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Childhood Emotional Abuse and Cyberbullying Perpetration Among Adolescents: The Mediating Role of Trait Mindfulness

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Abstract

Preliminary studies have indicated that childhood emotional maltreatment (i.e., abuse and neglect) can be associated with higher cyberbullying perpetration (CBP) among university students. The purpose of the present study was to test the direct and indirect effects of childhood emotional abuse (CEA) on CBP via trait mindfulness and trait emotional intelligence (TEI). A total of 470 adolescent students participated in the study and completed a questionnaire comprising measures of the aforementioned variables. Path analysis showed that trait mindfulness, but not TEI, was a partial mediator between CEA and CBP among the total sample, males, and females. Results indicated that there were other factors that explain the relationship between CEA and CBP in addition to lower mindfulness. These findings suggest that developing mindfulness-based intervention programs for adolescents who have been emotionally abused as a child may reduce their engagement in cyberbullying. This study is the first to document the direct role of CEA on CBP and indirect via trait mindfulness among adolescents.

Keywords Cyberbullying · Emotional abuse · Maltreatment · Mindfulness · Emotional intelligence

Cyberbullying perpetration (CBP) has been defined as "a set of behaviors performed through electronic or digital media by one individual or group of individuals who repeatedly communicate hostile or aggressive messages intended to inflict harm or discomfort on others" (Zych et al. 2018; p. 1). A systematic review of 58 empirical

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studies conducted with US middle- and high school-aged adolescents showed prevalence rates of CBP to vary between 1 and 41% (Selkie et al. 2016) while the prevalence of CBP has been reported as being higher among Turkish adolescents (where the present study was carried out) at 53.3% in a recent study (Gül et al. 2018). A large-scale study with adolescents in six European countries ($N = 10,930$) reported that 21.4% of the participants had been victims of online bullies, and that CBP had major adverse effects on victims including internalizing and externalizing problems, and academic performance (Tsitsika et al. 2015). Other meta-analyses and scoping review studies have demonstrated that cyberbullying victimization among adolescents is associated with higher depressive symptoms, anxiety, self-harm, suicide ideation, and suicide attempts (Hamm et al. 2015; Van Geel et al. 2014). Consequently, it is important to investigate possible risk and preventive factors that may increase or decrease CBP in order to develop effective early intervention and prevention strategies for this malevolent behavior.

To date, empirical research has demonstrated different individual differences and psychological predictors of CBP including depression, lower feelings of social belonging, low empathy, internalizing and externalizing problems, antisocial personality, aggressive cognition, and negative family environment (Doane et al. 2014; Guo 2016; Kircaburun et al. 2018a). A recent empirical study reported that childhood emotional maltreatment (i.e., abuse and neglect) might have a moderate role in higher CBP among university students (Kircaburun et al. 2018b). Despite the established possible preventive role of emotion-related personality facets (e.g., self-control, emotion regulation, awareness of feelings) on online and offline bullying (Baroncelli and Ciucci 2014; Gül et al. 2018) and the negative relationship between emotional maltreatment and emotional and personality development (Bernstein et al. 1994), the mediating effect of emotion-related constructs between emotional maltreatment and CBP has yet to be investigated. Furthermore, despite preliminary empirical evidence for emerging adults, the aforementioned associations are still not clear among adolescents. Therefore, the present study examined the direct and indirect relationship between childhood emotional abuse (CEA) and CBP via trait mindfulness and trait emotional intelligence (TEI) among this population.

Childhood Emotional Abuse and Cyberbullying Perpetration

Childhood emotional abuse (CEA) has been defined as "verbal assaults on a child's sense of worth or well-being or any humiliating or demeaning behavior directed toward a child by an adult or older person" (Bernstein et al. 2003; p. 175). CEA has more severe adverse consequences on children's behavioral development than other forms of abuse (Hart and Brassard 1987). According to social cognitive theory (Bandura 1977), observation and perception of others' behaviors have important role on behavior development of humans (Maisto et al. 1999). Individuals demonstrate internalized cognitive and behavioral responses that they observe from others' behaviors in similar situations (Bandura 2002). Thus, children who have been exposed to emotionally abusive behaviors may be more likely to demonstrate abusive behaviors against others growing up.

Additionally, psychological maltreatment (e.g., emotional abuse and neglect) can lead to distortions in moral engagement and identity which in turn may lead to higher CBP (Lyu and Zhang 2017). Getting victimized by emotional abuse as a child may result with

impairments in one's moral justification, reasoning, and standards (Bandura 1999) in which moral values may be a particularly important preventive factor for reducing CBP because—contrary to the preventive laws for traditional bullying (Patchin and Hinduja 2018)—disincentive punishment that may stop individuals bullying others in online contexts is inadequate in most jurisdictions (Hinduja and Patchin 2014). Furthermore, a recent empirical study suggested that emotional maltreatment can be associated with higher CBP among university students and that self-report personality disorders may partially mediate this relationship (Kircaburun et al. 2018b). Another study indicated that psychological maltreatment was directly and indirectly associated with CBP via moral disengagement among college students (Lyu and Zhang 2017). In the present study, it was therefore hypothesized that CEA would be directly (and positively) associated with CBP.

The Mediating Role of Trait Mindfulness

Mindfulness has been defined as "being aware of present moment experience in a clear and balanced manner so that one neither ignores nor ruminates on disliked aspects of oneself or one's life" (Neff and Costigan 2014; p. 114) and is an important predictor of wellbeing and life satisfaction (Bajaj and Pande 2016; Shonin et al. 2016). A recent empirical study suggested that low mindful university students were more likely to be cyberbullies than those who perceived themselves as highly mindful (Kozan et al. 2018). However, this relationship has yet to be investigated among adolescents. Mindfulness positively correlates with higher self-esteem and unconditional self-acceptance (Thompson and Waltz 2008) which may prevent individuals from demonstrating aggressive behaviors because low self-esteem is an important risk factor in experiencing elevated levels of externalizing problems such as aggression (Donnellan et al. 2005). The positive relationship between aggression and CBP is also well established (Tosuntaş et al. 2018). High mindfulness is also a protective factor against having ruminative thoughts (Petrides et al. 2017) that may result in higher anger and hostility (Borders et al. 2010), whereby angry and hostile individuals are more prone to engage in higher CBP (Ak et al. 2015; Arıcak 2009).

One of the core elements of mindfulness is self-compassion (Neff and Costigan 2014). Consequently, mindfulness is negatively associated with psychological and emotional maltreatment (Arslan 2017; Wu et al. 2018) and self-compassion is significantly affected by individuals' relationships with their parents as a child (Arslan 2017; Neff and McGehee 2010). Given that having been exposed to emotional abuse as a child is associated with feeling flawed and having an impaired sense of self-worth (Bernstein et al. 2003), CEA can lead individuals to having lower emotional awareness and self-acceptance (Frewen et al. 2012). Mindfulness should mediate the relationship between CEA and CBP. It has been reported that mindfulness mediates the relationship between adverse childhood experiences and increased alcohol consumption (Brett et al. 2018). A recent study also reported a mediating role of mindfulness between psychological maltreatment and internet addiction (Arslan 2017). Longitudinal research has also shown that internet addiction and CBP can co-occur (Chang et al. 2015; Gámez-Guadix et al. 2016). Despite the limited empirical evidence, it is theoretically and empirically reasonable to assume that mindfulness will have a mediating role between CEA and CBP.

The Mediating Role of Trait Emotional Intelligence

Trait emotional intelligence (TEI) has been defined as "a constellation of emotion-related self-perceptions and dispositions" (Petrides and Furnham 2003; p. 40) and comprises different personality facets including emotionality, sociability, self-control, and wellbeing (Petrides and Furnham 2001; Petrides et al. 2016). TEI is considered a personality construct that has a distinct place in the personality spectrum (Petrides et al. 2016; Petrides et al. 2007). According to the General Aggression Model (Anderson and Bushman 2002), personality is one of the important determinants of aggressive behaviors that affects individuals' decision-making processes via situational factors. A systematic review supported this notion and reported a negative relationship between self-report emotional intelligence and aggression (García-Sancho et al. 2014). Considering the reducing roles of emotional control and empathy have on externalizing problems such as CBP (Ang and Goh 2010; Vazsonyi et al. 2012), high TEI should more specifically prevent adolescents from cyberbullying others. For instance, the regulation and use of emotional components of TEI have empirically been shown to inversely associate with traditional bullying and cyberbullying (Baroncelli and Ciucci 2014).

Furthermore, TEI development should be negatively affected from one's CEA because emotional maltreatment can lead to major negative consequences in children's emotional and personality development (Maguire et al. 2015). According to parental acceptance-rejection theory, emotional abuse by parents adversely affects individuals' personality functioning (Rohner and Rohner 1980). Adults who were emotionally abused as a child tend to be emotionally unstable and unresponsive (Rohner and Rohner 1980). In a recent study, psychologically maltreated seventh grade students reported lower scores on inter-personal skills, stress management, and adaptability components of emotional intelligence (Mattar 2018). Moreover, adverse childhood experiences were indirectly associated with aggression via post-traumatic stress disorder only among those who had lower emotional self-regulation (Swopes et al. 2013). Despite the limited empirical evidence, the aforementioned theoretical and empirical literature indicates that TEI is likely to account for the relationship between CEA and CBP.

The Present Study

The present study is the first to examine the direct effect of CEA on adolescent CBP, and the mediating role of trait mindfulness and TEI between the former and latter. The score differences of the variables and the tested model were examined among the total sample, males, and females separately because of the well-established gender differences for CBP (Tosuntaş et al. 2018). Consequently, the following hypotheses and research question were investigated:

H1: CEA will be directly associated with CBP.
H2: Trait mindfulness will be directly associated with CBP and account for the relationship between CEA and CBP.
H3: TEI will be directly associated with CBP and account for the relationship between CEA and CBP.
RQ1: Are there any significant differences on the relationships between study variables according to gender?

Methods

Participants and Procedure

Data were collected from 470 adolescent high school students from Turkey (60% female), aged between 14 and 18 years (M_{age} = 16.29 years, SD_{age} = 1.16). All students participated in the study voluntarily and anonymously. Ethical approval for the study was received from the provincial directorate of national education committee before the recruitment of the participants, and complied with the Helsinki declaration. Participants were informed about the details of the study and were handed out "paper-and-pencil" questionnaires in each classroom by the research team.

Measures

Cyberbullying Offending Scale (CBOS; Patchin and Hinduja 2015) The CTQ comprises five dimensions of traumatic experiences (five items for each dimension) including physical abuse and neglect, sexual abuse, emotional neglect, and abuse. The present study only used the emotional abuse dimension to assess participants' childhood emotional abuse. Each item is scored on a 5-point Likert scale from "never true" to "very often true" (e.g., "called names by family"). The Turkish form of the scale has good psychometric properties (Sar et al. 2012). The internal consistency was also high in the present study (α = .86).

Childhood Trauma Questionnaire (CTQ; Bernstein et al. 1994) The CTQ comprises five dimensions of traumatic experiences (five items for each dimension) including physical abuse and neglect, sexual abuse, emotional neglect, and abuse. The present study only used the emotional abuse dimension to assess participants' childhood emotional abuse. Each item is scored on a 5-point Likert scale from "never true" to "very often true" (e.g., "called names by family"). The Turkish form of the scale has good psychometric properties (Sar et al. 2012). The internal consistency was also high in the present study (α = .86).

Mindful Attention Awareness Scale (MAAS; Brown and Ryan 2003) The MAAS comprises 15 items on a 6-point Likert scale from "almost never" to "almost always" (e.g., "I find it difficult to stay focused on what's happening in the present"). The Turkish form of the scale has good psychometric properties (Ozyesil et al. 2011). The internal consistency was also high in the present study (α = .84).

Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF; Petrides and Furnham 2003) The TEIQue-SF comprises 20 items, on a 7-point Likert scale from "absolutely disagree" to "absolutely agree," assessing four emotional intelligence-related traits: self-control (e.g., "I tend to get 'carried away' easily"), emotionality (e.g., "I often find it difficult to recognize what emotion I'm feeling"), sociability (e.g., "I can deal effectively with people"), and wellbeing (e.g., "I generally believe that things will work out fine in my life"). The unidimensional scale was used in the present study in order to obtain a global TEI score (Petrides and Furnham 2003). The Turkish form of the scale has good psychometric properties (Deniz et al. 2013). The internal consistency was also high in the present study (α = .80).

Table 1 Mean scores, standard deviations, skewness-kurtosis values, and Pearson's correlations of the study variables

	1	2	3	4	5
1. Cyberbullying perpetration	–				
2. Childhood emotional abuse	.47***	–			
3. Trait mindfulness	− .46***	− .49***	–		
4. Trait emotional intelligence	− .25***	− .31***	.55***	–	
5. Age	.16**	.05	.01	.03	–
M	.23	1.54	3.48	4.60	16.29
SD	.31	.82	.67	.80	1.16
Skewness	1.23	1.66	− .23	.20	− .11
Kurtosis	.24	1.76	.06	− .24	− 1.06

**p < .01; ***p < .001

Statistical Analysis

First, frequency and descriptive statistics were used to calculate mean scores, standard deviations, and skewness-kurtosis values of the variables. Next, Pearson's correlation and t-tests were applied to examine the correlation coefficients among variables and the differences of the mean scores among males and females. In order to test the hypothesized mediation model, path analysis was utilized with 95% bias-corrected confidence intervals and 5000 bootstrapping samples. These analyses were done with SPSS 23.0 and AMOS 23.0 software. Significance of the specific pathways was determined via using *AbindirectEffects.Amos.EstimandVB* estimand (Gaskin 2016). Multi-group invariance of the tested model was also examined to identify possible gender moderation via using *MyGroupDifferences.Amos.EstimandVB* and *MyModMed.Amos.EstimandVB* estimands.

Results

Descriptive statistics and correlations among variables are presented in Table 1. Given that the skewness and kurtosis values of the study variables were below |±2|, normal distribution was accepted and parametric tests were utilized (George and Mallery 2010). There were moderate-sized correlations among all study variables, although the correlation coefficient between CBP and TEI was small. The t-tests showed that male adolescents had higher scores of CBP and TEI compared with females. There were no significant differences across genders on the CEA and trait mindfulness scores (Table 2).

Table 2 Comparison of the scores of study variables (t-tests) between males and females

	Males (N = 190)	Females (N = 280)	t-tests	Cohen's d
Cyberbullying perpetration	.29 ± .32	.21 ± .29	3.02**	.26
Childhood emotional abuse	1.52 ± .80	1.54 ± .84	− .31	.02
Trait mindfulness	3.46 ± .70	3.50 ± .66	− .74	.06
Trait emotional intelligence	4.73 ± .83	4.50 ± .77	3.02**	.29

*p < .05; **p < .01; ***p < .001

In order to test the direct and indirect relationships of CEA with CBP (Fig. 1), path analyses were applied using parallel mediation models among the total sample, males, and females separately while controlling for age. According to the results, CEA was directly and indirectly associated with CBP via trait mindfulness in all three samples (Table 3). Despite TEI's significant correlation with both CEA and CBP, it did not have a role in the relationship between CEA and CBP when trait mindfulness was in the equation. Moreover, age was a positive predictor of CBP among the total sample and males. There was no gender moderation on the direct or indirect relationships in the model. The tested models explained 33%, 31%, and 33% of the variance in CBP among the total sample, males, and females respectively (Fig. 2).

Discussion

The present study investigated the mediating role of trait mindfulness and TEI on the relationship between CEA and CBP among adolescents. The results indicated that CEA was associated with CBP directly and indirectly via trait mindfulness. Despite TEI's significant correlation with CBP, it did not have a significant effect on CBP with trait mindfulness in the equation. This result suggests that health professionals should focus on developing mindfulness-based prevention strategies in order to reduce CEA-related CBP.

As expected (H1), CEA was directly associated with CBP. This result is consistent with the previous empirical literature which has reported direct associations of emotional and psychological maltreatment with CBP (Kircaburun et al. 2018b; Lyu and Zhang 2017). Furthermore, this result can be explained by the theoretical assumptions that posit individuals will observe others' behaviors and mimic them in similar situations (Bandura 2002). Adolescents that have experienced emotional abuse as a child are more likely to become abusive individuals when growing up and bully others in online contexts with humiliating and demeaning verbal assaults. Moreover, given the positive relationship between depression- and anxiety-related aggression with CBP (Tosuntaş et al. 2018), those with higher CEA will more likely to engage in higher CBP because of their proneness to easy irritability and aggression (Riggs and Kaminski 2010).

As hypothesized (H2), trait mindfulness was directly negatively associated with CBP and partially accounted for the relationship between CEA and CBP. CEA was associated with
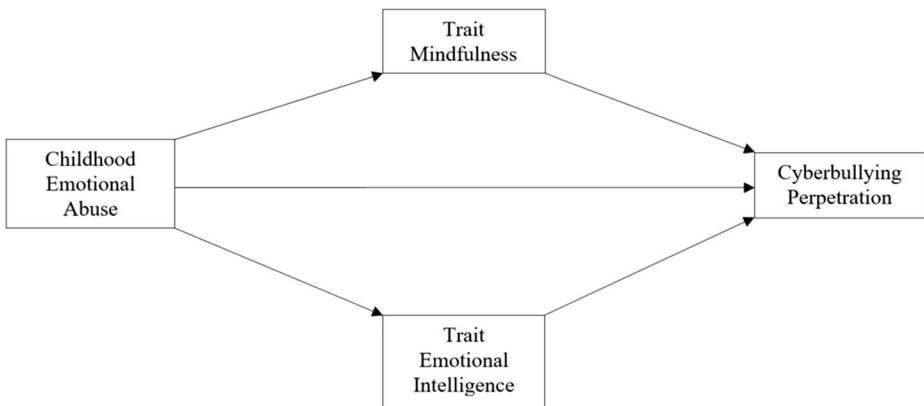

Fig. 1 Hypothesized model

Table 3 Standardized estimates of total, direct, and indirect effects on problematic social media use and internet gaming disorder

	Effect (S.E.)		
	Total sample	Males	Females
CEA ➔ CBP (total effect)	.47*** (.05)	.43*** (.07)	.49*** (.06)
CEA ➔ CBP (direct effect)	.32*** (.06)	.30*** (.08)	.34*** (.07)
CEA ➔ CBP (total indirect effect)	.15*** (.03)	.14*** (.04)	.15*** (.03)
CEA ➔ mindfulness ➔ CBP	.14*** (.01)	.10* (.02)	.18*** (.01)
CEA ➔ TEI ➔ CBP	.01 (01)	.04 (.01)	− .03 (.01)

CBP, cyberbullying perpetration; CEA, childhood emotional abuse; TEI, Trait emotional intelligence; S.E., standard error. *$p < .05$; **$p < .01$; ***$p < .001$

lower mindfulness, and in turn, lower mindfulness was related to higher CBP. This result is consistent with the very limited extant empirical evidence showing that low mindful university students were more likely to be cyberbullies than those perceiving themselves to be highly mindful (Kozan et al. 2018). Emotional abuse is a particularly important risk factor for impaired self-compassion (i.e., mindfulness) because of its adverse impact on one's sense of worth and self-esteem (Wu et al. 2018). Post-traumatic stress disorder (PTSD), which is positively associated with CEA (Yehuda et al. 2001), can also help explain the negative effect of CEA on mindfulness. Previous research has shown that those with PTSD have significantly lower mindfulness scores than the control group (Frewen et al. 2012).

On the other hand, mindfulness was directly (and negatively) associated with CBP. This is to be expected because studies have reported successful mindfulness-based interventions in reducing aggression and problematic online behaviors that can co-occur with CBP (Chang et al. 2015; Gámez-Guadix et al. 2016; Li et al. 2018; Singh
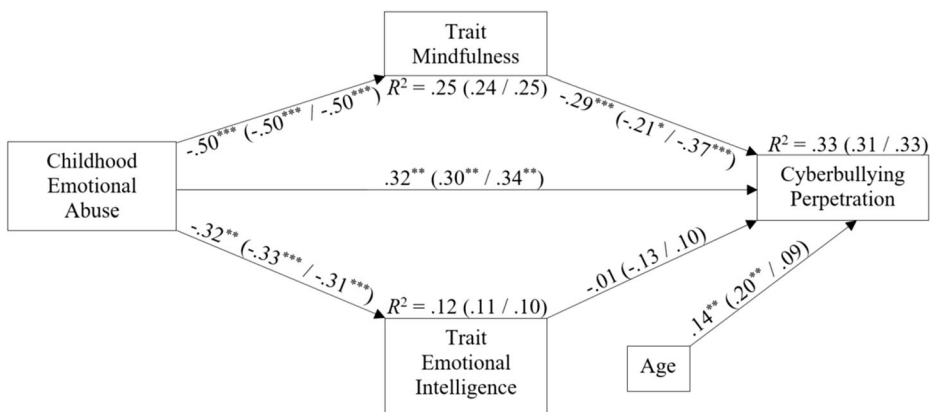

Fig. 2 Final model of the significant path coefficients. The values out of the brackets represent the standardized path coefficients among total sample. The first value (left) in brackets represents the standardized path coefficients among males, whereas values in the right side of the brackets describe path coefficients among females. For clarity, the covariance arrow between mediator variables has not been depicted on figure. Gender (only among total sample) and age were included into model as control variables. Being male was positively associated with CBP among total sample ($\beta = .13$, $p < .01$, CI 95% [.05, .21]). *$p < .05$; **$p < .01$; ***$p < .001$

et al. 2011). Adolescents with higher trait mindfulness have higher control over their emotions and behaviors (Arch and Craske 2006) resulting in reduced involvement in externalizing problematic behaviors (Garnefski et al. 2005). Moreover, mindfulness has been negatively associated with both being a traditional bully and bullying victim (Gonynor 2016), which are positively correlated with aggression and cyberbullying (Eastman et al. 2018; Kowalski et al. 2012). Reducing traditional bullying perpetration and victimization and their negative psychological affects by increased mindfulness can also be a protective factor for CBP (Fix and Fix 2013; Hofmann et al. 2010).

Parallel mediation analysis did not support H3. TEI was not significantly associated with CBP and did not mediate the relationship between CEA and CBP. Health professionals should focus on developing adolescents' mindful awareness and attention rather than emotion-related personality facets (i.e., TEI). Results also demonstrated that the tested model was invariant across genders, suggesting that male and female adolescents' CBP were both positively affected by their CEA, and negatively affected by trait mindfulness.

The present study has several limitations. First, data collection was carried out in a single high school from Turkey. In order to generalize the findings, more studies with different age groups and cultures are needed. Second, the cross-sectional nature of the study meant that causal relationships between variables could not be established. Further studies are therefore needed utilizing longitudinal methods. Third, collecting data comprising self-report questionnaires has well-known limitations (e.g., response biases).

Nevertheless, the present study is the first to document the direct role of childhood emotional abuse and trait mindfulness on adolescent cyberbullying perpetration. Additionally, trait mindfulness may explain some proportion of the variance in the relationship between childhood emotional abuse and cyberbullying perpetration. Consequently, health professionals should develop mindfulness-based intervention studies in an attempt to reduce the effect of emotional abuse on higher engagement in cyberbullying among adolescents. However, the partial effect of mindfulness means that there are other explanatory factors that may fully determine the relationship between childhood emotional abuse and cyberbullying perpetration, indicating that more research is warranted on the variables examined in the present study.

Compliance with Ethical Standards

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