

**Borderline Personality Features in Adolescence Predict Dating Violence Perpetration in  
Early Adulthood**

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## Abstract

Borderline personality pathology and intimate partner violence (including teen dating violence) are significant public health concerns that have been found to negatively affect well-being across the lifespan. Researchers have consistently shown that borderline personality pathology, both clinical and subclinical, can increase the likelihood of intimate partner violence perpetration and victimization in adulthood. There is less research on these associations in adolescence.

Additionally, the developmental pathway of borderline personality pathology during adolescence is still not well defined, despite adolescence being a critical developmental window for personality pathology and for completing developmental tasks related to social connection and identity formation. Rooted in attachment, developmental biosocial, and differential susceptibility theories, I examined developmental trajectories of borderline personality features in adolescence (from ages 14 to 18) in the prediction of dating violence experiences (victimization and perpetration) in early adulthood (ages 19 and 20) in a community sample. Using a longitudinal, person-centred design, three trajectories of borderline personality features were identified: low-, moderate-, and high-stable, with girls overrepresented in the high-stable group and boys overrepresented in the low-stable group. Contrary to expectations grounded in the extant literature, borderline personality feature trajectory group membership and dating violence victimization were not associated. However, high-stable borderline personality feature trajectory group membership and dating violence perpetration were linked. Gender and experiences of child maltreatment were also associated with dating violence victimization and perpetration, and a strong co-relation between perpetration and victimization was found. These results add to the literature on both borderline personality pathology and dating violence in adolescence and highlight the importance of early intervention. Possible avenues of intervention are explored, focusing on emotion regulation, mentalization, and family relationships.

*Keywords:* dating violence, intimate partner violence, perpetration, victimization, borderline personality, adolescent mental health, child maltreatment

## Introduction

Borderline personality disorder in adolescence has been highlighted as an important public health concern (Chanen et al., 2017) and features of the disorder contribute to significant relational challenges. Moreover, adolescence is a critical time in which borderline features intensify (Stepp et al., 2014). It is also a developmental period in which peer relationships, particularly dating relationships, become formative attachment relationships (Collins, 2003). A personality disturbance is conceptualized as an emergent phenotype of personality systems in which extremely high or low trait values contribute to impairment in functioning and quality of day-to-day life (Lenzenweger & Depue, 2020). Personality disturbance does not necessarily mean one has met diagnostic criteria for a personality disorder, rather, personality disturbance indicates that features of personality pathology are present and are negatively impacting functioning.

Personality disturbances are a significant risk factor for intimate partner violence (IPV; Collison & Lynam, 2021). IPV is a major global public health concern (WHO, 2021) and police-reported incidences of IPV have increased year-over-year in Canada since 2014 (Statistics Canada, 2023). Intimate partner violence can include physical violence, psychological violence, threatening behaviour, verbal abuse, coercive control dynamics, and sexual violence (Statistics Canada, 2024). Teen dating violence is conceptually similar to intimate partner violence (IPV) in adults and reflects the distinct developmental context of adolescence, including peer relations, emotional regulation development, school-based social networks, and non-cohabitating relationships (Exner-Cortens, 2014; Wincentak et al., 2017). For adolescents, dating violence is not particularly rare, with one in three adolescents reporting that they have experienced or perpetrated dating violence over a 12-month time period (Exner-Cortens et al., 2021). Rates of dating violence victimization in Canadian adolescent girls and women aged 12 to 24 are about seven times higher than their male counterparts (Statistics Canada, 2023).

To date, few researchers have explored the association between borderline personality features during adolescence in the prediction of dating violence in young adulthood. Accordingly, in the present study I examined the association between the development of borderline personality features in adolescence in the prediction of dating violence in young adulthood using a longitudinal design.

## Literature Review

### Etiological Course of Borderline Personality Pathology

Borderline Personality Disorder (BPD) is a severe mental health condition with implications for early mortality and disproportionately high use of health care services. In a provincial cohort study of Quebec residents, researchers found a 6% prevalence of BPD, with a mean life expectancy reduction of nine years for women and 13 years for men in individuals diagnosed with antisocial, borderline, narcissistic, or histrionic personality disorders (Cailhol et al., 2017). Additionally, Cailhol et al. (2017) found a 20% proportion of death by suicide in this population. A core characteristic of BPD is interpersonal dysfunction, among other characteristics including impulsivity, emotional lability, fear of abandonment, and identity disturbance (American Psychiatric Association [APA], 2013). In fact, the pronounced interpersonal dysfunction in borderline personality pathology, particularly “unstable, intense interpersonal relationships” (Levy, 2005, p. 966) has prompted many theorists to define borderline personality pathology as interpersonal in nature (Fitzpatrick et al., 2021; Gunderson & Lyons-Ruth, 2008; Hopwood et al., 2014; Howard et al., 2022).

The developmental course of borderline personality pathology is complex and multiple theories of the etiology of the disorder have been proposed. These theories consider attachment, neurobiology, adverse experiences, and social contexts, among other factors. In their scoping review, Runions et al. (2021) found evidence that peer problems may be a risk factor for borderline personality pathology, particularly physical and relational victimization, even after trauma histories are accounted for. In terms of dating relationships, the interpersonally disruptive nature of borderline personality features increases conflict in adolescent dating relationships and may reinforce maladaptive coping behaviour (Hopwood et al., 2014).

Borderline personality pathology has been conceptualized as the contribution of genetic, psychosocial, and neurobiological developmental factors (Crowell et al., 2009) to the manifestation of the disorder. This conceptualization incorporates Linehan (1993)’s biosocial theory, which posits that biological vulnerabilities interact with an invalidating environment to facilitate borderline pathology, and accounts for developmental considerations. Epidemiological studies indicate borderline personality pathology emerges and intensifies in late childhood-early adolescence in alignment with puberty (Cohen et al., 2005). Studies of community samples show peak borderline personality feature presentation occurring in mid-adolescence, then declining

from late adolescence into young adulthood and beyond (Bornovalova et al., 2009; Stepp et al., 2014). Thus, adolescence is a significant time frame for the development of borderline personality pathology.

To better understand borderline personality pathology developmentally, a diathesis-stress model has also been examined in which temperamental predisposition combined with environmental stressors can foster the development of borderline personality features (Carlson et al., 2009; Haltigan & Vaillancourt, 2016; Linehan, 1993). Both intra-individual (i.e., mental health symptoms, temperament) and inter-individual factors (i.e., peer relations) have been found to influence developmental trajectories of borderline personality pathology in adolescence (Haltigan & Vaillancourt, 2016). Moreover, personality pathology trajectories have been shown to vary between individuals in terms of rate of change across time, as well as direction of change (stable, decreasing, or increasing; Lenzenweger et al., 2004). Prospective studies have found differential borderline personality pathology trajectories in adults (Wright et al., 2010) and in adolescents (Bogaerts et al., 2023; Carreiras et al., 2022; Haltigan & Vaillancourt, 2016; Wright et al., 2016), indicating the importance of examining the heterogeneity of borderline personality symptom presentation over time. Higher borderline personality features across adolescence have been linked with worsening social, mental health, and academic outcomes, while a decrease in borderline features has been linked with improvement in these domains (Wright et al., 2016).

Many theorists aiming to conceptualize borderline personality pathology have converged on the belief that a constitutional vulnerability combined with key environmental factors (i.e., chronically invalidating environment) facilitate the development of borderline personality symptomatology (Hopwood et al., 2014; Vanwoerden et al., 2019). Additional intra-individual factors relevant to borderline personality pathology include high emotionality, low sociability, and low shyness (Stepp et al., 2014). Environmental contributors to borderline personality pathology beyond peer and dating relationships, as highlighted in systematic reviews by Stepp et al. (2016) and Hutsebaut and Aleva (2021), include current interpersonal context, low socioeconomic status (SES), family adversity, child maltreatment, adverse childhood experiences, and poor maternal mental health.

### **The Interpersonal Nature of Borderline Personality Pathology**

Attachment relationships are also particularly significant in the etiological course of borderline personality pathology (see Mikulincer & Shaver, 2007 for a review). Briefly,

attachment theory suggests that experiences with primary caregivers in infancy and early childhood form one's internalized representation of oneself, others, and the relationship between oneself and others, which acts as an 'internal working model' for subsequent relationships throughout the lifespan (Bowlby, 1982). When attachment to early caregivers is disrupted, an attachment insecurity can be created (Ainsworth et al., 1971). Diverging from traditional attachment theory, Luyten et al. (2021) reframe attachment as the "type of interaction that an individual has with others and their social contexts more generally" (p. 111). They espouse that challenges with discerning trustworthy communication with others is part of the underlying mechanism of attachment. Challenges with discerning trustworthy communication with others can lead to hypervigilance and negative schema-related attribution errors, both of which are important factors in borderline personality pathology (Sieswerda et al., 2007). In sum, borderline personality pathology is etiologically complicated, but there are key elements woven through the theories presented—social context, attachment, temperament, trait and state vulnerabilities, and biology.

Borderline personality features in adolescence have been linked with decreasing social skills in girls (Wright et al., 2016) and with reactive temperament exacerbated by childhood bullying (Haltigan & Vaillancourt, 2016). Challenges in peer relations become more salient factors in borderline personality pathology during adolescence and into early adulthood because of an increased focus on interdependence and affiliative bonds in adolescent friendships and romantic relationships (Furman et al., 2002). As a result, not fitting in has significant consequences in adolescence and emerging adulthood. For example, consistently high rates of bullying victimization throughout childhood and adolescence have been associated with higher BPD symptoms (Erazo et al., 2023), which lends credence to the idea that repetitively traumatic peer relations, such as chronic bullying victimization (Idsoe et al., 2021) and high conflict dating relationships, contribute to increasing borderline personality pathology over time. Additionally, individuals diagnosed with BPD have been found to have more interpersonal relationships that end abruptly or change course significantly, compared to others without personality disorders (Lazarus & Cheavens, 2017). Adults with diagnosed BPD have reported reduced relationship quality over time in alignment with increased borderline personality features (Howard et al., 2022). In Howard et al.'s (2022) study, the association between reduced relationship quality and increased borderline personality features were strongest in closer relationships (i.e., romantic

relationships). Evidence also points to the association of borderline personality pathology with early adversity as well as later adversity through cyclical interpersonal interactions, revictimization, and bully-victim peer relations (Leichsenring et al., 2024).

Part of what may make these important relationships dysfunctional is the difficulty people with high borderline personality symptomology may have with accurately communicating emotions, increasing the likelihood of conflict and subsequently eliciting a response from others that may be experienced by the person with borderline personality pathology as invalidating (Fruzzetti & Fantozzi, 2008). It is likely that romantic discord could reinforce or exacerbate existing pathology through the perpetuation of a perceived invalidating environment.

### **Adolescence, Peer Relations, and Borderline Personality Pathology**

As youth transition into adolescence, interpersonal relationships become increasingly important (Buhrmester, 1990). This shift also reflects a change in the attachment system, in which adolescents begin to prioritize important others beyond early attachment figures (Allen & Tan, 2016; Mayseless & Scharf, 2007). Brain development alongside pubertal changes shift adolescents' social cognition (e.g., perspective taking, mentalization) which ideally enables the development of closer, more mature social bonds within friend groups and in romantic relationships (Pfeifer & Allen, 2021). Indeed, a positive social network is likely a protective factor for dating violence due to an increased likelihood that romantic partners will be part of this positive network (Hébert et al., 2019). In situations in which personality pathology may be involved, developments in perception and social cognition may not be ideal and perception of interpersonal relationship quality in conjunction with experiences of conflict or unmet support needs could exacerbate borderline personality features (Howard et al., 2022). As an inverse to the adaptive, positive social network, individuals with elevated borderline personality features may engage in assortative mating in which they opt for romantic relationships with individuals who also have elevated levels of psychopathology (Bouchard et al., 2009).

Effects of the increasing relevance of peer relationships can also be viewed through an adolescent egocentrism lens. According to Piagetian theory of intellectual growth, formal operational thought develops in adolescence (Piaget, 1962). This has implications for socio-emotional relations with peers. During this developmental period, adolescents can now conceptualize the thoughts of others (i.e., their peers) and subsequently infer and react to their predictions about what others think—and these predictions often assume others are just as

preoccupied with them as the adolescent is with themselves (Elkind, 1967). Elkind (1967) specified assuming an imaginary audience (that others are just as preoccupied with them as they themselves are) and creating personal fables (assuming their feelings and experiences are unique and special) are the key mechanisms of adolescent egocentrism. The process of adolescent egocentrism is dialectical, such that the capability to differentiate the thoughts of others from their own thoughts develops, then drives egocentrism through the two abovementioned mechanisms (Choudhury et al., 2006). Adolescent egocentrism is reminiscent of struggles with self-other distinction that has been implicated as central to borderline personality pathology (De Meulemeester et al., 2021). Issues with self-other distinction have been linked to difficulties with mentalizing (understanding the mental states of others), which then sustains ongoing attachment challenges (Luyten et al., 2019). From this, we can infer that peer and romantic relationships during adolescence are difficult to navigate due to the nature of the developmental stage, but borderline personality pathology may maintain or exacerbate these challenges.

Dating and romantic relationships are important to young people while also significantly influencing their developmental trajectories through adolescence and beyond (Furman & Shaffer, 2003). The prevalence of romantic relationships in adolescence is greater than 70% by age 17 (Collins et al., 2009). Young people complete key developmental tasks through dating relationships in adolescence, such as sexual development and identity formation (Exner-Cortens, 2014). Additionally, and of relevance to borderline personality pathology, romantic relationships are typically more intense than other types of peer relations (Collins et al., 2009), lending further opportunity for elevated attachment insecurity, difficulties with emotion regulation, and ineffective interpersonal communication to reveal themselves. High levels of intimacy and reliance on romantic relationships for connection and support may be detrimental to adolescents presenting with high borderline personality features as this may interrupt key developmental milestones like identity formation (Lazarus et al., 2019), which aligns with BPD diagnostic criteria relating to challenges with identity and sense of self (APA, 2013). Indeed, borderline personality symptomatology in adolescence has been linked with poorer social, emotional, and academic outcomes (Chanen et al., 2007). Borderline personality symptomatology has also been linked with insecure attachment (avoidant, anxious) in emerging adults (Brownridge & Tyler, 2023). Importantly, high conflict dating relationships are likely to activate an individual's

internalized attachment insecurity and induce behaviour consistent with their insecure internal working model (Beeney et al., 2019).

A clear link has been established between attachment insecurity and borderline personality pathology (see Levy, 2005 for a review). This link, however, does not simply pertain to early attachment—as outlined above, research has indicated that one’s broader social context is significantly influential to an individual’s attachment relationships (see Winsper, 2018 for a review). Romantic attachment insecurity can be conceptualized as the presentation of demand/withdrawal behaviour when an insecure attachment system is activated (Beck et al., 2013; Millwood & Waltz, 2008). Demand behaviour can be activated when an individual experiences attachment anxiety linked to a negative internal working model of the self, prompting fear of abandonment and rejection (Hazan & Shaver, 1987; Lafontaine et al., 2021). Likewise, withdrawal behaviour can stem from attachment avoidance related to a negative internal working model of others, resulting in a discomfort toward intimacy (Hazan & Shaver, 1987; Lafontaine et al., 2021). Attachment anxiety is more closely related to borderline personality pathology (Beeney et al., 2015) and has been linked to IPV perpetration (Mikulincer & Shaver, 2016) and IPV victimization (Bonache et al., 2019) in adults. Further, it has been proposed that fear of abandonment can predispose insecurely attached individuals to IPV victimization (Velotti et al., 2018) and fear of abandonment is also a key feature of borderline personality pathology (APA, 2013), which makes the presence of borderline personality features important to consider in relation to dating violence in young people.

As youth mature, their attachment relationships shift such that peer and romantic relationships become more important for the development and maintenance of borderline personality pathology (Vanwoerden et al., 2019). When viewed through a revisionist perspective of attachment, these later attachment relationships may alter the existing ‘internal working model’ of self and others that was initially established in infancy (Fraley, 2002), either adaptively or maladaptively, underscoring the importance of healthy dating relationships to the well-being of adolescents and young adults. An additionally worrisome finding is that individuals with attachment insecurity are less likely to engage in help-seeking behaviour to leave an abusive relationship (Lafontaine et al., 2021) and are more likely to tolerate abusive behaviour (Tussey & Tyler, 2019). Stable, high-quality relationships have been expected,

clinically, to positively influence adults with borderline personality pathology (Linehan, 1993), so the influence of the inverse is likely clinically relevant for this population.

### **Dating Violence Victimization**

Intimate partner violence is a broad term that can refer to multiple forms of abuse, including physical (e.g., using physical force to hurt or attempt to hurt a partner), emotional or psychological (e.g., verbal abuse, using threatening or controlling behaviour), and sexual (e.g., forcing or attempting to force a partner to participate in a sexual act; CDC, 2024) occurring within a close romantic relationship. These broad categories also apply to dating violence in adolescence/early adulthood. Physical and psychological victimization in intimate relationships have been associated with increased substance use, depressive symptoms, increased likelihood of developing chronic disease, chronic mental health challenges (i.e., anxiety, post-traumatic stress; Lagdon et al., 2014), and current poor health (Coker et al., 2002). Dating violence appears to peak in late-adolescence and early adulthood (Capaldi et al., 2012; Ehrensaft et al., 2006). Moreover, dating violence in adolescent dating relationships may put youth at increased risk for further violence in adulthood (Exner-Cortens et al., 2013; Williams et al., 2008). Similarly, children who are exposed to violence in their homes are more prone to experiencing and accepting dating violence (Collin-Vézina et al., 2006) and are more prone to borderline personality pathology (Stepp et al., 2014). The type of exposure leading to these attributes can be child abuse, neglect, or witnessing violence between caregivers (see Agrawal et al., 2004 for a review). In a study conducted during the COVID-19 pandemic, experiences of emotional or physical abuse by a parent were associated with sexual and physical dating violence victimization in both boys and girls (Krause et al., 2023). In a meta-analysis by Smith-Marek et al. (2015), IPV victimization and experiences of family-of-origin violence were found to be more closely associated for women than for men.

Swartout et al. (2012) examined trajectories of dating violence victimization in young women ( $N=1575$  at T1; 71% White) in the U.S. across five time points from late adolescence (final year of high school) through four years of postsecondary. They identified five dating violence trajectories: low or no, low to moderate, moderate to low, high to moderate, and high to increasing. The lowest three trajectory groups were the most populated, with the high to moderate and high to increasing groups accounting for 3% and 2% of the sample, respectively. Witnessing family violence predicted membership in the high to moderate trajectory, and

childhood adverse experiences (i.e., sexual or physical abuse) predicting membership to the two highest trajectories. These results are worrisome as they support the notion that attachment insecurity and previous victimization may contribute to future victimization, though they did not explore the role of personality pathology in their examination of dating violence trajectories.

Maneta et al. (2013) identified an association between borderline personality organization and IPV victimization in adults using a dyadic study design examining couples, such that higher scores on borderline pathology were linked to increased victimization for both women and men. In relation to late adolescence, Reuter et al. (2015) examined teen dating violence, borderline personality features, and exposure to interparental violence cross-sectionally. Their findings indicated that gender moderated the relation between dating violence victimization and borderline personality features such that adolescent girls were more likely to experience dating violence victimization, including severe victimization than adolescent boys. Gender differences in dating violence victimization and borderline personality features points to a potential divergence in the developmental pathways for borderline personality feature presentation and experiences of dating violence, necessitating longitudinal research to explore this possibility.

Finally, a five-year longitudinal examination of dating violence victimization and borderline personality features was conducted by Vanwoerden et al. (2019) using the same community sample as Reuter et al. (2015). Using a cross-lagged panel model, Vanwoerden et al. (2019) found that, among adolescent girls and women, borderline personality features predicted higher dating violence victimization at every wave of the study, but did not predict the same for adolescent boys and men. In adolescent boys and men, results suggested that dating violence was instead a risk factor for borderline personality features. This study has begun to disentangle the complex association between dating violence and borderline personality features, but further study is required to crystallize this understanding, particularly in relation to dating violence perpetration and gender differences.

### **Dating Violence Perpetration**

In a systematic review of 29 studies examining BPD and IPV perpetration in adults, Jackson et al. (2015) found evidence of a strong link between the two for men and women. Individuals meeting the diagnostic criteria for BPD perpetrate more frequently and use more seriously violent acts (e.g., punching, kicking, using force to restrain, causing injury requiring medical attention) in their intimate relationships (Jackson et al., 2015). Longitudinal research in

adults has also found that cluster B traits (e.g., borderline, narcissistic, histrionic) have predicted later IPV perpetration (Ehrensaft et al., 2006). A link between borderline personality organization and IPV perpetration in women was not found, but it was found in men (Maneta et al., 2013). In contradiction to this finding, Brownridge and Tyler (2023) studied IPV in postsecondary students and found that both IPV perpetrators and victims were more likely to (1) have higher borderline personality features, and (2) have been witness to inter-parental violence, while only women were significantly more likely to have reported IPV perpetration. Other research in adults suggests a potential cyclical nature of IPV and borderline personality features alongside an association between BPD and a dual IPV victim-perpetrator role in romantic relationships (Drapeau & Perry, 2009). There is support for a link between IPV or teen dating violence and borderline personality features, but the link and the perpetuating underlying mechanisms are difficult to clearly delineate in a cross-sectional design.

Velotti et al. (2018) conducted a meta-analysis examining IPV and attachment and found a convergence of the literature in that IPV perpetrators tended toward anxious attachment, and that this relation held for every form of IPV perpetration. Findings from longitudinal research also indicate that symptoms of mistrusting others and cognitive distortions facilitating suspiciousness increase likelihood of IPV perpetration (Ehrensaft et al., 2006), which may link back to attachment insecurity, namely anxious attachment, in borderline pathology and a negative internal working model of others. In a study exploring attachment and the mediating role of borderline and antisocial personality scores on perpetration of IPV, Mauricio et al. (2007) found that “borderline personality disorder functions as a mechanism through which anxious adult attachment is related to both physical and psychological violence” (p. 149). Borderline personality disorder fully mediated the relation between anxious attachment and physical IPV, and partially mediated the relation between anxious attachment and psychological IPV. Anxious attachment also provides an explanation for dual victim-perpetrator IPV relationships (Bonache et al., 2017; Bookwala & Zdaniuk, 1998; Velotti et al., 2018)—particularly if assortative mating is in effect and both members of the dyad have difficulties with emotion regulation, impulsivity, and other symptoms of attachment insecurity.

In terms of experiences of teen dating violence, to my knowledge, few researchers have examined this population despite adolescence being a critical developmental window. Moreover, studies were all conducted in the U.S., more often focused specifically on victimization, and only

two studies were conducted with a longitudinal design. In a cross-sectional examination of an inpatient population, Hatkevich et al. (2020) found that adolescents in a high borderline personality features group reported significantly more dating violence victimization and perpetration than those in a low borderline personality features group, and that the high borderline personality features group had significantly more girls than boys than the low borderline personality features group. Although this study provides valuable information about the relation between dating violence and borderline personality features, the results are less generalizable due to the clinical sample of adolescents reporting significant psychopathology.

Reuter et al. (2015) examined dating violence perpetration and victimization in an adolescent population and their results indicated borderline personality features were positively related to dating violence perpetration and were not moderated by gender. Borderline personality features were found to be positively correlated with exposure to mother-to-father violence, but not father-to-mother violence, which aligns with previous findings that maternal mental health appears to be related to youth borderline personality pathology (Stepp et al., 2016). In a longitudinal study of an all-girls population aged 15 at T1 to 19 at T5, Lazarus et al. (2019) found reciprocal relations between borderline personality symptoms and antagonism and verbal aggression in romantic relationships, and higher borderline personality symptoms at T1 were associated with higher physical aggression at T1 and over time (i.e., increased TDV perpetration). These findings are important because a bias has emerged in the research such that boys and men have often been examined as perpetrators of teen dating violence/IPV while girls and women have been considered victims (Jackson et al., 2015). Nevertheless, what has become evident through review of the extant literature is that this generalization does not fully or accurately represent the data. There has been a call for further research on the course and function of IPV over time in people with borderline personality pathology (Jackson et al., 2015), as well as a call for personality pathology more generally to be included in IPV etiology (Bell & Naugle, 2008).

### **Gender Differences in Dating Violence and Borderline Personality Pathology**

Exploring gender as a key factor in dating violence and borderline personality pathology is important for several reasons, as have been briefly alluded to throughout this literature review. The current picture of borderline symptomology and IPV victimization and perpetration is equivocal. Even findings of prevalence rate differences of BPD diagnoses between men and

women are mixed—historically, a BPD diagnosis was disproportionately (~75%) more common in women (APA, 2013), but studies using community samples are finding prevalence rates of 3% in women versus 2% in men (Tomko et al., 2014). A higher rate of BPD diagnosis in women in psychiatric outpatient settings than in men has been found, however, at 72% versus 28%, respectively (Zimmerman & Becker, 2023). There is a debate about whether the disproportion of BPD prevalence rates between men and women is due to actual group differences or a form of gender bias in diagnosis (Bozzatello et al., 2024; Jane et al., 2007; Stepp et al., 2014). Differences in borderline feature presentation have also been found between men and women, such that men with BPD more often presented with an ‘explosive’ temperament, while women were more likely to score high on harm avoidance (Barnow et al., 2007) and reported more challenges with identity disturbance (Johnson et al., 2003). However, a recent area of contention in the gender and borderline personality literature is regarding the aggression symptom dimension (Bozzatello et al., 2024). Several researchers have found no gender differences in aggression in men and women diagnosed with BPD (Newhill et al., 2009; Scott et al., 2014; Silberschmidt et al., 2015), while others have found men with BPD were more physically, but not verbally, aggressive than women with BPD (Sher et al., 2019). Several of these studies examined clinical samples, however, when taken together, an unclear picture of gender differences and borderline personality feature presentation persists.

In their comprehensive meta-analysis of 391 studies, Spencer et al. (2019) identified risk markers for IPV victimization in men and women. In women, previous IPV perpetration, emotional and sexual IPV victimization, emotional IPV perpetration, demand/withdraw relationship patterns, family of origin child abuse, and witnessing IPV were all positively related to IPV victimization, while communication skills were negatively associated with IPV victimization. In men, emotional IPV victimization, abuse in past relationships, previous IPV perpetration, and emotional IPV perpetration were the strongest risk factors associated with IPV victimization. Family of origin challenges (child abuse, witnessing IPV) were also associated with IPV victimization. Borderline personality disorder was a strong predictor of IPV victimization in both men and women. These findings lend some support to a dual perpetrator-victim hypothesis of IPV, and an important takeaway from this analysis is that risk factors for IPV victimization appear to be more similar than different for men and women (Spencer et al., 2019). This sentiment has been echoed in previous systematic reviews (see Capaldi et al., 2012).

Physical IPV perpetrated by men to women is typically more severe. In Ontario, Canada, over 80% of IPV-related emergency room visits were made by women (Singhal et al., 2021). Additionally, of those who reported IPV victimization, it has been found that 12% of male victims reported first threatening physical force, while 7% of women reported the same (Coker et al., 2002). However, as evidenced above, women have been found to be more likely to perpetrate IPV in young adults (Brownridge & Tyler, 2023), though these acts are generally less severe in terms of the physical injuries they cause. Finally, high discord in romantic relationships has been found to be a strong predictor of IPV for both men and women (Capaldi et al., 2012). In sum, examining how gender relates to borderline personality feature trajectories in the prediction of victimization and perpetration in late adolescence and early adulthood is important for disentangling the differential experiences of men and women navigating close relationships. Identifying and understanding these differences allows for targeting interventions for gender-specific challenges that may emerge.

### **Summary**

Ultimately, the effects of borderline personality pathology are profound with respect to functioning socially, personally, and professionally across the lifespan (Zanarini et al., 2012). Despite evidence that borderline personality pathology builds during adolescence, early intervention for the disorder is not well-defined (Hutsebaut & Aleva, 2021). To bring this complex research area together and establish a clear path forward while taking into consideration the abovementioned challenge areas, a clinical staging model of BPD that prioritizes early intervention is paramount, particularly with consideration for interpersonal variables like dating violence that may worsen borderline personality symptoms. It is important to understand and downwardly extend the link between borderline personality pathology and IPV in adults into adolescence and early adulthood. Recently, researchers called for a focus on conceptualization of the developmental trajectory of BPD (see Hutsebaut & Aleva, 2021; Lyons-Ruth & Brumariu, 2021 for reviews) for the purpose of improving early intervention.

Especially when symptoms are subthreshold, early application of a concrete and specific diagnosis might be inappropriate. The need for some form of treatment, however, often precedes reaching a diagnostic threshold, and intervention often cannot wait until the trajectory of these symptoms, with time, eventually becomes clear (Chanen et al., 2016, p. 336).

This highlights the importance of longitudinal research using a community sample that includes subclinical scores on borderline personality features to identify those who may be at-risk of exposure to additional exacerbating environmental factors (i.e., relational conflict) that would benefit significantly from clinical intervention before features become too deeply entrenched. Early intervention and clinical support may allow high-risk adolescents to assume a healthier developmental trajectory than their counterparts who are assessed and diagnosed in adulthood (Bozzatello et al., 2019). Research has indicated non-random mating patterns within individuals with psychiatric disorders (Nordsletten et al., 2016); if youth presenting with higher borderline personality feature severity subsequently select a partner with similar personality pathology, this may then create an environment conducive to dating violence victimization and perpetration.

As evidenced, the development of borderline personality pathology and risk factors for dating violence are complex. Some research indicates personality disturbances impact dating relationships and attachment in adulthood (Beeney et al., 2019). Other studies were focused on borderline personality features in adulthood romantic or interpersonal relationship quality, with findings that indicated decreases in perceived relationship quality exacerbates borderline personality features (Howard et al., 2022), and a specific association of BPD symptoms with romantic dysfunction and attachment insecurity (Hill et al., 2011). However, few researchers have evaluated borderline personality features in adolescence and dating violence in early adulthood. Current findings indicate that adolescents with higher borderline personality features have a greater likelihood of dating violence victimization (Vanwoerden et al., 2019) and perpetration and that these associations are moderated by gender (Reuter et al., 2015). Moreover, BPD symptoms are associated with increased involvement in romantic relationships and subsequent exacerbation of BPD symptoms (Lazarus et al., 2019). A significant limitation of Reuter et al.'s (2015) study was the cross-sectional nature which precluded the ability to examine true change. Lazarus et al.'s (2019) reporting measures were unable to identify if dating relationships changed year over year (e.g., if participants had different partners each year) and used a sample of exclusively girls, so gender effects could not be examined. Finally, Vanwoerden et al. (2019) did not control for child abuse, neglect, or exposure to domestic violence in childhood. These limitations are addressed in the current study.

## Current Study

### Research Objectives

Borderline personality pathology has significant deleterious effects across the lifespan (Bagge et al., 2004; Cailhol et al., 2017; Winsper, 2021), and the developmental trajectories of this pathology are still not widely understood (Crowell et al., 2009). Longitudinal research focusing on trajectories of borderline features over time can help identify at-risk groups and better understand the temporal progression of these features and how they later predict experiences of dating violence.

Intimate partner violence is a global health concern for adults (WHO, 2021) and is present in 20% of adolescent dating relationships (Wincentak et al., 2017). Young people with borderline personality features are particularly at risk for experiencing violence and high conflict in their dating relationships due to the nature of borderline pathology (Reuter et al., 2015; Vanwoerden et al., 2019). As it stands, borderline personality features in adolescence have predicted worse adult role functioning over 20 years, indicating a potentially poor prognosis for these youth long-term (Winograd et al., 2008). Adolescents with borderline personality features are at high risk, especially in combination with the association between exposure to violence in dating relationships and negative impacts such as reduced self-esteem, negative self-concept (Ackard & Neumark-Sztainer, 2002; Collin-Vézina et al., 2006), and suicidal ideation or suicide attempts (Chan et al., 2008; Coker et al., 2000). This issue becomes more perilous due to the increased likelihood of people with BPD to die by suicide (Lieb et al., 2004). Studying borderline personality feature trajectories in adolescence in relation to dating violence perpetration and victimization trajectories in late adolescence and early adulthood, provides support for early intervention and programs for prevention that can target borderline personality features to reduce risk for later IPV experiences.

The purpose of the present study was to examine (1) whether there were distinct trajectories of borderline personality features across adolescence, and (2) how trajectories of borderline personality features predicted violence in dating relationships in early adulthood. The lack of research in this area restricts clinicians' ability to develop and implement interventions for youth who are at-risk for dating violence when these interventions would be most effective. By understanding borderline personality feature trajectories and how these predict experiences of

dating violence, we can better target interventions, such as school-based programs, at time points when they would be most effective for protecting youth.

### **Theoretical Framework**

The theoretical framework underpinning this study involves the integration of several theories to fully address the research question. The most prominent theory guiding this work is the developmental biosocial theory (Crowell et al., 2009), in alignment with the current leanings of BPD etiological study (Winsper, 2021). Regarding the social aspect of borderline personality etiology, attachment theory posits that a positive early relationship with at least one primary caregiver (attachment figure) is foundational to adaptive emotional and social development in children. Particularly, knowing “an attachment figure is available and responsive provides a strong and pervasive feeling of security” (Bowlby, 1982, p. 669). In other words, having at least one responsive, available, and predictable caregiver can result in secure attachment (adaptive emotional and social development). Conversely, insecure attachment is strongly associated with borderline personality disorder (Agrawal et al., 2004), challenges with interpersonal relatedness, ‘separation anxiety’, and self-worth related to dating violence victimization (Blatt & Levy, 2003); and attachment-rage and impulsivity related to dating violence perpetration (Bell & Naugle, 2008; Dutton, 1995). This study is also guided by a differential susceptibility model for borderline personality feature emergence (Rioux et al., 2018) in which borderline personality feature etiology can be influenced by a child or adolescent’s inborn temperament interacting with their environment (e.g., attachment figures in young children, and later in adolescence and early adulthood, their peers and dating relationships).

### **Research Questions**

The main research question I addressed is: Do trajectories of borderline personality features in adolescents (from age 14 to 18) predict dating violence victimization and perpetration in early adulthood (age 19 – 20)?

### **Hypotheses**

Women and girls are more likely to experience gender-based violence (WHO, 2021) and historically women and girls have been more likely to receive a BPD diagnosis (APA, 2013). There is also evidence that this gender difference extends downward into adolescence (Haltigan & Vaillancourt, 2016). Accordingly, I predicted that girls would have higher borderline feature scores across adolescence than boys (Bogaerts et al., 2023; Haltigan & Vaillancourt, 2016).

Women are more likely to experience victimization than men, and particularly so when women have higher borderline personality feature scores (Reuter et al., 2015). As such, I predicted that these same patterns of results would be found in the present study.

Past research has shown that adolescents follow different developmental trajectories of borderline personality features. For example, Stepp et al. (2014) found two distinct developmental trajectories—low- and high- risk borderline personality feature trajectories from ages 14 to 19. Similarly, Haltigan and Vaillancourt (2016) identified three distinct trajectories of borderline personality features in adolescents from age 13 to 16: elevated/rising, intermediate/stable, and low/stable. Finally, Bogaerts et al. (2023) examined identity formation and borderline personality feature trajectories in adolescence (ages at T1 = 12 – 18 years old; ages at T3 = 14 – 20 years old) and identified four classes: diffused identity (high/stable borderline features), adaptive identity (low/stable borderline features), identity progression (high/decreasing borderline features), and identity regression class (low/increasing borderline features). Based on these studies, I predicted that at least two developmental trajectories would be found—a high and low borderline personality features trajectory.

Higher borderline personality features have been related to dating violence victimization (Maneta et al., 2013; Spencer et al., 2019) and perpetration (Brownridge & Tyler, 2023; Drapeau & Perry, 2009; Ehrensaft et al., 2006). Thus, I predicted that adolescents who followed a high trajectory of borderline personality features would be more likely to be involved in dating relationships characterized by dating violence victimization and/or perpetration.

### **Methodological Framework**

My thesis used data from the McMaster Teen Study, a comprehensive multi-informant, multi-method longitudinal study of Canadians designed to investigate factors related to their well-being, including bullying, peer relations, and mental health. Leveraging these longitudinal data allowed me to analyze borderline personality feature trajectories in adolescence in the prediction of dating violence in early adulthood. From an attachment perspective, it is necessary to examine these patterns longitudinally as the insecure attachment style fundamental to borderline pathology (Linehan, 1993) will present itself over time and through varying types of behaviour and social contexts. To my knowledge, this is the first study examining borderline personality features across adolescence in the prediction of dating violence in early adulthood in a Canadian sample.

## Participants and Procedure

Participants for this study were drawn from the McMaster Teen Study, which began in the spring of 2008 when participants were in Grade 5 (T1). Participants were recruited from a random sample of 51 schools within a large Southern Ontario Public School Board. A total of 875 participants agreed to be part of the longitudinal study following initial recruitment and 703 actually participated (52.8% girls; 82.4% White). Until participants turned 16, parents provided consent for their child's participation in the student surveys as well as participation in telephone interviews. Participants also provided assent, and later consent, for their survey data to be used. The McMaster Teen Study has maintained yearly approval status from associated university research ethics boards and the participating school board. For the present study, I used data collected from T4 ( $M_{age} = 14$  years) to T10 ( $M_{age} = 20$  years). When participants were in grade 5 (T1) data were collected via paper surveys provided to students at school, but in subsequent years (i.e., all the time points used in this study), the survey was most often accessed by participants online from home. Participants had the option to request a hard copy of the survey to complete if preferred.

## Measures

**Borderline Personality Features.** The Borderline Personality Features Scale for Children (BPFS-C; Crick et al., 2005) was used to obtain reports from youth from ages 14 (T4) to 18 (T8). This scale consists of 24 items rated on a Likert-type scale with responses ranging from 1 (*not at all true*) to 5 (*always true*). An example item from this scale is "I feel that there is something important missing about me, but I don't know what it is." Scores on this scale are averaged, with higher scores relating to greater levels of borderline personality features. This scale has been validated for ages 8 – 18 (Sharp et al., 2010). A previous study using a similar sample to the one used in the present study has found internal consistency of items in this measure to be  $>0.90$  (Haltigan & Vaillancourt, 2016), and sound psychometric properties have been established (Crick et al., 2005; Hatkevich et al., 2020; Vanwoerden et al., 2019). In the present study, Cronbach's  $\alpha$  ranges from .90 – .92 for age 14 to 18.

**Dating Violence.** Conflict in dating relationships data were gathered using the Conflict in Adolescent Dating Relationships Inventory–Short Form (CADRI-S; Fernández-González et al., 2012) from both a victimization and perpetration perspective at ages 19 and 20 (post-secondary school). This is a self-report instrument with 10 items and five subscales: physical violence,

threatening behaviour, sexual abuse, relationship abuse, and verbal/emotional abuse. Items are responded to on a 4-point scale (ranging from *never* to *often*) with an additional *N/A* response. Each item has two parts: one indicating victimization and one indicating perpetration. A sample item is “I threatened to hit or throw something at my partner.” (perpetration) and “My partner threatened to hit or throw something at me.” (victimization). Participants reported on the frequency of each event with a dating partner in the last 12 months. This measure allowed me to identify participant experiences of both dating violence victimization and perpetration. I used both the victimization and perpetration subscales. Scores on these scales were summed across both time points (once correlations were examined to check that it would be appropriate to combine data from both time points), then averaged to create separate composite scores for perpetration and victimization. Sound psychometric properties have been established for this measure (Hatkevich et al., 2020; Vanwoerden et al., 2019; Wolfe et al., 2001). In the present study,  $\alpha = .67 - .89$  for the victimization subscale at age 19 and 20 and  $\alpha = .62 - .79$  for the perpetration subscale at ages 19 and 20.

**Childhood Experiences of Violence.** Experiences of childhood violence data were gathered retrospectively using the Childhood Experiences of Violence Questionnaire–Short Form (CEVQ-SF; Tanaka et al., 2012) at age 19 or 20. The CEVQ (Walsh et al., 2008) comprises 18 stem questions and 64 context items assessing experiences of youth violence, while the CEVQ-SF comprises seven stem questions examining physical abuse (three items) and sexual abuse (one item). There are also questions examining bullying (two items) and one question examining physical punishment (i.e., spanking), though only the data from the physical abuse and sexual abuse items were used in the present study. A sample physical abuse item is “How many times before age 16 did an adult... push, grab, shove, or throw something at you to hurt you?” If participants responded with  $\geq 3 - 5$  times on the lesser severity physical abuse items (two items), or  $\geq 1 - 2$  times for the greater severity physical abuse item (kicking, biting, punching, choking, burning, or physically attacking), they were coded as 1 for physical abuse in this study. If they reported lower than these cutoffs, they were coded as 0. The sexual abuse item was: “Before age 16 when you were growing up, did anyone ever... do any of the following things when you did not want them to touch the private parts of your body or make you touch their private parts, threaten or try to have sex with you, or sexually force themselves on you?” If participants responded “yes” to this item, they were coded as 1 for sexual abuse for the purpose

of this study. If they responded “no”, they were coded as 0. This method of coding is in alignment with the cutoffs established by Tanaka et al. (2012). Sound psychometric properties have been established for this measure (see Tanaka et al., 2012). In the present study, Cronbach’s  $\alpha = 0.70$  for the items used to examine physical and sexual abuse.

### **Analytic Plan**

Descriptive statistics were computed for each time point used. To examine how borderline personality features in adolescence related to conflict and dating violence in early adulthood, the BPFS-C scores from five time points in adolescence (T4 – T8; T4  $M_{age}=13.98$ , T8  $M_{age}=18.01$ ) were used to explore borderline personality feature trajectories, and CADRI-S scores from two time points in late adolescence (T9 and T10; T9  $M_{age} = 19.08$ , T10  $M_{age} = 19.97$ ) were used to examine dating violence experiences. For most participants, CEVQ-SF scores (experiences of childhood maltreatment) were collected at age 19, but if these data were not obtained then, they were obtained at age 20. For this reason, the age 19 and 20 CEVQ-SF scores were combined for my analyses. Child maltreatment was examined across two domains: sexual abuse and physical abuse. Sexual abuse as a variable was coded as either *No sexual abuse* (0) or *Sexual abuse* (1). Physical abuse was coded as *No physical abuse* (0), or *Physical abuse* (1).

To identify trajectory groups, MPlus 8.0 (Muthén & Muthén, 2017) was used to conduct latent class growth analysis (LCGA), a semi-parametric group-based method of analysis. By using LCGA, group heterogeneity and differential growth patterns within each latent class were identified. To investigate how the borderline feature trajectory groups in adolescence predict dating violence in early adulthood, the LCGA was followed with two analyses of covariance (ANCOVAs) in SPSS 29.0 using borderline personality feature trajectory groups as the independent variable and dating violence perpetration or dating violence victimization scores as the dependent variable. To increase parsimony, dating violence victimization and perpetration scores at age 19 and 20 were combined in one composite score for victimization and perpetration (victimization at age 19 and age 20:  $r = .35, p < .001$ ; perpetration at age 19 and age 20:  $r = .49, p < .001$ ). When examining the prediction of dating violence perpetration, victimization was entered as a covariate and vice versa when examining the prediction of dating violence victimization.

Gender and child maltreatment were also entered as covariates in these analyses because girls and women are more likely to have more features of borderline personality pathology than boys and men (APA, 2013) and because exposure to child maltreatment been linked to borderline personality pathology (Sharp et al., 2020) and increased experience of dating violence regardless of pathology (Foshee et al., 2004).

## Results

### Missing Data

To examine missing data, Little's MCAR test was conducted on the full McMaster Teen Study sample ( $N=703$ ), which was statistically significant,  $\chi^2(313) = 484.645, p < .001$ . This indicates that data were not missing completely at random in the initial sample, requiring additional steps for handling the missing data (described below). Differences between the full sample and the analytic sample for the first portion of the analyses (trajectories;  $N=572$ ) and the second portion of the analyses (ANCOVAs;  $N=186$ ) were explored.

In the trajectories analytic sample ( $N=572$ ), girls ( $n=319$ ; 55.77%) were more likely to be represented than boys ( $n=253$ ; 44.23%),  $\chi^2(1, 703) = 11.05, p < .001$ . Parent-reported annual household income also differed between the full sample and the trajectories analytic sample,  $\chi^2(7, 653) = 23.18, p = .002$ , such those from households earning less than \$30,000/year were underrepresented in the analytic sample (*standardized residuals* = 1.8–2.2). Similarly, there was a significant difference in parental education in the trajectory analytic sample versus the full sample,  $\chi^2(4, 678) = 21.26, p < .001$ . Participants whose parents did not complete high school were less likely to be included in the analytic sample (*standardized residual* = 2.6). Finally, there were no significant differences between the trajectories analytic sample and the full sample with regards to ethnicity (White versus non-White),  $\chi^2(1, 646) = 0.49, p = .484$ .

To verify that the ANCOVA sample was representative of the larger borderline personality feature trajectory sample, independent samples *t*-tests examining dating violence victimization scores, dating violence perpetration scores, and borderline personality feature scores from age 14 to 18 were conducted. None of these *t*-tests were statistically significant. A chi-square test revealed a significant difference in gender proportions between the trajectory sample and the ANCOVA sample,  $\chi^2(1) = 4.10, p = .043$ , indicating that gender was not missing completely at random. Specifically, boys were underrepresented and girls overrepresented in the ANCOVA sample relative to expected proportions (*standardized residuals* = -2.0 and 2.0,

respectively). Results from other crosstabulations (race/ethnicity, parental educational attainment, family income, and child maltreatment [physical and sexual]) were not statistically significant, indicating that apart from gender the ANCOVA sample was representative of the larger borderline personality feature trajectory sample.

For the first portion of the analyses, Full Information Maximum Likelihood (FIML) was applied to handle missing data. FIML uses the available data points from all participants to estimate the model parameters and is considered a robust method for handling missing data (Lang & Little, 2018). As such, for the trajectories analytic sample, participants with at least one data point from age 14 to age 18 on borderline personality features were included ( $N=572$ ). For the second portion of the analyses, listwise deletion was used to manage missing data (i.e., deleting cases that did not have complete data on the relevant variables). For the ANCOVA analytic sample, participants were selected based on whether they were analyzed in the trajectories sample and had data on their gender, dating violence perpetration, dating violence victimization, and childhood maltreatment ( $n=186$ ).

### Descriptive Statistics

Table 1 provides a summary of correlations of borderline personality feature mean scores at each time point analyzed in this study as well as mean scores, standard deviations, and total number of participants with data at each time point.

**Table 1**

*Descriptive Statistics and Correlations within Borderline Personality Feature Scores*

	Trajectory Variables				Descriptive Statistics		
	BPF age 15	BPF age 16	BPF age 17	BPF age 18	<i>M</i>	<i>SD</i>	<i>n</i>
BPF age 14	.70	.59	.59	.55	1.26	0.60	508
BPF age 15		.74	.69	.66	1.28	0.63	484
BPF age 16			.78	.72	1.33	0.64	448
BPF age 17				.79	1.31	0.63	434
BPF age 18					1.33	0.65	448

*Note.* BPF = Borderline personality features.

The analytic sample for the LCGA ( $N = 572$ ) included participants who had data from at least one time point from T4 – T8 (ages 14 – 18). On the BPFSS-C, participants could have a minimum mean score of 0 (i.e., responded with 0 to all items) and a maximum score of 5 (i.e., responded with 5 to all items). Participants were included if they responded to at least 18 of the 24 items on the BPFSS-C. All correlations were statistically significant at  $p < .001$ .

The trajectory sample consisted of 82.9% White participants ( $n = 435$ ) and 17.1% non-White participants ( $n = 90$ ). In terms of those who had child maltreatment data in the trajectory analytic sample, 84.5% of participants reported no child physical maltreatment ( $n = 344$ ), while 15.5% reported experiencing physical child maltreatment ( $n = 63$ ). Over ninety percent (91.4%) of participants reported no child sexual maltreatment ( $n = 374$ ), while 8.6% reported child sexual maltreatment ( $n = 35$ ).

For the dating violence perpetration and victimization ANCOVAs sample,  $n = 186$  with women making up 61.8% of the sample ( $n=115$ ) and men making up 38.2% ( $n=71$ ). Eighty six percent (86.7%;  $n = 150$ ) of individuals in this sample described their race/ethnicity as White, while 13.3% ( $n = 23$ ) reported being non-White. In this sample, 25.3% of participants did not report having perpetrated dating violence at age 19 or 20 ( $n=47$ ), while 74.7% of the sample reported at least one instance of dating violence perpetration ( $n=139$ ). In terms of dating violence victimization, 21% of the sample reported having no experiences of dating violence victimization at age 19 or 20 ( $n = 39$ ), while 79% reported at least one instance of victimization ( $n=147$ ). Eighty seven percent of the sample reported not experiencing physical child maltreatment ( $n=162$ ), while 12.9% reported experiencing physical maltreatment as a child ( $n=24$ ). Regarding child sexual maltreatment, 90.9% of the sample reported no maltreatment ( $n=169$ ) and 9.1% of the sample reported child sexual maltreatment ( $n=17$ ).

### **Borderline Personality Feature Trajectories**

The first analytic step was to determine borderline personality feature trajectories using latent class growth analysis. When conducting the LCGA, up to five possible trajectory classes were tested and fit indices were used to determine which number of classes indicated best fit (see Table 2).

**Table 2***Fit Indices for Borderline Personality Feature Latent Class Models*

Number of Groups	<i>BIC</i>	<i>LMR-LRT</i>	<i>BLRT</i>	Entropy
1 class	4466.511	–	–	–
2 classes	3464.518	0	<.001	0.816
<b>3 classes</b>	<b>3183.713</b>	<b>0.0002</b>	<b>&lt;.001</b>	<b>0.791</b>
4 classes	3106.458	0.0051	<.001	0.74
5 classes	3092.052	0.4619	<.001	0.724

*Note.* BIC = Bayesian Information Criterion; LMR-LRT = Lo-Mendell-Rubin Likelihood Ratio Test; BLRT = Bootstrapped Likelihood Ratio Test. Bolded model is the selected solution.

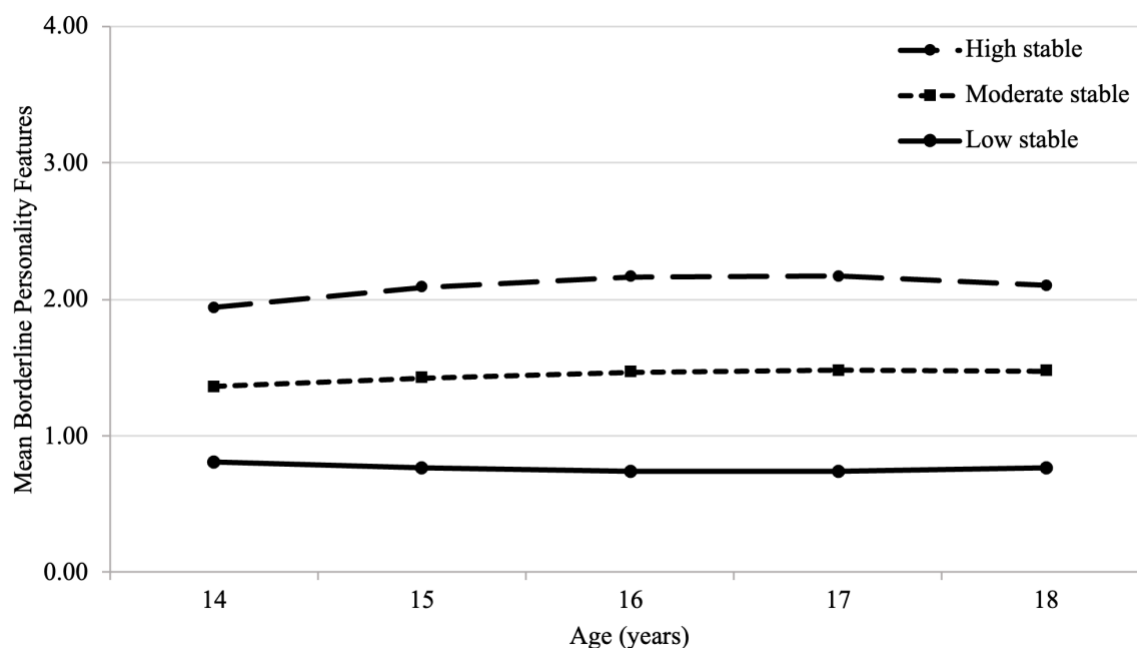
Based on analysis of fit indices, a three-class model was selected as it offered the best balance between model fit, parsimony, and theoretically meaningful groups. The BIC decreased substantially from the 2-class to 3-class model, indicating improved model fit. Although entropy decreased slightly from the 2-class to 3-class model, given the improved BIC value and the diminishing returns of introducing additional classes (as well as the non-significance of the LMR-LRT in the 5-class model), the 3-class model was the most statistically and conceptually justifiable choice.

In the three-class model, the group with highest membership was the moderate stable group ( $n=246$ ; 43.01%; 146 girls [59.35%]), which had a statistically significant intercept (I: 1.36,  $p < .001$ ) and a statistically significant slope (S: 0.08,  $p = .046$ ), and the quadratic term was not significant (Q: -0.012,  $p = .145$ ). These values show this group started with a moderate baseline level of borderline personality features and experienced a small linear increase over time. The second largest group was the low stable group ( $n=215$ ; 37.59%; 93 girls [43.26%]), which also had a statistically significant intercept (I: 0.81,  $p < .001$ ) and statistically significant slope (S: -0.06,  $p = .03$ ), however the quadratic term was not significant (Q: 0.01,  $p = .061$ ). This indicates that the low-stable group had the lowest baseline level of borderline personality features, with a slight linear decline over time. Finally, the high stable group had the lowest membership ( $n=111$ ; 19.41%; 80 girls [72.08%]), and statistically significant intercept (I: 1.94,  $p < .001$ , slope (S: 0.19,  $p < .001$ ), and quadratic (Q: -.04,  $p = .001$ ). What these values indicate is that this group started at the highest baseline borderline personality feature score, increased over time, then growth slowed down and leveled off (i.e., a U-shaped curve). Of note, the high-

moderate-, and low-stable naming of the trajectory groups is in reference to their mean scores relative to each other, rather than to the scale of the measure. Figure 1 illustrates the three-class trajectory finding for borderline personality feature trajectories in adolescence.

**Figure 1**

*Borderline Personality Feature Trajectories from Time 4 to Time 8*



*Note.* Figure illustrating the three identified borderline personality feature trajectory groups for participants from mean age 14 (T4) to 18 (T8).

Posterior probabilities indicated strong model-based classification, with high probabilities of most likely class membership for the low-stable class (.93), moderate-stable class (.87), and high-stable class (.92). Table 3 presents the means and standard deviations of borderline personality feature scores across time points for each trajectory group.

**Table 3***Borderline Personality Feature Scores by BPF Trajectory Group*

	Trajectory Group		
	Low-stable	Moderate-stable	High-stable
BPF <i>M</i> ( <i>SD</i> ) age 14	0.82 (0.37)	1.35 (0.44)	1.87 (0.45)
BPF <i>M</i> ( <i>SD</i> ) age 15	0.73 (0.71)	1.42 (0.37)	2.10 (0.49)
BPF <i>M</i> ( <i>SD</i> ) age 16	0.75 (0.31)	1.48 (0.34)	2.13 (0.34)
BPF <i>M</i> ( <i>SD</i> ) age 17	0.72 (0.30)	1.47 (0.37)	2.17 (0.36)
BPF <i>M</i> ( <i>SD</i> ) age 18	0.75 (0.36)	1.48 (0.39)	2.05 (0.40)

*Note.* Participants could have a minimum mean score of 0 and a maximum mean score of 5. Participants were included if they responded to at least 18 of the 24 items on the BPF-C.

### Trajectory Group Membership and Demographics

Borderline personality feature trajectory group membership was examined in relation to gender. Significant differences were found,  $\chi^2(2, 572) = 26.89, p < .001$ ; boys were overrepresented in the low-stable trajectory group (*standardized residual* = 2.8) and underrepresented in the high-stable group (*standardized residual* = -2.6), whereas girls were overrepresented in the high-stable group (*standardized residual* = 2.3) and underrepresented in the low-stable group (*standardized residual* = -2.5).

In terms of the gender distribution of the ANCOVA analytic sample, Table 4 presents group membership by gender with standardized residuals. There was a significant association between gender and trajectory group membership,  $\chi^2(2, 186) = 9.98, p = .007$ .

**Table 4***Gender Distribution Across BPF Trajectory Groups in the Dating Violence Analytic Sample*

			Trajectory group membership			<i>N</i>
			Low-stable	Mod-stable	High-stable	
Gender	Men	<i>n</i>	34	29	8	71
		<i>Standardized residual</i>	1.8	-0.6	-1.5	
	Women	<i>n</i>	31	56	28	115
		<i>Standardized residual</i>	-1.4	0.5	1.2	
Total		<i>N</i>	65	85	36	186

## Predicting Dating Violence by Trajectory Group Membership

To investigate whether borderline personality feature trajectory group predicted experiences of dating violence—either perpetration or victimization—two one-way between-subjects ANCOVAs were conducted; one with perpetration as the dependent variable and the other with victimization as the dependent variable. Both ANCOVAs used borderline personality feature trajectory group (low-, moderate-, or high-stable) as the independent variable. In each ANCOVA, gender, child maltreatment, and the dating violence experience not being analyzed were entered as covariates.

To be included in this analysis, participants needed to have complete data on each variable of interest (perpetration scores, gender, child maltreatment, and victimization scores). This resulted in an analytic sample of 186 across the low-stable ( $n=65$ ), moderate-stable ( $n=85$ ), and high-stable ( $n=36$ ) trajectory groups.

Table 5 shows descriptive statistics for both dating violence composite variables as well as the descriptive statistics of the dating violence composites by borderline personality feature trajectory groups. Skewness and kurtosis of the ANCOVA dependent variables (perpetration and victimization) were within normal limits (Kline, 2023).

**Table 5**

*Descriptive Statistics of Dating Violence Composite Variables by BPF Trajectory Group*

	<i>N</i>	Min.	Max.	<i>M</i>	<i>SD</i>	Skewness ( <i>SE</i> )	Kurtosis ( <i>SE</i> )
Victimization	216	0	12.00	2.09	2.29	1.93 (0.17)	4.71 (0.33)
Low-stable	73 (34%)	0	7.00	1.23	1.54	1.99 (0.28)	4.48 (0.56)
Moderate-stable	96 (39%)	0	11.50	2.22	2.34	1.87 (0.25)	4.25 (0.49)
High-stable	41 (36%)	0	12.00	3.20	2.76	1.70 (0.37)	3.52 (0.72)
Perpetration	212	0	10.50	1.67	1.73	1.64 (0.17)	4.35 (0.33)
Low-stable	73 (34%)	0	5.00	0.97	1.14	1.49 (0.28)	2.27 (0.56)
Moderate-stable	96 (39%)	0	10.50	1.75	1.67	1.84 (0.25)	6.68 (0.49)
High-stable	41 (36%)	0	9.50	2.52	2.02	1.13 (0.37)	2.38 (0.72)

*Note.* *SE* = standard error. Composite variables were derived from the average of T9 (age 19) and T10 (age 20) dating violence summed scores.

Gender is an important covariate in these analyses. As such, Table 6 provides descriptive information about experiences of dating violence victimization and perpetration by gender in the ANCOVA analytic sample.

**Table 6**

*Descriptive Statistics of Dating Violence Composite Variables by Gender*

	<i>N</i>	Min.	Max.	<i>M</i>	<i>SD</i>
Victimization					
Women	115 (61.8%)	0	12.00	2.13	2.34
Men	71 (38.2%)	0	11.50	1.91	2.20
Perpetration					
Women	115 (61.8%)	0	10.50	1.93	1.81
Men	71 (38.2%)	0	6.50	1.13	1.34

**Note.** Composite variables were derived from the average of age 19 and age 20 dating violence summed scores.

Additionally, dating violence perpetration and victimization composite scores were highly correlated ( $r = .66, p < .001$ ). Perpetration and victimization were also correlated with composite borderline personality feature scores. See Table 7 for correlations between variables of interest in the IPV perpetration and victimization analyses.

**Table 7**

*Correlations Between Variables for Interest in Victimization and Perpetration ANCOVAs*

	Perpetration	Victimization	CM (SA)	CM (PA)	BPF Comp.
Perpetration	–	.66**	-.01	.01	.48**
Victimization		–	.19**	.17*	.37**
CM (SA)			–	.10	.15
CM (PA)				–	.22*

**Note.** CM (SA) = child maltreatment (sexual abuse); CM (PA) = child maltreatment (physical abuse), BPF = borderline personality features. BPF Comp. is a composite variable derived from the average of age 14 – 18 borderline personality features summed scores. \* = significant at the  $p < .05$  level; \*\* = significant at the  $p < .01$  level.

### *Victimization*

Levene's test was significant  $F(2, 183) = 3.58, p = .03$ , indicating that the homogeneity of variance assumption was violated. Homogeneity of regression slopes was violated based on the interaction between Trajectory Group  $\times$  Child Maltreatment (Sexual),  $F(2, 186) = 17.91, p = .001$ . In light of these findings, careful interpretation of ANCOVA results is necessary, however it should also be acknowledged that the analysis of variance framework is reasonably robust to assumption violations (Schneider et al., 2015).

The results of the ANCOVA testing for borderline personality feature trajectory group membership predicting dating violence victimization were not statistically significant,  $F(2, 179) = 0.33, p = .72$ , indicating that trajectory group membership was not significantly associated with experiences of dating violence victimization in late adolescence/early adulthood. Table 8 shows the results from the ANCOVA.

**Table 8**

*Analysis of Covariance of Borderline Personality Feature Trajectory Group on Dating Violence Victimization*

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	$\eta p^2$
Intercept	25.79	1	25.79	9.94	.002**	0.52
BPF Trajectory Group	1.73	2	0.87	0.33	.72	0.004
Perpetration	383.25	1	383.25	147.70	<.001***	0.452
Gender	21.17	1	21.17	8.16	.005**	0.044
Child Maltreatment (Physical)	15.32	1	15.32	5.90	.02*	0.032
Child Maltreatment (Sexual)	35.84	1	35.84	13.81	<.001***	0.072

*Note.* *SS* = sum of squares; *df* = degrees of freedom; *MS* = mean square;  $\eta p^2$  = partial eta squared. \* = significant at the  $p < .05$  level; \*\* = significant at the  $p < .01$  level; \*\*\* = significant at the  $p < .001$  level.

As evidenced in Table 8, dating violence perpetration, gender, and both physical and sexual childhood maltreatment were associated with victimization scores. Perpetration had the largest effect size, explaining 45.2% of the variance in dating violence victimization scores, while sexual child maltreatment (7.2% of variance) and gender (4.4% of variance) had medium effects. Physical child maltreatment had a small effect (accounting for 3.2% of the variance).

This model accounted for 50.2% of the variance in dating violence victimization scores (*adjusted*  $R^2 = .502$ ). Estimated marginal means are reported in Table 9.

**Table 9**

*Estimated Marginal Means of Dating Violence Victimization across BPF Trajectory Groups*

	<i>EMM</i>	<i>SE</i>	<i>95% CI</i>
Low-stable	1.91	0.21	1.49–2.32
Moderate-stable	2.09	0.18	1.74–2.43
High-stable	2.19	0.29	1.61–2.75

*Note.* *EMM* = estimated marginal mean; *SE* = standard error; *CI* = confidence interval. Covariates included in this model were dating violence perpetration, gender, and child maltreatment (physical and sexual).

### ***Perpetration***

Levene's test was significant  $F(2, 183) = 5.05, p = .007$ , indicating that the homogeneity of variance assumption was violated. Homogeneity of regression slopes was violated based on the interaction between Borderline Personality Feature Trajectory Group  $\times$  Child Sexual Maltreatment,  $F(2, 186) = 9.323, p = .001$ .

The effect of borderline personality feature trajectory group membership was statistically significant,  $F(2, 179) = 3.61, p = 0.03$ , such that dating violence perpetration scores varied based on group membership when accounting for gender, victimization, and child maltreatment (physical and sexual). Results from the ANCOVA are outlined in Table 10.

**Table 10**

*Analysis of Covariance of Borderline Personality Feature Trajectory Group on Dating Violence Perpetration*

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	$\eta^2$
Intercept	8.42	1	8.42	6.11	.014*	0.03
BPF Trajectory Group	9.96	2	4.98	3.61	.029*	0.039
Victimization	203.72	1	203.72	147.70	<.001**	0.452
Gender	19.65	1	19.65	14.25	<.001**	0.074
Child Maltreatment (Physical)	5.26	1	5.26	3.82	.052	0.021
Child Maltreatment (Sexual)	17.47	1	17.47	12.67	<.001**	0.066

*Note.* *SS* = sum of squares; *df* = degrees of freedom; *MS* = mean square;  $\eta^2$  = partial eta squared. \* = significant at the  $p < .05$  level; \*\* = significant at the  $p < .001$  level.

Overall, this model accounted for 51.8% of the variance in dating violence perpetration scores (*adjusted R*<sup>2</sup> = .518). Gender, dating violence victimization score, and childhood sexual maltreatment were also significant in this model, particularly victimization, which explained 45.2% of variance in perpetration scores. Gender explained 7.4% of the variance and childhood sexual maltreatment explained 6.6% of the variance. Trajectory group membership explained 3.9% of the variance and physical child maltreatment explained 2.1% of the variance. Estimated marginal means of dating violence perpetration scores by borderline personality feature trajectory group are reported in Table 11.

**Table 11**

*Estimated Marginal Means of Dating Violence Perpetration across BPF Trajectory Groups*

	<i>EMM</i>	<i>SE</i>	95% <i>CI</i>
Low-stable	1.40	0.15	1.09–1.69
Moderate-stable	1.61	0.13	1.35–1.86
High-stable	2.10	0.21	1.69–2.51

*Note.* *EMM* = estimated marginal mean; *SE* = standard error; *CI* = confidence interval. Covariates included in this model were dating violence victimization, gender, and child maltreatment (physical and sexual).

Since borderline personality feature trajectory group membership was significantly associated with dating violence perpetration scores, pairwise comparisons were then run to identify where differences between groups may lie. A significant difference was found between perpetration scores of those in the low-stable group and high-stable group (*mean difference* = 0.71,  $p = .008$ , 95% *CI* [0.19, 1.24]), as well as those in the moderate-stable group and high-stable group (*mean difference* = .50,  $p = .042$ , 95% *CI* [0.02, 0.98]). Those in the high-stable group had statistically significantly higher mean perpetration scores than those in the low-stable or moderate-stable borderline personality features group. There was not a significant difference between perpetration scores of those in the low-stable group and moderate-stable group (*mean difference* = .22,  $p = .279$ , 95% *CI* [-0.61, 0.18]).

Finally, Table 12 summarizes the mean scores of dating violence perpetration and victimization by borderline personality feature trajectory group and gender.

**Table 12**

*Victimization and Perpetration Scores by BPF Trajectory Groups and Gender*

	<i>M (SE) Vic.</i>	<i>95% CI</i>	<i>M (SE) Perp.</i>	<i>95% CI</i>
Low-stable BPF group				
Women	1.66 (0.29)	1.08–2.25	1.46 (0.21) <sub>b, c</sub>	1.04–1.88
Men	2.34 (0.29)	1.77–2.89	1.14 (0.20)	0.74–1.54
Mod-stable BPF group				
Women	1.72 (0.22)	1.29–2.15	2.01 (0.16) <sub>b, d</sub>	1.70–2.32
Men	2.70 (0.31)	2.10–3.31	0.91 (0.22) <sub>a, d</sub>	0.48–1.34
High-stable BPF group				
Women	2.03 (0.33)	1.38–2.67	2.31 (0.23) <sub>c</sub>	1.85–2.76
Men	2.19 (0.57)	1.06–3.33	1.88 (0.42) <sub>a</sub>	1.06–2.69

**Note.** Pairwise comparisons indicated no significant differences for victimization across gender and trajectory group. For perpetration scores, subscript letters indicate significant differences between mean scores at the  $p < .05$  level.

## Discussion

Understanding the development of borderline personality features across adolescence and subsequent effects on dating violence in early adulthood is important because borderline personality features and experiences of dating violence both have significant adverse effects on well-being (such as relationship satisfaction and mental and physical health) that are far reaching into adulthood (Hopwood et al., 2014; Zanarini et al., 2012; Lagdon et al., 2014; Coker et al., 2002). My intention in the present study was to examine whether and how borderline personality features in adolescence predict experiences of dating violence in early adulthood. Using a person-centred approach, I first investigated whether there were distinct trajectories of borderline personality feature development across adolescence, as the literature indicates that adolescence is a particularly influential growth period for both identity (Exner-Cortens, 2014) and borderline personality pathology (Stepp et al., 2014; Sharp et al., 2018). Additionally, adolescence is a pivotal time for dating violence prevention (Théorêt et al., 2021; Johnson et al., 2024). Links have been found between borderline personality pathology and dating violence, both perpetration (Brownridge & Tyler, 2023; Drapeau & Perry, 2009; Ehrensaft et al., 2006) and victimization (Maneta et al., 2013; Spencer et al., 2019), such that understanding developmental trajectories of borderline personality features could facilitate understanding of factors that contribute to dating violence. After identifying borderline personality feature trajectory groups, I examined whether borderline personality feature trajectory group predicted dating violence perpetration and victimization, with gender, child maltreatment, and the dating violence experience not being analyzed as covariates. In this study, the LCGA revealed three distinct borderline personality feature trajectories: low-stable, moderate-stable, and high-stable. Subsequent ANCOVAs revealed that trajectory group membership was a significant predictor of dating violence perpetration but not victimization, specifically that those in the high-stable borderline personality features group were more likely to perpetrate dating violence than those in the moderate- and low-stable borderline personality features groups.

### **Borderline Personality Feature Trajectories**

There is some contention in the literature regarding the development and stability of borderline personality features in adolescence and beyond. Some study findings have suggested that peak borderline personality feature presentation occurs in late adolescence and early adulthood (i.e., 18 – 22 years old; Videler et al., 2019; Sharp & Wall, 2018). Other researchers,

using findings from the Children in Community study, have posited that personality pathology onsets in early adolescence, peaks in mid-adolescence, then continues on a linear decline through the rest of the lifespan (Cohen et al., 2005). This is in keeping with findings in community samples (i.e., Bornovalova et al., 2009; Stepp et al., 2014). However, in their recent meta-analysis, Aleva et al. (2023) found a peak of highest mean number of borderline personality features to occur at age 29.4 (with caveats for differences between community and clinical samples). Additionally, Aleva et al. (2023) found that community samples showed a significant declining linear trend in mean borderline personality features over time (from age 11). Evidently it is important to differentiate clinical and community samples in adolescent borderline pathology research, as studies have found substantial differences between these two types of samples of borderline personality pathology and the trajectory of borderline personality features over time (Sharp et al., 2018).

In the present study, three stable trajectories of borderline personality features from ages 14 to 18 were identified: low-stable (37.59%), moderate-stable (43.01%), and high-stable (19.41%) in a community sample. Considering the sample was non-clinical, the classification of ‘high-stable’ is still reasonably moderate (mean scores of 1.87 – 2.17 across the measured time points, where the maximum possible score is 5). The low-stable group saw a slight linear decline over time, which is in alignment with developmental expectations for youth who do not have borderline personality pathology (Aleva et al., 2023). The moderate-stable group saw a small linear increase over time. This corroborates findings from Carreiras et al.’s (2022) study in which they found a low-decreasing borderline personality feature trajectory group and a higher, gradually increasing group. Of interest is the third, high-stable group in the present study, which demonstrated a steady, gradual increase in borderline personality features from age 14 to age 17 before levelling off and showing a downturn on feature endorsement at age 18. These findings more closely map onto Cohen et al. (2005)’s personality pathology model. This would also make sense from an adolescent egocentrism perspective—perhaps as these adolescents mature, their egocentrism begins to wane. Another possible consideration is that age 18 (the mean age of participants at T8) is a time of significant contextual change (i.e., completing high school, transitioning to post-secondary or a work context, or possibly moving out of the family home). Interpersonal context is a key factor for borderline personality pathology (Hutsebaut & Aleva, 2021) and perhaps during this time of transition, a plausible shift in interpersonal context could

lead to a reduction in borderline personality feature presentation. An extension of the present study in which borderline personality features are measured further into early adulthood could paint a clearer picture of the progression of borderline personality feature trajectories during this transitional period.

In sum, these findings contribute to the body of evidence that suggests borderline pathology onsets in adolescence (as similarly noted by Haltigan & Vaillancourt, 2016, who proposed a plausible downward extension of borderline personality feature presentation from adulthood to adolescence) and that borderline personality features in adolescence may be reasonably stable and enduring (Wright et al., 2016; Carreiras et al., 2022; Haltigan & Vaillancourt, 2016; Sharp & Wall, 2018). Although diagnosis of borderline personality disorder in adolescence is no longer controversial (Leichsenring et al., 2024), these stable trajectory findings provide further support that borderline personality pathology may begin earlier in the lifespan and endure into adulthood.

As expected, girls were overrepresented in the high-stable borderline personality feature trajectory group and boys were overrepresented in the low-stable borderline personality feature group. This result supports the existing body of literature indicating that girls and women are more likely to receive BPD diagnoses than boys and men (APA, 2013), but this finding also deserves careful interpretation as there is a possible gender bias in the identification and diagnosis of borderline personality pathology more broadly (see Bozzatello et al., 2024 for a review). A larger analytic sample that applies a dimensional approach to examining borderline personality features (as boys and girls can differ on the borderline features they endorse; Bozzatello et al., 2024) may be more sensitive in exploring gender differences in trajectories of borderline personality pathology over time, though it is a relative strength that the present study examined borderline personality features versus clinical BPD diagnoses.

When considering Crowell et al. (2009)'s extension of Linehan (1993)'s seminal biosocial theory of the development of borderline personality pathology, particularly the contribution of genetic and neurobiological factors to borderline pathology, the finding of relatively stable trajectory groups over time makes conceptual sense. Neurobiology, genetics, and heritable characteristics have all been implicated in the etiology of borderline personality pathology (see Perez-Rodriguez et al., 2018 and Adamczyk et al., 2025 for reviews) and these would likely be reasonably unwavering factors in the personality organization of an individual.

Given the nature of the contribution of social/environmental factors (i.e., attachment, child maltreatment) such that they tend to occur earlier in life and can be reinforced through state dependence and revictimization (which are discussed further in the dating violence portion of this discussion), finding relatively stable borderline personality feature trajectories across adolescence is understandable. In this way, differential experiences across individuals could influence which trajectory group they are likely to follow, while their trajectories themselves remain relatively stable.

An additional perspective for consideration is a trait-state framework for borderline personality pathology. In their 10-year longitudinal study of adults 18 – 35 years old who were clinically diagnosed with borderline personality disorder, Zanarini et al. (2007) found acute (i.e., state) symptoms that substantially reduced over time, which the authors presumed were activated by impulsivity and attempts to manage interpersonal difficulties. Likewise, they identified another set of stable, trait-like symptoms that were maintained across time, such as anger, fear of abandonment, and intolerance of aloneness. What is interesting in these findings is that (1) perhaps specific borderline personality features may differ in their trajectories over time, in which case a dimensional model of borderline personality disorder may be appropriate—already, diagnosticians as of late are tending toward dimensional models for personality pathology (Hopwood & Bleidorn, 2018), and (2) if there are state-like, acute symptoms of borderline personality pathology that can be activated by interpersonal turmoil, this has implications for experiences of dating violence.

### **Dating Violence Victimization**

Contrary to my prediction, borderline personality feature trajectories were not associated with self-reported dating violence victimization. It could be the case that much of the variance in the model was accounted for by dating violence perpetration and left little to be accounted for by other factors, although gender and child maltreatment were still found to be significantly associated with dating violence victimization. Relevant also is that in this sample, the ‘high-stable’ group, while significantly higher in borderline personality feature scores than the other two trajectory classes, is still modest in terms of total borderline personality feature scores—perhaps in a clinical population, the influence of borderline personality features on dating violence victimization might be more readily identifiable. Finally, as previously noted, perhaps examining features of borderline personality pathology dimensionally and comparing feature

dimensions and their association with dating violence might allow for more sensitivity to identify any causal links between borderline personality features and dating violence victimization. This type of examination would require more statistical power than was available in the present study.

In terms of retrospective reports of child maltreatment, both physical and sexual child maltreatment were significantly associated with dating violence victimization. This is in keeping with my prediction and can at least in part be explained by the concept of revictimization: individuals with a maltreatment history in childhood (sexual, physical, or emotional, though emotional abuse was not examined in the present study) are more likely to experience victimization in adulthood (Butler et al., 2020; Fereidooni et al., 2024). State dependence and population heterogeneity theory is frequently applied in the extant literature examining repeated adolescent victimization (Ousey et al., 2008; Cho et al., 2022; Pezzoli et al., 2025) and posits that early victimization (i.e., child maltreatment) can foster change in an individual, which then causally influences their risk of revictimization in the future. This conceptually aligns with the theoretical underpinnings of the present study in that abusive or traumatic experiences with attachment figures in childhood may interact with existing temperamental vulnerabilities to place individuals at risk for future revictimization in their adolescent/early adulthood attachment relationships (i.e., dating relationships). Indeed, Pezzoli et al. (2025) examined the influence of genetics and child maltreatment on future experiences of IPV victimization using data from a twin study and found both are influential, tentatively pointing to aggression as a heritable trait with a possible causal link to revictimization.

Findings in the present study align with findings by Krause et al. (2023) that physical abuse by a parent is linked with greater likelihood of dating violence victimization in adolescent relationships. Similarly, Swartout et al. (2012) found that young women who experienced sexual or physical abuse in childhood were more likely to have high-moderate or high-increasing dating violence victimization trajectories later in life. In a study by Krause-Utz et al. (2021), researchers found a strong association between higher borderline personality features and sexual IPV, but this association was no longer significant once dissociation and maladaptive emotion regulation were entered into the analytical model. This suggests that perhaps these maladaptive coping mechanisms that are frequently subsumed under a borderline personality feature umbrella are more specific contributors than other facets of borderline personality features—which could also serve to explain why borderline personality features trajectory group membership was not a

significant predictor of dating violence victimization in the present study. It is also well documented in the literature that sexual child maltreatment increases the likelihood of later revictimization (see Li et al., 2019 for a meta-analysis). Specifically, in the traumagenic model it has been postulated that sexual child maltreatment may alter cognitive and emotional processing in such a way that individuals who have experienced child sexual abuse are more prone to sexual revictimization in their future romantic relationships (Hébert et al., 2021). Again, there is also significant research indicating a strong link between borderline personality disorder and childhood sexual maltreatment (see Winsper et al., 2016 and Porter et al., 2020 for meta-analyses), which makes conceptual sense when viewed through a differential susceptibility model of borderline personality etiology.

There was a significant association between gender and dating violence victimization such that girls reported more experiences of victimization. This is in line with my hypothesis, particularly in light of the Statistics Canada (2024) findings that Canadian girls and women are seven times more likely to experience dating violence or IPV victimization. This finding also replicates Reuter et al.'s (2015) finding that adolescent girls were more likely than boys to experience victimization.

Dating violence perpetration accounted for 45.2% of the variance in dating violence victimization scores in the present study. Dating violence perpetration and victimization are highly correlated (Giordano et al., 2010), including in the present study, which suggests a cyclical-reciprocal nature of dating violence perpetration and victimization. A possible explanation may be developing and not-yet-efficacious emotion regulation strategies in late adolescence and emerging adulthood. Fear suppression, high anger dysregulation, and avoidance when feeling sad all test emotion regulation strategies in late adolescence (Zimmermann & Iwanski, 2014). In their recent study examining trajectories of teen dating violence and associations with attachment insecurities and emotion dysregulation, Théorêt et al. (2021) found three out of four of their identified trajectory classes involved mutual victimization and perpetration. The fourth class was termed low dating violence and accounted for 40% of the sample. That each of the other classes identified would involve victimization-perpetration is concerning and lends credence to the findings in the present study.

## Dating Violence Perpetration

In alignment with expectations, dating violence perpetration and borderline personality feature trajectory group were associated, such that those in the high-stable borderline personality feature trajectory group had higher mean dating violence perpetration scores than those in the low-stable group. Giordano et al. (2010) conducted a study examining characteristics of adolescent relationships involving dating violence and found that those who self-reported perpetration were more likely to report jealousy, cheating, higher verbal conflict, and lack of identity support (i.e., feeling that their partner doesn't like them or wishes they were different). These characteristics can also be linked to insecure attachment and borderline personality features, as well as dating violence perpetration and violent behaviour generally (Jackson et al., 2015; Dutton et al., 1994). Additionally, those with attachment insecurity (particularly those with anxious attachment, which is also closely related to borderline personality pathology; Beeney et al., 2015) may be predisposed toward violence when they perceive their attachment needs are not being met—or are being threatened—by their partner (Mikulincer & Shaver, 2016). These considerations coupled with a greater tendency toward hypermentalization (attribution errors or inappropriate and excessive inferences about others' mental states) in adolescents and young adults with higher borderline personality features (Uzar et al., 2023), it is understandable why those in the high-stable borderline personality feature trajectory group would be more likely to perpetrate dating violence.

An additional interesting finding was that gender was significantly associated with dating violence perpetration—namely, women had higher mean scores on perpetration than men in this sample. This is in agreement with existing findings (Wincentak et al., 2017; Giordano et al., 2010; Brownridge & Tyler, 2023). Of particular relevance is Jackson et al. (2015)'s meta-analysis finding that women with higher borderline personality features were more likely to perpetrate IPV. In their systematic review of borderline personality features and IPV in adults, Caballero Guzmán et al. (2024) found that borderline personality features were associated with all forms of IPV, and higher borderline personality features were found to be a risk factor for IPV perpetration in women specifically. Studies have also found that dating violence may be used by girls and women as an emotion regulation strategy when they are dysregulated (Théorêt et al., 2020). Also of relevance is that women may be more likely to endorse dating violence perpetration on questionnaires depending on how questions are worded (Hamby, 2016), which is

an important consideration when interpreting results. Finally, considering that there were only eight men assigned to the high-stable borderline personality feature trajectory group, the findings from this analysis should be interpreted with caution.

Sexual abuse in childhood was significantly associated with dating violence perpetration scores, but physical abuse in childhood was not. Previous studies have found experiences of child sexual abuse and sexual IPV in adulthood to be significantly associated (Krause-Utz et al., 2021). Sexual abuse was strongly associated with both dating violence victimization and perpetration scores, and is also associated with higher borderline personality features, and as a result this should be considered an important risk factor and key focus for clinical intervention.

### **Clinical Implications and Future Directions**

Given the stability of borderline personality feature trajectories found in the present study in concordance with the significant influence of child maltreatment on future dating violence as well as borderline personality pathology, the results point to early intervention as critical for this at-risk population. The most proactive approach, which is difficult to implement, is to support at-risk youth via the targeting of parents for intervention (see Chen & Chan, 2016 for a meta-analysis). One such intervention is the Lighthouse Mentalization-Based Treatment (MBT) Parenting Programme (Byrne et al., 2018), which focuses on child development, attachment, rehabilitating and building trust (as many parents at risk for child maltreatment have their own complex trauma histories), and supporting parent mentalizing capabilities. An additional benefit of mentalization-based treatment targeting parents is that, if their child has a temperamental vulnerability for borderline personality pathology, skills parents learn in this treatment program could in turn be modeled and/or taught to their children, providing these youth with a broader repertoire of adaptive coping.

Reaching parents and targeting them as a source of intervention, while may be ideal, is not always the most practical or feasible solution—especially parents who are at risk of maltreating their children (Byrne et al., 2018). In these cases, school- or community-based programs may be able to support these at-risk youth. One such program is the KIND (Kinship, Improve Relationships, No violence, Developing Skills) program piloted in Australia (Moulds et al., 2019) to target family and dating violence through trauma-informed practice and building relational skills (i.e., problem solving and communication). Another program is The Fourth R, a Canadian program designed to focus on relationships (dating violence prevention) and is

implemented by teachers in health classes (Crooks et al., 2018). Finally, from an attachment lens, strong relationships with supportive teachers in schools could provide the safe haven/secure base to help shape the internal working model of attachment for at-risk youth who may not have that strong secure base with their primary attachment figure(s) (Spilt & Koomen, 2022). In this regard, positive school climate and school-based interventions could be protective factors for at-risk youth—further research would lend support to this hypothesis.

Alexithymia or impaired emotional interoception has been proposed as a possible core characteristic of borderline personality pathology (Perez-Rodriguez, 2018). To regulate emotions skilfully, we must first be able to feel and accurately interpret what is happening inside our bodies (i.e., interoception), so perhaps psychoeducation and/or enhanced mental health curricula in schools could be an avenue for building foundations of emotional literacy starting from recognizing and interpreting bodily cues. Further research in this area could be useful, particularly since effective emotion regulation has implications for dating violence perpetration and victimization. Additionally, hypermentalizing has been highlighted several times in this thesis as (1) a factor in borderline personality pathology in adolescents (Uzar et al., 2023), and (2) a possible explanatory factor for dating violence experiences (e.g., an attribution error about the mental state of a partner then leads the individual to aggress against their partner). Indeed, MBT has been found to improve clinical outcomes for adolescents with a BPD diagnosis (Volkert et al., 2019) and further research on how MBT may reduce dating violence could yield results that benefit at-risk youth.

Borderline personality pathology is often comorbid with internalizing problems (i.e., anxious depressive disorders; Eaton et al., 2010), but the required clinical intervention for borderline symptomatology is different than for mood disorders (Chanen et al., 2016; see Choi-Kain et al., 2017). Recognizing and understanding borderline personality features in adolescence, delineating borderline personality feature trajectory groups, and understanding how borderline personality feature group membership is associated with dating violence experiences later in life is important information for clinicians and educators. There is some evidence that borderline personality features may be more easily treated in adolescence and childhood rather than in adulthood when they are more deeply entrenched (Hawes, 2014; Lenzenweger & Desantis Castro, 2005). As such, recognizing and treating personality pathology (clinical or subclinical) during this critical time in personality and identity formation could have long-standing benefits.

This would also have important health policy implications for dating violence prevention. Evidence-based interventions for adolescents, informed by interventions for borderline personality pathology, could be pivotal to changing life outcomes. Specifically, dialectical behavioural therapy, with a focus on emotion regulation, distress tolerance, and interpersonal effectiveness skills, is an empirically supported clinical intervention (see Macpherson et al., 2012) that could help adolescents to manage borderline personality features and curb their risk for dating violence and high conflict in future relationships. In their recent comprehensive review, Leichsenring et al. (2024) highlight the need for further research on the efficacy of psychotherapy in treating borderline personality pathology in adolescence.

### **Limitations**

Findings from the present study contribute to the literature on borderline personality pathology in adolescence and borderline personality feature trajectory group associations with dating violence perpetration and victimization. The present study had several strengths, including a longitudinal, person-centred design which allowed for analysis of borderline personality feature trajectories over time as well as heterogeneity of experiences (i.e., child maltreatment), and drew from a community sample that allowed analysis of borderline personality features in a subclinical population.

It is also important to note several limitations to the present study. Due to missing data and the need to have complete data on each of the variables to run the ANCOVAs in SPSS, the final analytical sample was quite small ( $N = 186$ ) and as such is likely low in statistical power for the analyses conducted in this study. As SPSS uses listwise deletion for managing missing data, keeping the data in MPlus would have allowed for use of FIML, subsequently providing more statistical power. Additionally, ANCOVA assumptions were violated, which is indeed more likely when using non-experimental data as these data are less likely to conform to assumptions and as such, results must be interpreted with caution. Ideally, and an area for potential research, we would be able to look at dating violence types (i.e., psychological, physical, verbal, sexual) and severity for a more granular understanding of dating violence dynamics in relation to borderline personality features. Particularly, in the present study, women had higher dating violence perpetration scores, but these scores do not account for severity of perpetration. The literature denotes that men are more likely to perpetrate severe dating violence than women (Singhal et al., 2021; Brownridge & Tyler, 2023). Further, because I analyzed a community

sample in which the ‘high-stable’ group had moderate borderline personality feature scores, I could not examine how individuals with clinical, true high borderline personality feature scores may experience dating violence victimization and/or perpetration. Replicating this study with a clinical population could yield results that could elucidate the relation between dating violence in early adulthood and clinical levels of borderline personality features in adolescence. Along a similar vein, due to the shift toward dimensional models of borderline personality organization, exploring specific borderline personality features (i.e., impulsivity, identity diffusion, fear of aloneness) and their relation to dating violence could provide further direction toward key areas for clinical intervention.

In the present study, dating violence victimization and perpetration accounted for a very large proportion of the variance in their respective models. Future studies with larger samples could consider examining a possible mediation pathway. Given the strong association between dating violence victimization and perpetration outcomes (and vice versa), future research may explore whether victimization (or perpetration) mediates the relationship between borderline personality feature trajectories and dating violence perpetration (or victimization).

Another limitation of this study is the lack of gender and sexual diversity in the analytic sample. Understanding the course of borderline personality features in gender diverse populations as well as how dating violence perpetration and victimization occurs in relationships that are not heterosexual is important and currently under researched. In a nationally representative Canadian sample of adolescents, dating violence victimization was two times higher for non-binary youth compared to cisgender youth and dating violence perpetration of all forms was higher in non-binary youth than cisgender youth (Exner-Cortens et al., 2021). With these statistics alone, it is clear that these youth are at risk, and it is imperative that further research is conducted to support vulnerable adolescents. Finally, while representative of the community from which the sample was obtained, most participants identified as White. Future research in a large, diverse sample could provide more generalizable findings to other racial and ethnic groups.

### **Conclusion**

Findings from this study contribute to the body of research on borderline personality pathology in adolescents and their future experiences with dating conflict and violence, ultimately adding to the literature on the etiology of borderline pathology across the lifespan.

This helps to create a clearer picture, in differential susceptibility terms, of how borderline feature presentation contributes to increased stress in high-conflict relationships and dating violence. This is valuable since adolescence is a critical developmental window for shifting attachments to peer and dating relationships (Collins, 2003) as well as establishing borderline personality pathology (Stepp et al., 2014) and ultimately may contribute to relational conflict patterns into adulthood. Findings from this research support the implementation of interventions to protect the well-being of at-risk adolescents and help them develop safe, healthy relational skills to be carried into their future romantic relationships.

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