ORIGINAL ARTICLE

Peer Victimization, Dating Violence, and Suicide Ideation: Examining the Mediating Roles of the Thwarted Belongingness and Perceived Burdensomeness in a College Sample

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Abstract

Peer victimization, dating violence, and suicide ideation are serious and devastating problems that affect emerging adults. The interpersonal theory of suicide posits that thwarted belongingness and perceived burdensomeness lead to suicidal ideation. However, the relationship among peer victimization, dating violence, thwarted belongingness, perceived burdensomeness, and suicidal ideation has yet to be fully investigated, especially in emerging adults. College student participants were assessed on peer victimization and dating violence experiences, components of the interpersonal theory of suicide, and suicidal ideation. There were significant and positive relationships among all constructs. Results showed that perceived burdensomeness was a significant mediator of relational victimization by peers and dating partners, as well as physical peer victimization, and suicidal ideation. Thwarted belongingness was associated with violence victimization and suicidal ideation but failed to serve as a mediator of the relationship between victimization and suicidal ideation. Therefore, perceived burdensomeness may be an important treatment target and area of emphasis for prevention education programs to help reduce suicidal ideation after violence victimization in college students.

Keywords Suicidal ideation · Peer victimization · Dating violence · Perceived burdensomeness · Thwarted belongingness

Both peer victimization and dating violence negatively impact adolescents and emerging adults. Peer victimization can be defined as experiencing aggressive behavior from similar age peers (Hawker & Boulton, 2000). Peer victimization can be physical and include threats of harm, hitting, tripping, kicking, and other body injury; peer victimization can also be relational and include spreading rumors, ostracism, bullying, and emotional damage (Crick & Grotpeter, 1995; Gladden et al., 2014). The Centers for Disease Control and Prevention (CDC, 2013) reported that 28% of students grades 6-12 report to have experienced peer victimization and over 70% of students have seen peer victimization within their schools. In addition, 20-25% of college students have also reported being victims of peer victimization (Lund & Ross, 2017). Peer victimization negatively affects mental health (Ford et al.,

2017; Singham et al., 2017). Ford and colleagues found that peer victimization was related to depression, cognitive distortions, anxiety, and paranoid thoughts. These effects extend into emerging adulthood (Evans-Lacko et al., 2017; Takizawa et al., 2014).

The National Coalition Against Domestic Violence (NCADV) defines dating violence as physical and relational violence perpetrated by current or former dating partners. Almost half (43%) of dating college women reported being the victim of dating violence (Knowledge Networks, 2011). Other research has demonstrated that one in three women and one in four men have experienced physical dating violence by a romantic partner (Black, 2011). A review of the impact of dating violence on victims reported that dating violence is associated with increased risk of depression, problematic anger, eating disorders, substance abuse, post-traumatic stress disorder, school problems, and suicidal ideation (Glass et al., 2003).

Previous research has explored the link between perpetrating peer victimization and dating violence in adolescents. Connolly and colleagues (2000) examined the dating relationships of adolescent who victimized in their peer

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relationships. Connolly and colleagues reported that adolescents who were physically and relationally aggressive within their peer relationships also reported physical and relational aggression perpetration in their romantic partnerships. Dating relationships of these adolescents were also characterized as less emotionally supportive, less equitable, and with earlier onset than those romantic relationships of their peers. Falb et al. (2011) found a similar pattern of results in adult men; they found that adult men who perpetrated peer victimization as youth were almost four times more likely to engage in dating violence as adults. Previous research has also linked the experience victimization by both peers and dating partners in. Debnam et al. (2016) reported a strong correlation between physical peer victimization and physical dating violence victimization in their large sample of adolescents; however, the relationships among relational peer and dating victimization were less clear. Espelage and Holt (2007) suggest that peer and dating victimization may be associated through a developmental victimology framework that posits that the risk factors for multiple types of victimization may be similar. Another integrated model suggests that being victimized in one context may increase the risk of victimization in another context (Corvo & deLara, 2010).

Both peer victimization and dating violence have been linked to thoughts about killing oneself, otherwise known as suicidal ideation (Holt et al., 2015; Wolford-Clevenger et al., 2015). Suicidal ideation is a strong predictor of death by suicide (Suokas et al., 2001). Almost 800,000 people in the United States die by suicide each year (Srabstein & Leventhal, 2010), and suicide is the third leading cause of death in youth aged 15-24 (Centers for Disease Control and Prevention Web-based Injury Statistics Query and Reporting System (WISQARS), 2017). The relationship between peer victimization, dating violence, and suicidal ideation is supported by an extensive literature base (e.g., Arango et al., 2016; Kim et al., 2009). Research has demonstrated that the greater frequency of peer victimization that occurs, the greater risk of suicide. Brunstein Klomek and colleagues (2007) assessed a large sample of adolescents and found that all forms of peer victimization were associated with higher reported levels of depression, suicidal ideation, and suicide attempts. Bang and Park (2017) reported that a history of peer victimization was predictive of suicide attempts even after controlling for individual differences, psychosis, and depression. Using data from the Youth Risk Behavioral Survey, Nikolaou (2017) demonstrated that cyberbullying, a very specific form of peer victimization that has grown in frequency over the past decade, increased suicidal ideation by 14.5 percentage points in in high school students. Dating violence has also been linked to suicidal ideation; in a sample of high school students, Nahapetyan et al. (2014) reported that the experience of dating violence was associated with increased levels of suicidal ideation. Chan and colleagues (2008) found

a high correlation between dating violence and suicidal ideation in a large multinational sample of college students.

One way to examine the relationship between both peer victimization and dating violence victimization and suicidal ideation is through the interpersonal theory of suicide. The interpersonal theory of suicide (Chu et al., 2017; Joiner, 2005; Van Orden et al., 2010) proposes a framework which can be used to map out why suicide occurs. According to the theory, suicidal ideation occurs when a person feels thwarted belongingness and perceived burdensomeness. Belongingness refers to the need to be accepted and supported by others (Baumeister & Leary, 1995; Joiner, 2005). When that need is unmet, people may experience a host of negative health outcomes, including increased suicidal ideation. When belongingness needs are thwarted, people may experience loneliness, social withdrawal, and a lack of connection with others. Perceived burdensomeness is the belief that one is a drain to people in their life or society. It may develop due to a belief that they are a hindrance to others or that they cause problems for those they love. A person feeling burdensomeness may see themselves as expendable and not necessary to those around them. The person may believe that others would be better off if they were no longer a part of it (Van Orden et al., 2010).

Recent systematic reviews demonstrate the robust nature of the interpersonal theory of suicide. Ma and colleagues (2016) reviewed over fifty articles published over ten years that examined the effects of the elements of thwarted belongingness, perceived burdensomeness, and suicidal ideation. Ma and colleagues found that the combination of perceived burdensomeness and thwarted belongingness predicted suicidal ideation across various populations and settings. Chu and colleagues (2017) conducted a meta-analysis on the relationships proposed by the interpersonal theory of suicide. Both thwarted belongingness and perceived burdensomeness were individually predictive of suicidal ideation with moderate effect sizes. The meta-analysis also demonstrated that the interaction between thwarted belongingness and perceived burdensomeness was strongly predictive of suicidal ideation. Overall, the meta-analysis supported the roles of perceived burdensomeness and thwarted belongingness on predicting suicidal ideation.

Research has demonstrated that victims of peer victimization, both physical and relational peer victimization, may experience higher levels of thwarted belongingness. Coelho and colleagues (2022) reported that victims of peer victimization also reported higher levels of social withdrawal in middle school students; Cao et al. (2020) reported that loneliness (a form of thwarted belongingness) partially mediated the relationship between being a victim of peer victimization and suicidal ideation. Groups of people that have been historically at greater risk of being bullied (members of the LGBTQ + community, people who are disabled, or people

struggling with social anxiety disorder) have reported both higher rates of thwarted belongingness and suicidal ideation (Arango et al., 2016; Bauman et al., 2013; Mereish et al., 2014; Sareen et al., 2005). Peer victimization victims have also noted increased rates of perceived burdensomeness. Mitchell et al. (2018) examined 348 undergraduate students and found that peer victimization and perceived burdensomeness were significant predictors of suicidal ideation. Brailovskaia et al. (2020) examined thwarted belongingness and perceived burdensomeness as mediators in the relationship between peer victimization and suicidal ideation in a sample of 267 outpatients. Both perceived burdensomeness and thwarted belongingness were significant mediators of peer victimization and suicidal ideation.

Wolford-Clevenger and colleagues (2016) suggested that the impact of psychological and physical aggression found in violent dating relationships may also lead to feelings of thwarted belongingness. In a sample of 71 women experiencing violence within their relationships, the experience of relationship violence was negatively related to feelings of belongingness (Chang et al., 2015). In addition, the thwarted belongingness was associated with increased depressive symptoms, often a precursor for suicidal thoughts. Research has also demonstrated that dating violence may be associated with feelings of perceived burdensomeness. Bonnan-White et al. (2018) reported that survivors of interpersonal trauma, including dating violence, experience a greater degree of self-blame (a type of burdensomeness) than survivors of non-interpersonal trauma. Smith et al. (2022) reported that women seeking help after partner violence demonstrated increased rates of perceived burdensomeness, which then increased their acceptance of violence from their partner. Wolford-Clevenger and colleagues (2016) examined the role of thwarted belongingness and perceived burdensomeness in the relationship between dating violence and suicidal ideation in a sample of undergraduate students. The combination of thwarted belongingness and perceived burdensomeness predicted a significant increase in suicidal ideation. Similarly, Smith et al. (2016) examined survivors of relationship violence and demonstrated that thwarted belongingness and perceived burdensomeness were associated with negative outcomes after experiencing relationship violence, including increased capacity for suicide. Victims of both peer victimization (Crowell-Williamson et al., 2019) and dating violence (Wolford-Clevenger et al., 2016) have reported positive correlations between their victimization experiences, thwarted belongingness, perceived burdensomeness, and suicidal ideation.

However, there remain gaps in the literature. Much of the research on suicidal ideation after peer victimization has been conducted in children and early adolescents; similarly, research on suicidal ideation after dating violence has been conducted on emerging adults. Emerging adulthood has been defined as the time between adolescence and adulthood (generally ages 18–29) characterized by insecurity, exploration of identity, increased risky behavior, and the realization of adult relationship patterns (Arnett, 2010). Emerging adult refers to the fact that people at this age are experiencing the typical markers of entering adulthood. This can include accepting responsibility for self and one's actions, making independent decisions, and becoming financially independent. Experiences shared by emerging adults, identified by Arnett (2014), include thorough identity exploration, instability in relationships and work, focus on the self because of few obligations to others, feelings of optimism and burgeoning possibilities, and feeling "in-between" and in transition.

It is still unclear if the developmental victimology paradigm of peer and dating victimization (Espelage & Holt, 2007) explains the development of negative outcomes, such as suicidal ideation, in emerging adults. Recent research suggests that peer victimization and dating violence may be linked (Hertzog et al., 2016; Zych et al., 2021), yet little research has examined if both forms of violence are associated with similar outcomes in the same manner in emerging adults. Nor has research examined if the forms of violence (physical or relational) within peer victimization or dating violence are associated with similar processes. While research has demonstrated links among both types of violence, thwarted belongingness, perceived burdensomeness, and suicidal ideation, it is unclear if the pathways from violence to suicidal ideation are the same across violence type in the emerging adult population.

In the present exploratory study, we examined the potential mediating role of thwarted belongingness and perceived burdensomeness on the relationship between experiences four forms of victimization (relational peer victimization, physical peer victimization, relational dating violence, and physical dating violence) and suicidal ideation. Previous research has identified that different forms of peer victimization and dating violence, such as physical aggression and relational aggression, may lead to different outcomes (Hetzel-Riggin & Roby, 2013; Nixon et al., 2020; Sinclair et al., 2012). It may be that the relationships between physical and relational forms of peer victimization and dating violence with suicidal ideation may be mediated differently by perceived burdensomeness and thwarted belongingness. It is also possible that thwarted belongingness and perceived burdensomeness may impact suicidal ideation differently after peer victimization as compared to dating violence (Debnam et al., 2016).

Considering the summarized research, in this pilot, exploratory study, we hypothesize that all forms of victimization (relational or physical/peer victimization or dating violence) will be associated with higher levels of perceived burdensomeness, thwarted belongingness, and suicidal ideation. We also predict that both thwarted

belongingness and perceived burdensomeness will mediate the relationship between each form of victimization and suicidal ideation.
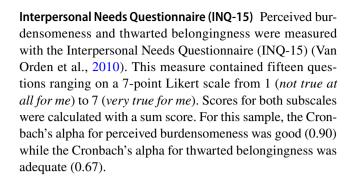
Method

Participants

Participants were recruited from undergraduate psychology courses at a college in the northeastern part of the United States (N = 205). Students participated in partial fulfillment of the requirements for an undergraduate course in psychology; participants were invited to complete the study if they were 18 years old or older. Participants were predominantly women (57%). Ethnoracial background of the participants was white (80%), Asian/Pacific Islander (13%), African American (4%), Hispanic (1%) and American Indian (< 1%). Participants ranged in age from 18–27 with an average age of 19.1 (SD = 2.1). While the gender breakdown of participants was consistent with the overall demographics of college students in the United States, the ethnoracial breakdown was over-representative of white and Asian/Pacific Islander students and under-representative of African American, Hispanic, American Indian students enrolled in higher education in the United States (National Center for Education Statistics, 2023). Therefore, caution should be used when generalizing the results of this study to predominantly African American, Hispanic, and American Indian groups. The ethnoracial breakdown was consistent with the demographics of the institution at which the research was conducted.

Measures

Self-Report of Aggression & Social Behavior Measure (SRASBM) To measure participants' victimization experiences, the Self-Report of Aggression & Social Behavior Measure (Linder et al., 2002) was used. It includes 56 questions assessing relational (emotional and psychological) and physical (threatened harm or bodily injury) peer victimization and dating violence victimization experiences within the last year. For this study we only examined the four victimization subscales: relational peer victimization (four items), physical peer victimization (three items), relational dating violence (five items) and physical dating violence (three items). Participants respond to statements on a 7-point Likert scale from 1 (*not at all true*) to 7 (*very true*). Cronbach's alpha was .73 for relational peer victimization, 0.52 for physical peer victimization, 0.82 for relational dating violence, and 0.81 for physical dating violence.

Interpersonal Needs Questionnaire (INQ-15) Perceived burdensomeness and thwarted belongingness were measured with the Interpersonal Needs Questionnaire (INQ-15) (Van Orden et al., 2010). This measure contained fifteen questions ranging on a 7-point Likert scale from 1 (*not true at all for me*) to 7 (*very true for me*). Scores for both subscales were calculated with a sum score. For this sample, the Cronbach's alpha for perceived burdensomeness was good (0.90) while the Cronbach's alpha for thwarted belongingness was adequate (0.67).

Adult Suicidal Ideation Questionnaire (ASIQ) Suicidal ideation was measured with the Adult Suicidal Ideation Questionnaire (ASIQ) (Reynolds, 1991). The ASIQ is a self-report measure consisting of 25 items measuring suicidal thoughts or behaviors. Participants respond on an 8-point scale ranging from 0 (*I never had this thought*) to 7 (*almost every day*) about suicidal ideation for the past year. Higher scores indicate one has more suicidal thoughts. The ASIQ has been shown to have high internal consistency and test–retest reliability (r = 0.86) in a college student population (Reynolds, 1991). For this sample, Cronbach's alpha was 0.98.

Demographics Participants reported their age, race, and gender.

Procedure

Participants were assessed individually; they were first presented with a brief overview of the study procedures. After gaining consent, the participants completed the ASIQ, INQ-15, and SRASBM, (in order), followed by demographic questions. Local and national crisis and mental health resources provided to all participants. The study was approved by the IRB at the university at which it was conducted, and all participants were treated according to the Ethical Code of the American Psychological Association. If participants reported any critical items, the participant was assessed for risk of suicide by either a licensed psychologist or an advanced graduate student in clinical psychology. No participants were found to be at imminent risk for harm.

Data Analysis Plan

Cronbach alphas were calculated for each measure (Nunnally & Bernstein, 1994). Pearson correlations among all variables were calculated. Mediation of the variables was assessed using the PROCESS model developed by Hayes (2018). Thwarted belongingness and perceived burdensomeness were tested as parallel multiple mediators of the relationship of victimization and suicidal ideation in four separate mediation models, one for each of the four forms of victimization (relational and physical/peer victimization

and dating violence). We tested the significance of indirect effects using the bootstrapping procedures in the PROCESS macro developed by Hayes (2018). Unstandardized direct, indirect, and total effects were computed for each of 5000 bootstrapped samples with a 95% confidence interval.

Results

Few missing data were identified ($< 1\%$) and were replaced with the series mean for that item (Tabacknick & Fidell, 2019). No evidence of skewness, kurtosis, or multicollinearity were found in a review of the data prior to the analyses. Table 1 reports the means, standard deviations, and correlations of all variables. All variables demonstrated significant correlations. Perceived burdensomeness demonstrated a significantly stronger correlation with suicidal ideation than the correlation between thwarted belongingness and suicidal ideation, $z(202) = 4.59$, $p < 0.001$. Z score analyses demonstrated no significant differences in the strength of correlations between any forms of violence with suicidal ideation, thwarted belongingness, or perceived burdensomeness, $ps > 0.10$.

Peer Victimization and Suicidal Ideation

We first tested the relationship between relational peer victimization and suicidal ideation accounting for the two proposed mediators. Relational peer victimization significantly predicted perceived burdensomeness ($B = .33$, $SE = .10$, $t = 3.22$, $p = .002$, 95% CI [.13 to .54]) but not thwarted belongingness ($B = .49$, $SE = .25$, $t = 1.92$, $p = .06$, 95% CI [-.01 to 1.00]). The direct effect of relational peer victimization on suicidal ideation was not significant ($B = .65$, $SE = .39$, $t = 1.70$, $p = .09$, 95% CI [-.11 to 1.42]). Both perceived burdensomeness ($B = 3.67$, $SE = .14$, $t = 10.63$, $p < .001$, 95% CI [2.99 to 4.35]) and thwarted belongingness ($B = .33$, $SE = .14$, $t = 2.40$, $p = .02$, 95% CI [.06 to .61]) predicted suicidal ideation. The total effect of relational peer victimization on suicidal ideation was significant ($B = 2.04$, $SE = .57$, $t = 3.61$, $p = .0004$, 95% CI, [.92 to 3.16]). The

results indicate that perceived burdensomeness was a significant mediator of relational peer victimization and suicidal ideation (indirect effect = 1.22, $SE = .60$, 95% CI [.43 to 2.81]) while thwarted belongingness did have a significant indirect effect on suicidal ideation (indirect effect = .16, $SE = .13$, 95% CI [.01 to .58]). However, since relational peer victimization was not a significant predictor of thwarted belongingness it did not serve as a mediator.

We then looked at the relationship between physical peer victimization and suicidal ideation. Physical peer victimization significantly predicted perceived burdensomeness ($B = .34$, $SE = .11$, $t = 3.22$, $p = .002$, 95% CI, [.13 to .54]) but not thwarted belongingness ($B = .49$, $SE = .26$, $t = 1.92$, $p = 0.057$, 95% CI, [-0.02 to 1.00]). The direct effect of physical peer victimization on suicidal ideation was not significant ($B = .65$, $SE = .39$, $t = 1.70$, $p = .09$, 95% CI [-.11 to 1.42]). Both perceived burdensomeness ($B = 3.67$, $SE = .14$, $t = 10.63$, $p < .001$, 95% CI [2.99 to 4.35]) and thwarted belongingness ($B = .33$, $SE = .14$, $t = 2.40$, $p = .02$, 95% CI [.06 to .61]) predicted suicidal ideation. The total effect of physical peer victimization on suicidal ideation was significant (B = 2.04, $SE = .57$, $t = 3.60$, $p = .0004$, 95% CI [.92 to 3.16]). Examination of the indirect effects demonstrated that perceived burdensomeness (indirect effect = 1.22, $SE = .57$, 95% CI [.42 to 2.67]) was a significant mediator of physical peer victimization and suicidal ideation. While thwarted belongingness had a significant indirect effect on suicidal ideation (indirect effect = .16, $SE = .13$, 95% CI [.02 to .59]), because physical peer victimization was not a predictor of thwarted belongingness it could not serve as a mediator.

Dating Violence and Suicidal Ideation

Examining relational dating violence victimization, relational dating violence was a significant predictor of perceived burdensomeness ($B = .23$, $SE = .06$, $t = 3.63$, $p = .004$, 95% CI, [.11 to .36]) and thwarted belongingness ($B = .58$, $SE = 014$, $t = 4.06$, $p = .0001$, 95% CI, [.30 to .86]). The direct effect of relational dating violence victimization on suicidal ideation was not significant ($B = .32$, $SE = .24$, $t = 1.32$, $p = .19$, 95% CI, [-.16 to .80]). Perceived burdensomeness

Table 1 Means, standard deviations, and correlations for all variables

	M	SD	1	2	3	4	5	6	7
1. Suicidal ideation	13.06	19.52	__						
2. Perceived burdensomeness	8.18	4.20	.72**	__					
3. Thwarted belongingness	19.89	9.68	.42**	.47**	__				
4. Relational peer victimization	11.94	5.94	.21**	.29**	.16*	__			
5. Relational dating violence	7.48	6.40	.22**	.23**	.26**	.36**	__		
6. Physical peer victimization	5.08	2.82	.27**	.26**	.15*	.51**	.26**	__	
7. Physical dating violence	3.25	2.88	.19**	.17*	.19**	.34**	.75**	.33**	__

N = 202. **$p < 0.01$; *$p < 0.05$

($B = 2.72$, $SE = .37$, $t = 7.31$, $p < .0001$, 95% CI [1.99 to 3.46]) but not thwarted belongingness ($B = .27$, $SE = .17$, $t = 1.63$, $p = .19$, 95% CI [-.06 to .61]) predicted suicidal ideation. The total effect of relational dating violence victimization on suicidal ideation was significant ($B = 1.11$, $SE = .29$, $t = 3.74$, $p = .0003$, CI, [.52 to 1.70]). The results show that the indirect effect of relational dating violence victimization on suicidal ideation through perceived burdensomeness was significant (indirect effect = .64, $SE = .34$, 95% CI [.15 to 1.48]). The indirect effect of thwarted belongingness had 95% CI that contained zero (indirect effect = .16, $SE = .13$, 95% CI [-.03 to .48]) suggesting that it did not mediate the relationship between relational dating violence victimization and suicidal ideation.

Physical dating violence victimization did not significantly predict perceived burdensomeness ($B = .24$, $SE = .15$, $t = 1.60$, $p = .11$, 95% CI, [-.06 to .53]) but did predict thwarted belongingness ($B = .72$, $SE = .32$, $t = 2.23$, $p = .028$, 95% CI, [.08 to 1.35]). The direct effect of physical dating violence victimization on suicidal ideation was not significant ($B = .62$, $SE = .51$, $t = 1.23$, $p = .22$, 95% CI [-.38 to 1.63]). Perceived burdensomeness ($B = 3.06$, $SE = .37$, $t = 8.32$, $p < .0001$, 95% CI [2.33 to 3.79]) but not thwarted belongingness ($B = .29$, $SE = .51$, $t = 1.69$, $p = .09$, 95% CI [-.05 to .63]) predicted suicidal ideation. The total effect was significant ($B = 1.56$, $SE = .72$, $t = 2.19$, $p = .03$, 95% CI [.15 to 2.97]). Neither perceived burdensomeness (indirect effect = .73, $SE = .59$, 95% CI [-.04 to 2.33]) nor thwarted belongingness (indirect effect = .21, $SE = .19$, 95% CI [-0.02 to .82]) significantly mediated the relationship between physical dating violence victimization and suicidal ideation.

Discussion

We predicted that all forms of violence (relational peer victimization, physical peer victimization, relational dating violence, and physical dating violence) would be significantly and positively associated with thwarted belongingness, perceived burdensomeness, and suicidal ideation in the emerging adult sample. Our results support this hypothesis. The strongest correlation was between suicidal ideation and perceived burdensomeness, while the correlation between thwarted belongingness and suicidal ideation was moderate. These results are consistent with the extant literature on the interpersonal theory of suicide (Chu et al., 2017; Joiner, 2005; Van Orden et al., 2010). Ma and colleagues (2016) found that while both perceived burdensomeness and thwarted belongingness were predictive of increases in suicidal ideation, perceived burdensomeness was a more powerful predictor than thwarted belongingness of suicidal ideation. In some cases, perceived burdensomeness overrode thwarted belongingness as the only significant predictor.

Like Ma and colleagues (2016), Chu et al. reported that the strength of the relationship between perceived burdensomeness and suicidal ideation was stronger than the relationship between thwarted belongingness and suicidal ideation.

In addition, all four forms of violence demonstrated significant and positive correlations with thwarted belongingness, perceived burdensomeness, and suicidal ideation. These results provide further support for the theory that violence victimization, whether it is physical or relational, or perpetrated by peers or romantic partners, can be a risk factor for suicidal ideation and negative feelings of worth and connection. The data from this study is consistent with the established literature (Arango et al., 2016; Bauman et al., 2013; Cao et al., 2020; Chang et al., 2015; Crowell-Williamson et al., 2019; Mereish et al., 2014; Mitchell et al., 2018; Sareen et al., 2005; Smith et al., 2022; Wolford-Clevenger et al., 2016).

We also hypothesized that perceived burdensomeness and thwarted belongingness would mediate the relationship between forms of peer victimization and dating violence victimization and suicidal ideation. The results demonstrated that perceived burdensomeness fully mediated the relationship between relational peer victimization, physical peer victimization, and relational dating violence and suicidal ideation. In other words, these three forms of violence were associated with increased participants' increased feelings of being a drain or hindrance on loved ones, which in turn was associated with increased suicidal ideation. Our results are consistent with the findings of Mitchell et al. (2018) and Smith et al. (2022) who identified perceived burdensomeness as mediator of the relationship of peer victimization and dating violence and suicidal ideation. The implications of these results suggest that in survivors of any form of peer victimization, and of relational dating violence, it would be important to evaluate the survivors' feelings of being a burden to their loved ones. If survivors' report increased feelings of being a burden to others, they may be more prone to experience suicidal ideation and may pose a greater risk to themselves than survivors who do not report heightened feelings of burdensomeness. It may also be helpful to work with survivors' friends and family to find ways to communicate to the survivors' that they are not seen as a burden (McClay et al., 2020); cognitive strategies to challenge these beliefs may also be successful in reducing burdensome beliefs (Buitron et al., 2022).

Inconsistent with previous research (Cao et al., 2020; Coelho et al., 2022; Wolford-Clevenger et al., 2016), thwarted belongingness did not serve as a mediator between the experience of violence and suicidal ideation. Thwarted belongingness was positively associated with both violence experience and suicidal ideation but did not rise to the level of prediction or mediation of suicidal ideation. The results could be explained by a few different factors.

First, the reliability of the thwarted belongingness scale in this sample was lower than expected; it may be that the measure used may need refinement to accurately assess thwarted belongingness in emerging adults. Second, it may be that belongingness is not a good indicator of suicidal ideation in emerging adults because, according to Erikson (1968), it is a central conflict of this psychosocial stage of development. Therefore, variations in feelings of belongingness may be the normal experience for members of this age group, making it a poor predictor of negative health outcomes. Third, it may also be due to developmental changes that occur during emerging adulthood, or the move from belongingness with family to belongingness with peers, intimate partners, and institutions. For example, Ploskonka and Servaty-Seib (2015) reported that only family belongingness was predictive suicidal ideation in college students, while peer and institution belongingness were not predictive of suicidal ideation.

Physical victimization by dating partners was the only violence situation in which neither thwarted belongingness nor perceived burdensomeness served as mediators. It was also the only form of violence that was predictive of thwarted belongingness but not perceived burdensomeness. This result may be due to the specific nature of physical victimization by a romantic partner. Previous research (Baiden et al., 2021) has linked suicidal ideation in survivors of dating violence with sexual assault, depression, and identifying as a sexual minority—all factors that are associated with feelings of thwarted belongingness. These results may also be due to the low base rate of physical dating violence in the sample. Given that emerging adults, particularly those at the beginning of this stage of development, may have experienced few dating relationships and even fewer plagued with physical violence, it might not be possible to get a full picture of how physical dating violence is associated with suicidal ideation in this young sample.

Several limitations should be noted in this exploratory, pilot examination of the potential mediating roles of thwarted belongingness and perceived burdensomeness. First, the generalizability of the results is limited. Most of the sample was predominantly white women enrolled in college, so caution should be taken applying these results to people of different racial, ethnic, and geographically located groups. The sample size is also smaller; replication in a larger sample would allow for the use of a single model to examine the relationships between all forms of violence to better address issues of multicollinearity. The use of four separate models could increase the risk of overestimating the impact of each form of violence. With a large enough sample size, using a single model to examine the individual and combined impact of all four forms of violence, would consider the relationships among the different forms of violence, and provide more accurate standard errors. It would

provide a more parsimonious test of the research question and reduce bias in the interpretation of the data (Teixeira-Pinto et al., 2009). Using a single model would also be a more accurate representation of the lived experiences of victims of violence, who often experience multiple forms of violence (Garthe et al., 2017). It would also allow for the examination of other potential covariates, such as gender, minority status, depression, etc. Another limitation was that two of the subscales demonstrated internal consistency metrics that were low, physical peer victimization and thwarted belongingness. It is important to interpret the results that include these scales with caution, as lower reliability statistics can call into question if we truly are measuring these constructs accurately. It may be that we are missing a clear picture of the experiences of physical peer victimization and thwarted belongingness in the sample. Future research should find more robust measures of these constructs to clarify the results.

The study also only examined victimization and not perpetration of violence. Previous research has identified increased suicidal ideation in perpetrators of both peer victimization and dating violence (Holt et al., 2015; Wolford-Clevenger et al., 2015). Future studies should consider the impact that violence perpetration has on thwarted belongingness and perceived burdensomeness in an emerging adult population. Relatedly, the measure used examined general aspects of physical and psychological aspects of peer victimization and dating violence. It would be helpful to further explore how the relationships examined in this paper may manifest in more specific forms of peer victimization, such as cyberbullying, or dating violence, such as coercive control. Future research should examine if these results can be found across varying types of victimization experiences, including general bullying victimization. Lastly, the data is cross-sectional so causal relationships cannot be determined using the current sample. Replication in a longitudinal dataset is necessary to determine if these relationships are causal and not just predictive. However, even without causal relationships, these results provide evidence for the need of clinicians working with survivors of violence to assess thwarted belongingness, perceived burdensomeness, and suicidal ideation.

This study focused on peer victimization and dating violence victimization in college students. The results of this study demonstrate the gravity of implementing prevention and intervention programs in college populations to address both the incidence of violence but also to reduce feelings of burdensomeness, lack of belonging, and suicidal ideation. The data showed that peer victimization and relational dating violence experiences are related to suicidal ideation through perceived burdensomeness and, to a lesser extent, thwarted belongingness. Based on the strength of the relationship of perceived burdensomeness in each violence

situation, targeting the component of perceived burdensomeness specifically within violence prevention programs may prove to be an effective addition to current programs. Additionally, the results demonstrate there is a different relationship between physical violence from peers and from a romantic partner. Potential interventions and prevention programs may want to discuss the differences between the two, perhaps impacting suicidal ideation levels in a college population.

Declarations

References

Arango, A., Opperman, K. J., Gipson, P. Y., & King, C. A. (2016). Suicidal ideation and suicide attempts among youth who report bully victimization, bully perpetration and/or low social connectedness. *Journal of Adolescence, 51*, 19–29. https://doi.org/10.1016/j.adolescence.2016.05.003

Arnett, J. J. (2010). Emerging adulthood (s). *Bridging cultural and developmental approaches to psychology: New syntheses in theory, research, and policy* (pp. 255–275). New York, NY: Oxford.

Arnett, J. J. (2014). *Emerging adulthood: The winding road from the late teens through the twenties* (2nd ed.). Oxford University Press.

Baiden, P., Mengo, C., & Small, E. (2021). History of physical teen dating violence and its association with suicidal behaviors among adolescent high school students: Results from the 2015 Youth Risk Behavior Survey. *Journal of Interpersonal Violence, 36*(17–18), NP9526–NP9547. https://doi.org/10.1177/0886260519860087

Bang, Y. R., & Park, J. H. (2017). Psychiatric disorders and suicide attempts among adolescents victimized by school bullying. *Australasian Psychiatry, 25*(4), 376–380. https://doi.org/10.1177/1039856217715987

Bauman, S., Toomey, R. B., & Walker, J. L. (2013). Associations among bullying, cyberbullying, and suicide in high school students. *Journal of Adolescence, 36*(6), 341–350. https://doi.org/10.1016/j.adolescence.2012.12.001

Baumeister, R. F., & Leary, M. R. (1995). *The need to belong: Desire for interpersonal attachments as a fundamental human motivation. Interpersonal Development* (1st ed.). Routledge.

Black, M. C. (2011). Intimate partner violence and adverse health consequences: Implications for clinicians. *American Journal of Lifestyle Medicine, 5*(5), 428–439. https://doi.org/10.1177/1559827611410265

Bonnan-White, J., Hetzel-Riggin, M. D., Diamond-Welch, B. K., & Tollini, C. (2018). "You blame me, therefore I blame me": The importance of first disclosure partner responses on trauma-related cognitions and distress. *Journal of Interpersonal Violence, 33*(8), 1260–1286. https://doi.org/10.1177/0886260515615141

Brailovskaia, J., Ujma, M., Friedrich, S., & Teismann, T. (2020). Thwarted belongingness and perceived burdensomeness mediate the association between bullying and suicide ideation. *Crisis, 41*(2), 136–140. https://doi.org/10.1027/0227-5910/a000596

Brunstein Klomek, A., Marrocco, F., Kleinman, M., Schonfeld, I. S., & Gould, M. S. (2007). Bullying, depression, and suicidality in adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 46*(1), 40–49. https://doi.org/10.1097/01.chi.0000242237.84925.18

Buitron, V., Hill, R. M., Bose, D., Vaclavik, D., Rey, Y., & Pettit, J. W. (2022). Brief modular approach to target perceived burdensomeness in clinic-referred youth. *Suicide and Life-Threatening Behavior*. https://doi.org/10.1111/sltb.12858

Cao, Q., Xu, X., Xiang, H., Yang, Y., Peng, P., & Xu, S. (2020). Bullying victimization and suicidal ideation among Chinese left-behind children: Mediating effect of loneliness and moderating effect of gender. *Children and Youth Services Review, 111*, 104848. https://doi.org/10.1016/j.childyouth.2020.104848

Centers for Disease Control and Prevention. (2013). *Youth Risk Behavior Surveillance System.* Youth Risk Behavior Surveillance System - PDF

Centers for Disease Control and Prevention Web-based Injury Statistics Query and Reporting System (WISQARS). (2017). Available at: https://wisqars.cdc.gov/data/explore-data/home. Accessed April 27, 2022.

Chan, K. L., Straus, M. A., Brownridge, D. A., Tiwari, A., & Leung, W. C. (2008). Prevalence of dating partner violence and suicidal ideation among male and female university students worldwide. *Journal of Midwifery & Women's Health, 53*(6), 529–537. https://doi.org/10.1016/j.jmwh.2008.04.016

Chang, E. C., Kahle, E. R., & Hirsch, J. K. (2015). Understanding how domestic abuse is associated with greater depressive symptoms in a community sample of female primary care patients: Does loss of belongingness matter? *Violence against Women, 21*(6), 700–711. https://doi.org/10.1177/1077801215576580

Chu, C., Buchman-Schmitt, J. M., Stanley, I. H., Hom, M. A., Tucker, R. P., Hagan, C. R., ... & Michaels, M. S. (2017). The interpersonal theory of suicide: A systematic review and meta-analysis of a decade of cross-national research. *Psychological Bulletin, 143*(12), 1313. https://doi.org/10.1037/bul0000123

Coelho, V. A., Marchante, M., & Romão, A. M. (2022). Adolescents' trajectories of social anxiety and social withdrawal: Are they influenced by traditional bullying and cyberbullying roles? *Contemporary Educational Psychology, 69*, 102053. https://doi.org/10.1016/j.cedpsych.2022.102053

Connolly, J., Pepler, D., Craig, W., & Taradash, A. (2000). Dating experiences of bullies in early adolescence. *Child Maltreatment, 5*(4), 299–310.

Corvo, K., & deLara, E. (2010). Towards an integrated theory of relational violence: Is bullying a risk factor for domestic violence? *Aggression and Violent Behavior, 15*, 181–190. https://doi.org/10.1016/j.avb.2009.12.001

Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development, 66*(3), 710–722. https://doi.org/10.1111/j.1467-8624.1995.tb00900.x

Crowell-Williamson, G. A., Fruhbauerova, M., DeCou, C. R., & Comtois, K. A. (2019). Perceived burdensomeness, bullying, and suicidal ideation in suicidal military personnel. *Journal of Clinical Psychology, 75*(12), 2147–2159. https://doi.org/10.1002/jclp.22836

Debnam, K. J., Waasdorp, T. E., & Bradshaw, C. P. (2016). Examining the contemporaneous occurrence of bullying and teen dating violence victimization. *School Psychology Quarterly, 31*(1), 76–90. https://doi.org/10.1037/spq0000124

Erikson, E. H. (1968). *Identity.* Norton.

Espelage, D. L., & Holt, M. K. (2007). Dating violence & sexual harassment across the bully-victim continuum among middle and

high school students. *Journal of Youth and Adolescence, 36*, 799–811. https://doi.org/10.1007/s10964-006-9109-7

Evans-Lacko, S., Takizawa, R., Brimblecombe, N., King, D., Knapp, M., Maughan, B., & Arseneault, L. (2017). Childhood bullying victimization is associated with use of mental health services over five decades: A longitudinal nationally representative cohort study. *Psychological Medicine, 47*(1), 127–135. https://doi.org/10.1017/S0033291716001719

Falb, K. L., McCauley, H. L., Decker, M. R., Gupta, J., Raj, A., & Silverman, J. G. (2011). School bullying perpetration and other childhood risk factors as predictors of adult intimate partner violence perpetration. *Archives of Pediatrics & Adolescent Medicine, 165*(10), 890–894.

Ford, R., King, T., Priest, N., & Kavanagh, A. (2017). Bullying and mental health and suicidal behaviour among 14- to 15-year-olds in a representative sample of Australian children. *Australian and New Zealand Journal of Psychiatry, 51*(9), 897–900. https://doi.org/10.1177/0004867417700275

Garthe, R. C., Sullivan, T. N., & McDaniel, M. A. (2017). A meta-analytic review of peer risk factors and adolescent dating violence. *Psychology of Violence, 7*(1), 45–57. https://doi.org/10.1037/vio0000040

Gladden, R. M., Vivolo-Kantor, A. M., Hamburger, M. E., & Lumpkin, C. D. (2014). *Bullying surveillance among youths: Uniform definitions for public health and recommended data elements*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention and US Department of Education. Atlanta, GA. http://www.cdc.gov/violenceprevention/pdf/bullying-definitions-final-a.pdf

Glass, N., Fredland, N., Campbell, J., Yonas, M., Sharps, P., & Kub, J. (2003). Adolescent dating violence: Prevalence, risk factors, health outcomes, and implications for clinical practice. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 32*(2), 227–238. https://doi.org/10.1177/0884217503252033

Hawker, D. S., & Boulton, M. J. (2000). Twenty years' research on peer victimization and psychosocial maladjustment: A meta-analytic review of cross-sectional studies. *The Journal of Child Psychology and Psychiatry and Allied Disciplines, 41*(4), 441–455. https://doi.org/10.1111/1469-7610.00629

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). Guilford Press.

Hertzog, J. L., Harpel, T., & Rowley, R. (2016). Is it bullying, teen dating violence, or both? Student, school staff, and parent perceptions. *Children & Schools, 38*(1), 21–29. https://doi.org/10.1093/cs/cdv037

Hetzel-Riggin, M. D., & Roby, R. P. (2013). Trauma type and gender effects on PTSD, general distress, and peritraumatic dissociation. *Journal of Loss and Trauma, 18*(1), 41–53. https://doi.org/10.1080/15325024.2012.679119

Holt, M. K., Vivolo-Kantor, A. M., Polanin, J. R., Holland, K. M., DeGue, S., Matjasko, J. L., Wolfe, M., & Reid, G. (2015). Bullying and suicidal ideation and behaviors: A meta-analysis. *Pediatrics, 135*(2), e496–e509. https://doi.org/10.1542/peds.2014-1864

Joiner, T. (2005). *Why people die by suicide*. Harvard University Press.

Kim, Y. S., Leventhal, B. L., Koh, Y., & Boyce, T. (2009). Bullying increased suicide risk: Prospective study of Korean adolescents. *Archives of Suicide Research, 13*(1), 15–30. https://doi.org/10.1080/13811110802572098

Knowledge Networks. (2011). *2011 College Dating Violence and Abuse Poll*. Fifth and Pacific Companies. http://www.loveisrespect.org/pdf/College_Dating_And_Abuse_Final_Study.pdf

Linder, J. R., Crick, N. R., & Collins, W. A. (2002). Relational aggression and victimization in young adults' romantic relationships: Associations with perceptions of parent, peer, and romantic relationship quality. *Social Development, 11*(1), 69–86. https://doi.org/10.1111/1467-9507.00187

Lund, E. M., & Ross, S. W. (2017). Bullying perpetration, victimization, and demographic differences in college students: A review of the literature. *Trauma, Violence, & Abuse, 18*(3), 348–360. https://doi.org/10.1177/1524838015620818

Ma, J., Batterham, P. J., Calear, A. L., & Han, J. (2016). A systematic review of the predictions of the Interpersonal-Psychological Theory of Suicidal Behavior. *Clinical Psychology Review, 46*, 34–45. https://doi.org/10.1016/j.cpr.2016.04.008

McClay, M. M., Brausch, A. M., & O'Connor, S. S. (2020). Social support mediates the association between disclosure of suicide attempt and depression, perceived burdensomeness, and thwarted belongingness. *Suicide and Life-Threatening Behavior, 50*(4), 884–898. https://doi.org/10.1111/sltb.12622

Mereish, E. H., O'Cleirigh, C., & Bradford, J. B. (2014). Interrelationships between LGBT-based victimization, suicide, and substance use problems in a diverse sample of sexual and gender minorities. *Psychology, Health, & Medicine, 19*(1), 1–13. https://doi.org/10.1080/13548506.2013.780129

Mitchell, S. M., Seegan, P. L., Roush, J. F., Brown, S. L., Sustaíta, M. A., & Cukrowicz, K. C. (2018). Retrospective cyberbullying and suicide ideation: The mediating roles of depressive symptoms, perceived burdensomeness, and thwarted belongingness. *Journal of Interpersonal Violence, 33*(16), 2602–2620. https://doi.org/10.1177/088626051662829

Nahapetyan, L., Orpinas, P., Song, X., & Holland, K. (2014). Longitudinal association of suicidal ideation and physical dating violence among high school students. *Journal of Youth and Adolescence, 43*(4), 629–640. https://doi.org/10.1007/s10964-013-0006-6

National Center for Education Statistics. (2023). College Enrollment Rates. *Condition of Education*. U.S. Department of Education, Institute of Education Sciences. Retrieved November 22, 2023. https://nces.ed.gov/programs/coe/indicator/cpb

Nikolaou, D. (2017). Does cyberbullying impact youth suicidal behaviors? *Journal of Health Economics, 56*, 30–46. https://doi.org/10.1016/j.jhealeco.2017.09.009

Nixon, C. L., Jairam, D., Davis, S., Linkie, C. A., Chatters, S., & Hodge, J. J. (2020). Effects of students' grade level, gender, and form of bullying victimization on coping strategy effectiveness. *International Journal of Bullying Prevention, 2*(3), 190–204. https://doi.org/10.1007/s42380-019-00027-5

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory. New York*. McGraw-Hill.

Ploskonka, R. A., & Servaty-Seib, H. L. (2015). Belongingness and suicidal ideation in college students. *Journal of American College Health, 63*(2), 81–87. https://doi.org/10.1080/07448481.2014.983928

Reynolds, W. M. (1991). Psychometric characteristics of the Adult Suicidal Ideation Questionnaire in college students. *Journal of Personality Assessment, 56*(2), 289–307. https://doi.org/10.1207/s15327752jpa5602_9

Sareen, J., Cox, B. J., Afifi, T. O., de Graaf, R., Asmundson, G. J., ten Have, M., & Stein, M. B. (2005). Anxiety disorders and risk for suicidal ideation and suicide attempts: A population based longitudinal study of adults. *Archives of General Psychiatry, 62*(11), 1249–1257. https://doi.org/10.1001/archpsyc.62.11.1249

Sinclair, K. R., Cole, D. A., Dukewich, T., Felton, J., Weitlauf, A. S., Maxwell, M. A., ... & Jacky, A. (2012). Impact of physical and relational peer victimization on depressive cognitions in children and adolescents. *Journal of Clinical Child & Adolescent Psychology, 41*(5), 570–583. https://doi.org/10.1080/15374416.2012.704841

Singham, T., Viding, E., Schoeler, T., Arsenault, L., Ronald, A., Cecil, C., McCrory, E., Rijsdijk, F., & Pingault, J. (2017). Concurrent

and longitudinal contribution of exposure to bullying in childhood to mental health: The role of vulnerability and resilience. *JAMA Psychiatry, 74*(11), 1112–1119. https://doi.org/10.1001/jamapsychiatry.2017.2678

Smith, P. N., Basu, N., Wolford-Clevenger, C., Schuler, K. R., Marie, L., Kuhlman, S. T., & Boone, S. D. (2022). Unmet interpersonal needs contribute to accepting attitudes towards intimate partner violence. *Journal of Aggression, Maltreatment & Trauma, 30*(9), 1187–1202. https://doi.org/10.1080/10926771.2020.1821855

Smith, P. N., Kuhlman, S., Wolford-Clevenger, C., Faulk, R., D'Amato, D., & Granato, S. (2016). Interpersonal trauma, posttraumatic stress disorder symptoms, and the interpersonal theory of suicide in women seeking shelter from intimate partner violence. *Journal of Aggression, Maltreatment & Trauma, 25*(8), 812–830. https://doi.org/10.1080/10926771.2016.1214937

Srabstein, J. C., & Leventhal, B. L. (2010). Prevention of bullying-related morbidity and mortality: A call for public health policies. *Bulletin of the World Health Organization, 88*, 403–403. https://doi.org/10.2471/BLT.10.077123

Suokas, J., Suominen, K., Isometsä, E., Ostamo, A., & Lönnqvist, J. (2001). Long-term risk factors for suicide mortality after attempted suicide: Findings of a 14-year follow-up study. *Acta Psychiatrica Scandinavica, 104*(2), 117–121. https://doi.org/10.1034/j.1600-0447.2001.00243.x

Tabacknick, B. G., & Fidell, L. S. (2019). *Using multivariate statistics* (7th ed.). Pearson Education Inc.

Takizawa, R., Maughan, B., & Arseneault, L. (2014). Adult health outcomes of childhood bullying victimization: Evidence from a five-decade longitudinal British birth cohort. *American Journal of Psychiatry, 171*(7), 777–784. https://doi.org/10.1176/appi.ajp.2014.13101401

Teixeira-Pinto, A., Siddique, J., Gibbons, R., & Normand, S. L. (2009). Statistical approaches to modeling multiple outcomes in psychiatric studies. *Psychiatric Annals, 39*(7), 729–735. https://doi.org/10.3928/00485713-20090625-08

Van Orden, K. A., Witte, T. K., Cukrowicz, K. C., Braithwaite, S. R., Selby, E. A., & Joiner, T. E., Jr. (2010). The interpersonal theory of suicide. *Psychological Review, 117*(2), 575. https://doi.org/10.1037/a0018697

Wolford-Clevenger, C., Elmquist, J., Brem, M., Zapor, H., & Stuart, G. L. (2016). Dating violence victimization, interpersonal needs, and suicidal ideation among college student *Crisis The Journal of Crisis Intervention and Suicide Prevention, 37*(1), 51–58. https://doi.org/10.1027/0227-5910/a000353

Wolford-Clevenger, C., Febres, J., Elmquist, J., Zapor, H., Brasfield, H., & Stuart, G. L. (2015). Prevalence and correlates of suicidal ideation among court-referred male perpetrators of intimate partner violence. *Psychological Services, 12*(1), 9–15. https://doi.org/10.1037/a0037338

Zych, I., Viejo, C., Vila, E., & Farrington, D. P. (2021). School bullying and dating violence in adolescents: A systematic review and meta-analysis. *Trauma, Violence, & Abuse, 22*(2), 397–412. https://doi.org/10.1177/15248380198544