



A daily diary study on the relationship among Cyberbullying Victimization, Emotional Exhaustion and Job Performance

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Keywords

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Abstract.

Drawing on the effort-recovery model, we examine how experiencing cyberbullying can evoke individuals' emotional exhaustion and subsequent start-of-workday job performance, and whether individuals' psychological detachment can buffer the negative effects of cyberbullying. *Data were collected 65 employees for 5 consecutive working days, yielding 325 valid daily responses from various industries in China over three time periods.* The results show that daily experiencing cyberbullying increases individuals' daily emotional exhaustion and decrease subsequent start-of-workday job performance. Furthermore, individuals with high psychological detachment are less likely to experience negative effects when faced with cyberbullying and thus are less likely to provoke emotional exhaustion and decreasing the possibility of compromised subsequent start-of-workday job performance.

1. Introduction

Attention to cyberbullying and its potential negative consequences and behaviors within organizations is increasing. Cyberbullying is an online extension of conventional forms of bullying, and is defined as repeated aggressive online conduct with the intention to harm the victim (Tokunaga [28]). Nielsen, Matthiesen, and Einarsen [17] report that approximately 14.6% of employees have experienced workplace bullying. Nielsen and Einarsen [16] indicate that workplace bullying harms employees' physical and psychological health, increases organizational costs, and reduces organizational profits. Thus, cyberbullying in organizations merits continual attention and discussion.

Smith, Mahdavi, Carvalho, Fisher, Russell, and Tippett [23] define cyberbullying as "an aggressive, intentional act carried out by a group or individual, using electronic

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forms of contact, repeatedly and overtime against a victim who cannot easily defend him or herself.” The negative consequences of cyberbullying include problems related to stress, well-being, depression (Lucas-Molina, Perez-Albeniz, & Fonseca-Pedrero [11]; Viner, Gireesh, Stiglic, Hudson, Goddings, Ward, & Nicholls [30]), impaired workplace productivity, and low job satisfaction (Coyne, Farley, Axtell, Sprigg, Best, & Kwok [5]). It is not only theorists that acknowledge the importance of cyberbullying in the workplace and have conducted substantial research on this topic (Gaffney, Farrington, Espelage, & Ttofi [8]; Kowalski, Limber, & McCord [10]; Olweus, & Limber [19]), but also Human Resources. There is growing focus from Human Resources on workplace cyberbullying and problematic behavior, and the negative impact these have on employees’ personal outcomes. This largely reflects the recent transformation of worldwide information and communications technology to alter workplace behaviors and results (Smith et al., [23]).

Despite reports on the negative impact of cyberbullying, the mechanisms underlying well-being and health outcomes (Lucas-Molina et al. [11]; Viner et al. [30]), including victimization, performance, behavior, physiological and psychological problems, remain unclear. Identifying the mechanism mediating the relationship between cyberbullying victimization and the consequential somatic health and behavioral issues can enable the development of a more refined theory. From a physiological and psychological perspective, cyberbullying victimization is similar to workplace problematic behaviors, thus the mechanisms through which co-workers and colleagues affect an individual’s cognitive resources, eventually leading to somatic health and behavioral issues, may also be similar (Fahy, Stansfeld, Smuk, Smith, Cummins, & Clark [7]).

The objective of this study is to address the gap in the research by using the effort-recovery model (Meijman, Mulder, Drenth, Thierry, & de Wolff [14]) to develop hypotheses regarding rumination as a potential mechanism mediating the relationship between cyberbullying victimization and the consequential somatic health and behavioral issues.

Previous studies mostly examine the moderating effects of personality traits (Van Geel, Goemans, Toprak, & Vedder [29]), moral reasoning (Wang, Lei, Liu, & Hu [31]), moral identity (Wang, Yang, Yang, Wang, & Lei [32]), online disinhibition (Wright, Harper, & Wachs [35]), and network public opinion (Song, Zhu, Liu, Fan, Zhu, & Zhang [24]). Few studies, however, adopt the perspective of personal resource recovery to investigate the moderating effects on cyberbullying victimization and its consequential outcomes. This study explores which type of personal resource recovery method (psychological detachment) should be used by organizations to effectively assist cyberbullying victimization, in order to alleviate the harm caused by non-workplace negative stress.

The contribution of this study to the literature on cyberbullying victimization is multifold. First, the research investigates how cyber and non-workplace stressors, such as cyberbullying, elicit non-workplace rumination responses in employees who eventually become motivated to engage in the negative outcomes of cyberbullying victimization. Second, this study also examines how rumination mediates the relationship between cyberbullying victimization and somatic health problems (e.g., emotional exhaustion), and negative behaviors (e.g., subsequent start-of-workday job performance). Third, this study also examines whether psychological detachment can mitigate the induced rumination effects of cyberbullying victimization through corresponding recovery activities. For

example, if victims of cyberbullying can practice psychological detachment to temporarily disregard both physiological and psychological cyberbullying-related issues in order to reverse the negative effects, cyberbullying victims are less likely to develop rumination and as thus, reduce somatic health issues and any consequential negative behaviors.

To address the problem of insufficient research, this study proposes a theoretical framework for investigating the relationships among variables.

Theoretical Development and Hypotheses

Relationship between cyberbullying victimization and the consequential somatic health issues and negative outcomes: The mediating effect of rumination.

Base on Nolen-Hoeksema [18], rumination leads individuals to exacerbate and prolong negative influences through mediated mechanisms. Rumination often results in negatively bias thinking, which enables individuals to easily access negative thoughts and memories and activate them to understand their experience of negative events (Lyubomirsky & Nolen-Hoeksema [12]). Individuals may view their experience of cyberbullying as a sign of failure to achieve their goals. Additionally, when experiencing cyberbullying, the individual is unable to gain feelings of accomplishment normally received from a successful coworker or superior-subordinate relationship, which may also prevent the employee from achieving their expected goals (DeShon & Gillespie [6]). Drawing on this notion, that experiencing cyberbullying may cause feelings of failure during coworker or superior-subordinate interaction, it is possible the individual will be more likely to ruminate on their perceived lack of success.

Brody and Vangelisti [4] regard cyberbullying as any behavior performed through electronic or digital media by individuals or groups that repeatedly communicates malicious or aggressive messages intended to hurt or induce discomfort in others. In short, cyberbullying is a behavioral pattern in which the victim's reputation and psychological well-being are harmed by prolonged, repeated, and deliberate attacks, such as verbal abuse, personal attacks, and rumor spreading across the internet and/or digital media.

This study affirms that cyberbullying can be regarded as a source of non-workplace stress for individuals. Experiencing negative rumination due to frequent inappropriate comments and behaviors, or unreasonable requests from coworkers or superiors during non-work hours causes a perceived loss of personal resources and the inability to replenish them, leading to the individual experiencing physical and psychological discomfort (Molino, Ghislieri, Cortese, & Bakker [15]). If this condition persists, individuals' may experience physiological problems (e.g., fatigue, loss of appetite, headache, and insomnia) or psychological problems (e.g., anxiety and depression). Furthermore, when an individual experiences negative rumination due to cyberbullying, they are less likely to engage in their job the following workday which may eventually lead to a decrease in job performance.

In summary, when individuals suffer inappropriate comments and behaviors from cyberbullying outside of work hours and fail to regain a positive mental state, stressors are likely to elicit negative rumination. The resultant negative effects may damage the individuals physiological or psychological health and consequently, their behavior in the workplace. Thus, this study proposes the following hypotheses:

Hypothesis 1a: *Cyberbullying victimization increases emotional exhaustion through the mediation of rumination.*

Hypothesis 1b: *Cyberbullying victimization decreases job performance the following workday through the mediation of rumination.*

Moderated psychological detachment

Sonnentag [25] discusses individuals' physical detachment from the workplace outside of work hours, as well as psychological detachment from the workplace. Psychological detachment requires the individual to both depart from the workplace and stop thinking about anything related to work. This is known as the psychological state of "switching modes." Previous empirical studies indicate that psychological detachment is a means for employees to psychologically recover from negative emotions. Employees who accomplish psychological detachment could substantially eliminate or alleviate existent negative feelings (Sonnentag & Binnewies [26]; Sonnentag, Mojza, Binnewies, & Scholl [27]). Thus, psychological detachment can be a strategy for regulating and recovering from the negative emotions caused by cyberbullying.

Dealing with cyberbullying issues on a daily basis can lead employees to rumination that may result in low mental efficiency and quality. Furthermore, continuous stress and tension will continue to cause emotional exhaustion, even when the individual leaves their workplace. Therefore, this study proposes employees can temporarily forget cyberbullying through the experience of psychological detachment to effectively recover personal cognitive resources. By adopting psychological detachment to switch cognition, individuals are less likely to increase rumination, even when they are treated inappropriately by cyberbullying, and can thus maintain mental health. Accordingly, this study proposes the following hypothesis:

Hypothesis 2: *Psychological detachment will moderate (reduce) the relationship between cyberbullying victimization and rumination, such that employees with high (low) recovery relates self-efficacy will be less (more) likely to be influenced by rumination.*

2. Methods

Research Samples and Procedure

We collected our data with online surveys via e-mail. The study announcement, along with a letter assuring confidentiality and voluntary participation. Because we wanted to collect data on mornings and nights of typical workdays, we prescreened potential participants and only invited employees for participation in the study who worked full time. The employee may encounter cyberbullying at the non-workplace, and such experience may compromise their emotional exhaustion and decrease subsequent start-of-workday job performance. Thus, this study adopted the experience sampling method in the questionnaire survey to fully observe and ascertain the dynamic relationship of cyberbullying victimization and rumination with subsequent somatic health and behavior.

The survey spanned five workdays (Monday-Friday). The data collection procedure was as follows. First, a total of 65 full-time employees consented. Subsequently, the

participants' demographic data were collected on Friday one week prior to the survey administration in order to measure the related control variables. To avoid common method variance, this study did not disclose the identity of the respondents or the meanings of the items (Podsakoff & Organ [20]) to alleviate the concerns of the respondents. Two questionnaires were each distributed through email every day at a different time. Particularly, one questionnaire was distributed before the employees were before bedtime to collect the data about their experience cyberbullying and rumination of the day. On the following day before their work began, the yesterday of emotional exhaustion and start-of-workday job performance questionnaire was distributed for the employees to answer items according to their somatic conditions in the preceding day. To ensure an adequate return rate, text messages were sent through cellphones to notify and remind the respondents of answering and returning the questionnaire. If a respondent took excessive time in returning the questionnaire or failed to answer it (e.g., returning the questionnaire for the previous day on the following day), the responses in that questionnaire were regarded as invalid. We administered 85 questionnaires, and after discarding incomplete ones, the actual number of valid questionnaires was 65. With respect to sample composition, the participants were mostly male, the average age was 34.2 years old.

Measurement

We using the nine-item to measure daily cyberbullying victimization (Wright [34]). This daily questionnaire asked the participants to rate the items according to their experience during the current day. A sample item is "Someone spread rumors about me online or through text messages." Participants were asked to indicate to what extent they agreed with each item on a five-point Likert scale (1 = never, 5 = always). The α reliabilities of this scale were .91.

Rumination on the negative experience with cyberbullying was measured using the eight-item scale from McCullough, Bono, and Root [13]. Measurement items included "Last night, I could not stop thinking about the bad experience my supervisor gave me yesterday." A 6-point Likert scale was used to assess these items, from 0 (not at all true of me) to 5 (extremely true of me). The Cronbach's alpha for this scale was .82.

To assess emotional exhaustion, we used 21-items scale from Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown [2]). Measurement items include "I don't cry any more than usual" to "I used to be able to cry, but now I can't cry even though I want to". A 5-point scale with anchors ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha for the scale was .90.

We using the four-item Job Performance Scale (Janssen & Van Yperen [9]) to measure daily job performance. A sample item is "Meets all the performance requirements of the job." Participants were asked to indicate to what extent they agreed with each item on a seven-point Likert scale (1 = never, 7 = always). The α reliabilities of this scale were .85.

To assess psychological detachment, we used four items scale from Sonnentag et al. [27]. Measurement items included "During after-work hours, I forget about work." A 5-point Likert scale was used to assess these items, from 1 = I fully disagree; 5 = I fully agree. The Cronbach's alpha for this scale was .89.

Control Variables

To reduce common method variance (CMV) problems caused by respondents' moods (Podsakoff, MacKenzie, Lee, & Podsakoff [21]), we evaluated various control variables. Male employees are more likely to exhibit deviant behaviors at workplaces than do female employees (Berry, Ones, & Sackett [3]). Therefore, we evaluated demographics including sex, age, educational level, and work position with the current supervisor as control variables. In addition, we assessed people's negative moods (Watson, Clark, & Tellegen [33]) by using the Negative Affect Schedule (PANAS) 10-item scale. This scale measures the extent to which people felt irritable, distressed, ashamed, upset, nervous, guilty, scared, hostile, jittery, and afraid in the past week ($\alpha = .72$).

Data analysis

In our analysis, we used multilevel path analysis to test the hypothesized model with Mplus 8. With this approach, we were able to accommodate the multilevel structure of the data (i.e., daily responses nested in individuals) and simultaneously estimate the path coefficients for the hypothesized relationships. In addition, following the suggestion of Preacher & Hayes [22] proposed bootstrapping is a nonparametric resampling procedure for testing mediation, to calculate confidence intervals around the indirect effect using Monte Carlo simulations. Effect ratios were calculated to examine the proportion of the relationship of cyberbullying victimization with rumination and emotional exhaustion, job performance that was explained by the mediators.

3. Results

Table 1 and Table 2 shows the descriptive statistics of means, SDs, reliabilities, and correlations for all variables. Cyberbullying victimization significantly correlated with rumination ($\gamma = .17, p < .01$), emotional exhaustion ($\gamma = .41, p < .01$), and job performance ($\gamma = -.36, p < .01$). In addition, rumination significantly correlated with emotional exhaustion ($\gamma = .22, p < .01$) and job performance ($\gamma = -.28, p < .01$).

Table 1: Level-2 Mean, standard deviations, reliabilities, and correlations.

Variable	M	SD	1	2	3	4	5
1. Gender	0.67	.47	–				
2. Age	34.2	1.41	.03	–			
3. Marital status	1.47	0.73	-.26*	-.16*	–		
5. Negative Affect	1.70	0.50	-.13*	-.12	.10	(.72)	
6. PD	3.82	1.78	-.11*	-.15*	.17*	-.21*	(.89)

* $p < .05$; ** $p < .01$ (two-tailed); $N = 65$.

Table 2: Level-1 Mean, standard deviations, reliabilities, and correlations.

Variable	M	SD	1	2	3	4
1. Cyberbullying victimization	1.97	0.56	(.91)			
2. Rumination	1.57	.61	.17*	(.82)		
3. Emotional exhaustion	2.68	.98	.41**	.22**	(.90)	
4. Job performance	3.69	.86	-.36**	-.28**	-.32**	(.85)

* $p < .05$; ** $p < .01$ (two-tailed); $N = 325$.

Discriminant Validity

we also tested the discriminant validity of the relationships between the main variables. The results indicated that the average variances extracted (AVE) all met the standard of 0.50, which meant that the research variables were distinguishable from each other and had discriminant validity.

Table 3: Unstandardized Coefficients of the Multilevel Model.

	Rumination		Emotional exhaustion		Job performance	
	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.
Gender	.06	.06	.01	.03	-.01	.05
Education	-.11	.06	-.02	.04	-.02	.04
Marital status	0.1	.05	.13*	.03	.07	.04
Negative Affect	.27**	.04	.23**	.03	.28**	.05
Cyberbullying victimization	.22**	.07	.19*	.05	-.16*	.04
Rumination			.36*	.05	-.33*	.06
Psychological detachment	-.22*	.07				
CV*PD	-.13**	.06				

* $p < .05$; ** $p < .01$ (two-tailed). Level-1 $N = 325$. Level-2 $N = 65$.

Note 1: All level 1 predictors were group-mean centered.

Hypothesis Testing

Table 3 presents the results from the multilevel path analysis that estimated all the path coefficients simultaneously. Cyberbullying victimization ($\gamma = .22$, $p < .01$) was positively related to increased rumination; thus, H1 were supported, respectively. In Table 3, rumination were positively related to emotional exhaustion ($\gamma = .19$, $p < .001$), and job performance ($\gamma = -.16$, $p < .001$).

We tested a cross-level moderation effect of psychological detachment on the within-person relationship between cyberbullying victimization and rumination. In Table 3, results showed that psychological detachment was negatively associated with the random slope between cyberbullying victimization and rumination ($\gamma = -.13$, $p < .05$). To determine the direction of this moderation, this study followed the suggestion of Aiken,

West, & Reno [1] to illustrate the changes in the relationship between cyberbullying victimization and rumination when employees experienced a high level of psychological detachment. Accordingly, H2 was supported.

4. Discussion

Theoretical Implications

Dynamic relationship between cyberbullying, daily emotional exhaustion, and job performance

Researchers have attempted to clarify how cyberbullying influences the victim's psychological health and behaviour outside of the workplace (Fahy et al. [7]). This study's findings contribute to cyberbullying literature in three ways. First, this study contributes to relevant literature by integrating the effects of cyberbullying on employees' emotional exhaustion and job performance, investigating the moderation of psychological detachment from the perspective of personal resource recovery, and adopting the resource preservation theory to explore the moderated mediation process. Previous cyberbullying-related studies have mostly focused on an individual's negative outcomes (Lucas-Molina et al. [11]; Viner et al. [30]), whereas few have discussed if inappropriate comments and behaviors from cyberbullying cause the victim to experience problems concerning their mental health and job performance. The research findings illustrate the detrimental effects of cyberbullying can manifest as mental health issues and job performance, and that cyberbullying can trigger rumination causing mental health issues and an immediate decrease in job performance. Therefore, a major contribution of this study is the clarification of this research gap.

Second, the conservation of resources theory is relied upon to explain the effects of cyberbullying on individuals' dysfunctional outcomes. This study's results suggest the usefulness of examining rumination in the relationships between cyberbullying and individuals' negative outcomes. In addition, the findings further reinforce the mechanism of rumination in explaining the effects of cyberbullying on individuals' subsequent emotional exhaustion and job performance in both the workplace and non-workplace domains.

Practical implications

For cyberbullying victims who want to mitigate their somatic health problems and subsequent start-of-workday job performance, this study provides results regarding the deepening effects of experiencing cyberbullying in the context of increased negative outcomes. This study also provides several practical implications for organizations.

First, the results infer that the consequences of cyberbullying are considerable (Fahy et al. [7]; Lucas-Molina et al. [11]; Viner et al. [30]). To minimize the harmful effects of cyberbullying, this study suggests organizations provide training courses pertaining to interpersonal relationships and communication for employees. Second, organizations should strive to educate employees about constructive problem-solving behaviors and present avenues for assisting employees with interpersonal conflicts at work. For example,

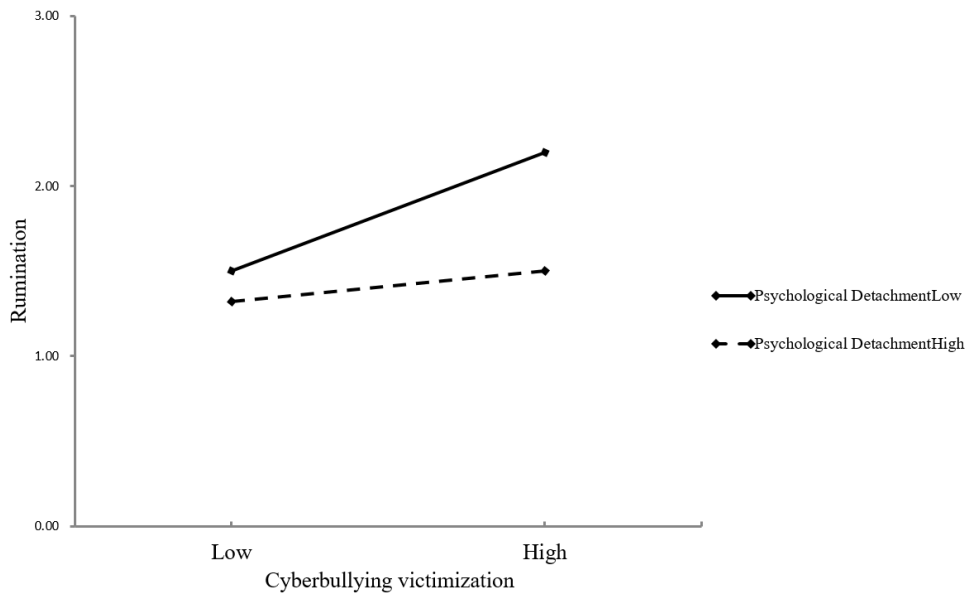


Figure 1: The cross-level interaction of Level-2 Psychological detachment on Level-1 daily cyberbullying victimization-daily rumination relationship.

employee assistance programs focusing on teaching employees to manage their negative outcomes and effectively cope with cyberbullying situations outside of the workplace.

Limitations and future research

Although this study strove for rigor and reliability in research design and sample collection, limitations still exist. These limitations are addressed, along with suggestions for future research. The items of the major variables in this study are mostly self-assessed and answered by the participants. This response method seems logical because the participants are the ones who know the most about their actual health status, rumination, and experiences with cyberbullying. Nevertheless, this method can result in common method variance and thus, the overestimation of the correlation between variables. (Podsakoff & Organ [20]).

Thus, several methods were adopted to reduce the potential effects caused by common method variance. First, in terms of questionnaire design, the meanings of the items and the identity of the respondents were not disclosed during the survey in order to reduce the defensive mindset of the participants. Second, different time intervals (job performance and emotional exhaustion of the previous day were rated the following morning) were used as outcome variables to avoid single-source bias and the bias arising from reverse causal directions. Third, the items for the independent variables and mediator were answered by employees at the same time, which could cause indefinite causal directions. However, this study requested participants recall the overall behaviors and conditions on the day, outside of the workplace, and through test instructions, in order to determine the sequence and order of all the variables.

How individuals experience cyberbullying outside of the workplace varies with context and time. Therefore, this study suggests future researchers adopt the experience sampling method to increase the time points for measurement and thus obtain a more accurate observation of the relationship between cyberbullying and the subsequent behaviors and somatic health problems.

In addition to the research framework proposed in this study, further investigation can be made in future studies regarding other outcome variables (e.g., negative work reflection and sleep quality) that can potentially affect individuals' behavioral outcomes through moderated mediation.

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