolev-Cohen and Levkovich, 2020; Küçüksüleymanoğlu, 2019) has identified a significant proportion of teachers reporting their experiences of cyberbullying victimization.

Cyberbullying victimization among teachers from students and their parents can occur through diverse channels, such as email, phone calls, instructor-rating websites (e.g., ratemyprofessors.com), course-related sites or chats, and text messages (Faucher, Cassidy, & Jackson, 2015; Tosun, 2016). Additionally, research conducted in Nepal (Rajbhandari & Rana, 2022) and the Czech Republic (Ambrožová & Kaliba, 2020) has highlighted social media as a prominent platform for cyberbullying directed at teachers. The typical forms of cyberbullying, as identified by Kyriacou and Zuin (2015), include flaming (sending defamatory or vulgar messages), online harassment, cyber-stalking, denigration/trolling (posting damaging or false statements), masquerading (pretending to be another person and posting or sending harmful materials to belittle a victim's reputation), and outing (posting another person's sensitive or humiliating information online). While cyberbullying shares commonalities with in-person bullying, it differs as perpetrators can engage in cyberbullying at any time and maintain

anonymity if they choose to do so. Moreover, the limited existing research indicates that students do not typically engage in cyberbullying against teachers impulsively or in the spur of the moment. Instead, perpetrators take time and effort in planning and executing cyberbullying targeted toward teachers (Vogl-Bauer, 2014).

Regarding the prevalence of cyberbullying victimization among teachers in the United States, limited empirical studies reported that a substantial proportion of teachers in the samples were victims of cyberbullying. For instance, Bounds and Jenkins (2018) with sample of 117 teachers in Illinois found that that 6% of sampled teachers reported experiencing cyber harassment in the 4 to 6 months prior to the survey. Similarly, Moon and McCluskey (2017), with a sample of 1,628 middle and high school teachers in Texas, found that 7% of the sample reported their victimization of cyberbullying by students. In a cross-cultural examination of U.S. and Chinese teachers, Qiao and Patterson (2021) found that 22% of Chinese educators were subjected to student-perpetrated cyberbullying, while 20% of teachers in the United States (mainly from the Midwest) reported instances of cyberbullying victimization by students. The research also found that websites were the primary medium through which U.S. teachers were targeted by students, whereas Chinese teachers reported cyberbullying victimization through text messages, phone calls, instant messages, and websites.

Also, studies have found that parents or caregivers of students can also play the role of perpetrators in cyberbullying against teachers. For instances, McMahon et al. (2014) found that parents, not just students, are involved as perpetrators in cyberbullying directed at teachers. A study by Küçüksüleymanoğlu (2019) with a sample of teachers in Turkey indicates that almost 75% of the teachers reported having received harassing or threatening messages from students'

parents. These studies highlight the importance of investigating cyberbullying victimization among teachers not only involving students but also their parents or caregivers.

Negative consequences of teacher victimization

A vast body of literature on the teacher victimization (see Dzuka & Dalbert, 2007; Moon et al., 2015; Wilson et al., 2011) suggests that violence targeting educators has a variety of adverse impacts on victimized teachers. Wilson et al. (2011), with a sample of 731 teachers in Canada, found that many victimized teachers (ranging from 61% to 84%) reported that their victimization experiences had negative effects on their job performance, as well as their physical and emotional well-being. Based on a sample of 728 employees in a large Northeastern U.S. school district, a study conducted by Bass et al. (2016) suggests that employees who have experienced victimization at schools are more likely to report higher levels of burnout. Consistent with previous findings, Moon et al. (2019) found that victimized teachers are more likely to report significantly lower levels of connectedness to school and job satisfaction, compared to non-victimized counterparts.

Several empirical studies (Bester, du Plessis,& Treurnich, 2017; Kopecký & Szotkowski, 2017) with samples from outside of United States have explored the potential adverse consequences of cyberbullying victimization among teachers. These studies found that cyberbullying victimization has serious negative effects to victimized teachers' physical as well as emotional well-being. In their case study of teachers in South Africa, Bester et al. (2017) found that school teachers' experience of cyberbullying victimization by students are significantly associated with emotional distress, anxiety, and embarrassment. Likewise, a study conducted by Kopecký and Szotkowski (2017) with a sample of teachers in the Czech Republic

shows that some victims of cyberbullying by students experienced physiological and physical discomfort, including sleep disorders, headaches, stomach-aches, lack of concentration, and/or reduced immunity.

Unfortunately, there is a paucity of empirical research investigating the negative effects of cyberbullying directed at teachers by students and/or their parents in the United States. Qiao and Patterson (2021) conducted a cross-cultural study comparing U.S and Chinese teachers in educator-targeted bullying and found that anger was the most common psychological responses among U.S. teachers. However, it is important to highlight that their findings are not exclusive to cyberbullying, as the study encompasses teacher responses to all six measures of educator-targeted bullying, with one of them including cyberbullying. Given the findings outside of educational settings (see Celuch, Oksa, Savela, & Oksanen, 2022) that workplace cyberbullying victimization is related to chronic stress, job dissatisfaction, and work exhaustion, it is critical to undertake further research to expand our understanding of the negative impacts of cyberbullying victimization among teachers.

Purposes of research

To address the limitations in prior studies, the present research, using a random sample of middle and high school teachers among 50 largest school districts across the nation, documents the prevalence of cyberbullying victimization from both students and their parents. We also investigate the effects of cyberbullying victimization on teachers' work stress levels, job inefficacy (burnout), and their intention to exit the teaching profession – aspects that have been rarely explored in previous research. Moreover, we explore the mediating role of work stress in the relationship between cyberbullying victimization and teacher job outcomes, i.e., job inefficacy and turnover intention. It is hypothesized that teachers who experienced

cyberbullying from students and/or their parents are more likely to report higher levels of work stress (mediator; Gonzalez-Cabrera et al., 2017; Wiguna et al., 2021), which in turn predict their job inefficacy and intention to leave their teaching career (Amponsah-Tawiah et al., 2016; Park et al., 2020).

METHODS

Sample and Procedure

The main purposes of the research are to investigate the prevalence and negative consequences of various types of teacher victimization and examine how schools respond to teacher victimization. With approval from the Institutional Review Board at [BLINDED FOR REVIEW], data were collected with a random sample of middle and high school teachers among 50 largest US school districts[1] using a multistage sampling design. First, teachers from elementary schools were excluded from the current study due to prior findings (see Chen & Astor, 2009) that they are less likely to be victimized by students, compared to their counterparts in middle and high schools. Second, the lists of all middle and high schools among the 50 largest school districts were gathered. Then, these schools were categorized into nine groups, utilizing criteria such as the percentages of students eligible for free or reduced-price lunch and academic performance. About 10 to 130 schools, which also included replacement schools, were selected at random from each group, the number depending on the total number of schools in each specific group. Third, the names and email addresses of all teachers from the randomly selected schools were collected, either obtained from publicly accessible school websites or provided by school districts.

In the spring of 2022, an e-letter detailing the research's purpose was sent to all teachers within the randomly selected schools. About one week later, these teachers were invited to participate in the web-based survey through a personalized link via Qualtrics. As a token of appreciation for their time and effort spent on the survey outside of their work hours, each participant received a $20 e-gift card via a private party upon completing the survey. The survey itself took approximately 20-30 minutes to complete, and the data collection took approximately three months, from April to June 2022.

With an anticipation of about 10% response rate and at least 3,800 completed cases, the research team sent out invitation e-letters with personalized survey links to 38,498 middle and high school teachers within the 50 largest school districts. The anticipated 10% response rate was chosen based on two major reasons. First, we recognized that online surveys with non-student adult respondents, particularly teachers, invited via emails tend to have a low response rate (Jerrim, 2023; Wu et al., 2022). Second, and more importantly, survey non-completion is a growing concern during and post-COVID pandemic even of those studies conducted by highly expert and well-resourced federal agencies, including the US Census Bureau and Centers for Disease Control and Prevention (e.g., Krieger et al. 2023). One particular example is the US Household Pulse Survey, conducted by the US Census Bureau in collaboration with multiple federal agencies, which reported only about 6-8% response rates in the waves of data collection in 2020-2023 (US Census Bureau, 2023).

In total, 4,005 teachers from 609 schools participated in our online survey. The overall response rate is recorded at 10.4%. It is crucial to mention that this rate is likely a very conservative estimate for two primary reasons. First, it is important to note that the tracking record from Qualtrics is no longer accessible. Consequently, the research team could not

confirm whether the invited teachers received and/or opened the invitation emails. There is a possibility that the mass emails sent through Qualtrics may have been redirected to junk folders by school firewall settings or other email filtering mechanisms. Second, the researchers primarily collected teachers' names and emails from school websites, and it is highly probable that some of these email addresses are no longer valid. This is due to the relatively high turnover of teachers, particularly during and after the COVID-19 pandemic, and the names and emails of retired teachers may not have been adequately updated on school websites.

The validity of the survey findings may be questioned due to the low response rate and the potential for non-response bias. However, prior research by Fosnacht et al. (2017), analyzing data from the National Survey of Student Engagement, indicates that studies with a substantial sample size (at least 500 participants) can generate reliable and confident estimates, even with a response rate of 5% to 10%. These findings are consistent with results from other study conducted by Wu et al. (2022).

The analytic sample of this study is 3,771, after excluding cases without reporting cyberbullying victimization experience by parents (n=48), work stress and job inefficacy (n=226), and turnover intention (n=8).

Instruments

Teacher Outcomes. As part of the survey, participants were asked about their feelings and thoughts about their job as a teacher in terms of work stress (Cohen, Kamarck., & Mermelstein, 1983), job inefficacy (burnout; Schaufeli & Salanova, 2007), and turnover intention, during the last 12 months. One example of work stress items is “How often have you felt that you could not cope with all the things that you had to do at work?”; One example of job inefficacy items is

"How often have you felt that 'I don't feel confident about accomplishing my work efficiently?'" Each of the two measures was assessed by four items with a five-point Likert scale of "Never" to "Always." One example of turnover intention items is "I frequently think about quitting my teaching career." It was assessed by four items with a four-point Likert scale of "Strongly disagree" to "Strongly agree." The construct validity of these three dependent variables tested within a confirmatory factor analysis framework suggested good model fit (RMSEA=0.059, CFI=0.979, TLI=0.973, SRMR=0.029), and the standardized factors loadings ranged from 0.63 to 0.91. The estimated Cronbach's alphas ranged from 0.868 to 0.921. Table 1 displays the items, means, standard deviations, standardized factor loadings, and Cronbach's alphas of these three dependent variables.

< INSERT TABLE 1 AROUND HERE>

Cyberbullying Victimization. Participants in the survey were asked whether they experienced cyberbullying victimization (repeated or potential to be repeated behaviors such as malicious postings, attempts to hack, posting negative comments and emailing negative or threats) from students and/or their parents during the 12-month period prior to the wave I survey. The response options for the prevalence of cyberbullying victimization were binary with no (0) and yes (1).

Background Characteristics. Two teacher demographic characteristics–gender and race/ethnicity—and four professional background factors—educational level, teaching subject, years of teaching experience, and school level–are measured and included as control variables. For respondents' gender, female is used as a reference group, compared to males and non-binary

teachers. Race/ethnicity of the teachers was categorized as non-Hispanic White, Black, Hispanic, Asian, and Other, and White is used as a reference group for comparisons. Educational level is a dichotomous variable with 0 (bachelor degree) and 1 (graduate degree). A respondent's teaching subject is categorized into a dummy variable with 0 (regular subjects such as math, science, language) and 1 (special education). Years of teaching experience were categorized into three groups and teachers with less than five years of teaching experience is used as a reference group, compared to those with between 5 to 10 years and those more than 10 years of teaching experience. For school level, respondents were asked whether they work in middle school, high school, or mixed middle-high school and teachers at middle school is used as the reference group.

Analytic Strategies

Descriptive statistics were used to calculate the prevalence of cyberbullying victimization types, including by student only, by parents only, and by both students and their parents, among middle/high school teachers. Bivariate multinomial logistic regressions were conducted to determine whether cyberbullying victimization rates vary by teacher characteristics. Also, a series of multiple regression models were employed to quantify the relationships between various cyberbullying victimization types and teacher work stress, job inefficacy, and turnover intention, while controlling for demographic characteristics and professional backgrounds. To capture the complex interrelationships among various cyberbullying victimization types and teacher outcomes, we turned to structural equation modeling (SEM), which allows the specification of a mediated effects model with a set of measurement models and path coefficients. In our study, SEM was conducted to estimate the mediating effects of work stress

in the relationships between various cyberbullying victimization types and teacher job inefficacy and turnover intention. To determine the goodness of data-model fit, a set of fit indices was used, including the root mean square error of approximation (RMSEA), comparative fit index (CFI), and standardized root mean square residual (SRMR). An RMSEA < .08, CFI ≥ .95, SRMR ≤ .08 are considered an acceptable fit (Schermelleh-Engel et al., 2003). We followed the mediation analysis procedure outlined by Zhao et al. (2010) to determine the significance level of mediating role of work stress.

Results

Prevalence of Cyberbullying Victimization among Middle/High School Teachers

Our survey data collected from the 50 largest US school districts offer new evidence of the prevalence of cyberbullying victimization among middle/high school teachers since the COVID pandemic began. Specifically, our survey results (see Table 2) show that about one out of seven

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middle/high school teachers (15.4%) reported experiencing cyberbullying victimization by students and/or their parents, whereas 84.6 percent of the participants did not experience cyberbullying victimization. Approximately 6.8 percent of the teacher participants reported their victimization of cyberbullying by students only, while 5.6 percent of the teacher participants indicated their cyberbullying victimization only by students' parents. Three percent of teachers in the sample reported cyberbullying victimization by both students and their parents.

Differences in Cyberbullying Victimization Rates by Teacher Characteristics

Our data also show that teachers from various demographic and professional backgrounds reported different rates of cyberbullying victimization (see Table 2). Compared with their male counterparts, female teachers were more likely to report experiencing cyberbullying victimization by students only and by parents only. Higher rate of cyberbullying victimization by parents only was observed among White teachers, whereas the rate was lower for Latine/Hispanic teachers. Teachers who identified as other race/ethnicity reported higher rate of cyberbullying victimization by both students and their parents. Special education teachers reported lower rate of cyberbullying victimization by both students and their parents. While novice teachers (less than five years of teaching experience) reported lower rate of cyberbullying victimization by parents only, their experienced peers reported higher rate of cyberbullying victimization by parents only. Teachers in middle school reported higher rate of cyberbullying victimization by students only, whereas teachers in high school reported lower rate of cyberbullying victimization by students only and by parents only.

Associations of Cyberbullying Victimization and Teacher Outcomes

Our regression results indicate that cyberbullying victimization experienced by middle/high school teachers was significantly associated with their work stress, job inefficacy, and turnover intention, after controlling for various demographic characteristics and professional backgrounds (see Table 3). In particular, compared with their counterparts who did not report cyberbullying

< INSERT TABLE 3 AROUND HERE>

victimization, teachers who reported experiencing cyberbullying victimization by students only, by parents only, and by both students and their parents, respectively, reported higher level of (a) work stress by 0.486, 0.500, and 0.608 standard deviation, (b) job inefficacy by 0.400, 0.311, and 0.565 standard deviation, and (c) turnover intention by 0.439, 0.321, and 0.490 standard deviation. Although the differences in magnitude of estimates among cyberbullying victimization groups in each model ranged up to 0.255 standard deviation (0.565-0.311 in job efficacy model), those differences are not statistically significant based on results using linear combinations of estimators. Findings from additional regression models controlling for school fixed effects (see Appendix Table A1) show very similar results reported in our primary models.

Mediating Role of Work Stress

Our SEM results reveal that work stress served as a partial or full mediator in the relationships between different cyberbullying victimization types and teacher job outcomes, given that both the Monte Carlo z-test and X-Y coefficient are significant, and their coefficients point in same direction (see Figure 1). Specifically, the relationships between cyberbullying victimization by

< INSERT FIGURE 1 AROUND HERE>

students only and by both students and their parents and job inefficacy were partially mediated by work stress. The relationships between cyberbullying victimization by students only and turnover intention was also partially mediated by work stress. Furthermore, the relationships between cyberbullying victimization by parents only and both job inefficacy and turnover intention were fully mediated by work stress, but the relationship between cyberbullying

victimization by both students and their parents and turnover intention was partially mediated by work stress.

Discussion

The present research is the first effort to explore the occurrence of cyberbullying victimization among middle and high school teachers from both students and their parents in the United States and assess the consequences of such victimization, particularly its impacts on work-related stress, job inefficacy, and intentions to leave one's teaching career. The results indicate that 15.4 percent of teachers in the sample reported experiencing cyberbullying victimization by either students only, parents only, or both students and students' parents or caregivers. Consistent with prior research findings, the present research shows a substantial number of teachers encountering cyberbullying victimization from students, underscoring the gravity and pervasive extent of this issue. Additionally, a similar percentage of teachers in the sample reported their experience of cyberbullying victimization perpetrated by parents or caregivers. The distinctiveness of these findings becomes apparent when considering other forms of victimization (e.g., physical assault, sexual harassment, theft/vandalism, verbal abuse), where only a small proportion of teachers (except verbal abuse) were found to be victimized by parents/caregivers (see Appendix A2). This suggests that there are unique challenges and risks for teachers facing online bullying not only from students but also from their parents, underscoring the need for further academic and school administrators' attention toward intervention efforts to address and prevent cyberbullying of teachers.

The examination of the impact of cyberbullying on multiple outcomes shows a concerning pattern: teachers who experience cyberbullying victimization from students, parents,

or in combination, are more likely to experience higher levels of work-related stress, diminished job effectiveness, and increased intent to leave their teaching career. These results not only emphasize the detrimental effects of cyberbullying to teachers' emotional/physical well-being but also suggest its potential to diminish teachers' desire to continue in their career. Moreover, though not included in the main analyses (see Appendix A3), participants in the survey were asked about the severity of their victimization across seven different types of victimization (e.g., theft, physical assault, sexual harassment, verbal abuse). The findings show that a greater percentage of teachers who experienced cyberbullying reported it as the most serious form of victimization, higher than all other types of victimization except for physical assault. This indicates the considerable impact of cyberbullying victimization on victimized teachers' perceptions of harm, largely attributable to factors such as anonymity of perpetrators and, we surmise, the absence of effective response and intervention to cyberbullying.

The results of the mediating role of work stress contribute to the literature on cyberbullying victimization and teacher burnout and turnover. The finding that the association between cyberbullying victimization by parents only and both job inefficacy and turnover intention were fully mediated by work stress suggests that stress is a primary mechanism by which cyberbullying victimization by parents could have a negative impact on teacher burnout performance and intent to leave. However, our data indicate that work stress only partially mediated the relationships between cyberbullying victimization by students and both job inefficacy and turnover intention, suggesting that there are other underlying mechanisms that play a role in the effects of cyberbullying victimization on teacher outcomes. It is not clear why there is a difference on the mediating impact of work stress, but we can speculate that parental cyberbullying directed to teachers, which may involve ridicule and mockery of teachers

performance, could adversely affect teachers' sense of autonomy and professionalism (see Deslandes et al., 2015 on the relationship between teachers and parents). Such experience could potentially lead to work-related stress, resulting in burnout and intentions to leave the teaching career. However, teachers who experience cyberbullying from their students may feel betrayed and develop suspicions toward many students due to the anonymity of cyberbullying. Consequently, they may contemplate leaving their teaching careers. Our mediation analysis results offer novel insight into the important pathways of cyberbullying victimization effects which have significant implications for research on and interventions aimed at alleviating the negative impacts of cyberbullying victimization, especially those associated with coping with work stress among victimized teachers.

Practical and Policy Implications

The findings of our study suggest several important practical and policy implications. First, it is imperative for school administrators to comprehend the prevalence and severity of cyberbullying victimization among teachers and recognize its far-reaching adverse effects. These effects may include psychological distress, physical health issues, decreased connectedness to schools/students, and even the decision to leave the teaching profession. Such negative consequences not only risk teachers' wellbeing, but also might have detrimental consequences for students' academic learning and performance. Moreover, they can exacerbate the existing teacher shortage crisis faced by many school districts across the United States. Second, these findings show that a substantial number of teachers are subjected to cyberbullying victimization from students' parents or caregivers. This underscores the importance of creating and implementing a program and training that not only focus on educating students but also involve

sharing relevant information with parents and caregivers. These training programs can help raise awareness about the harmful effects of cyberbullying victimization experienced by teachers and facilitate collaborative effects between schools and families to create a safer and more supportive educational environment in schools.

Third, schools should establish comprehensive policies to address cyberbullying victimization experienced by teachers, mirroring the protocols already in place for student bullying incidents. These policies must offer a clear definition of cyberbullying and establish a comprehensive code of conduct that explicitly delineates acceptable and unacceptable online behaviors by students (Yarbrough et al., 2023). Additionally, they should include provisions for training school administrators and teachers on how to effectively respond and intervene to instances of cyberbullying victimization. Fourth, the findings of the present research and its policy implications extend beyond educators in the United States to include other countries, such as South Korea. In recent years, there have been instances where primary teachers in South Korea have tragically taken their own lives, attributing online bullying and harassment by parents as significant contributing factors. This highlights that cyberbullying victimization among teachers can be a global phenomenon, emphasizing the importance of conducting further research to gain a deeper understanding of this critical issue.

Limitations and Future Research

The present research has several limitations which must be mentioned. First, though the present research used a random sample of middle and high school teachers among 50 largest school districts (major urban areas) across the United States, it is important to recognize a limitation regarding the generalizability of the findings. The differences and distinct characteristics

between schools in rural areas and those in urban areas, as well as variations between elementary schools vs. middle/high schools may influence the prevalence of cyberbullying victimization and their impacts to victimized teachers. Therefore, caution needs to be exercised when interpreting and generalizing the findings from the current study to broader educational contexts. Second, the present study utilized cross-sectional data to understand the relationship between cyberbullying victimization and three dependent variables, thus a cautious interpretation of the causal ordering is necessary. Another limitation arises from the lack of measurements regarding the specific characteristics of cyberbullying victimization incidents (e.g., forms of cyberbullying, victim/school responses) and their effects on work related stress, burnout, and turnover intention within the analyses. Future research should focus on exploring whether these factors are significantly related to negative consequences examined in the present research.

Conclusion

Overall, the current research adds to the existing literature on teacher victimization by investigating the prevalence of cyberbullying victimization from both students and parents, as well as its negative consequences to targeted teachers. The findings highlight that a substantial portion of teachers report cyberbullying victimization from both student and parental sources, underscoring its detrimental effects on the well-being and career outcomes of those affected. Therefore, there is a pressing need for school administrators to recognize the severity of the issue and implement policies and intervention strategies aimed at prevention and support for victimized teachers.

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Table 1

The Items, Means, Standard Deviations, Factor Loadings, and Cronbach Alphas of Work Stress, Job Inefficacy, and Turnover Intention (N=3,771)

	Mean	SD	FL	α
Work Stress				.907
("*During the last 12 months, how often have you felt that you*…")				
Were nervous and stressed at work	3.398	1.116	.815	
Could not cope with all the things that you had to do at work	3.040	1.207	.829	
Have been angered because of things at work that were outside of your control	3.295	1.144	.860	
Were unable to control the important things at work	3.013	1.200	.864	
Job Inefficacy				.868
("*During the last 12 months, how often have you felt that*…")				
At work, I think I'm inefficient when it comes to solving problems	2.299	1.061	.806	
In my opinion, I'm inefficient in my job	2.020	1.038	.876	
Other people say I'm inefficient in my work	1.586	.887	.626	
I don't feel confident about accomplishing my work efficiently	2.107	1.083	.859	
Turnover Intention				.921
("*During the last 12 months*…")				
I planned to leave teaching	2.212	.986	.820	
I would leave if I had another job offered	2.575	1.015	.830	
I would like to have another occupation	2.422	1.014	.888	
I frequently think about quitting my teaching career	2.469	1.050	.914	

Note. SD = standard deviation; FL = factor loading; α = Cronbach's alpha.

Table 2

Descriptive Statistics of Key Variables

	All		Cyberbullying Victimization			
			None	By Students	By Parents	By Students & Parents
	Mean	SD	Mean	Mean	Mean	Mean
Cyberbullying victimization						
None	.846	.361	–	–	–	–
Only by students	.068	.252	–	–	–	–
Only by parents	.056	.231	–	–	–	–
By students and parents	.030	.170	–	–	–	–
Work stress	.000	1.000	-.085	.440	.479	.517
Job inefficacy	.000	1.000	-.061	.339	.252	.471
Turnover intention	.000	1.000	-.068	.408	.285	.449
Teacher characteristics						
Female	.679	.467	.666	.738*	.770*	.723
Non-binary	.007	.081	.007	.000	.009	.00
White	.645	.479	.641	.645	.751*	.563*
Black/African American	.153	.360	.153	.164	.127	.179
Latine/Hispanic	.113	.316	.118	.102	.052*	.098
Asian	.047	.211	.047	.055	.019	.080
Other race/ethnicity	.042	.201	.041	.035	.052	.080*
Graduate degree	.338	.473	.345	.328	.286	.268
Teaching - special education	.145	.352	.150	.121	.141	.080*
Years of teaching experience						
Less than 5 years	.249	.432	.258	.250	.150*	.179
5-10 years	.221	.415	.219	.207	.249*	.232
More than 10 years	.531	.499	.523	.543	.601*	.589
School level						
Middle school	.383	.486	.367	.543*	.423	.384
High school	.565	.496	.582	.402*	.512	.545
Middle-high school	.052	.223	.050	.055	.066	.071
Number of observations	3,771		3,190	256	213	112

Note. SD = standard deviation. *Statistically significant different from "none" group (critical level of 5%) based on bivariate multinomial logistic regressions.

Table 3

Associations of Cyberbullying Victimization and Teacher Outcomes (N=3,771)

	Work Stress		Job Inefficacy		Turnover Intention	
	β	RSE	β	RSE	β	RSE
Cyberbullying victimization						
By students only	.486***	(.056)	.400***	(.072)	.439***	(.064)
By parents only	.500***	(.057)	.311***	(.070)	.321***	(.067)
By students and parents	.608***	(.095)	.565***	(.119)	.490***	(.100)
Teacher characteristics						
Male	-.337***	(.036)	-.048	(.033)	-.176***	(.035)
Non-binary	.603***	(.152)	.510**	(.191)	.425†	(.227)
Black/African American	-.349***	(.052)	-.313***	(.046)	.190***	(.044)
Latine/Hispanic	-.175**	(.053)	-.137*	(.056)	.063	(.055)
Asian	-.324***	(.073)	-.122	(.077)	-.113	(.081)
Other race/ethnicity	-.009	(.076)	-.019	(.086)	.135†	(.080)
Graduate degree	-.083*	(.037)	-.011	(.038)	-.031	(.034)
Teaching - special education	-.021	(.047)	.017	(.047)	-.131**	(.044)
5-10 years of teaching experience	-.073	(.048)	-.128**	(.048)	.159**	(.049)
>10 years of teaching experience	-.164***	(.042)	-.301***	(.040)	.026	(.042)
High school	-.149***	(.038)	-.040	(.036)	-.154***	(.036)
Middle-high school	-.173*	(.079)	-.074	(.089)	-.230**	(.088)
Intercept	.339	(.047)	.236	(.048)	.033	(.048)

Note. N = sample size; β = coefficient; RSE = robust standard errors.

† $p<0.1$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$

Table A1

Associations of Cyberbullying and Teacher Outcomes with School Fixed Effects (N=3,119)

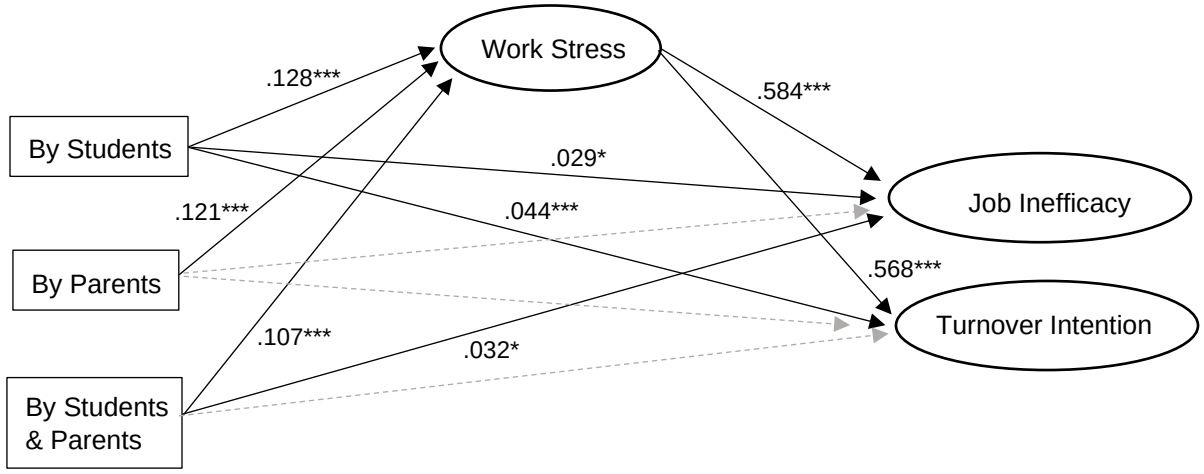
	Work Stress		Job Inefficacy		Turnover Intention	
	β	RSE	β	RSE	β	RSE
Cyber bullying						
Only by students	.424***	(.073)	.401***	(.075)	.443***	(.069)
Only by parents	.516***	(.076)	.317***	(.078)	.311***	(.074)
By students and parents	.617***	(.104)	.551***	(.106)	.415***	(.102)
Intercept	.211	(.049)	.173	(.050)	-.056	(.050)

Note. N = sample size; β = coefficient; RSE = robust standard errors. All school fixed effects models only include teacher samples from schools with at least five observations (325 schools).

† $p<0.1$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$

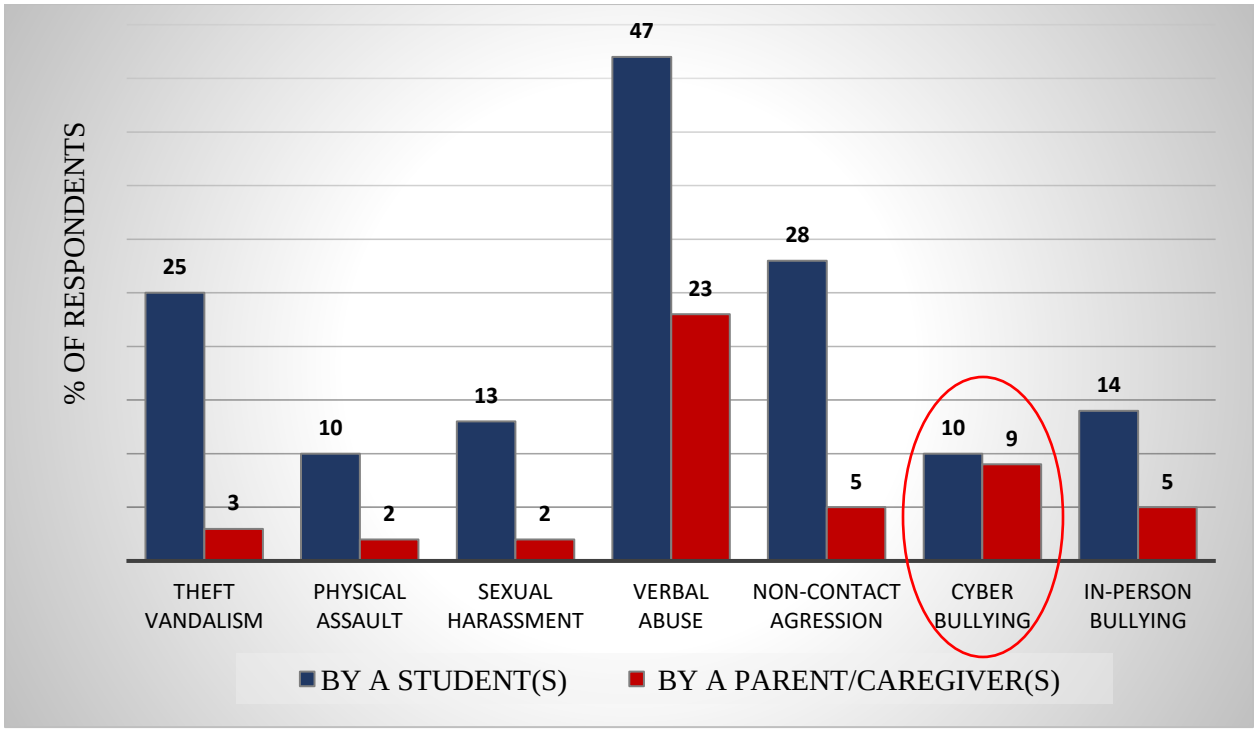
Figure 1

Structural Model Results of Interrelationships between Cyberbullying, Work Stress, Job Inefficacy, and Turnover Intention



Note. Sample size = 3,771. The model showed a good fit with empirical data: RMSEA=0.036, CFI=0.972, TLI = 0.958; SRMR=0.018. Values are standardized path coefficients. Latent factor = oval. All cyberbullying categories, work stress, job inefficacy, and turnover intention were controlled for teacher characteristics (see Table 1). For reasons of clarity, all the insignificant paths, correlations, covariates, factor loadings, and uniquenesses were not shown in the figure. ****p*<.001.

Appendix A2. Prevalence of victimization among teachers by students and parents



Appendix A3. Severity of teacher victimization by a student(s)