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Brief report

Internalizing symptoms and dating violence perpetration in adolescence

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ABSTRACT

Background: Increasing evidence suggests an association between internalizing symptoms and violence against others. It remains unknown whether this link exists in the context of romantic relationships. In the current study, we tested whether anxiety and depression were associated over time with adolescent dating violence perpetration.

Methods: The sample included 238 Canadian adolescents (42% boys). Using a longitudinal design, their anxiety, depressive symptoms, and dating violence perpetration were annually assessed from age 14 to 15 years.

Results: Cross-lagged analyses revealed effects from anxiety and depressive symptoms to dating violence one year later ($\beta = 0.27, p < .001$; and $\beta = 0.14, p = .04$, respectively). No reversed cross-lagged paths were found from dating violence to subsequent anxiety or depression.

Conclusions: Our findings underscore the predictive value of internalizing symptoms on dating violence perpetration. Reducing internalizing symptoms and improving coping strategies are important targets for the prevention of dating violence.

Dating violence in adolescents is a major but understudied public health problem. A recent meta-analytic review of 101 studies reported an overall prevalence of 20% for physical dating violence and 9% for sexual dating violence (Wincentak, Connolly, & Card, 2017). Dating violence can result in a wide range of severe adverse outcomes in victims, including self-harm, substance use, and posttraumatic stress disorder (Ackard, Eisenberg, & Neumark-Sztainer, 2007). In addition, dating violence perpetration that begins in adolescence may develop into enduring patterns of domestic violence in adulthood (Exner-Cortens, Eckenrode, & Rothman, 2013). Despite its high prevalence and a wide range of possible negative outcomes, the etiological risk factors behind dating violence are understudied, which limits the efficacy of prevention and intervention efforts (De La Rue, Polanin, Espelage, & Pigott, 2017). Researchers have suggested that externalizing problems, such as dating violence perpetration, are often part of internalizing symptoms like depression and anxiety that are “acted out” (Gold, Mattlin, & Osgood, 1989). For example, beyond defining psychological symptoms such as feelings of worthlessness and excessive sadness, depression is commonly accompanied by other features including irritability, anger, low emotional regulation, and agitation (Busch, 2009; Judd, Schettler, Coryell, Akiskal, & Fiedorowicz, 2013). The latter symptoms may increase the risk of violent acting out in depression (Yu et al., 2017). Research on adults, although often of cross-

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sectional nature, have shown some evidence of the associations between internalizing symptoms and dating violence perpetration (Breet, Seedat, & Kagee, 2016). It is unknown whether depressive and anxiety symptoms are predictive of later dating violence perpetration in adolescents. We attempted to address this knowledge gap by using data from a two-year longitudinal study in a community cohort of Canadian adolescents.

1. Method

1.1. Participants and procedure

Participants were 238 Canadian adolescents (42% boys) who were either currently dating or had dated in the previous 2 months at the time of measurements. They were part of a longitudinal study ($N = 778$) with an overall retention rate of 83.5% across two years. Participants were recruited from two high schools and two middle schools in a large urban Canadian school division. Adolescents and their parents signed an informed consent for adolescents' participation in the study. The mean age of the participants in the current study was 14 years ($SD = 2$) at the first measurement. Most of the participants were born in Canada (70%). Adolescents completed various questionnaires in two consecutive years. The study was approved by the Human Participants Review Committee at York University, Canada.

1.2. Measures

1.2.1. Depressive symptoms

We used the Reynolds Adolescent Depression Scale (RADS) (Reynolds, 2002) to measure depressive symptoms in adolescents. This self-report questionnaire included 22 items (e.g., "I feel like nothing helps"). Adolescents were asked to indicate how frequently in the past week they experienced each symptom (0 = rarely or none of the time; 3 = most or all of the time). The Cronbach's alpha of this scale was 0.92 in both Wave 1 and Wave 2.

1.2.2. Anxiety symptoms

We used the Shortened Screen for Child-Related Anxiety Disorders (S-SCARED, Birmaher et al., 1997) to measure anxiety symptoms. Adolescents responded to the questionnaire which included 20 items (e.g., "I worry about being liked") on a 3-point Likert scale (0 = not true; 2 = very true). The Cronbach's alphas of this scale were 0.90 for Wave 1 and 0.91 for Wave 2.

1.2.3. Dating violence

We used the Conflict in Adolescent Dating Relationships Inventory (CADRI, Wolfe et al., 2001) to measure adolescents' experience of five types of dating violence perpetration. The measure includes 20 items assessing physical (e.g., "I slapped or pulled hair"), threatening (e.g., "I threatened to hit or throw"), sexual (e.g., "I forced sex"), relational (e.g., "I spread rumors"), emotional and verbal (e.g., "I insulted") dating violence perpetration. Adolescents responded to the questionnaire on a 4-point Likert scale (1 = never; 4 = often). The Cronbach's alphas of this scale were 0.87 for Wave 1 and 0.88 for Wave 2.

1.3. Analytical strategy

We ran two cross-lagged panel models, which enabled us to test the longitudinal effects of depressive symptoms (Model 1) and anxiety symptoms (Model 2) on dating violence, and vice versa (Kline, 2011). The models included within-wave correlations between and stability paths of adolescents' internalizing symptoms and dating violence across two years, the cross-lagged paths from depressive or anxiety symptoms to dating violence one year later, and the cross-lagged paths from dating violence to depressive symptoms or anxiety symptoms one year later (Fig. 1). As our models were fully saturated (i.e., they have zero degrees of freedom), fit indices could not be assessed.

2. Results

Table 1 presents the means and correlations of Wave 1 and Wave 2 adolescent depressive symptoms, anxiety symptoms, and dating violence. Fig. 1 presents the results of our final models.

2.1. Stabilities and correlations

There were moderate stabilities in depressive ($\beta = 0.57$) and anxiety symptoms ($\beta = 0.58$) over two years. There were also significant stability paths for dating violence ($\beta_s = 0.38$ - 0.41). The within-wave correlations between anxiety and dating violence were significant at T1 ($\beta = 0.23$) and T2 ($\beta = 0.19$) and between depression and dating violence were significant at T1 ($\beta = 0.21$) and T2 ($\beta = 0.31$). All these paths were significant at $p < .001$.

2.2. Longitudinal effects between depressive symptoms and dating violence

There were significant cross-lagged effects from internalizing symptoms to dating violence one year later. Specifically, higher

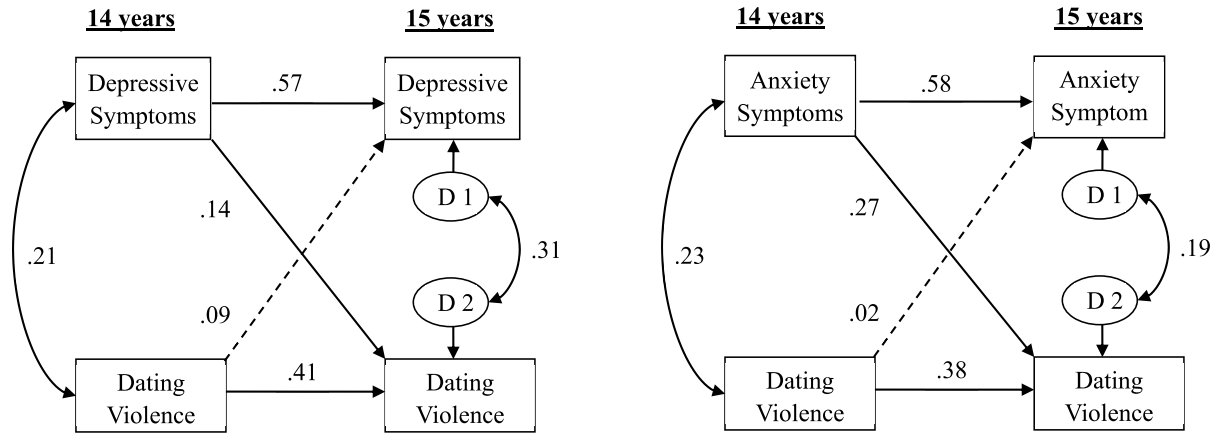


Fig. 1. Cross-lagged Model on Effects between Adolescent Internalizing Symptoms and Dating Violence Perpetration. Note. D = Disturbance; Dashed line indicated non-significant path.

Table 1

Descriptives and bivariate correlations of depressive symptoms, anxiety symptoms, and dating violence perpetration from age 14 to 15 years.

	M (SD)	Correlations					
		1	2	3	4	5	6
1	Depressive symptoms T1	1.71 (0.60)					
2	Depressive symptoms T2	1.69 (0.59)	0.60				
3	Anxiety symptoms T1	0.53 (0.39)	0.62	0.47			
4	Anxiety symptoms T2	0.45 (0.38)	0.52	0.73	0.58		
5	Dating violence T1	1.20 (0.26)	0.22	0.23	0.23	0.15	
6	Dating violence T2	1.17 (0.25)	0.22	0.40	0.35	0.33	0.45

Note. M (SD) = Mean (Standard Deviation); T1 = Time 1; T2 = Time 2; Coefficients in bold were significant ($p < .05$).

depressive symptoms were linked to higher dating violence one year later, $\beta = 0.14, p = .04$. However, there was no significant cross-lagged effect from dating violence to depressive symptoms one year later, $\beta = 0.09, p = .12$. Higher anxiety symptoms were significantly associated with higher dating violence one year later, $\beta = 0.27, p < .001$, whereas no significant cross-lagged effect appeared from dating violence to anxiety symptoms one year later, $\beta = 0.02, p = .79$.

3. Discussion

We found that higher depressive and anxiety symptoms were associated with increased subsequent dating violence. However, there were no effects from dating violence to later internalizing symptoms. Findings provide important implications for the prevention of dating violence in adolescence by underscoring relevance of early identification and timely treatment of anxiety and depression in early adolescence. The longitudinal effects of depression and anxiety on dating violence suggest that treating these internalizing symptoms are likely to reduce later dating violence. As there is clear evidence of effectiveness of treatment in this developmental period (Nolen-Hoeksema & Hilt, 2013), it is likely to be a cost-effective strategy.

To the best of our knowledge, this is the first study examining the associations between internalizing symptoms and dating violence perpetration among adolescents. The longitudinal design and cross-lagged model enabled us for the first time to examine the effect of relative change in internalizing symptoms on that of later dating violence perpetration, while taking into account the opposite directional effect of dating violence perpetration on later internalizing symptoms. Nevertheless, our results should be interpreted with caution. This study focused on early adolescence. Early involvement in romantic relationship has been shown to be a risk factor for delinquency and violence (Cui, Ueno, Fincham, Donnellan, & Wickrama, 2012). It could be that adolescents who are involved in a romantic relationship at the age of 14 were part of a relatively risky sample.

To conclude, we found over-time associations from internalizing symptoms to subsequent dating violence perpetration among adolescents. Our findings highlight the importance of treating internalizing symptoms early in adolescence and shed light on a direction for the early prevention of adolescent dating violence perpetration.

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