

Cyber-intimate partner violence and mental health outcomes in a sample of high school girls

Abstract

Interpersonal violence is a prevalent public health issue. Cyberbullying and intimate partner violence (IPV) are two types of interpersonal violence that have major health consequences. This study examines the relationship between adolescent girls' involvement in cyber-IPV and two types of self-efficacy: general self-efficacy and coping self-efficacy. Secondly, this study explores the association between cyber-IPV and depression, anxiety, and childhood trauma. Participants were 51 high school girls. No significant relationships were found between perpetration and either type of self-efficacy. Trends towards significance were found for the relationship between victimization and coping self-efficacy. There was a significant relationship between both victimization and perpetration and childhood trauma, such that childhood trauma predicted victimization and trended towards predicting perpetration. There was also a relationship between victimization and anxiety. Results of this study can be used to develop age- and gender-appropriate interventions for adolescent girls.

Keywords: cyberbullying, intimate, partner, violence, adolescence, cyber-IPV, self-efficacy, childhood trauma, victimization, coping self-efficacy

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Abbreviations: IPV, intimate partner violence; YRBSS, youth risk behavior surveillance system; GSE, general self-efficacy; CSE, coping self-efficacy

Introduction

Bullying is defined as repeated, unwanted, aggressive behavior that involves a power imbalance.¹ Bullying is especially prevalent among school-aged youth. The 2011 Youth Risk Behavior Surveillance System (YRBSS) found that 20% of 9th through 12th graders nationwide experienced bullying the previous year.²

Bullying can have serious and long-lasting consequences. Adults who were victims or perpetrators of bullying as children have a higher incidence of anxiety disorders.³ Bullying victims report decreasing levels of self-worth with increasing levels of victimization.⁴ Bullying victimization is also a risk factor for future perpetration.¹

Recently, bullying has begun to occur electronically. This phenomenon is known as "cyberbullying".¹ Ninety-five percent of teenagers use electronic media. Seventy-five percent of teenagers have cell phones; 73% have social networking accounts; and 97% play computer-based role playing games.⁵ Teenagers have increasing access to electronic communication.⁶ This increase in electronic communication coincides with an increase in cyberbullying. Thirty-two percent of teenagers who communicate electronically report cyberbullying victimization, which includes receiving threatening messages, having private communications posted without consent, or having rumors, spread online.⁷ Cyberbullying is associated with lower self-esteem and higher depression and suicidality.⁸

Intimate partner violence (IPV) refers to physical, sexual, or psychological harm by a current or former partner or spouse. One third of American adolescents experience abuses from an intimate partner. Ten to 25% of high schoolers and 20-30% of college students report IPV involvement.⁹ Females between the ages of 16 and 24 experience

the highest rate of IPV.¹⁰ Limited research has examined youth IPV.¹¹

Risk factors for adolescent IPV involvement include prior exposure to violence, low self-esteem, depression, poor problem solving¹² and childhood abuse.¹³

IPV victimization in adolescents is associated with depression and suicidality.¹⁴⁻¹⁶ In adolescent girls, IPV victimization is associated with negative self-image, mental health decline, and suicidality.^{15,16} Women who were IPV victims as adolescents are more likely to experience depression, suicidality, and future victimization.¹⁷

This study uses the term "cyber-IPV" to refer to cyberbullying behaviors among dating couples or IPV behaviors via electronic communication. Cyber-IPV has not been adequately explored. The extant research, however, finds that IPV perpetrators often use technology to stalk, argue with, monitor, control, and send aggressive messages to partners.^{18,19}

There are significant gaps in the existing cyber-IPV literature. Current research focuses on college students.¹⁸⁻²¹ However, high school-aged girls experience the highest IPV rates.¹⁰ Most studies on the topic are qualitative and note the need for quantitative studies.^{5,18-21} Furthermore, the current research does not examine correlates of cyber-IPV.

A potentially important correlate of cyber-IPV is self-efficacy, or the perception of one's ability to accomplish goals.²² General self-efficacy (GSE) refers to individuals' beliefs in their ability to perform in various situations.²³ Coping self-efficacy (CSE) refers to individuals' beliefs in their ability to deal with challenges and threats.²⁴

Adolescents exposed to interpersonal violence tend to have lower self-efficacy than those who are not.²⁵ Another risk factor for low self-efficacy is childhood trauma. Abused children typically report greater feelings of incompetence than their non-abused peers and exhibit lower GSE as adults.²⁶ Lower self-efficacy is associated with

depression and anxiety in adolescents.²⁷ Limited research exists on self-efficacy in adolescent girls.

The aim of this study was to examine the relationship between cyber-IPV involvement and self-efficacy. GSE and CSE were outcomes of interest. Given the association between self-efficacy and depression, anxiety, and childhood trauma, this study secondarily looked at the relationship between cyber-IPV involvement and depression, anxiety, and childhood trauma. The hypotheses are:

- I. Cyber-IPV victimization will be associated with
 - a. Lower levels of GSE and CSE
 - b. Higher levels of depression, anxiety, and childhood trauma
- II. Cyber-IPV perpetration will be associated with
 - a. Lower levels of GSE and CSE
 - b. Higher levels of depression, anxiety, and childhood trauma

No studies to date have examined the relationship between cyber-IPV and self-efficacy. Understanding this relationship is crucial to creating effective interventions and to fostering healthy youth development. Additionally, this study focuses exclusively on high school girls because this population reports disproportionately higher rates of cyberbullying and IPV^{5,7,10,28,29} and has not been adequately explored in existing research. This quantitative study exploring correlates of cyber-IPV in high school girls will inform gender-specific and age-appropriate interventions.

Methods

This cross-sectional study occurred in an all-girls high school. Participants were recruited via convenience sampling as part of a voluntary health class. The Stanford University Institutional Review Board approved the study. Participants responded to scales assessing trauma, relationship experiences, mental health, and self-efficacy. Analyses are based on responses of the 51 girls who had ever been in a dating relationship, and therefore eligible to complete the cyber-IPV scale.

The independent variables are victimization and perpetration, measured using two subscales of the Tech's Role in Teen Relationships Survey dealing with cyber-IPV victimization and perpetration. Each subscale contains 19 items with dichotomous response sets.³⁰⁻³⁵ Two variables were calculated. First, victimization and perpetration were defined as binary variables. Participants were classified as a victim if they endorsed any of the victimization items and as a perpetrator if they endorsed any of the perpetration items. Second, continuous variables for amounts of victimization and perpetration were calculated by summing responses on the respective scales.

The primary dependent variables are general self-efficacy (GSE), measured by the Generalized Self-Efficacy Scale, and coping self-efficacy (CSE), measured by the Coping Self-Efficacy Scale. Both are continuous variables calculated by summing responses to each item. The secondary dependent variables are depression, measured by the Beck Depression Inventory; anxiety, measured by the Beck Anxiety Inventory, and childhood trauma, measured by the Childhood Trauma Questionnaire. All secondary variables are continuous and calculated by summing responses to each item.

Analyses were conducted using SPSS 22. ANOVAs examined group differences (victims versus non-victims and perpetrators versus

non-perpetrators) in self-efficacy, mood symptoms, and trauma. Pearson correlations examined relationships between variables. Forward stepwise logistic regression was performed to predict victimization and perpetration. At each step, the predictor with the largest statistic whose p-value was less than .05 was added to the model.³⁵⁻⁴⁰

Neither GSE nor CSE differed significantly by victimization or perpetration status (Table 1 & 2). A trend was found in the correlation between victimization and CSE ($r=-.262$, $p=.064$). As CSE increased, victimization decreased.

Table 1 Self-efficacy and associated traits by victimization status

Characteristic	Victim		F(df, error)	p
	Yes (Mean [SD])	No (Mean [SD])		
General Self-Efficacy	28.8 (3.9)	30.3 (4.8)	1.059 (1, 49)	0.309
Coping Self-Efficacy	146.0 (52.6)	167.0 (42.0)	2.042 (1, 49)	0.159
Childhood Trauma	50.6 (17.9)	42.8 (4.5)	6.386 (1, 49)	0.015
Depression	58.2 (11.3)	49.5 (7.2)	1.801 (1, 49)	0.186
Anxiety	58.1 (12.5)	51.2 (7.0)	5.950 (1, 49)	0.018

Table 2 Self-efficacy and associated traits by perpetration status

Characteristic	Perpetrator		F(df, error)	p
	Yes (Mean [SD])	No (Mean [SD])		
General Self-Efficacy	30.2 (3.4)	29.9 (4.9)	0.038 (1, 49)	0.847
Coping Self-Efficacy	153.1 (54.1)	164.6 (42.7)	0.554 (1, 49)	0.46
Childhood Trauma	49.7 (18.9)	43.2 (4.8)	4.005 (1, 49)	0.051
Depression	57.3 (11.1)	54.8 (7.6)	0.734 (1, 49)	0.396
Anxiety	56.4 (12.4)	51.9 (7.7)	2.247 (1, 49)	0.14

A strong relationship was found between childhood trauma and CSE ($r=-.331$, $p=.018$). Higher CSE was associated with lower trauma. Trauma levels differed significantly between victims and non-victims and trended towards being significantly different between perpetrators and non-perpetrators (Table 1 & 2). Both victims and perpetrators reported more trauma than non-victims and non-perpetrators, respectively. Victimization was significantly correlated with childhood trauma ($r=.282$, $p=.045$).

Depression levels did not differ by either victimization status or perpetration status. Anxiety levels significantly differed between victims and non-victims. Depression trended towards being significantly correlated with victimization ($r=.260$, $p=.065$). Higher anxiety was significantly associated with higher levels of victimization ($r=.331$, $p=.018$).

Childhood trauma alone predicted victimization ($X^2=5.80$, $p=.016$). It accounted for 16.2% of the variance and correctly classified 82.4% of participants. The odds of victimization for participants who experienced childhood trauma were 1.12 times the odds of

victimization for participants who never had (95% CI: .99-1.27). Childhood trauma alone trended towards predicting perpetration ($X^2=3.29$, $p=.072$). It accounted for 9.5% of the variance and correctly classified 80.4% of participants. The odds of perpetration for participants who experienced childhood trauma were 1.067 times the odds of perpetration for participants who never had (95% CI: .97-1.17).

Discussion

This study examined the relationships between cyber-IPV victimization and perpetration and two types of self-efficacy: GSE and CSE. While there were no significant relationships for perpetration, there were trends towards significance for victimization and CSE. Higher levels of victimization were associated with lower levels of CSE.

Secondarily, this study examined relationships between cyber-IPV involvement and depression, anxiety, and childhood trauma. Strong correlations were found between victimization and childhood trauma and anxiety. Victims had higher levels of anxiety and childhood trauma. Trends towards significance were found for the relationship between victimization and depression.⁴¹⁻⁴³ Childhood trauma was the only predictor of victimization. Participants who had experienced childhood trauma had higher odds of being cyber-IPV victims. A trend towards a significant difference was found in childhood trauma levels between perpetrators and non-perpetrators. Perpetrators experienced higher levels of childhood trauma than non-perpetrators. Childhood trauma trended toward predicting perpetration. Participants who had experienced childhood trauma had higher odds of being cyber-IPV perpetrators.

This study suggests that correlates of cyber-IPV might be stronger for victims than for perpetrators, at least among adolescent girls. Resources should therefore be allocated to supporting cyber-IPV victims. The several significant findings with childhood trauma suggest that resources should also be allocated to early intervention and prevention of childhood trauma.

This study represents an important contribution to the field of youth interpersonal violence. It is the first study to examine cyber-IPV among adolescent girls and the relationship between cyber-IPV and self-efficacy. The study's quantitative nature provides useful information that can be used to develop age- and gender-appropriate interventions targeting cyber-IPV and self-efficacy.

While this study builds upon existing research, it presents limitations. The study's cross-sectional nature does not allow us to establish a causal relationship between cyber-IPV and self-efficacy. A second limitation is the small sample size. The lack of statistically significant findings could be due to the small sample. However, since there were trends towards significance, a larger sample may have yielded significant results. Relatedly, participants may not have been representative of all adolescent girls in dating relationships. Furthermore, this study did not use a validated measure of cyber-IPV. Currently, no such measure exists. Developing a validated instrument measuring cyber-IPV is an important direction for future research.

In spite of its limitations, this study presents significant implications. It shows that interpersonal violence is a critical public health problem. It also illuminates the association between cyber-IPV and other aspects of wellbeing. Currently, the YRBSS includes items on bullying and intimate partner violence, but not on cyberbullying or cyber-IPV (CDC, 2013). This study highlights the need to include such items on public health surveys to inform appropriate interventions.

Our findings suggest that childhood trauma and related comorbidities are important factors to consider when developing interventions. The focus on adolescent girls reinforces the importance appropriately tailoring interventions to the population.⁴³⁻⁴⁹

Addressing adolescent cyber-IPV is a critical undertaking that will positively affect youth wellbeing.

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Conflict of interest

The author declares no conflict of interest.

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