Kircaburun, K., Jonason, P., Griffiths, M.D., Aslanargun, E., Emirtekin, E., Tosuntaş, S.B. & Billieux, J. (2019). Childhood emotional abuse and cyberbullying perpetration: The role of dark personality traits. *Journal of Interpersonal Violence*, **in press.**

Abstract

Dark personality traits (i.e., Machiavellianism, psychopathy, narcissism, spitefulness, and sadism) are associated with adverse childhood experiences and deviant online behaviors. However, their mediating role between childhood emotional abuse and cyberbullying has never previously been investigated. We examined direct and indirect associations of childhood emotional abuse and cyberbullying via dark personality traits among 772 participants. Men were better characterized by dark personality traits and were more likely to engage in cyberbullying than women, and there were no sex differences in childhood emotional abuse. Collectively, dark traits fully mediated the relationship between childhood emotional abuse and cyberbullying in men, with partial mediation in the total sample and women. More specifically, Machiavellianism and spitefulness were mediators in both samples, sadism was a mediator in men and the total sample, and psychopathy was a mediator in the total sample and women. The dark personality traits can account for the association between childhood emotional abuse and cyberbullying, especially among men.

Keywords: cyberbullying; emotional abuse; Machiavellianism; psychopathy; narcissism; sadism; spitefulness

Cyberbullying manifests itself in repetitive, intentional, and harmful online behaviors and is typically directed towards weaker individuals (Patchin & Hinduja, 2015) and has various adverse psychophysiological effects on victims (Tsitsika et al., 2015). From a social cognitive theory perspective, cyberbullying may be related to a combination of childhood experiences (in a distal fashion) and personality (in a proximal fashion) dispositions (Bandura, 1977, 2001). Consequently, individuals' antisocial personality traits may be associated with their childhood maltreatment (Láng & Lénárd, 2015), which interact to produce various manifestations of antisocial behaviors such as cyberbullying, which is a context-specific form of aggression (Corcoran, Guckin, & Prentice, 2015; Vandebosch & Van Cleemput, 2008). Indeed, childhood maltreatment is associated with increased cyberbullying (Emirtekin, Balta, Kircaburun, & Griffiths, 2019) and antisocial personality traits (Láng & Lénárd, 2015; Schimmenti, Carlo, Passanisi, & Caretti, 2015). Such traits are associated with cyberbullying (Goodboy & Martin, 2015; van Geel, Goemansi Toprak, & Vedder, 2017), suggesting that childhood emotional abuse might be associated with cyberbullying directly and indirectly via antisocial personality traits. We explored the mediating role of dark personality traits (i.e., narcissism, Machiavellianism, psychopathy, sadism, and spitefulness) on the association between childhood emotional abuse and cyberbullying.

Childhood emotional abuse refers to acts that damage the self-respect of children (National Society for the Prevention of Cruelty to Children, 2010). Even though childhood emotional abuse is more common than sexual and physical abuse (Dias, Sales, Hessen, & Kleber, 2015), the latter two have received more attention given their traumatic and invasive nature (Hagborg, Tidefors, & Fahlke, 2017). If early childhood experiences have important effects on behavioral development (Bandura, 2001), then individuals who have been exposed to emotionally abusive behaviors as a child are more likely to become abusive individuals, the so-called cycle of violence (Wang, Yang, Wang, & Lei, 2019). This cycle might not only

manifest itself in interpersonal violence, but may also manifest in the online space as a consequence of greater moral disengagement (Wang et al., 2019) and limited compassion for oneself and lack of emotional intelligence (Emirtekin et al., 2019). As such, it was expected that childhood emotional abuse would be associated with cyberbullying.

Not all victims of childhood emotional abuse become cyberbullies. Those individuals who respond to abuse by developing an antisocial behavioral pattern may be the ones most likely to engage in cyberbullying as opposed to those who respond to abuse by becoming socially withdrawn. Contemporary research examining antisocial behavioral patterns has focused on the so-called *dark* personality traits for nearly 20 years (Koehn, Okan, & Jonason, 2019). These traits include narcissism (e.g., sense of grandiosity, entitlement), Machiavellianism (e.g., cynicism, manipulativeness), psychopathy (e.g., callousness, impulsivity), sadism (e.g., enjoyment of others' suffering), and spitefulness (e.g., costly punitive sentiments, vengefulness). Dark traits are associated with cyberbullying via their exploitativeness, aggressiveness (Ang, Tan, & Mansor, 2011), limited empathy, increased impulsivity (Douglas, Bore, & Munro, 2012; Goodboy & Martin, 2015), greater moral disengagement, impaired moral identity (Bussey, Fitzpatrick, & Raman, 2015; Egan, Hughes, & Palmer, 2015; Karandikar, Kapoor. Fernandes, & Jonason, 2019), and the enjoyment of others' suffering (van Geel et al., 2017). While spitefulness has not yet been empirically correlated with cyberbullying, it is reasonable to expect it will because (i) spitefulness shares variance with the other dark traits, and (ii) it is related to manipulativeness, injurious humor style, high impulsivity, aggressiveness, low self-esteem, and lack of empathy (Marcus, Zeigler-Hill, Mercer, & Norris, 2014; Vrabel, Zeigler-Hill, & Shango, 2017; Zeigler-Hill, Noser, Roof, Vonk, & Marcus, 2015), all of which are associated with cyberbullying (Kowalski, Giumetti, Schroeder, & Lattanner, 2014). Therefore, it was expected that these dark traits would be correlated with cyberbullying.

Another potential factor offered by socio-cognitive models in accounting for cyberbullying may be that those experiences of maltreatment should be associated with the development of personality traits that facilitate cyberbullying. Considerable evidence links dark traits—even in non-clinical samples—to adverse childhood experiences (Fiester & Gay, 1991; Jonason, Icho, & Ireland, 2016; Jonason, Zeigler-Hill, & Baldacchino, 2017; McDonald, Donnellan, & Navarrete, 201; Patch & Figueredo, 2017) including verbal (Afifi et al., 2011) and psychological abuse (Láng & Lénárd, 2015). It appears that a combination of temperamental vulnerabilities and experiences can lead to the development of specific antisocial traits such as psychopathy (Schimmenti et al., 2015) and covert narcissism (e.g., hypersensitivity, hidden grandiosity, and inadequacy; Neumann, 2017), but not overt narcissism (Cohen et al., 2014). Therefore, it is expected that dark personality traits will be associated with childhood emotional abuse.

Finally, it is reasonable to expect that dark personality traits will mediate the relationship between childhood emotional abuse and cyberbullying. It may be that impaired inhibitory control and self-regulation (of adverse emotions) associated with childhood emotional abuse (Braqueshais, Oquendo, Baca-García, & Sher, 2010), facilitate impulsivity and related personality traits such as spitefulness (Rodgers & Dahling, 2018; Shin, Lee, Jeon, & Wills, 2015). Importantly, this could explain why *some* individuals engage in cyberbullying in response to emotional abuse they experienced as a child. However, these effects may differ in men and women. If men are more likely to develop antisocial responses (Craker & March, 2016; Muris, Merckelbach, Otgaar, & Meijer, 2017), any mediation effects may be stronger in men than in women (i.e., moderated mediation). That is, compared to women, men may be more predisposed to respond to abuse with antisocial responses, which would lead to greater cyberbullying as a direct consequence of their personality adaptively responding to childhood conditions. Therefore, it is expected that (i) men will be better characterized by dark traits and

more likely to cyberbully than women, and (ii) the mediation by dark traits between childhood emotional abuse and cyberbullying will be stronger in men than in women.

Method

Participants and procedure

The participants comprised 280 men and 492 women (M_{age} = 20.72 years, SD_{age} = 2.30) recruited from a state university in the northwestern region of Turkey. Participants were recruited via convenience sampling. Paper-and-pencil surveys were administered in lectures by the research team. Participation in the study was voluntary and students were not compensated nor rewarded for their participation. Sample sizes for each sex were above the recommended thresholds (N = 250) for obtaining stable correlation estimates (Schönbrodt & Perugini, 2013). All participants were informed about the nature of the study and completed self-report measures voluntarily and anonymously. Data used in the present study were collected simultaneously with another study published elsewhere (blinded for review purposes). The approval for the study was taken from first author's university review board (Document number = 46622718/929/).

Measures

The Turkish translation (Kircaburun et al., 2018) of the nine-item Cyberbullying Offending Scale (Patchin & Hinduja, 2015) was used to assess cyberbullying perpetration (e.g., "*I posted mean or hurtful comments about someone online*"). The Turkish form indicated sound psychometric properties using confirmatory factor analysis (CFA) and had a good fit to the data (χ^2/df = 2.86, root mean square error of approximation (RMSEA) = .07 (CI 90% [.05, .10]), standardized root mean square residuals (SRMR) = .03, comparative fit index (CFI) = .98, goodness of fit index (GFI) = .96). In order for aggressive online behaviors to be labelled as cyberbullying, the behavior should be demonstrated repetitively (Patchin & Hinduja, 2015; Zsila et al., 2018). Therefore, the scale was dichotomized via recoding "*never*" and "*once*" as

0, and "*a few times*", "*several times*", and "*many times*" as 1. Dichotomized items were then averaged to create an index of cyberbullying (Cronbach's α = .79).

The Turkish translation (Sar et al., 2012) of the 28-item Childhood Trauma Questionnaire (Bernstein et al., 1994) was used to assess childhood maltreatment. Although the original scale comprises five dimensions, only the five-item emotional abuse dimension was used (e.g., "*People in my family said hurtful or insulting things to me*"). Therefore, CFA was carried out in the framework of the current sample to confirm that the single dimension can be used separately. CFA indicated mostly good fit to the data (χ^2/df = 6.05, RMSEA = .08 [CI 90% (.05, .12)], SRMR = .02, CFI = .99, GFI = .99). Items (1 = *never*, 5 = *always*) were averaged to create an index of childhood emotional abuse (α = .89).

The Turkish form (Özsoy, Rauthmann, Jonason, & Ardıç, 2017) of the 12-item Dark Triad Dirty Dozen Scale (Jonason & Webster, 2010) was used to assess Machiavellianism (e.g., "*I tend to exploit others towards my own end*"), psychopathy (e.g., "*I tend to be callous or insensitive.*"), and narcissism (e.g., "*I tend to seek prestige or status.*"). The Turkish form indicated good fit to the data using CFA (χ^2/df = 2.03, RMSEA = .05, CFI = .98, Tucker-Lewis index (TLI) = .95). Items (1 = *strongly disagree*, 9 = *strongly agree*) for each scale were averaged to create indices of Machiavellianism (α = .81), psychopathy (α = .67), and narcissism (α = .88).

The Turkish form (Kircaburun, Jonason, & Griffiths, 2018) of the Short Sadistic Impulse Scale (O'Meara, Davies, & Hammond, 2001) was used to assess sadistic impulses (e.g., "*Hurting people would be exciting*"). The Turkish form indicated good fit to the data using CFA (χ^2/df= 4.08, RMSEA = .08 [CI 90% (.07, .10)], CFI = .93, GFI = .94). This scale comprises 10 dichotomous items (1 = *unlike me*, 2 = *like me*) that were averaged to create an index of sadism (α = .77).

The Turkish form (Kircaburun & Griffiths, 2018) of the 17-item Spitefulness Scale (Marcus et al., 2014) was used to assess spiteful dispositions (e.g., "*It might be worth risking my reputation in order to spread gossip about someone I did not like*"). The Turkish form comprises 11 items (Kircaburun & Griffiths, 2018). The Turkish form indicated sound psychometric properties using CFA (χ^2/df = 2.67, RMSEA = .05 [90% CI (.04, .06)], CFI = .97, GFI = .97). Items (1 = *never*, 5 = *always*) were averaged together to create an index of spitefulness (α = .84).

Results

Dark personality traits were positively correlated with cyberbullying and emotional abuse (Table 1). As shown in Table 2, men had significantly higher scores than women in all variables except emotional abuse. A saturated multiple mediation model was tested with the total sample and then for men and women separately. The path analysis examined the mediating role of the five dark traits on the relationship between emotional abuse and cyberbullying, and the moderating role of sex on the aforementioned direct and indirect relationships. Path analyses were bootstrapped with 5,000 samples and 95% bias-corrected confidence intervals are provided. The specific mediator and moderator roles of the variables were examined using MyModMed.AmosEstimandVB, MyGroupDifferences.AmosEstimandVB, ABCindirectEffect.AmosEstimandVB estimands provided by AMOS 23.0 software (Byrne, 2016; Gaskin, 2016).

In the total sample, emotional abuse was directly associated with cyberbullying and indirectly via Machiavellianism, psychopathy, sadism, and spitefulness. Among men, Machiavellianism, sadism, and spitefulness fully accounted for the relationship between emotional abuse and cyberbullying collectively. Psychopathy was positively associated with emotional abuse but not with cyberbullying. On the other hand, narcissism was not associated with emotional abuse or cyberbullying in the model. Among women, emotional abuse was

directly and indirectly associated with cyberbullying. Together, Machiavellianism, psychopathy, and spitefulness partially mediated the association between emotional abuse and cyberbullying (Table 3). All five dark personality traits were positively associated with emotional abuse, although narcissism and sadism were not associated with cyberbullying. To examine the additional contribution of sadism and spitefulness to the Dark Triad, hierarchical multiple regression analysis was conducted and predicted cyberbullying, while adjusting for emotional abuse, Machiavellianism, psychopathy, and narcissism. Sadism accounted for an additional 3% variance of cyberbullying ($\Delta F = 31.22$, $p = .001$) and spitefulness accounted for an additional 5% of cyberbullying variance ($\Delta F = 56.11$, $p = .001$). We suggest a small, but significant, gain from expanding the Dark Triad to a Dark Pentad (Jonason, Zeigler-Hill, & Okan, 2017).

Finally, moderation and moderated mediation analyses were used to determine whether sex differences on the aforementioned relationships were significantly different in men and women. Participants' sex moderated the direct relationship between sadism and cyberbullying, and an indirect relationship between emotional abuse and cyberbullying via sadism. Sadism was positively associated with cyberbullying ($\beta = .18$, $p < .05$; CI 95% [.02, .36]) and had a mediational role between emotional abuse and cyberbullying ($\beta = .04$, $p < .01$; CI 95% [.01, .08]) among men, but not women. The tested model explained 36% of the cyberbullying variance in the total sample (Figure 1).

Discussion

Adverse childhood experiences can affect an individual's behaviors and personality development (Bandura, 2001). We aimed to better understand cyberbullying via the lens of socio-ecological models and the role of the interaction of childhood experiences and dark personality traits. Accordingly, we tested direct and indirect relationships of childhood emotional abuse with the commission of cyberbullying via five dark personality traits. The dark

traits partially mediated the relationships between emotional abuse and cyberbullying in the total sample, however, this effect was qualified by an interaction with participant's sex. Machiavellianism, sadism, and spitefulness fully mediated the aforementioned relationship in men, while Machiavellianism, psychopathy, and spitefulness partially mediated the association in women.

Emotional abuse was positively associated with all five dark personality traits, and in turn, these dark personality traits were related to increased cyberbullying. The relationship found between emotional abuse and dark traits is consistent with the literature suggesting that adverse childhood experiences can lead to impairments in personality development and be associated with more marked antisocial personality traits (Afifi et al., 2011; Láng & Lénárd, 2015; Patch & Figueredo, 2017). It may be that individuals develop dark personality traits as a condition-dependent adaptation to solve problems in a world that is judged unpredictable and harsh (Jonason et al., 2016). Emotionally traumatic experiences can alter an individual's way of perceiving life in a dysfunctional way (Goodman, Gutarra, Billingsley, Keiser, & Gitari, 2017), which can lead to the development of agentic and callous traits such as maladaptive coping and defense mechanisms. Despite the consistent association of emotional abuse in the development of dark personality traits across sex, narcissism was only associated with emotional abuse among women. This is consistent with the result of a previous study showing that emotional abusiveness contributed to covert narcissistic features for women, while emotional neglect (but not emotional abuse) was associated with covert narcissistic features among men (Hoglund, 1997). Men may attempt to cope with their adverse self-perception associated with their exposure to emotional abuse (Allen, 2011) by developing antagonistic personality traits other than narcissism and fully dissociating from themselves.

The relationships identified between the five dark traits and cyberbullying are partially consistent with the existing evidence. Machiavellianism and spitefulness were related to more

cyberbullying in both sexes. Machiavellian individuals tend to have impaired sense of morality and higher moral disengagement and engage in interpersonal manipulation (Bussey et al., 2015; Egan et al., 2015; Karandikar et al., 2019), in which these features may lead them to bullying others who have interpersonal conflicts in virtual contexts. We demonstrated the specific association of spitefulness with cyberbullying for the first time. When other dark traits were taken into account, spitefulness contributed an additional predictive role for cyberbullying, which was consistent in men and women. Spiteful individuals tend to be aggressive, impulsive, unemotional, and less empathetic in their interactions with others (Marcus et al., 2014; Vrabel et al., 2017; Zeigler-Hill et al., 2015). Therefore, they are susceptible to persistently trying to harm those who conflict with them. Furthermore, spitefulness is also correlated with low self-esteem (Marcus et al., 2014), indicating that those with higher spitefulness may have an impaired ego and try compensating their ego-reinforcement needs by bullying others in online contexts. We suggest that spitefulness has a unique role in cyberbullying along with other dark traits. Therefore, future research should focus on the predictive role of spitefulness in cyberbullying.

There were mixed results concerning the associations of psychopathy and sadism with cyberbullying. While psychopathy had a significant role among women, men with more sadistic impulses engaged in elevated cyberbullying. This result concurs with previous findings suggesting that psychopathy and sadism are positively related to cyberbullying (Goodboy & Martin, 2015; van Geel et al., 2017). It is suggested that these associations vary across the sexes and should be examined further. It may be that women high in psychopathy engage in cyberbullying because of their lack of empathy and effort to understand the harm they are inflicting on their victims, whereas men high in sadism enjoy making their victims suffer, making them feel powerful against others and giving them pleasurable feelings. However, it should be noted that moderation by participant's sex was significant only in regard to sadism's

mediating role on cyberbullying. Lastly, the dark personality traits partially mediated the relationship between emotional abuse and cyberbullying in women, indicating that, in addition to dark personality traits, there are other mediating factors that should be investigated to offer a comprehensive explanation of the relationship between emotional abuse and cyberbullying.

Limitations and Conclusions

There are several limitations that should be noted when interpreting the data. First, data were gathered using self-report questionnaires, which are known to be affected by various biases. More specifically, the items used to assess childhood emotional abuse are open to idiosyncratic interpretation and subjectivity. Despite this concern, the scale used had good construct validity and as long as personality traits are egosyntonic, we can be reasonably confident in our findings. Also, given that all constructs were tested simultaneously, shared method variance might be responsible for the inter-relationships among the measures. However, this is a problem that likely characterizes most personality research. The use of partialing procedures in the present study should have reduced this problem, but the correlations were usually larger that than .20, suggesting even if there were method artifacts, there were also genuine correlations between the variables under investigation. Second, the use of the cross-sectional design precludes interpreting causal relations among the constructs. Therefore, the demonstrated mediations should be considered statistical rather than in the true mechanistic sense. Consequently, future studies should adopt longitudinal designs. Third, the majority of the participants were female undergraduates, which somewhat restricts the generalizability of the results. However, given the large number of participants from both sexes, all the study has is better estimates of the population of women than in men. The study also comprised university students who might be particularly affluent and more likely to engage with the online space. Cyberbullying occurs in many different countries and cultures (Aboujaoude, Savage, Starcevic & Salame, 2015). Future studies should test the associations found here with different, more

representative samples. Importantly, it would be useful to conduct comparative work given any effects reported in one sample are situated in one cultural context which may influence the development of dark personality traits (Jonason, Okan, & Özsoy, 2019), and may be applicable to other countries and cultures.

Despite its limitations, this study is the first to examine the direct and indirect effects of emotional abuse on cyberbullying via five dark personality traits among emerging adults. Moreover, even though previous research has shown the Dark Tetrad traits to be associated with cyberbullying, we empirically demonstrated the direct effect of spitefulness on cyberbullying for the first time. The relationship between emotional abuse and cyberbullying was fully explained by the dark traits in men while emotional abuse was both directly and indirectly associated with cyberbullying in women. Furthermore, we suggest a further understanding to previously demonstrated relationships between dark personality traits and cyberbullying by demonstrating that psychopathy was related to cyberbullying only in women while sadism led to more cyberbullying only in men.

We offer valuable implications for those trying to understand the nature of cyberbullying and developing possible prevention and intervention strategies for this malevolent behavior. Health professionals and clinicians should additionally focus on the underlying factors concerning childhood emotional abuse and cyberbullying perpetration in emerging adulthood. Cyberbullying prevention programs could benefit by specifically targeting antisocial personality traits and attempting to reduce the deleterious downstream effects (e.g., cyberbullying) of antisocial personality traits through the reduction of the residual damage from adverse childhood experiences. In particular, there are several psychological and behavioral treatments that have addressed these goals (e.g., Brazil, van Dongen, Maes, Mars, & Baskin-Sommers, 2018). Second, health professionals who attempt to reduce cyberbullying perpetration should inform and warn those who perpetrate cyberbullying about the undesired

effects of childhood emotional abuse on their personality and behavioral development. This information would help promote improvement of self-awareness and recognition of the underlying impulses that lead to the engagement in aggressive and antisocial online behaviors (Emirtekin et al., 2019).

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TABLES

Table 1. Pearson's correlations of the study variables among total sample ($N = 772$).

	1	2	3	4	5	6	7
1. Cyberbullying perpetration	-						
2. Childhood emotional abuse	.28*	-					
3. Machiavellianism	.46*	.23*	-				
4. Psychopathy	.41*	.16*	.53*	-			
5. Narcissism	.30*	.15*	.50*	.28*	-		
6. Sadism	.43*	.22*	.47*	.48*	.30*	-	
7. Spitefulness	.50*	.24*	.46*	.47*	.34*	.49*	-
M	1.14	6.26	9.43	9.83	16.25	11.29	16.60
SD	1.76	2.56	6.15	5.75	9.06	1.82	6.66

Note. * $p < .001$

Table 2. Comparison of the scores of study variables between men and women ($N = 772$).

	Men	Women	t-test	Cohen's d
	Mean (*SD*)			
Cyberbullying perpetration	1.73 (2.14)	0.79 (1.39)	6.55*	0.52
Childhood emotional abuse	6.31 (2.63)	6.23 (2.52)	0.39	0.03
Machiavellianism	11.19 (6.95)	8.43 (5.40)	5.75*	0.44
Psychopathy	11.37 (6.54)	8.96 (5.04)	5.33*	0.41
Narcissism	18.04 (9.08)	15.23 (8.90)	4.17*	0.31
Sadism	11.92 (2.15)	10.94 (1.48)	6.76*	0.53
Spitefulness	18.48 (7.40)	15.52 (5.95)	5.72*	0.44

* $p < .001$

Table 3. Standardized estimates of total, direct, and indirect effects among men and women (*N* = 772).

	Effect (S.E.)		
Pathways	Total Sample	Men	Women
CEA → CBP (total effect)	.28*** (.05)	.27** (.08)	.31*** (.06)
CEA → CBP (direct effect)	.13** (.05)	.11 (.07)	.18*** (.06)
CEA → CBP (total indirect effect)	.15*** (.03)	.16*** (.04)	.13*** (.04)
CEA → Machiavellianism → CBP	.04*** (.01)	.03*** (.03)	.04*** (.03)
CEA → Psychopathy → CBP	.02* (.01)	.01 (.03)	.03*** (.03)
CEA → Narcissism → CBP	.00 (.01)	.01 (.03)	.00 (.03)
CEA → Sadism → CBP	.03** (.01)	.04*** (.03)	.00 (.03)
CEA → Spitefulness → CBP	.06*** (.01)	.07*** (.03)	.06*** (.03)

Note. CEA = Childhood emotional abuse; CBP = Cyberbullying perpetration

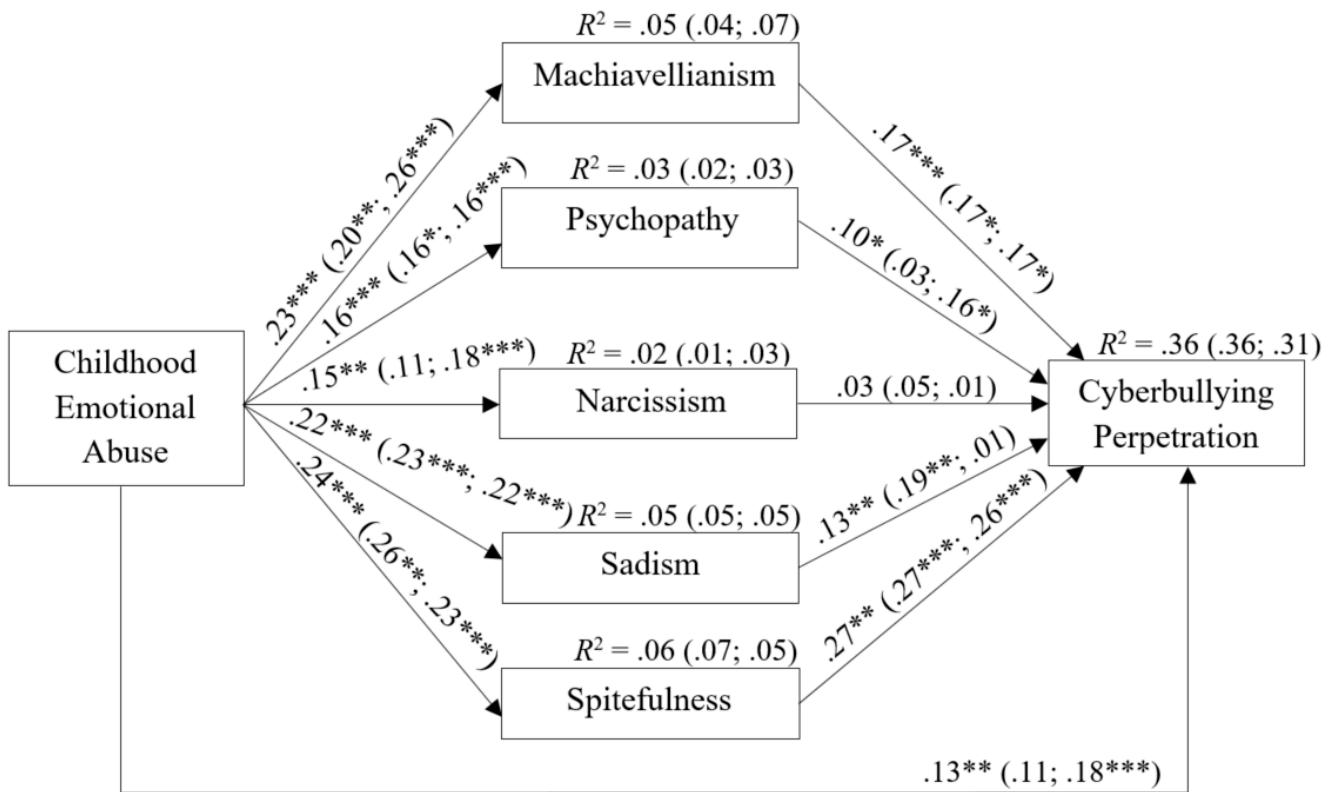* *p* < .05, ** *p* < .01, *** *p* < .001

FIGURES

Figure 1. Final model of the path coefficients among total sample, men, and women. For clarity purposes, covariates among mediator variables are not depicted in the figure. The standardized path coefficients outside the brackets belong to total sample whereas values on the left side of the brackets belong to men those on the right side belong to women.

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