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Digital Citizenship Mediates the Inhibitory Effect of Moral Disengagement on Cyber-Bystander Intervention among Young Adults

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Abstract

Background: Although cyber-bystander intervention is recognized as a vital deterrent to online aggression, the specific socio-cognitive mechanisms that facilitate such prosocial actions remain under-explored, particularly within non-Western, collectivistic contexts. Grounded in Social Cognitive Theory, this study investigated the inhibitory influence of moral disengagement on "defending the victim" behavioral styles, specifically examining whether digital citizenship serves as the critical mediating bridge in this relationship.

Method: A purposive sampling technique was used based on a cross-sectional and correlational survey design, data were collected from 454 young adult social media users in Pakistan (M_{age} = 22.81 years; *SD* = 2.64; 46.3% men, 53.7% women). Participants completed standardized measures for cyberbullying-specific moral disengagement, digital citizenship, and online defending behavior.

Results: The analyses revealed significant negative correlations between moral disengagement and both digital citizenship and defending behavior. Crucially, path analysis via Hayes' PROCESS macro (Model 4) demonstrated that the initial significant impact of moral disengagement on defending behavior became non-significant upon the inclusion of the mediator. This pattern indicates full mediation, suggesting that higher levels of moral disengagement undermine an individual's sense of digital responsibility and civic engagement, which subsequently suppresses the likelihood of victim defense.

Conclusions: The findings suggest that moral disengagement does not operate on bystander behavior in isolation; rather, its inhibitory effect is transmitted through the erosion of digital citizenship. These results advocate for a strategic shift in intervention priorities moving beyond the mere reduction of moral disengagement to the active cultivation of digital ethics and civic responsibility to foster resilient, prosocial online ecosystems.

Keywords: Moral disengagement, defending behavior, cyber bystander, digital citizenship, cyberbullying, mediation analysis.

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Background

The rapid evolution of digital communication has fundamentally restructured social interaction among young adults, presenting a complex landscape of opportunities and systemic risks (Quintana-Orts et al., 2026). Social media has become an indelible facet of modern life, with global reports indicating that over 90% of young adults maintain an active digital presence (Anderson et al., 2023; Barry et al., 2017). However, this ubiquitous connectivity has catalyzed a surge in negative online experiences, most notably cyberbullying—defined as repeated, intentional aggression mediated through electronic channels against individuals who cannot easily defend themselves (Smith et al., 2008). Unlike traditional bullying, the digital medium facilitates higher prevalence rates due to the affordances of anonymity, convenience, and a lack of physical boundaries (Barlett et al., 2020).

Crucially, cyberbullying is rarely a dyadic interaction; it is a social phenomenon typically observed by a silent majority of bystanders (Kozubal et al., 2019). While early scholarship focused predominantly on the perpetrator-victim dyad, contemporary research highlights that bystanders are the most significant group in online aggression scenarios and possess the potential to alter the trajectory of a bullying incident (Polanco-Levicán & Salvo-Garrido, 2021). Bystander responses are heterogeneous, ranging from passive observation or reinforcement of the bully to active defense of the victim (Salmivalli, 2010; Song & Oh, 2018).

Active defending behavior prosocial intervention aimed at supporting the victim or reporting abuse has emerged as a critical protective factor in reducing the severity of cyberbullying (Huang et al., 2023; Sobol et al., 2025). Despite its importance, the predictors of such intervention remain insufficiently understood, particularly in regions like Pakistan, where the absence of formalized digital ethics education and safety training exacerbates vulnerability to online harm (Bashir & Malik, 2020). While individual factors such as gender, age, prior victimization, and empathy have been linked to intervention (Hu et al., 2023; Jeong et al., 2022; Steinvik et al., 2024), there is a pressing need to investigate the deeper cognitive mechanisms, such as moral disengagement and digital citizenship, that drive or inhibit the decision to defend.

The present research focuses on exploring the role of digital citizenship behavior and moral disengagement in predicting the defending behavior of bystanders in digital spaces. Digital citizenship is defined as safe, ethical, legal, and responsible behavior in digital spaces (Ribble, 2011; Farzand et al., 2024), fordefending bystander behaviors. Although, digital competencies have been highlighted as associated with reduced online aggression and increased supportive behaviors, however, there is limited empirical evidence available with reference to its relation with the defending bystander behavior. This is highly relevant in the Pakistani context where digital engagement is increasing but formal digital ethics-based education remains scarce.

While the roles of perpetrators and victims in cyberbullying are well-documented, the socio-cognitive mechanisms that drive cyber-bystanders to transition from passive witnesses to active defenders remain a critical area of inquiry. Grounded in Social Cognitive Theory, this study identifies moral disengagement as a primary cognitive inhibitor that allows individuals to bypass self-regulatory moral standards, thereby reducing the likelihood of prosocial intervention. However, the current literature predominantly focuses on Western, individualistic populations, leaving a significant empirical gap regarding these dynamics in rapidly digitizing, collectivistic societies like Pakistan.

This research proposes digital citizenship defined by ethical, responsible, and civic-oriented online behavior as the functional mediator in the relationship between moral cognition and behavioral outcomes. We argue that moral disengagement does not merely suppress the impulse to defend; it actively erodes the sense of digital responsibility required for active intervention. By examining these pathways among Pakistani young adults, this study aims to provide a theoretically nuanced understanding of how fostering digital ethics can neutralize cognitive biases and promote safer online ecosystems.

The overarching objective of this research is to investigate the socio-cognitive mechanisms that drive prosocial intervention in digital spaces by evaluating the predictive influence of moral disengagement on cyber-bystander defending behavior, with a specific focus on the mediating role of digital citizenship. Drawing upon the moral disengagement perspective, the study posits three core hypotheses: first, that cyberbullying-specific moral disengagement will serve as a negative predictor of defending behavior among young adults ; second, that digital citizenship will positively predict the likelihood of a bystander defending a victim ; and finally, that digital citizenship acts as a critical mediator, providing a nuanced theoretical pathway through which cognitive moral deactivation translates into a reduction of responsible online intervention.

Method

Research Design and Objectives

This study employed a cross-sectional, correlational survey-based design to systematically evaluate the socio-cognitive determinants of cyber-bystander intervention. The primary objective is to investigate the predictive influence of moral disengagement on defending behavior among 454 young adult social media users, while specifically examining the mediating role of digital citizenship. To achieve this, the investigation tests three core hypotheses: first, that cyberbullying-specific moral disengagement will serve as a negative predictor of defending the victim behavior (H1); second, that digital citizenship will positively predict the likelihood of active bystander intervention (H2); and finally, that digital citizenship behavior will significantly mediate the relationship between moral disengagement and defending styles, suggesting that cognitive moral deactivation reduces prosocial action by first undermining an individual's sense of digital responsibility (H3).

Participants

454 young adults were recruited from diverse higher education institutions across Punjab, Khyber Pakhtunkhwa, and the Islamabad Capital Territory (ICT), Pakistan. The sample size was determined using the World Health Organization (WHO) sample size calculator to ensure

sufficient statistical power. Participants were selected via a hybrid non-probability approach, utilizing purposive and convenience sampling techniques to target active social media users. The sample was relatively balanced by gender, consisting of 210 men (46.3%) and 244 women (53.7%). Participants ranged in age from 18 to 30 years (M = 22.81; SD = 2.64), representing the emerging adult demographic most active in digital social spaces. The primary inclusion criterion required participants to be active users of at least one social media platform. All participants provided informed consent prior to data collection, and the study adhered to established ethical guidelines for human subjects' research.

Instruments

Defender of the Cybervictim Online (DCVO): To measure defending the victim behavior as bystander, Defender of the Cybervictim Online (6 items) subscale from the Cyberbullying Bystander Scale (Sarmiento et al., 2019) was used. The items were responded on a five-point Likert scale ranging from 1 (*Never*) to 5 (*Very frequently*) with score ranging from 6 to 30 where high core represents higher defending behavior. Sarmiento et al. (2019) reported high alpha coefficients (α = .91).

Cyberbullying-specific Moral Disengagement Questionnaire (CBMDQ-15): Cyberbullying-specific Moral Disengagement Questionnaire (Day & Lazuras, 2016) was used to measure moral disengagement in cyberspaces. This was 15 items scale responded on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Further, it has 4 components: Minimization of Harmful Effects (5 items; 4, 5, 6, 10, 11), Moral Justification (3 items; 1, 2, 3), Denial of Responsibility (4 items; 7, 8, 9, 15), and Dehumanization (3 items; 12, 13, 14). There are no reverse scorings and the total CBMDQ-15 score range lies between 15 and 75. Higher scores reflected higher cyberbullying moral disengagement. In the present study, composite scores were used. Scale shows high internal consistency as reported by original authors (α = .85).

Digital Citizenship Scale (DCS): Digital Citizenship Scale was an 11-items scale developed by Jones and Mitchell (2016) with two subscales: Online Respect (7 items; 1, 2, 3, 4, 5, 6, 7) and Online Civic Engagement (4 items; 8, 9, 10, 11). It is a 5-point Likert scale with response categories ranging from 0 (*Not at all like me*) to 4 (*Very much like me*). The total score range for this scale lies between 0 and 44. High scores on this scale indicate higher digital citizenship. Satisfactory alpha values (α = .70) have been reported by the authors.

Procedure

The study was conducted in strict adherence to the ethical standards of the American Psychological Association (APA), with formal approval obtained from the relevant Institutional Review Boards (IRB) and higher education directorates prior to data collection. Participants were recruited via a standardized invitation disseminated through institutional forums and digital social networks. Before participation, informed consent was obtained from all volunteers, who were briefed on the study's objectives and their right to withdraw at any time. Before engaging with the psychometric battery, all participants were provided with an Informed Consent form detailing the study's objectives, the voluntary nature of participation, and the assurance of absolute anonymity and confidentiality. To mitigate potential psychological distress associated with discussing cyberbullying, a debriefing protocol was implemented wherein participants were provided with a directory of free, province-specific mental health and counseling services. Data were collected via a secure digital survey platform, and participants were informed of their right to withdraw from the study at any point without penalty. The data will be analyzed using a mediation framework in IBM SPSS (v26.0) via the PROCESS Macro (v4.2), employing a bootstrapping method with 5,000 resamples to evaluate the indirect effect of moral disengagement on defending behavior through digital citizenship.

Results

The psychometric properties of the study scales were evaluated for internal consistency and distributional normality (see Table 1). Reliability analysis indicated that the instruments demonstrated acceptable to high internal consistency, with Cronbach's alpha (α) coefficients ranging from .66 to .87. While the Digital Citizenship Scale (DCS) yielded a slightly lower alpha (α = .66), it remained within the acceptable range for exploratory research in social sciences.

The distributional characteristics of the data were assessed using skewness and kurtosis indices. The results showed that skewness values (ranging from -.92 to -.23) and kurtosis values (ranging from -1.51 to 1.13) fell well within the recommended range of 2.0 (or the more liberal 3.0 for larger samples), confirming that the data for all variables approximated a normal distribution. These findings justified the use of parametric statistical techniques for subsequent hypothesis testing and mediation analysis.

The analysis revealed a significant positive correlation between digital citizenship and defending behavior ($r = .59$, $p < .01$), suggesting that individuals with higher levels of online civic responsibility are more likely to intervene on behalf of victims (see Table 2).

Conversely, moral disengagement exhibited a strong negative association with both digital citizenship ($r = -.77$, $p < .01$) and defending behavior ($r = -.48$, $p < .01$). These results indicate that cognitive moral deactivation is linked to a significant decline in both ethical digital engagement and prosocial intervention, providing initial empirical support for the hypothesized mediation model.

To test the hypothesized mediation model, l, a path analysis was conducted using Hayes' (2022) PROCESS Macro (Model 4). The results, summarized in Table 3, confirm that digital citizenship serves as a robust mediator between moral disengagement and defending behavior.

Initially, the total effect of moral disengagement on defending behavior was significant and negative ($\beta = -.48$, $p < .001$), accounting for 23% of the variance ($R^2 = .23$). In the mediation pathway, moral disengagement was found to be a strong negative predictor of digital citizenship($\beta = -.76$, $p < .001$), accounting for 58% of the variance in the model ($R^2 = .58$). Upon entering both predictors into the model, the effect of digital citizenship on defending behavior remained significant and positive.

Table 1

Psychometric Properties and Descriptive Statistics for the Defender of the Cybervictim Online (DCVO) scale, the Digital Citizenship Scale (DCS), and the Cyberbullying-specific Moral Disengagement Questionnaire (CBMDQ) (N = 454).

							Range	
Scales	Items	*α*	*M*	*SD*	*Skew*	*Kurt*	Potential	Actual
DCVO	6	.70	21.61	3.87	-.92	1.13	6-30	10-29
DCS	11	.66	33.19	5.64	-.47	.52	0-44	12-42
CBMDQ	15	.87	45.50	10.73	-.23	-1.51	15-75	23-66

Note. M = Mean; SD = Standard Deviation; DCVO = Defender of the Cybervictim Online; DCS = Digital Citizenship Scale; CBMDQ = Cyberbullying-specific Moral Disengagement Questionnaire.

Table 2

Correlation matrix among the Defender of the Cybervictim Online (DCVO) scale, the Digital Citizenship Scale (DCS), and the Cyberbullying-specific Moral Disengagement Questionnaire (CBMDQ) (N =454).

	Variables	1	2	3
1	DCVO	-	.59**	-.48**
4	DC			-.77**
5	CBMD			-

Note. DCVO = Defender of the Cybervictim Online; DC = Digital Citizenship Scale; CBMD = Cyberbullying-specific Moral Disengagement, $^{**}p < .01$.

Table 3

Mediating Effect of Digital Citizenship for theRelationship between Moral Disengagement and Defender of Cybervictim Behavior (N = 454).

Model	*B*	*SE*	*β*	95% CI	
				LL	UL
Model without Mediator					
Constant	29.53	.84		27.87	31.18
CBMD → DCVO (c)	-.17	.02	-.48***	-.21	-.14
R^2	.23				
Models with Mediator					
Model 1: DC as Dependent Variable					
Constant	51.62	.92		49.80	53.43
CBMD → DC (a)	-4.06	0.2	-.76***	-.45	-.37
R^2	.58				
Model 2: DCVO as Dependent Variable					
Constant	10.65	2.57		5.60	15.71
DC → DCVO (b)	.37	.05	.54***	.27	.46
CBMD → DCVO (c')	-.03	.03	-.07	-.08	.02
R^2 (X, M, Y)	.36				
Indirect effect (a*b)	-.15	.02		-.19	-.10

Note. DCVO = Defender of the Cybervictim Online; DC = Digital Citizenship; CBMD = Cyberbullying-specific Moral Disengagement, *p<.05; **p<.01; ***p<.001.

Crucially, the direct effect of moral disengagement on defending behavior became non-significant ($\beta = -.07$, $p > .05$), indicating a pattern of full mediation. The indirect effect, validated via bootstrapping with 5,000 resamples, was statistically significant ($B = -.15$, 95% CI [−.19, −.10]). These findings suggest that the impact of moral disengagement on cyber-bystander intervention is entirely transmitted through the degradation of digital citizenship (see Table 3).

Discussion

The current study investigated the socio-cognitive determinants of cyber-bystander intervention, specifically examining how moral disengagement and digital citizenship interact to predict defending behavior among Pakistani young adults. As cyberbullying remains a pervasive societal challenge, understanding why bystanders transition from passive witnesses to active defenders is critical for fostering safer digital ecosystems (Kozubal et al., 2019). Our findings provide robust empirical support for a mediation model wherein digital citizenship serves as the primary conduit through which moral cognition influences social action.

Consistent with our first hypothesis, cyberbullying-specific moral disengagement was found to be a significant negative predictor of defending behavior. This aligns with existing literature (Gini et al., 2022; Pozzoli et al., 2021) and reinforces Social Cognitive Theory, which posits that individuals neutralize internal moral self-sanctions through cognitive reframing. In the context of the Pakistani digital landscape, individuals who justify online aggression as "trivial" or "deserved" effectively deactivate their prosocial impulses, leading to silence or passivity in the face of harm.

This study's second hypothesis was confirmed, revealing a strong positive association between digital citizenship and defending behavior. This suggests that when individuals internalize the principles of ethical, legal, and responsible digital engagement, they develop a heightened sense of civic duty and empathy (Ullah et al., 2025). Unlike general prosocial traits, digital citizenship provides the specific technical and ethical framework necessary for active intervention, such as reporting abuse or offering public support to victims (Vlaanderen et al., 2020).

Similarly, the most significant finding of this study is the full mediation of digital citizenship in the relationship between moral disengagement and defending behavior. While moral disengagement initially appeared to directly suppress intervention, this effect became non-significant once digital citizenship was introduced. This suggests that moral disengagement does not only "stop" a person from helping; rather, it functions by actively eroding their identity as a responsible digital citizen. When cognitive standards are deactivated, the individual's sense of digital responsibility collapses, which in turn eliminates the motivation to defend. These findings support the existing literature (Corkum & Shead, 2023; Paciello et al., 2020) as well as social cognitive theory which highlights that people with high levels of moral disengagement have reduced prosocial motivation. It is evident from the findings that moral disengagement is associated with unethical and irresponsible behaviour in cyberspaces which conceptually contradicts digital citizenship and this may in turn decrease the likelihood of defending the victim behaviour among youth in digital spaces. Although mediation analysis highlight the role of digital citizenship in the link between moral disengagement and defender bystander behaviour, however, the use of mediation analysis on a cross-sectional data limits the establishment of causal inferences and consequently other alternative explanations such as defending behaviour enhancing digital citizenship or digital citizenship predicting less moral disengagement remain plausible. Hence, future research should focus on using longitudinal or experimental designs to establish temporal ordering. Another limitation is reliance on the self-reported data which might have resulted in socially desirable responses. Future researchers may control social desirability while studying this relationship.

Novel Contributions

This research significantly advances the field by identifying digital citizenship as the critical behavioral mechanism that fully mediates the relationship between cognitive moral deactivation and bystander intervention. While prior studies have largely relied on Western, adolescent-centered samples, this study decolonizes the literature by providing empirical evidence from the collectivistic, South Asian context of Pakistan, specifically targeting emerging adults who serve as the primary architects of modern online norms. By demonstrating that moral disengagement suppresses victim defense primarily by eroding an individual's sense of digital responsibility, the study offers a theoretically nuanced shift in perspective: suggesting that fostering positive civic engagement, rather than merely discouraging negative moral reasoning, is the most effective pathway to cultivating resilient and supportive digital ecosystems.

Limitations and Future Directions

Despite its contributions, the study has limitations that warrant caution. First, the cross-sectional design precludes definitive causal inferences. While our model suggests that disengagement reduces citizenship, it is plausible that low digital citizenship also facilitates higher moral disengagement. Future research should utilize longitudinal or experimental designs to establish temporal precedence. Second, reliance on self-report measures may introduce social desirability bias, particularly regarding sensitive moral issues. Future studies could benefit from incorporating peer-report data or behavioral observation in simulated online environments. Finally, exploring additional variables such as online disinhibition, perceived risk, and group norms would further refine our understanding of the bystander effect.

Conclusion

In conclusion, this research demonstrates that the fight against cyberbullying is not merely about reducing negative traits like moral disengagement, but about actively cultivating positive frameworks like digital citizenship. Our findings reveal that digital responsibility is the essential mechanism that translates moral conviction into social defense. For educators and policymakers in Pakistan and similar emerging digital economies, these results suggest that formal digital ethics interventions may be more effective in promoting prosocial bystander

behavior than traditional anti-bullying campaigns alone. By fostering a generation of responsible digital citizens, we can transform passive bystanders into an active, protective force within the digital community.

Ethical Consideration

The study was approved by National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan. Consent Form was taken before taking data and participants were asked to take voluntary participation.

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Availability of data and materials

The data sets used and analyzed during the current study are available from the corresponding author on reasonable request.

Authors' contributions/Author details

Dr. Sobia Masood was responsible for the study's conceptualization, methodology, and coordination. Komal Farooq, Neelofar Nadeem, and Mustanir Ahmad managed the protocol implementation and data collection. All authors have reviewed and approved the final manuscript.

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