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Moral Disengagement Mechanisms Predict Cyber Aggression Among Emerging Adults

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Abstract

The Internet has given rise to many new communication tools (e.g., social media, text messaging), which, while beneficial in many respects, have become a means for aggressing against others. As evidence of the adverse correlates of cyber aggression mounts, improved understanding of the mechanisms that facilitate electronic aggression is needed. Moral disengagement (i.e., cognitive processes through which individuals disengage from their moral values) has been shown to predict cyber aggression when assessed as a unitary construct. The present study investigated the eight moral disengagement mechanisms measured by the Moral Disengagement Measure (Detert et al., 2008) and their relationships to four types of cyber aggression perpetration assessed with the Cyberbullying Experiences Survey (i.e., malice, public humiliation, deception, and unwanted contact; Doane et al., 2013). Emerging adults (N = 404, 58.67% women) aged 18 to 29 (M = 25.16, SD = 2.76) recruited through Amazon.com's MTurk website completed measures online, and data were analyzed via path analysis. Each type of cyber aggression perpetration was predicted by different moral disengagement mechanisms. Advantageous comparison and dehumanization were the strongest predictors, and dehumanization was the only mechanism to predict all forms of cyber aggression. These findings provide support for the role of these mechanisms in cyber aggression and suggest that examining moral disengagement mechanisms individually may help to improve our understanding of cyber aggression among emerging adults. Further clinical and research implications are discussed.

Keywords: cyber aggression; moral disengagement; dehumanization; emerging adults; path analysis

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Introduction

Cyber aggression, characterized by Grigg (2010) as "intentional harm delivered by the use of electronic means to a person or group of people irrespective of their age, who perceive(s) such acts as offensive, derogatory, harmful or unwanted" (p.152), is an unfortunately common and destructive part of contemporary online culture. Roughly 40% of emerging adults (i.e., persons between the ages of 18 and 29; Arnett et al., 2014) report experiencing cyber aggression (M.-J. Wang et al., 2019), with this age group reporting the highest prevalence when compared to older age groups (i.e., age groups older than 29). Moreover, this prevalence appears to be rising, particularly during the COVID-19 pandemic (Barlett et al., 2021). Much of the cyber aggression literature has focused on children and

adolescents (Doane et al., 2013); however, additional research among emerging adults is needed given their high frequency of Internet use (Pew Research Center, 2019) and increased vulnerability to mental health problems (Arnett et al., 2014; Reed-Fitzke, 2020). Emerging adult victims of cyber aggression report increased rates of depression, anxiety, stress, suicidal ideation and behavior, emotion dysregulation, loneliness, substance use and misuse, and impaired academic performance (Kowalski & Limber, 2013; Oblad, 2019; Schenk & Fremouw, 2012; Varghese & Pistole, 2017). In addition, cyber aggression perpetration is associated with higher rates of adjustment difficulties, depression, anxiety, and alcohol-related problems in emerging adults (Crane et al., 2021; Kokkinos et al., 2014; Selkie et al., 2015; Wright, 2017).

Moral disengagement, a set of cognitive processes through which one avoids negative feelings associated with engaging in immoral behavior (Bandura, 1990), has been shown to predict cyber aggression perpetration when assessed as a composite score (Marin-Lopez et al., 2020; Nocera et al., 2020; Runions & Bak, 2015). In the present study, we sought to learn more about the role of moral disengagement in cyber aggression among emerging adults by examining the relationship of eight specific moral disengagement mechanisms to four different types of cyber aggression. Learning more about how specific forms of moral disengagement may facilitate cyber aggression perpetration should inform the development of prevention and intervention strategies to reduce the behavior and mitigate its impact.

Cyber Aggression in Context

Research on cyber aggression has been hindered by using inconsistent terminology to describe overlapping constructs (e.g., cyberbullying, cyber aggression, electronic aggression), making it difficult to compare results across studies (Bauman & Baldasare, 2015). Grigg (2010) suggested that *cyberbullying* does not adequately convey the breadth of online aggression because bullying requires the perpetrator to intend to cause harm, continue the behavior over time, and for there to be an imbalance of power between perpetrator and victim (Mladenović et al., 2021; Tokunaga, 2010). We agree with Grigg's (2010) recommendation of *cyber aggression* as a preferable term with broader applicability, especially when focusing on emerging adults.

Cyber aggression differs from traditional forms of aggression in many ways which help to explain why the emotional toll of cyber aggression is often greater (Wigderson & Lynch, 2013). First, when cyber aggression is delivered through popular online platforms (e.g., Facebook, Instagram), the size of the audience is virtually unlimited, amplifying victims' embarrassment and humiliation (Bauman & Baldasare, 2015; Slonje & Smith, 2008). Second, modern technologies allow the perpetrator to access victims remotely in varying locations or times, which differs from traditional forms of aggression that often require physical proximity (Slonje & Smith, 2008). Third, technology often enables the perpetrator to remain anonymous, facilitating disinhibition and increasing aggression (Wright, 2013, 2014) due to a lack of potential consequences.

Moral Disengagement as a Facilitator of Cyber Aggression Perpetration

Bandura (1999) posited that individuals learn to regulate their interpersonal behavior by adopting moral standards and that moral development is explained by social-cognitive theory in which one's values, behaviors, emotions, and social environment interact to promote a sense of moral reasoning. Of course, the utility of moral reasoning in predicting behavior is limited because individuals do not always act in accordance with their moral standards. Instead, individuals must choose whether to activate their moral control and sometimes engage in actions that depart from their standards (Bandura, 1990). Behaviors that may be perceived as immoral (e.g., cyber aggression) may be facilitated through the process of moral disengagement. As Bandura (1990) stated, "this [moral disengagement] enables otherwise considerate people to perform self-serving activities that have detrimental social effects" (p. 28). Thus, moral disengagement permits people to avoid feelings of discomfort and guilt they might otherwise experience when departing from their moral values, and the capacity to morally disengage appears to accelerate with practice (Bandura, 1990, 2002).

Moral disengagement is relevant to many forms of aggression, workplace misconduct, interpersonal dysfunction, misconduct among athletes, and various bystander behaviors (Alleyne & Wood, 2010; Barsky, 2011; Bjärehed et al., 2020; Caprara et al., 2014; X. Wang et al., 2017). A meta-analysis conducted by Gini and colleagues (2014) found that moral disengagement was related to aggressive behaviors in school-age children, that the effect size was

larger among adolescents, and that effect sizes were stable across many forms of aggression. Moreover, the relationship between moral disengagement and online aggression was greater than the relationship of moral disengagement to traditional forms of aggression, suggesting that moral disengagement may be beneficial to understanding cyber aggression (Gini et al., 2014). This possibility is further strengthened by studies finding that perpetrators of cyber aggression tend to view their behavior as a joke rather than something malicious (Rubio-Garay et al., 2016; Runions & Bak, 2015; Wright, 2017) and the findings that moral disengagement predicts cyber aggression (Pornari & Wood, 2010; Runions & Bak, 2015). In one recent study of emerging adults, Nocera and colleagues (2020) found that moral disengagement predicted cyber aggression perpetration and partially mediated the relationships of participants' psychopathic traits, sadistic traits, and trait anger to cyber aggression perpetration. The present study builds on this work through an exploratory investigation of the relationships of eight specific moral disengagement mechanisms to distinct forms of cyber aggression perpetration among emerging adults.

Moral Disengagement Mechanisms

Moral disengagement occurs via eight distinct mechanisms: moral justification, euphemistic labeling, advantageous comparison, displacement of responsibility, diffusion of responsibility, disregard or distortion of consequences, dehumanization, and attribution of blame (Bandura, 1990, 2016). Bandura (2002) clustered these mechanisms into four central strategies: cognitive restructuring, minimizing one's agentive role, disregarding/distorting consequences, and blaming/dehumanizing. Although there is ample evidence that overall moral disengagement (i.e., a composite of the eight mechanisms), as well as the four strategy clusters, predict several morally transgressive behaviors, relatively little is known about whether specific mechanisms have distinct correlates (Falla et al., 2020; Marin-Lopez et al., 2020; Nocera et al., 2020; Runions & Bak, 2015). Researchers have highlighted differences between the moral disengagement mechanisms (Falla et al., 2020, 2021; Runions et al., 2019; Thornberg & Jungert, 2014), suggesting that evaluating them individually may provide a more accurate understanding of their role. Thus, we sought to determine whether specific moral disengagement mechanisms were related to different forms of cyber aggression in somewhat different ways. If so, this may help to inform our understanding of how moral disengagement facilitates cyber aggression, informing prevention and mitigation efforts.

Moral justification, euphemistic labeling, and advantageous comparison are collectively described as the cognitive restructuring cluster and involve altering the perception of the perpetrator's reprehensible conduct (Bandura, 2016). In moral justification, the immoral act is viewed as serving some moral purpose (Bandura, 2002). For example, insulting someone during a political conversation via social media (i.e., the form of cyber aggression known as malice) may be excused as disseminating and defending one's political views. Bandura (2016) described euphemistic labeling by stating, "language shapes the perception of events and the thought patterns on which people base their actions" (p. 53). Historically, euphemistic labeling has been used during times of war (e.g., labeling civilian deaths as "collateral damage" or referring to persons as having been "killed in action" versus "murdered") to justify these actions (Bandura, 2016). This mechanism could be related to cyber aggression in the forms of malice (i.e., attempting to reduce one's guilt by labeling their aggression as "trolling"), public humiliation (i.e., posting humiliating photos of another being labeled as "hazing"), or deception (i.e., calling acts of deception "catfishing" to attempt to reduce one's guilt). Advantageous comparison involves contrasting the transgressor's behavior with other less acceptable behaviors (Bandura, 1990; Hsu et al., 2021). For example, it may be viewed as permissible to be distracted in class when compared to students who are not in attendance (Hsu et al., 2021). Regarding cyber aggression, advantageous comparison could be utilized when comparing one's unwanted contact (i.e., inappropriate comments) to other acts viewed as more invasive (i.e., sending inappropriate photographs). Moral justification has been shown to predict cyber aggression (Pornari & Wood, 2010), euphemistic labeling is positively related to bullying (Thornberg & Jungert, 2014), and advantageous comparison has been linked to aggression among adolescents (M. Wang et al., 2019). When examined as a cluster, these mechanisms have been found to predict cyberbullying perpetration (Romera et al., 2021) and mediate the relationship between cyber gossip and cyber aggression among adolescents (Falla et al., 2021). Thus, these three mechanisms are likely to be positively associated with some forms of cyber aggression in an emerging adult sample.

Disregarding or distorting of consequences describes a process through which individuals may avoid guilt by focusing on the benefits of their unethical behavior versus the negative consequences or by minimizing the

detrimental effects (Bandura, 1999, 2016). This mechanism appears to be particularly relevant to cyber aggression. For example, Runions and Bak (2015) tied distortion of consequences to cyber aggression by suggesting that there is more ambiguity about social interactions (e.g., a lack of behavioral observation, decreased social cues). Without the social cues normally present in face-to-face interactions, the cyber setting may increase the distortion of consequences (Runions & Bak, 2015; Wright, 2017). Thus, a perpetrator may distort the consequences by believing their victim is not experiencing negative effects, partially due to those effects being less visible in online interactions. This relationship has been supported in that bullying perpetrators and victims differed in their reported engagement in distortion of consequences (Runions et al., 2019). Distortion of consequences also relates to bullying behavior (Thornberg & Jungert, 2014) and predicts pro-aggressive bystander behavior (Bjärehed et al., 2020).

Displacement and diffusion of responsibility are two closely related moral disengagement mechanisms that involve avoiding responsibility for unethical behaviors by shifting the responsibility to an authority figure (i.e., displacement) or a group (i.e., diffusion) to minimize blame (Bandura, 1999, 2016). This could relate to cyber aggression in the form of malice via perpetrators displacing the responsibility of their comments onto political leaders or diffusing the responsibility onto political groups. Displacement has been shown to predict unethical decisions (e.g., deception) when examined alone (Barsky, 2011), and diffusion predicts pro-aggressive bystander behaviors (Bjärehed et al., 2020). Additionally, both diffusion and displacement of responsibility are positively associated with bullying behaviors (Thornberg & Jungert, 2014) and differ among perpetrators and victims of bullying (Runions et al., 2019).

Lastly, dehumanization and attribution of blame are mechanisms which alter the perpetrator's perception of the victim (Bandura, 1999, 2016). Perhaps the most abhorrent of all the moral disengagement mechanisms, dehumanization involves a process through which a person is perceived as less than human (Bandura et al., 1975). By removing empathic responses to others (Bandura, 2002), dehumanization is likely relevant to most forms of aggression; however, some have suggested that it may be even more relevant to cyber aggression because the less evident emotional content characterizing online communication facilitates dehumanization (Runions & Bak, 2015). For example, a perpetrator may view the victim as simply a "social media account" versus the person behind the account due to the inability for the perpetrator to see the victims' reactions (i.e., tearfulness, facial expressions). Dehumanization has been linked to bullying, institutionalized discrimination, sexual aggression, aggressive attitudes, coercive sexual behaviors, and cyber aggression (Bandura, 2002; Runions & Bak, 2015; Van Noorden et al., 2014; Zhou et al., 2021). The attribution of blame describes the process of a transgressor placing themselves in a victim role to negate the impact of their unethical behaviors (Bandura, 2002). That is, the victim(s) of one's actions are viewed as being responsible (e.g., "He brought it on himself"), alleviating the transgressor's sense of responsibility (Bandura, 1990; Bandura et al., 1996). This mechanism is positively related to bullying (Thornberg & Jungert, 2014), gang involvement (Alleyne & Wood, 2010), and acts of domestic violence (Bryant & Spencer, 2003); it also predicts pro-aggressive bystander behaviors (Bjärehed et al., 2020).

The Present Study

Previous studies have demonstrated that moral disengagement, assessed as a unitary construct, is both a direct predictor of cyber aggression perpetration and a partial mediator of the relationships of dark personality traits to cyber aggression perpetration (e.g., Nocera et al., 2020). Much of the cyber aggression literature has focused on adolescents, and there is limited evidence of how to appropriately assess the eight moral disengagement mechanisms among emerging adults (Detert et al., 2008). Understanding how specific moral disengagement mechanisms may facilitate cyber aggression perpetration among emerging adults fills a notable gap in the literature and may inform the development of prevention and intervention efforts to reduce cyber aggression in this population. Thus, the present study aimed to: (1) confirm the utility of the Moral Disengagement Measure (Detert et al., 2008) for use in examining the distinct moral disengagement mechanisms, and (2) investigate the eight unique moral disengagement mechanisms and their relationships to four forms of cyber aggression perpetration. Given that emerging adults have a higher rate of cyber aggression than other adult age groups (Wang, Yogeeswaran et al., 2019) and have received less attention in the cyber aggression literature than adolescents, the present study examined moral disengagement mechanisms and cyber aggression in an emerging adult sample.

The dearth of research examining specific moral disengagement mechanisms in cyber aggression perpetration led us to approach the present study as an exploratory investigation. Instead of guessing about which combinations of moral disengagement mechanisms (i.e., moral justification, euphemistic labeling, advantageous comparison, displacement of responsibility, diffusion of responsibility, disregard or distortion of consequences, dehumanization, and attribution of blame) might predict each of the four types of cyber aggression perpetration (i.e., malice, public humiliation, deception, and unwanted contact), we expected that dehumanization and cognitive restructuring mechanisms (e.g., euphemistic labeling, advantageous comparison, moral justification) would likely be the most salient predictors given their relatively greater support in the literature (e.g., Falla et al., 2021; Romera et al., 2021; Runions & Bak, 2015) but that all mechanisms would be relevant. For example, many aggressors may cognitively minimize their actions through distortion of consequences, and those who have experienced cyber victimization may use attribution of blame to justify their own aggression (Robson & Witenberg, 2013; Wright, 2017).

Method

Participants and Procedure

Participants for the present study were recruited through Amazon.com's MTurk website in 2018. MTurk is the most frequently used online data collection site (Porter et al., 2019) that allows individuals, called "workers," to complete various human intelligence tasks (HITs), including research surveys (Loepp & Kelly, 2020). Participants recruited from MTurk tend to be similar to those recruited via other online survey platforms in terms of demographic characteristics (Huff & Tingley, 2015), and MTurk provides equivalent to superior data quality when compared to marketing research companies and lab-based studies (Casler et al., 2013; Kees et al., 2017; Paolacci & Chandler, 2014). Consistent with the present sample, the typical MTurk user is a 39-year-old White male with at least a 2-year college degree (Loepp & Kelly, 2020).

The present study was approved by the Institutional Review Board of the authors' university and was developed to follow national and international ethical principles for research with human subjects (e.g., Declaration of Helsinki). Potential participants read a brief description of the study and its inclusion criteria (i.e., between the ages of 18 and 29 and residing in the United States at the time of the study) in MTurk. Enrollment in college was not required due to inconsistent findings in the literature related to college status and the prevalence of cyber aggression (Ashiq et al., 2016). Those who signed up for the study in MTurk were provided with a URL directing them to a secure web-based system (Qualtrics) where the consent form and all study measures were hosted. The consent form highlighted the purpose of the study, its use of self-report questionnaires, the benefits and risks of participation, and the confidentiality of the collected data. Potential participants were informed that they could withdraw from the study at any time. Those who provided consent were entered in the study, presented with a brief demographic and technology use questionnaire, followed by the remaining instruments. Two directed response items (e.g., "Answer 'unlike me' to this question") were included in the measures to identify insufficient effort responding (IER), as recommended by Meade and Craig (2012). Study completion time was recorded as another indicator of IER. Data from participants who failed one or more directed response items or completed the study in less time than 90% of the sample were removed. Identifying information was deleted, and participants were randomly assigned a MTurk worker code to protect anonymity and confidentiality. Participants who completed the study without failing the directed response items were compensated $0.25.

The sample used for all analyses included 404 (237 women and 167 men) participants between the ages of 18 and 29 (M = 25.16, SD = 2.76). As a ratio of 20:1 participants to variables is generally recommended for parameter estimates (Stevens, 2012), the sample size was determined to be sufficient once the number of participants minus removals for inattentive responding exceeded 400. Participants identified their racial backgrounds as follows: White (65.3%), Asian (18.1%), Black (7.9%), American Indian/Alaskan Native (5.2%), Native Hawaiian/Pacific Islander (0.7%), and other (2.7%). At the time of the study, 44.6% were enrolled in college. All participants reported using at least one social media service, with the most used site being Facebook.

Instruments

Demographic and Technology Use Questionnaire

A brief questionnaire assessing participants' demographic characteristics (e.g., gender, age, race) and technology use was developed for this study. It was used to verify that participants were between 18 and 29 years of age and residing in the United States, as well as to collect information on the frequency and type of technology used (e.g., social media sites such as Facebook and Instagram, text messaging).

Cyberbullying Experiences Survey (CES)

The 20-item perpetration scale from the CES developed by Doane and colleagues (2013) was used to assess cyber aggression perpetration. Respondents rated items using a 6-point Likert-type scale with response options ranging from 0 = *never* to 5 = *everyday/almost every day*. The perpetration scale yields a total score and four 5-item subscale scores: malice ("Have you sent a rude message to someone electronically?"), public humiliation ("Have you posted a picture of someone electronically that they did not want others to see?"), unwanted contact ("Have you sent an unwanted sexual message to someone electronically?"), and deception ("Have you pretended to be someone else while talking to someone electronically?"). During development of the CES, the authors noted that while the exploratory factor analysis recommended two factors, four factors were determined to be acceptable and more appropriate for theoretical interpretation (Doane et al., 2013). The validation study (Doane et al., 2013) noted that all perpetration subscales had good internal consistency (e.g., αs > .70). The CES perpetration scale has been used with emerging adult samples, and scores have been shown to be reliable (Total Perpetration Score α > .80, Malice α > .90, Unwanted Contact α > .94, Public Humiliation α > .83, Deception α > .83) and to correlate with other measures of cyber aggression and related constructs (Bauman & Baldasare, 2015; Doane et al., 2013; Snyman & Loh, 2015). In the present study, the Cronbach's alpha for each CES subscale were .91 for Deception, .97 for Unwanted Contact, .93 for Malice, and .93 for Public Humiliation. The Cronbach's alpha for the total CES Perpetration score was .98.

A confirmatory factor analysis (CFA) was conducted on the CES to examine whether this measure and the developers' suggested four-factor structure (Doane et al., 2013) was appropriate for use in subsequent analyses. The model fit statistics noted acceptable fit via the comparative fit index (CFI = .985) and the Tucker Lewis Index (TLI = .956), as both statistics were greater than .95. The standardized root mean square residual (SRMR = .025) indicated good fit as this statistic was less than .08; however, the root mean-square error of approximation (RMSEA = .192, 90% CI [.137, .253]) indicated poor fit (> .08). With the other statistics noting acceptable to good fit and the RMSEA known to be amplified within models with low degrees of freedom (Kenny et al., 2015), the factor structure proposed by the measure's authors (Doane et al., 2013) was confirmed and deemed appropriate for use.

Moral Disengagement Measure (MDM)

The 24-item MDM was used to assess participants' use of moral disengagement. It was developed by Detert and colleagues (2008) from Bandura and colleagues' (1996, 2001) 32-item Moral Disengagement Scale (MDS). Specifically, Detert and colleagues (2008) modified the MDS, which was developed for use with children and adolescents, to be appropriate for use with emerging adults and reduced the number of items to 24 which adequately and uniformly captures an eight-factor structure. Respondents rate each item using a 5-point Likert-type scale from 1 = *strongly disagree* to 5 = *strongly agree*. In addition to a total moral disengagement score, the MDM yields eight 3-item subscales reflecting specific moral disengagement mechanisms: moral justification ("It is alright to fight to protect your friends"), euphemistic labeling ("Sharing test questions is just a way of helping your friends"), advantageous comparison ("Stealing some money is not too serious compared to those who steal a lot of money"), displacement of responsibility ("If people are living under bad conditions, they cannot be blamed for behaving aggressively"), diffusion of responsibility ("A member of a group or team should not be blamed for trouble the team caused"), distortion of consequences ("Insults don't really hurt anyone"), attribution to blame ("People who are mistreated have usually done things to deserve it"), and dehumanization ("Some people deserve to be treated like animals"). Most published studies that have used the MDM have used the total moral disengagement score and found it to be reliable (α = .89; Chowdhury & Fernando, 2014). The eight subscales were sufficiently reliable in the present study (αs = .78–.94; see Table 1). Several studies have supported the construct

validity of the total moral disengagement score through comparisons with measures of empathy, moral identity, cynicism, and ethical behavior (Chowdhury & Fernando, 2014; Chugh et al., 2014). Although less is known about the validity of the subscales, Riaz and Bano (2020) recently provided support for their convergent and discriminant validity in an adolescent sample (i.e., each subscale was positively related to relational aggression and psychopathy, and negatively related to empathy).

A CFA was conducted on the MDM to assess the appropriateness of examining the measure's subscales in the present sample. The model fit statistics revealed a root mean-square error of approximation (RMSEA = .151, 90% CI [.132, .170]), a comparative fit index (CFI = .949), a Tucker Lewis Index (TLI = .928), and a standardized root mean square residual (SRMR = .029). The SRMR indicated good fit (< .08); and the TLI and CFI indicated adequate fit (> .90). However, the RMSEA indicated poor fit as the statistic was above .80. All the factor loadings were acceptable (B > 0.738). Due to the CFA results and our interest in how the specific moral disengagement mechanisms related to various aspects of cyber aggression, the model was retained and used in the path analysis.

Analyses

Prior to running statistical analyses, the electronic data file was examined for outliers and missing data. Individual measure-specific means were calculated and imputed for two instances of missing data (i.e., an individual's mean score for the subscale containing the missing item was calculated and used to replace the missing response), and there were no outliers identified. Descriptive statistics, alpha coefficients, and bivariate correlations among variables were examined via SPSS version 25. Additionally, a CFA was conducted for the study questionnaires. Prior to conducting the primary analysis, a stepwise multiple regression was conducted via SPSS to determine which of the eight moral disengagement mechanisms assessed by the MDM predicted the total CES perpetration score. To begin examining the path model including the moral disengagement subscales as independent variables and the cyber aggression subscales as dependent variables, data were exported to Mplus 7.11 (Muthén & Muthén, 2013), and a path analysis was conducted with the standard maximum likelihood estimator.

Results

Table 1. *Means, Standard Deviations, Alpha Coefficients, and Correlations for All Study Variables*.

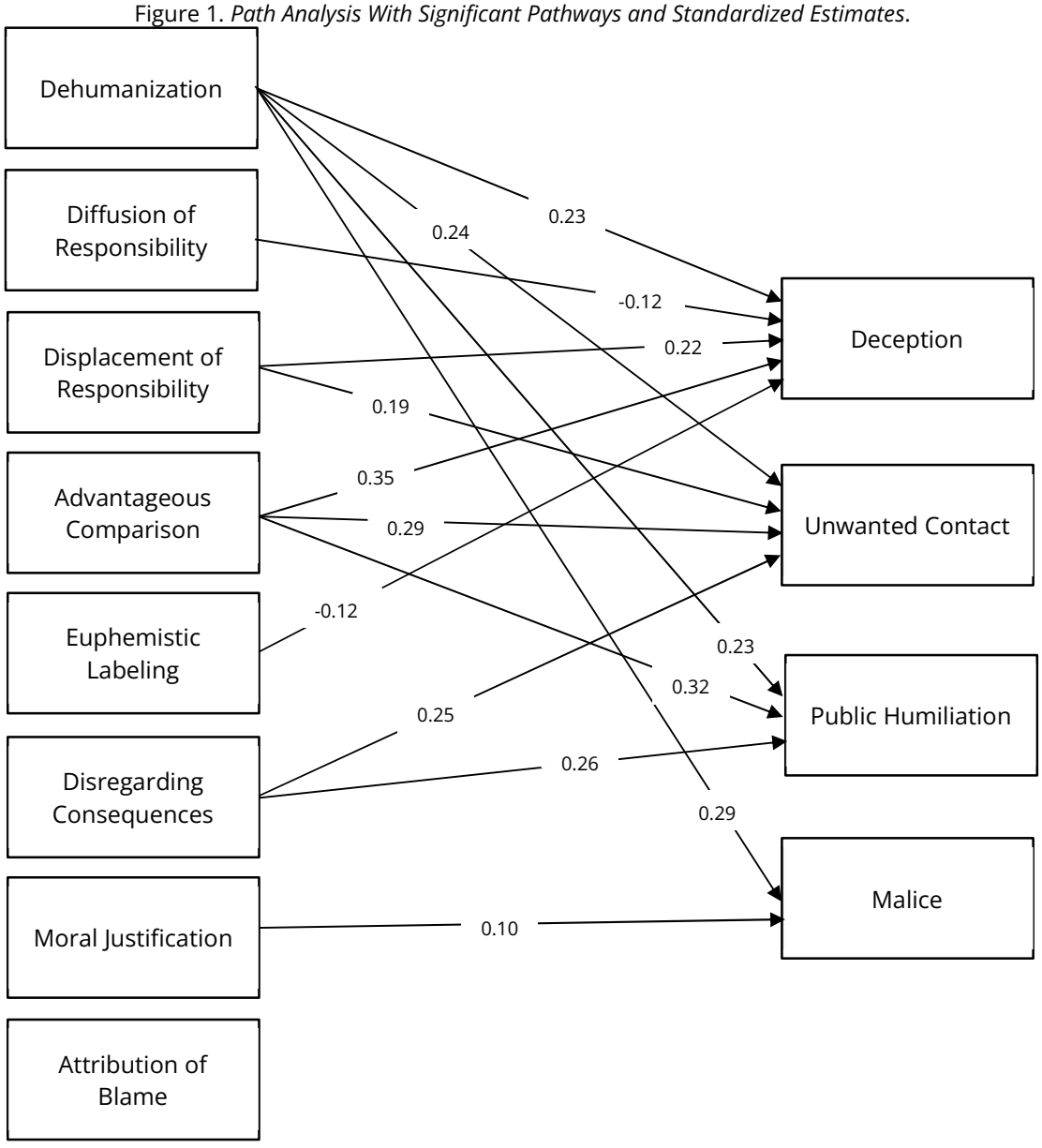
	1	2	3	4	5	6	7	8	9	10	11	12	13
1. PED	---												
2. PEUC	.89	---											
3. PEM	.76	.80	---										
4. PEPH	.84	.95	.81	---									
5. CESP	.91	.97	.91	.96	---								
6. MJ	.56	.56	.56	.57	.60	---							
7. EL	.66	.66	.61	.66	.68	.74	---						
8. AC	.74	.77	.65	.77	.77	.66	.80	---					
9. DISR	.71	.74	.64	.73	.74	.70	.79	.84	---				
10. DIFR	.58	.63	.59	.63	.65	.62	.69	.73	.79	---			
11. DC	.72	.77	.68	.78	.79	.66	.76	.82	.79	.72	---		
12. AB	.72	.76	.67	.75	.77	.65	.78	.84	.82	.74	.87	---	
13. DEH	.71	.76	.69	.76	.78	.61	.71	.77	.75	.70	.87	.85	---
M	1.20	0.98	1.55	0.99	1.19	7.43	6.37	4.46	5.41	6.33	5.15	5.17	4.67
SD	1.43	1.41	1.36	1.44	1.32	3.87	4.33	4.89	4.33	4.30	4.47	4.62	5.07
α	.91	.97	.93	.93	.98	.78	.80	.93	.87	.84	.89	.89	.94

Note. All coefficients are significant at p < .001. PED = Cyber Aggression - Deception; PEUC = Cyber Aggression - Unwanted Contact; PEM = Cyber Aggression - Malice; PEPH = Cyber Aggression - Public Humiliation; CESP = Cyber Aggression Total Score; MJ = Moral Justification; EL = Euphemistic Labeling; AC = Advantageous Comparison; DISR = Displacement of Responsibility; DIFR = Diffusion of Responsibility; DC = Disregarding Consequences; AB = Attribution of Blame; DEH = Dehumanization.

All study variables were positively correlated, including the subscales of the CES and the subscales of the MDS (see Table 1). Two of the CES subscales, public humiliation and unwanted contact, were strongly correlated (r = .95) suggesting that they are assessing similar constructs. Due to the CFA which confirmed a four-factor structure and the theoretical backing provided by Doane and colleagues (2013), these two subscales were included in the full model. The strength of the relationships of all eight moral disengagement mechanisms to the four CES subscales was sufficient to suggest meaningful associations (rs = .56–.78). The full regression model examining the eight moral disengagement mechanisms and the CES perpetration total score was significant (F(8, 395) = 113.48, p < .001), with an R^2 of .70. Of the eight moral disengagement mechanisms, dehumanization (B = .27, p < .001), advantageous comparison (B = .26, p < .001), displacement of responsibility (B = .15, p = .023), and distortion of consequences (B = .22, p = .002) predicted total CES perpetration scores.

In examining the pathways (see Figure 1), malice was predicted by moral justification (B = .10, p = .039) and dehumanization (B = .29, p = .001). Public humiliation was predicted by advantageous comparison (B = .32, p < .001), distortion of consequences (B = .26, p < .001), and dehumanization (B = .23, p < .001). Deception was predicted by euphemistic labeling (B = -.11, p = .047), advantageous comparison (B = 0.35, p < .001), displacement of responsibility (B = .22, p = .002), diffusion of responsibility (B = -.12, p = .010), and dehumanization (B = .23, p = .001). Unwanted contact was predicted by advantageous comparison (B = .29, p < .001), displacement of responsibility (B = .19, p = .010), distortion of consequences (B = .25, p < .001), and dehumanization (B = .24, p = .002).

Figure 1. *Path Analysis With Significant Pathways and Standardized Estimates*.



Note. All effects reported are significant at p < .05.

Discussion

The present study contributed to the small but growing literature on moral disengagement and cyber aggression among emerging adults. We used path analysis to examine the relationships of eight moral disengagement mechanisms assessed by the Moral Disengagement Measure (MDM; Detert et al., 2008) to the four domains of cyber aggression perpetration assessed by the Cyberbullying Experiences Survey (CES; Doane et al., 2013). Results indicated that each form of cyber aggression was predicted by different moral disengagement mechanisms, even though it should be noted that the CES subscales of public humiliation and unwanted contact were highly correlated. Dehumanization and moral justification predicted malice; dehumanization, distortion of consequences, and advantageous comparison predicted public humiliation; dehumanization, distortion of consequences, displacement of responsibility, and advantageous comparison predicted unwanted contact; and dehumanization, displacement of responsibility, advantageous comparison, euphemistic labeling, and diffusion of responsibility predicted deception. The key contributions of this study are as follows: 1) we confirmed the factor structure of the MDM, demonstrating its utility for assessing moral disengagement among emerging adults; 2) we provided initial evidence that dehumanization and advantageous comparison may be the most important moral disengagement mechanisms when it comes to cyber aggression perpetration among emerging adults, and 3) we showed that different moral disengagement mechanisms predicted various forms of cyber aggression perpetration, suggesting that future cyber aggression research may benefit from examining the components of moral disengagement rather than relying solely on a total moral disengagement score.

First, the factor structure of the MDM, developed by Bandura and colleagues (1996, 2000) and updated by Detert and colleagues (2008) for use with emerging adult and adult samples, was confirmed. This is noteworthy because there has been some disagreement in the literature about the reliability and factor structure of the scales assessing individual moral disengagement mechanisms (e.g., Egan et al., 2015; Swann et al., 2017). Bandura and colleagues (1996) indicated that different mechanisms of moral disengagement may "differ in their relative contribution to detrimental behavior" (p. 369). Thus, research on moral disengagement among emerging adults is likely to benefit from a psychometrically sound measure, such as the MDM, that allows researchers to calculate a total score and examine the eight moral disengagement mechanisms separately. In the context of cyber aggression perpetration, learning that some moral disengagement mechanisms appear to be more relevant than others for certain types of cyber aggression perpetration may have implications for prevention or treatment (e.g., understanding whether dehumanization should be the focus of intervention versus attribution of blame).

Second, our results suggest that dehumanization and advantageous comparison may be particularly important mechanisms for understanding cyber aggression perpetration among emerging adults. Dehumanization was the only moral disengagement mechanism to predict all forms of cyber aggression perpetration and was the strongest predictor of malice, which was the only form of cyber aggression that was not predicted by advantageous comparison. This is notable, as malice is often found to be the most prevalent form of cyber aggression (Bauman & Baldasare, 2015; Doane et al., 2013; Phizacklea & Sargisson, 2018). While this must be considered tentative pending additional research with more diverse samples and using additional measures of cyber aggression, the connection between dehumanization and malice is consistent with the role of dehumanization in cruelty. As Bandura (1990) explained, one's perception of humanity in others activates empathy and, "cruel conduct can be disengaged or blunted by divesting people of human qualities" (p. 38). This mechanism has been supported by studies highlighting the links between dehumanization and various forms of aggression (e.g., shooting bias, sexual aggression, bullying, cyber aggression; Bandura, 2002; Bandura et al., 1975; Mekawi et al., 2016; Runions & Bak, 2015; Van Noorden et al., 2014). Additionally, Bandura (1999) noted that some conditions of modern life (e.g., urbanization) may elicit dehumanization, and it is increasingly evident that electronic communication may represent such a condition. Despite the clear conceptual utility of dehumanization in predicting malice, advantageous comparison was the best predictor of the other three types of cyber aggression perpetration: unwanted contact, public humiliation, and deception. This is consistent with findings showing that forms of moral disengagement other than dehumanization may be better predictors of some forms of cyber aggression. For example, Falla and colleagues (2021) identified the cognitive restructuring cluster of moral disengagement (i.e., advantageous comparison, moral justification, and euphemistic labeling) as being more relevant to cyber aggression than dehumanization. Similarly, Romera and colleagues (2021) highlighted the importance of the cognitive restructuring cluster in both online and offline bullying. We did not find that euphemistic labeling or moral justification, the other two mechanisms in the cognitive restructuring cluster, predicted numerous forms of

cyber aggression; however, moral justification predicted malice and euphemistic labeling predicted deception. Thus, while they remain relevant in the context of these forms of cyber aggression, the lack of predictive value for the other forms of cyber aggression may be due to the moderate to high correlations (> 0.66) between these three mechanisms. Potentially, the predictive value of advantageous comparison outweighed and subsequently reduced the effects of the other two mechanisms in the cognitive restructuring cluster.

Third, while previous studies of moral disengagement and cyber aggression have typically viewed moral disengagement as a unitary construct (e.g., Nocera et al., 2020; Runions & Bak, 2015) or four clusters (Falla et al., 2020), our results suggest that it may be beneficial to examine the role of specific moral disengagement mechanisms too. While the moral disengagement mechanisms together predicted cyber aggression perpetration, only dehumanization, advantageous comparison, distortion of consequences, and displacement of responsibility were significant, unique predictors. Thus, people who compare cyber aggression with worse actions, blame authority figures, negate any harmful effects, and view victims as part of an out-group are most likely to perpetrate cyber aggression. Interestingly, these predictors seem to account for each domain of moral disengagement (e.g., altering the act itself, the effects of the act, and the victim's role), which suggests that each of these domains remain pertinent, but certain subscales within such domains overshadow others (e.g., dehumanization overshadowing attribution of blame). While these results differ from those of Romera and colleagues (2021), who found that all of the moral disengagement clusters aside from minimizing responsibility predicted online bullying (with the cognitive restructuring cluster having the strongest predictive value), it may be that the differing construct of *cyber aggression* versus *online bullying*, differing age of the samples (e.g., emerging adults versus adolescents) and the examining of the individual mechanisms versus the broader clusters complicates direct comparisons.

Further, the finding that dehumanization and moral justification predicted malicious acts may be due to individuals creating in- and out-groups within social contexts for frames of reference to their moral codes (Bandura, 2002). For example, individuals identifying with conservative viewpoints may label those promoting liberal viewpoints online as part of the out-group, resulting in aspects of dehumanization and a belief that malicious behavior is serving a moral purpose (e.g., correcting the individual's beliefs). Moreover, one's frames of reference are distorted via online platforms to allow for greater chances of completing acts of malice towards others. By reducing their immediate emotional connections with the potential victims, perpetrators can use dehumanization (e.g., viewing victims as little more than their profiles) and moral justification (e.g., believing the malicious behavior is pertinent to some moral purpose) to justify their actions, while reducing the blame they place on themselves for the consequences (Runions & Bak, 2015). Moral justification and dehumanization have repeatedly been shown to have the strongest relationship of all the mechanisms to bullying, cyberbullying, and aggressive behavior in general (Bandura et al., 1996; Pornari & Wood, 2010). It may be that the other moral disengagement mechanisms, such as euphemistic labeling, were simply secondary contributors to the individual's decision to act maliciously once they were able to dehumanize and justify their actions.

Similarly, dehumanization, distortion of consequences, and advantageous comparison predicted public humiliation. Thus, individuals can identify the target of public humiliation as a member of the out-group (dehumanization) while reducing accountability for their actions by comparing their behavior to worse actions (advantageous comparison) and attributing any adverse consequences for the victim as being deserved (distortion of consequences). For being a member of the out-group, the victim deserves to be publicly humiliated, as they brought it upon themselves. Leidner and colleagues (2010) determined that dehumanization and minimizing the victim's emotional suffering through other mechanisms (e.g., distortion of consequences) by in-group members predicted a reduced desire to seek justice for the victim. This has important implications, as it denotes a belief in the perpetrator that the victim is incapable of feeling the emotional pain and that their actions were not reprehensible (Leidner et al., 2010). Once the individual identifies with the in-group, encouraging and protecting them from the consequences of unethical behaviors, there may be little need to complete mental justifications for their actions. Thus, mechanisms of moral justification and euphemistic labeling would likely be unnecessary, as the group mentality would condone use of immoral behavior towards those considered in the out-group.

Deception was predicted by dehumanization, displacement of responsibility, and advantageous comparison. Interestingly, deception was also negatively predicted by euphemistic labeling and diffusion of responsibility. Gartzke and Lindsay (2015) noted that cybersecurity professionals utilize deceptive methods to prevent hackers

from accessing vital information and that this may be justified by viewing them as malicious entities not deserving of empathy (i.e., dehumanization); however, our finding that euphemistic labeling was negatively related to deception suggests that this may be more complex. Perhaps this highlights a difference between dehumanization and euphemistic labeling consistent with the possibility that dehumanization may be more closely associated with the willingness to deceive others during online interactions while euphemistic labeling might lead one to consider alternatives. While deception is a form of cyber aggression (Doane et al., 2013) that may be justified as a form of protection against harmful others, as serving some greater good, or by placing responsibility on others (Barsky, 2011; Gartzke & Lindsay, 2015), additional research will be helpful to better determine why diffusion of responsibility was negatively related to deception while displacement of responsibility was positively related. Perhaps placing blame for one's behavior on a larger group (i.e., diffusion) makes deception seem less necessary or appealing.

Unwanted contact, like the highly correlated subscale of public humiliation, was predicted by advantageous comparison, distortion of consequences, and dehumanization. Unlike public humiliation, unwanted contact was also predicted by displacement of responsibility, suggesting that these subscales represent distinct aspects of cyber aggression despite their strong association. Of course, this could also be attributed to the chosen statistical analysis of this study, as path analysis allows variables to deflate the effects of other similar variables in the model (Lleras, 2005). Contrary to the findings of Pornari and Wood (2010), advantageous comparison predicted cyber aggression in the form of unwanted contact. This finding may be attributed to the fact that perpetrators who engage in unwanted contact via the internet may perceive that engaging virtually is less impactful/serious than physical contact (i.e., advantageous comparison). Therefore, they may accept less accountability for their actions and place blame on external factors like parents, friends, or authority figures (i.e., displacement of responsibility; Bandura, 1999). For example, sending unwanted explicit images may be perceived as less severe compared to other instances of unwanted contact (e.g., sexual assault or stalking). Additionally, they may claim they were never told this type of behavior is unacceptable or considered a form of aggression/bullying, have gotten away with it previously, or witnessed similar behavior by others who did not suffer any consequences. Our findings may also be explained by aggressors discrediting the fact that victims are negatively impacted by their unwanted contact (i.e., distortion of consequences) due to a lack of behavioral observation of their victim at the time of the unwanted contact (Runions & Bak, 2015). Finally, being able to hide behind a screen increases feelings of invisibility (Wright, 2013, 2014), which may result in the perpetrators' perception of their victims as less human. That is, the lack of emotional connectivity in online communication may decrease one's ability to empathize with victims, increasing the potential for dehumanization. One possible explanation for euphemistic labeling not being a significant predictor of this form of cyber aggression is that online communication is already dehumanized and involves masked behavior due to perceptions of decreased visibility. Individuals may not feel the need to mask their behavior or language since it already is masked behind a screen.

Limitations

Several limitations should be noted when interpreting the findings of the present study. First, the cross-sectional design prevents us from making causal inferences. Future research should utilize more sophisticated research designs to test causal hypotheses and determine directionality. Second, all variables were assessed with self-report measures, raising concerns about social desirability, common-method variance, and how accurate participants were in reporting their online aggression. Researchers may want to consider other methods of data collection (e.g., observation, examination of online activity) to counteract response bias. Regarding our sample, White, non-Hispanic women were overrepresented. While our sample included people from all regions of the United States, future research with more diverse samples will be needed to improve generalizability. Additionally, participants who utilize MTurk may also have specific characteristics that may not represent the population (e.g., increased technical skills, motivation for compensation); however, characteristics like increased technical skills may be beneficial to this research area, as the likelihood for engaging in cyber aggression is likely to be higher. Lastly, while the use of path analysis has numerous advantages, such as the ability for the variables to be non-normally distributed and the reduction in measurement error (Grewal et al., 2004), it also allows for deflation of some variables as is likely the case within the present study (e.g., dehumanization deflating the effects of other moral disengagement mechanisms).

Future Directions and Implications for Prevention and Treatment

The present study demonstrated that some moral disengagement mechanisms are better predictors of cyber aggression than others and that this varies for different forms of cyber aggression. Future research on cyber aggression is likely to benefit by continuing to identify factors that predict cyber aggression and variables that specify the conditions under which they exert their influence or pathways which help us understand their effects (e.g., moral disengagement). Identifying protective factors that reduce risk and may be targeted through prevention or intervention efforts (e.g., distress tolerance, emotion regulation, mindfulness) should be another focus of future research on this construct. Additionally, future research investigating moral disengagement mechanisms may benefit from a longitudinal approach to examine the process by which individuals begin to develop and then utilize these mechanisms. It is also worthwhile to devote greater attention to the role dehumanization and advantageous comparison play in cyber aggression, as these mechanisms most strongly predicted the different forms of cyber aggression perpetration. Future research should also explore how moral disengagement mechanisms differ across peer aggression contexts. For example, future studies may examine which moral disengagement mechanisms predict multiple forms of aggression (cyber, relational, overt) versus which might be contextually bound. This could inform the development of prevention programming and guide the development of age-appropriate interventions.

Pending additional studies with more diverse samples and utilizing more complex research designs, any possible implications for prevention and treatment must be considered tentative. Still, the present findings are consistent with the possibility that approaches focused on reducing moral disengagement in general, and the tendency to dehumanize potential victims or compare transgressions to crueler acts, would likely be helpful. As several studies have noted a relationship between empathic concern for others and a reduction in moral disengagement (Bandura et al., 1996; Fang et al., 2020) approaches aiming to increase empathy (e.g., perspective taking, meditation) may be useful in prevention of cyber aggression. Additionally, a meta-analysis conducted by Zych and colleagues (2019) found that empathy helps to differentiate cyber aggressors from non-aggressors and cyber aggression victims. This suggests that increasing empathy may be especially beneficial due to the reported effects of empathy on both moral disengagement and cyber aggression perpetration. Such interventions and continued research on the predictors of cyber aggression, as well as the protective factors against moral disengagement, would likely be valuable in deterring perpetration and, thus, negating the negative societal impacts of such a vast, harrowing phenomena.

Conflict of Interest

The Author(s) declare(s) that there is no conflict of interest.

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