An Examination of the Role of Shame in the Relationship Between Teen Dating Violence Victimization and Internalizing Symptoms

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Abstract

This longitudinal study examined the relationship between teen dating violence (TDV), shame-proneness, and internalizing symptoms among high school students in Canada. Participants included 188 adolescents (M_{age} = 16.01, *SD* = 1.17, 58.5% girls) who reported having a dating partner at the first time point. A just-identified path analysis was conducted to investigate the role of shame-proneness on the relationship between three types of TDV (i.e., psychological, physical/sexual, and relational) and internalizing symptoms (i.e., psychosomatic symptoms and emotional problems). The results indicated that among the three types of TDV victimization, only psychological victimization predicted greater emotional problems and higher shame-proneness approximately eight months later. Shame-proneness fully mediated the effect of psychological TDV victimization on internalizing problems. Results also indicated significant sex differences in the association between TDV victimization and shame-proneness. Limitations, future study directions, and practical implications of these findings were addressed.

Keywords: teen dating violence, shame, internalizing symptoms

Résumé

Cette étude longitudinale a examiné la relation entre la violence dans les relations amoureuses à l'adolescence (TDV), la propension à la honte et les symptômes internalisés chez les élèves du secondaire au Canada. Les participants étaient 188 étudiants (âge moyen = 16.01, écart-type = 1.17, 58.5% de filles) qui ont déclaré avoir un partenaire amoureux lors de la première phase de l'étude. Une analyse par pistes causales à identification juste a été réalisée afin d'explorer le rôle de la propension à la honte dans la relation entre trois types de TDV (psychologique, physique/sexuelle et relationnelle) et les symptômes internalisés (symptômes psychosomatiques et problèmes émotionnels). Les résultats ont révélé que, parmi les trois types de victimisation liés à la TDV, seule la victimisation psychologique prédisait des problèmes émotionnels accrus et une propension à la honte plus élevée environ huit mois plus tard. Une médiation totale par la propension à la honte a été observée dans l'effet de la victimisation psychologique de la TDV sur les problèmes internalisés. De plus, les résultats ont mis en évidence des différences significatives entre les sexes quant à l'association entre la victimisation de la TDV et la propension à la honte. Les limites, les orientations pour les futures recherches ainsi que les implications pratiques de ces résultats ont été abordées.

Mots-clés: la violence dans les relations amoureuses à l'adolescence, honte, symptômes internalisés

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An Examination of the Role of Shame in the Relationship Between Teen Dating Violence Victimization and Internalizing Symptoms

Romantic relationships serve as a key context for youth to form their romantic identity, intimacy skills, and long-lasting interactional patterns with partners (Furman & Shaffer, 2003). However, the bitter reality is that adolescents are frequently subjected to aggression and violence in dating relationships (Centers for Disease Control and Prevention, 2022). A considerable body of studies has documented the seriousness and high prevalence of teen dating violence (TDV) in Canada. The Health-Behavior in School-Aged Children (HBSC) survey in 2017/2018 revealed that one in three Canadian adolescents who have dated experienced TDV in the previous year (Exner-Cortens et al., 2021). The problem of TDV became especially hazardous during the COVID-19 pandemic. Adolescent victims of TDV faced not only anxiety about personal health and safety but also social isolation, posing additional challenges to their mental well-being.

A broad array of negative outcomes has been associated with TDV, including physical health problems, substance abuse, risky sexual behaviors, and low academic performance (e.g., Taquette & Monteiro, 2019). While previous studies have indicated a link between TDV and poor mental health outcomes, especially internalizing symptoms (e.g., Barter & Stanley, 2016; Taquette & Monteiro, 2019), this association has frequently demonstrated moderate or weak effects, indicating great variations in how adolescents adjust to victimization experiences (Ackard et al., 2007; Banyard & Cross, 2008; Exner-Cortens et al., 2013; Foshee et al., 2013; Pierce, 2017). Therefore, it is important to identify other possible factors that might contribute to the association and understand the mechanism of adolescents' adjustment to victimization. Recent research has suggested that shame, a poignant emotion commonly experienced alongside relational victimization, could potentially serve as a mediator in the relationship between

relational violence victimization and internalizing symptoms (e.g., Coates & Messman-Moore, 2014; Street & Arias, 2001; Stuewig & McCloskey, 2005). Thus, the current study examined the role of shame-proneness in mediating the association between TDV and internalizing symptoms, focusing on adolescents' experience of TDV during the COVID-19 pandemic. The study aims to provide new insights for interventions supporting TDV victims and advocate for the integration of social-emotional learning into existing TDV intervention programs. We will first introduce TDV as a prominent issue among adolescents, its association with internalizing symptoms, as well as the impact of TDV on adolescents during the pandemic. We will then discuss the concept of shame-proneness, or trait shame, and why it would be a potential mediator between TDV victimization and internalizing symptoms.

Teen Dating Violence

Teen Dating Violence often refers to a variety of harmful and coercive behaviors within romantic relationships among youth (Murray & Azzinaro, 2019). Similar to intimate partner violence (IPV) in adult relationships, TDV has been commonly conceptualized into three categories of aggressive behaviors: physical violence, sexual violence, and emotional or psychological violence (Centers for Disease Control and Prevention, 2022). However, recent research has emphasized the unique characteristics of TDV that differentiate it from IPV among adults (Persram et al., 2021). For example, unlike adults, adolescent dating partners are less likely to live together or be economically dependent on each other, and they are also more likely to disclose victimization to peers rather than professionals (Knox et al., 2009). Besides, it is common for adolescents dating partners to attend the same school or even be in the same class, leading to a shared peer group between the partners (Knox et al., 2009). This provides a special social context for relational aggression, which involves manipulating or psychologically harming

one's partner using the romantic relationship as a tool, such as through threats of breaking up, and exerting influence on the partner's friends or peer group, such as spreading rumors and engaging in social exclusions (Schad et al., 2008; Persram et al., 2021).

A wealth of studies has documented the short-term and long-term consequences of TDV on both physical and mental health of adolescents. Adolescent victims of TDV have been shown to have a higher risk of experiencing injuries, psychological problems (e.g., depression, anxiety, and eating disorders), behavioral problems (e.g., substance abuse, antisocial behaviors, risky sexual behaviors), low academic performance, early pregnancy, and suicidal ideation and attempts (Banyard & Cross, 2008; Exner-Cortens et al., 2013; Foshee et al., 2013; Roberts et al., 2003; Silverman et al., 2001; Taquette & Monteiro, 2019; Wincentak et al., 2017). Furthermore, since adolescence is a critical period to develop romantic identity and intimacy skills (Furman & Shaffer, 2003), experiencing TDV during adolescence serves as a predictor of later adult IPV victimization (Exner-Cortens et al., 2017).

When examining dating violence in adolescents, it is crucial to consider the distinctive biological, emotional, and social experiences of different genders and sexes (White, 2009). Studies have shown that girls are equally or more likely than boys to perpetrate physical TDV, especially mild physical violence such as hitting and shoving (Foshee, 1996; Lewis & Fremouw, 2001; Muñoz-Rivas et al., 2007; Wincentak et al., 2017). One possible explanation is that girls' use of physical violence is less socially sanctioned and more acceptable among peers compared to boys (Simon et al., 2010). This greater social acceptance of physical violence perpetrated by girls may contribute to the asymmetry between sexes in TDV perpetration compared to victimization rates (Théorêt et al., 2021). That is, the reported rates of physical TDV victimization are often similar between sexes, while boys tend to report lower rates of physical

TDV perpetration than girls, possibly due to underreporting caused by social stigma surrounding male victimization (Wincentak et al., 2017; Muñoz-Rivas et al., 2007). On the other hand, girls are more likely to report higher victimization and lower perpetration rates of sexual TDV compared to boys (Eisner, 2021; Foshee, 1996; Stonard et al., 2014; Théorêt et al., 2021; Wincentak et al., 2017). In general, it appears that girls tend to report equal or slightly more psychological TDV victimization, although the findings have been mixed (Eisner, 2021; Exner-Cortens et al., 2021; Muñoz-Rivas et al., 2007; Stonard et al., 2014). Moreover, girls are also more likely to experience negative consequences such as physical or mental health issues, resulting from victimization, especially in cases of physical violence (Eisner, 2021; Barter & Stanley, 2016; Haynie et al., 2013; Muñoz-Rivas et al., 2007).

Teen Dating Violence Victimization and Internalizing Symptoms

Internalizing symptoms broadly refers to covert, inner-directed symptoms of internalizing disorders such as anxiety, depression, and somatic problems (e.g., sadness, anxiety and loneliness, social withdrawal, and fearfulness; Achenbach & Edelbrock, 1978). Compelling evidence from cross-sectional (Ackard & Neumark-Sztainer, 2002; Ackard et al., 2003; Barter & Stanley, 2016; Banyard & Cross, 2008; Callahan et al., 2003; Chiodo et al., 2012; Ely et al., 2009; Haynie et al., 2013; Holt & Espelage, 2005; Howard & Wang, 2003; Howard et al., 2007; Jouriles et al., 2009; Martz et al., 2016; Mitra et al., 2013; Roberts & Klein, 2003; Schad et al., 2008; Volpe et al., 2012; Vézina & Hébert, 2007) and longitudinal studies (Ackard et al., 2007; Bonomi et al., 2013; Brown et al., 2009; Choi et al., 2017; Exner-Cortens et al., 2013; Foshee et al., 2013; Nahapetyan et al., 2014; Pierce, 2017; Roberts et al., 2003; van Dulmen et al., 2012) have suggested a link between TDV and internalizing symptoms, especially psychological symptoms such as depression and anxiety. However, among the longitudinal studies, many used

dichotomized items that did not consider the frequency and intensity of the victimization experience (Bonomi et al., 2013; Choi et al., 2017; Exner-Cortens et al., 2013; Foshee et al., 2013; Pierce, 2017). In addition, some studies did not account for one or more important dimensions of TDV such as sexual, psychological, or relational violence (Ackard et al., 2007; Brown et al., 2009; Exner-Cortens et al., 2013; Pierce, 2017; Roberts et al., 2003). Notably, the link between dating victimization and internalizing problems can vary between different dimensions of TDV. For example, a longitudinal study by Exner-Cortens et al. (2013) found that victimization of both physical and psychological TDV predicted depression five years later, whereas victimization of only psychological TDV was not found to be longitudinally associated with depression. Another study showed that victims of psychological TDV predicted higher scores on internalizing problems (i.e., anxiety and depression) compared to victims of sexual TDV (Choi et al., 2017). Thus, it is important to examine the mental consequences of TDV victimization using a comprehensive measure and to investigate the effect of each dimension individually.

While plenty of studies have documented the link between TDV and psychological symptoms, there has been a much sparser body of research on psychosomatic symptoms as a consequence of TDV victimization (Beckmann & Kliem; 2021; Haynie et al., 2013). Studies on romantic relationships in adults have found that victimization of physical, sexual, and psychological violence such as power and control in romantic relationships are associated with more somatic symptoms and poor mental health (Coker et al., 2002; Kaura & Lohman, 2007; Lown & Vega, 2001; Resnick et al., 1997; Sutherland et al., 2001). However, Haynie et al. (2013) found that while both boys and girls who experienced verbal or physical TDV reported more psychological symptoms than non-victims, only girl victims reported more psychosomatic

symptoms. Beckmann and Kliem (2021)'s study in Germany found that vicitmization of threatening, relational, sexual, and physical violence were associated with somatic symptoms, while victimization of emotional violence are not. Thus, the current study is one of the first few studies on the intricate association between dating violence in adolecsents and psychosomatic symptoms.

Teen Dating Violence in COVID-19

The coronavirus 2019 (COVID-19) pandemic has radically changed the daily lives of adolescents. Under the impact of national/provincial policies such as lockdowns and social distancing, adolescents faced elevated anxiety and stress along with reduced connection with peers and teachers (Bhatia, 2020). Among them, girls and LGBTQ youth were shown to face disproportionate challenges during this period (Fish et al., 2020; Goldstein & Flicker, 2020). While the majority of research and public efforts have been dedicated to domestic violence or IPV during the pandemic, empirical evidence on the impact of COVID-19 on TDV and its consequences is scarce. In general, research has revealed an increase in domestic violence and IPV since the start of COVID-19 (Evans et al., 2020; Jatmiko et al., 2020; Kourti et al., 2021). Although TDV and adult IPV share some common features, it is still very important to delve into the experience of adolescents in dating violence during the pandemic, considering its substantial differences from the violence in adult romantic relationships (Knox et al., 2009). It is also important to note that adolescents were prolific internet and social media users and that the pandemic substantially increased their reliance on new technologies in intimate relationships (Goldstein & Flicker, 2020). To date, only one study examined the association between mental health and physical TDV during COVID-19 using a national survey in the U.S. (Anderson et al., 2022). The study found that over half of the victims of physical TDV in the past year reported

poor mental health or suicidal ideation, while over 80% of the victims reported feeling consistently sad or hopeless. In light of the compelling evidence presented, which highlights the pressing need for investigating the association between TDV and negative psychological outcomes amidst the pandemic, it becomes increasingly pertinent to delve into the underlying mechanisms at play. Notably, recent research suggests that shame could be a significant contributing factor to this association. The subsequent section will critically examine the potential role of shame in the relationship between TDV and psychological well-being.

The Role of Shame

Shame is a painful, self-conscious emotion that often follows the experience of having an undesired self being exposed and scrutinized in front of an actual or imagined audience (Gilbert, 2007; Kaufman, 2004; Lewis, 1993; Tangney & Dearing, 2003). It can be triggered by mistakes, perceived flaws, insecurities, and rejections, and it is often accompanied by self-criticism and negative beliefs about oneself (Kaufman, 2004). Shame can be experienced in multiple forms: it can focus on specific performances or contexts (e.g., shame in public speaking), certain attributes (e.g., bodily shame or characterological shame), or a global evaluation about the self. While a temporary experience of shame with transitory distress can be adaptive and can contribute to the moral development (Gilbert, 2007), shame becomes problematic when an individual experiences it frequently and chronically in an intense and disproportionate way. The current study focused on shame-proneness, a *trait* or propensity to experience shame and engage global, self-focused negative attributions and evaluations repeatedly across different situations (Lewis, 1993; Tangney et al., 1991). The subsequent sections will first explore the potential pathway from relational victimization to heightened shame-proneness, followed by an examination of how this increased shame contributes to adverse mental health outcomes, including internalizing

symptoms. Lastly, drawing upon existing literature, we posit that shame-proneness operates as a mediating mechanism linking relational victimization, particularly within the context of teen dating violence, to the development of internalizing symptoms.

Shame and Relational Victimization

Shame, an emotion intricately tied to the disturbances to social bonds (Scheff, 1997), has been argued to originate from past relational failures such as rejection, discouragement, and humiliation (Kaufman, 2004). These preceding external experiences of being shamed within relationships can be internalized into negative self-appraisals, interaction patterns, and even self-identities, especially when they are experienced repetitively (Gilbert, 2007; Kaufman, 2004). The self internalizes shame and reproduces shame internally, leading to negative internal attribution, self-criticism, and self-persecution (Gilbert, 2007; Kaufman, 2004). Indeed, empirical evidence supports a connection between relational victimization and shame-proneness. For instance, childhood experiences such as family abuse, child neglect, and childhood maltreatment have been linked to later vulnerability to shame (Bennett et al., 2010; Stuewig & McCloskey, 2005; Tangney et al., 2007). Peer victimization has also been suggested as another potential cause of a heightened and lasting propensity to shame (Beduna & Perrone-McGovern, 2018; Carlisle & Rofes, 2007; Greene et al., 2014; Irwin et al., 2019a, 2019b; Menesini & Camodeca, 2008). Menesini & Camodeca (2008) showed that adolescent victims of bullying tend to feel higher levels of shame across various daily situations. The authors speculated bullying victims may exhibit heightened apprehension and anxiety regarding the exposure of their mistakes or defects in front of others, thereby rendering them susceptible to further bullying and harassment. Consequently, they experience heightened discomfort and fear associated with being the focus of others' attention and judgment.

Nevertheless, the relationships between shame-proneness and victimization within romantic relationships, especially among adolescent populations, remains largely unclear. Qualitative studies have indicated associations between the experiences of dating violence and self-blame, which is a cognitive feature intrinsic to shame (Hays et al., 2012; Ismail et al., 2007; Mahlstedt & Keeny, 1993). Additionally, researchers have identified links between certain types of dating victimization and shame. For example, several studies have found a positive association between psychological dating violence victimization and trait shame in women (Beck et al., 2011; Oflaz et al., 2022; Street & Arias, 2001), while Messing and colleagues (2014) have suggested an association between sexual violence victimization in adult romantic relationships and feelings of shame specific to the experience of violence rather than a general propensity for shame. Given that shame has been reported as a major barrier to seeking help among TDV victims (Sabina et al., 2014) and considering the existing gaps in current research, it is imperative to examine the association between all forms of TDV and shame-proneness to disrupt this detrimental feedback loop.

Shame and Mental Health

The emotional experience of shame itself is poignant and distressing, which has been described as "an inner torment, a sickness of the soul" (Tomkins, 2008, p.687). It is often accompanied by feelings of powerlessness, worthlessness, as well as a sense of isolation and loneliness (Gilbert, 2003; Kaufman, 2004; Menesini & Camodeca, 2008). Moreover, shame can hinder relationships, increasing the need to isolate or withdraw from intimate relationships, which in turn poses further threats to one's mental well-being (Kaufman, 2004). Theoretical analyses and empirical evidence have consistently suggested an association between high shame-proneness and various negative mental health outcomes, including depression, social anxiety,

generalized anxiety, and eating disorders (Andrews et al., 2002; Averill et al., 2002; Fergus et al., 2010; Ferguson et al., 1999; Harper & Arias, 2004; Lewis, 1993; Muris et al., 2015; Stuewig & McCloskey, 2005; Tangney et al., 1992; Tilghman-Osborne et al., 2008; Vikan et al., 2010). Furthermore, shame can impede victims from disclosing their experiences and seeking help, exacerbating the challenges they face in adjusting to and coping with their mental and emotional problems (Kennedy & Prock, 2018). Correspondingly, lower levels of shame among victims have been associated with fewer internalizing symptoms (Feiring et al., 2002).

Shame as a Potential Mediator

All taken together, extant literature suggests that repeated experiences of victimization in dating relationships may lead to heightened shame-proneness, which, in turn, is associated with negative mental health outcomes, such as internalizing symptoms. Empirical studies provide some support for the mediating role of shame between relational victimization and negative mental consequences. For example, Street and Arias (2001) examined psychological violence in women's romantic relationships and found that the association between psychological victimization and PTSD symptoms can be fully accounted for by shame-proneness. Studies on other forms of victimization have yielded mixed results. For example, research on parental neglect, psychological abuse, and harsh parenting in childhood has shown that internalized shame or shame-proneness mediates the link between victimization and depressive symptoms (Coates & Messman-Moore, 2014; Stuewig & McCloskey, 2005). However, Irwin et al. (2019) indicated that the relationship between peer victimization and internalizing symptoms could be mediated by characterological and bodily shame, but not trait shame. Studies on bullying and childhood sexual abuse have also suggested an indirect effect of victimization on internalizing symptoms in adulthood through bodily shame or shame specific to the incidents of victimization

(Coffey et al., 1996; Feiring et al., 1998, 2002; Strøm et al., 2018; Whiffen & MacIntosh, 2005). Overall, the existing literature highlights the importance of investigating the potential mediating role of shame-proneness in the relationship between TDV victimization and internalizing symptoms, which could provide new insights into effective ways to reduce the adverse consequences of victimization in TDV.

The Current Study

The goal of the current study was threefold. The first aim of the study was to examine the longitudinal effect of teen dating victimization on internalizing symptoms during COVID-19. The second goal was to examine the mediating role of shame-proneness in the association between TDV victimization and internalizing symptoms. The third goal was to explore how the above relationships differ across sexes since literature has documented sex differences regarding the types and consequences of TDV victimization and shame-proneness (e.g., Exner-Cortens et al., 2021; Wallace & Russell, 2013). Consistent with previous cross-sectional and longitudinal research, we hypothesized that TDV victimization would positively predict internalizing symptoms (e.g., Choi et al., 2017). Additionally, we hypothesized that TDV victimization would be positively associated with shame-proneness, the tendency to experience shame across situations, based on literature on other relational victimizations such as childhood maltreatment and peer victimization (e.g., Stuewig & McCloskey, 2005). Furthermore, we hypothesized that shame-proneness would be positively associated with internalizing symptoms (e.g., Ferguson et al., 1999). Finally, we hypothesized that shame-proneness would mediate the link between TDV victimization and internalizing symptoms (e.g., Street & Arias, 2001).

Method

Participants

The research design involved collecting data at two-time points to track changes over approximately eight months. A total of 996 adolescents aged 14-18 were recruited in high schools across Canada at the first time point, with 591 adolescents participating in both data collection time points. In alignment with the objectives of the current study, only participants who reported having a dating partner at Time 1 and who participated in both rounds of data collection were included. The final sample for this study included 188 participants (M_{Age} = 16.01, *SD* = 1.17, 58.5% girls, 69.7% White).

Procedure

Participants were recruited by the Promoting Relationships and Eliminating Violence Network (PREVNet). The study received ethical approval from relevant institutional review boards and conformed to the ethical standards by the American Psychological Association. Data collection for the first-time point took place between August and October 2020 across Canada. Prior to enrolling participants in the survey, both parents and youth provided consent through social media (Facebook, Instagram, LinkedIn, etc.) and through telephone communication (for individuals 18 years or older). Following the consent process, youth completed the survey online. The second-data collection time point occurred between April and September 2021.

During the period spanning from 2020 to the end of 2021, four waves of COVID-19 have been identified according to the pandemic's outbreaks (Statistics Canada, 2022). Canada's first wave of COVID-19 emerged in early 2020 and escalated in April and May, leading to widespread lockdowns, school closures, and other restrictive measures (El-Shabasy et al., 2022; Statistics Canada, 2022; Wu et al., 2021). The second wave (Beta variant) occurred primarily

during the fall and winter of 2020, with cases rising in September after the resumption of activities post-lockdown (El-Shabasy et al., 2022). The wave's peak occurred in December 2020 and January 2021, prompting various provinces to implement additional restrictions and lockdown measures (Caldwell et al., 2022; Wu et al., 2021). The third wave (Gamma variant) took place in the spring of 2021. Cases started to surge once more in March and April, driven by the spread of Gamma variants of the virus (El-Shabasy et al., 2022; Statistics Canada, 2022). Some provinces experienced particularly high case numbers and strained healthcare systems. After a brief respite, the fourth wave (Delta variant) began in September 2021, followed by the fifth wave (Omicron variant) starting in December 2021 (Statistics Canada, 2022). In this current study, the initial data collection time point happened amid the rising of COVID-19 cases during the second wave in 2020, while the second-time point of data collection occurred during the gap between the third and fourth waves of the pandemic in 2021.

Measures

Teen Dating Violence Victimization

TDV victimization was measured at Time 1 using the shortened version of Teen Dating Aggression Measure (TeDAM; Persram et al., 2021). It is a self-reported scale adapted from the widely used instrument, Conflict in Adolescent Dating Relationships Inventory (CADRI), and it was expanded upon the types of violence assessed (i.e., relational aggression). Due to administrative reasons, we used a shorter version of the TeDAM scale and dropped some items from the original scale in the current study. Since this version of the scale has never been used before, confirmatory factor analyses (CFA) and reliability checks were conducted prior to further analyses. The current scale included 27 items in three dimensions. Participants were asked "*In the last two weeks, has a boyfriend/ girlfriend/ romantic partner done any of the following to*

you?". The first subscale (13 items) measured psychological violence including verbal and emotional aggression as well as manipulation (e.g., "*said mean things or insulted me*"). The second subscale (5 items) measured overt physical and sexual aggression (e.g., "*tried to make me do something sexual I did not want to do*" or "*hurt me physically*"). The third subscale (9 items) measured relational aggression, or the behaviors on the partner's peer group to harm the relationships (e.g., "*said things to my friends about me to turn them against me*"). Participants rated how often their dating partners have done any of the behaviors to them over the past two weeks using a Likert scale from 0 (*never*) to 7 (*many times per day*).

The three-dimension model of the original measure has been validated, and each subscale showed good internal consistency scores in previous studies (omega = .96 to.98; Persram et al., 2021) and in the current study (omega = .94 to .96). A CFA using WLSMV estimators was also conducted for each of the three subscales. Good model fits were found for the psychological TDV subscale, $\chi^2(65) = 102.519$, $p = .002$, CFI = .996, RMSEA = .055 [90% CI = .034, .075], SRMR = .030, the physical/sexual TDV subscale $\chi^2(5) = 3.387$, $p = .641$, CFI = 1.000, RMSEA = .000 [90% CI = .000, .082], SRMR = .007, and the relational TDV subscale $\chi^2(27) = 75.972$, $p < .001$, CFI = .997, RMSEA = .098 [90% CI = .073, .125], SRMR = .026. A second-order CFA with a three-factor model and the overall TDV in the higher order was also tested, which also demonstrated good model fit $\chi^2(351) = 37054.319$, $p < .001$, CFI = .998, RMSEA = .037 [90% CI = .024, .048], SRMR = .032.

Shame-Proneness

Shame-proneness was measured at Time 2 using the Test of Self-Conscious Affect-Adolescent (TOSCA-A; Tangney et al., 1991). It is a widely used scale including participant-generated scenarios to assess shame, guilt, detachment, externalization, and pride. In the current

study, we only used the shame subscale of TOSCA-A including 15 hypothetical scenarios. Participants were asked to imagine that you are in that situation now, and then describe how likely it is that each statement would be true for them on a 5-point Likert scale from 1 (*not at all likely*) to 5 (*very likely*). A sample scenario is "*At school, you wait until the last minute to work on a project, and it turns out badly*", and the corresponding statement is "*I would feel useless and incompetent*". Higher scores indicate a higher tendency to feel shame across different situations.

The shame-proneness scale of TOSCA-A has demonstrated good internal consistency among children and adolescents in previous studies (omega = .77; Watson et al., 2016) and in the current study (omega = .91). A CFA was conducted using WLSMV estimators. Adequate model fits were found for the shame-subscale of TOSCA-A in the current sample, $\chi^2(90) = 303.793$, $p < .001$, CFI = .927, RMSEA = .113 [90% CI = .099, .127], SRMR = .062.

Internalizing Symptoms

Internalizing symptoms were measured at Time 2 using two separate scales: the Psychosomatic Symptoms Scale and the Emotional Problems Scale, which were adapted from the World Health Organization Health Behaviour in School-Aged Children Study (HBSC; Freeman et al., 2016). Specifically, they were adapted from the symptoms checklist (HBSC-SCL) and the emotional problem subscale of mental health indicators (Canadian version) respectively. The Psychosomatic Symptoms Scale included 9 items asking the participants how often they feel these psychosomatic somatic symptoms (e.g., *headache, stomach-ache, sleep difficulties*) in the past two weeks using a 5-point Likert scale from 1 (*rarely or never*) to 5 (*many times per day*). The Emotional Problem Scale included 8 items asking the participants

how much they agree with the statements about their emotional status (e.g., "*I often feel hopeless*") using a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

Both scales in the HBSC survey have shown good internal consistency reliability in previous studies (alpha = .78-.84; Gariepy et al., 2016) and in the current study (omega = .89-.92). A CFA using WLSMV estimators was conducted for the each of the two scales. Adequate model fits were found for the Psychosomatic Symptoms Scale, $\chi^2(27) = 72.897$, $p < .001$, CFI = .980, RMSEA = .096 [90% CI = .070, .123], SRMR = .039, and the Emotional Problems Scale $\chi^2(20) = 110.398$, $p < .001$, CFI = .965, RMSEA = .156 [90% CI = .129, .185], SRMR = .035.

Analytical Plan

The current analyses included TDV victimization collected at Time 1, shame-proneness at Time 2, and internalizing symptoms collected at Time 2. First, assumption checks and preliminary analyses were conducted in R 4.2.1 (R Core Team, 2022). Subsequent analyses were conducted on Mplus Editor Version 8.0 (Muthén & Muthén, 2017). Prior to examining the hypothesized model, a series of confirmatory factor analyses (CFA) were performed to evaluate the model fit for each measurement scale. Since all variables were measured using Likert scales that generated ordered categorical data, the weighted least squares means and variance adjusted (WLSMV) estimators were used for the CFAs, which is robust to non-normal ordered data (Brown, 2015). Model fits were assessed mainly by three indices, the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). Hu and Bentler (1999) suggested that CFI >.95, RMSEA <.06, and SRMR <.08 indicate a good model fit, while other scholars suggested that CFI >.90 represents an

acceptable fit, RMSEA < .05 suggests a close fit, RMSEA <.08 indicate a reasonable fit, and RMSEA>.10 indicate a poor fit (Keith, 2019).

For the main analyses, a just-identified path analysis was conducted to test the relationship between TDV victimization, shame-proneness, and internalizing symptoms (see Figure 1). The model examines the direct effect of TDV victimization at Time 1 on shame-proneness at Time 2, the direct effect of TDV victimization at Time 1 on internalizing symptoms at Time 2, the direct effect of shame-proneness at Time 2 on internalizing symptoms at Time 2, as well as the indirect effect of TDV victimization at Time 1 on internalizing symptoms at Time 2 through shame-proneness at Time 2 (see Figure 1). Just-identified path analyses is a common approach to test mediation models, while the model fit indices for these models are not relevant (Hayes, 2013). Maximum likelihood with robust standard errors (MLR), which is robust for non-normal data, was used as the estimation method for the path analyses (Yuan & Bentler, 2000). Due to the relatively small sample size for path analyses considering the number of parameters to be estimated, bootstrapping with 5000 resampling was used for the estimation of parameters and standard errors. Finally, an exploratory multigroup path analysis grouped by sex was conducted to examine the effect of sex in the association between TDV victimization, shame, and internalizing symptoms. A series of chi-square difference tests were conducted to compare the model fits of the unconstrained model and the partially constrained models (Anderson & Gerbing, 1988).

Results

Assumption Checks

All variables were screened for violations of assumptions related to inferential statistics. Normality assumption checks were first conducted using the R package *"MVN"* (Korkmaz et al., 2014). Both univariate and multivariate normality assumptions were violated. An inspection of the histograms showed that the TDV victimization variables and psychosomatic symptoms were positively skewed. Examination of the skewness and kurtosis values also indicated that univariate normality was violated for the TDV victimization variables, with values exceeding the ± 2 (skewness) and ± 7 (kurtosis) cutoffs (Kline, 2016). Henze-Zirkler's test further suggested the violation of multivariate normality (Henze & Zirkler, 1990). Thus, subsequent analyses used maximum likelihood estimation with robust standard errors (MLR), which is robust for non-normality (Yuan & Bentler, 2000). Univariate outliers were detected using z-scores based on the ± 3.29 cutoff, while multivariate outliers were detected using Mahalanobis distances ($df = 6$, $p < .001$; Tabachnick & Fidell, 2019). The results detected univariate outliers ranging from 1% to 3% under the positively skewed variables (i.e., TDV victimization and psychosomatic symptoms). Additionally, multivariate outliers were found to be around 5%. However, it should be noted that the detection of an outlier may be due to the non-normality rather than the actual presence of an outlier.

Linearity between variables was tested using the scatterplot matrix, which indicated a linear relationship among the variables. Multicollinearity was evaluated through the examination of the correlation matrix and variance inflation factor (VIF) indices, with *rs* greater than .80 and VIF values greater than 10 serving as indicators of severe multicollinearity (Kline, 2016). No multicollinearity was observed between each of the TDV victimization variables and the other variables (i.e., shame-proneness and internalizing symptoms), with *rs* smaller than .560 and VIF

values ranging from 1.01 to 1.44. However, the victimization scores of the three types of TDV (i.e., psychological, physical/sexual, and relational violence) were strongly correlated (*rs* from .907 to .935), indicating multicollinearity between different forms of TDV. Despite this, since the study's interest was to investigate the individual effect of each dimension of TDV victimization, all three variables were remained in the current model. Therefore, the study results should be interpreted with caution, due to the presence of multicollinearity. Finally, missing data were evident in 94.5% of the variables, ranging between 0.53% to 3.19%. To account for the missing values in later analyses, full information maximum likelihood (FIML) estimation was used, which has been suggested as a valid approach to handle missing data, assuming data was missing at random (Enders & Bandalos, 2001).

Preliminary Analyses

Descriptive statistics for the studied variables are presented in Table 1. In general, participants reported experiencing low frequencies of victimization of all three types of TDV in the last two weeks, with means between 0 (*never*) and 1 (*once or twice*). They reported slightly higher rates of psychological victimization ($M = 0.43$) compared to physical ($M = 0.29$) and relational victimization ($M = 0.30$). The three types of TDV (i.e., psychological, physical/sexual, and relational) were strongly correlated with each other (rs = .912 to .935, ps < .001). The two measures for internalizing symptoms (i.e., psychosomatic symptoms and emotional problems) also exhibited a positive correlation ($r = .562$, $p < .001$). Psychological, physical/sexual, and relational TDV victimization were all positively correlated with somatic symptoms (rs = .185 to .212, ps = .004 to .012), while only psychological victimization was positively correlated with emotional problems ($r = .179$, $p = .015$). Contrary to our expectation, shame-proneness was not significantly associated with any of the TDV victimizations. However, shame-proneness was

positively associated with somatic symptoms ($r = .435$, $p < .001$) and emotional problems ($r = .538$, $p < .001$).

To examine potential sex differences in the studied variables, we conducted independent mean difference tests (Table 2). Results were examined using a Bonferroni corrected p-value of .008 ($p = .05/6$) to reduce Type I error. Results did not indicate any significant mean differences between boys and girls across all variables.

Path Analysis

A just-identified path analysis was conducted to test the relationship between TDV victimization at Time 1, shame-proneness at Time 2, and the internalizing symptoms at Time 2. As the model was just identified, meaningful model fit indices could not be provided. As indicated in Table 3, shame-proneness was positively associated with psychological victimization of TDV ($\beta = .617$, $p = .005$) and was negatively associated with physical/sexual victimization of TDV ($\beta = -.678$, $p = .010$). In contrast, no association was found between shame-proneness and relational victimization of TDV. Thus, adolescents who reported more psychological victimization in Time 1 were more likely to report a higher tendency to shame in Time 2. Conversely, adolescents who reported more physical/sexual TDV victimization in Time 1 were less likely to report a higher tendency to shame in Time 2.

In addition, shame-proneness was positively associated with both psychosomatic symptoms ($\beta = .459$, $p < .001$) and emotional problems ($\beta = .521$, $p < .001$). Adolescents who tend to feel more shame across situations were more likely to experience psychosomatic symptoms and emotional problems. On the other hand, there was no significant direct effect of the three types of TDV victimization on either psychosomatic symptoms or emotional problems.

The total effects of TDV victimization on internalizing symptoms and the indirect effects via shame-proneness are presented in Table 3. Results showed a significant positive total effect of psychological victimization on emotional problems (β = .559, p = .001). However, the total effect of psychological victimization on psychosomatic symptoms was not significant. No significant total effect was found for physical/sexual or relational TDV victimization on either psychosomatic symptoms or emotional problems. Bootstrapped 95% CI indicated significant positive indirect effects of psychological victimization on psychosomatic symptoms (β = .284, p = .011, 95% CI [.093, .480]) and emotional problems (β = .308, p = .015, 95% CI [.100, .595]) through shame-proneness. In addition, despite the lack of a significant total effect, results indicated significant negative indirect effects of physical/sexual victimization on psychosomatic symptoms (β = -.312, p = .021, 95% CI [-.602, -.075]) and emotional problems (β = -.339, p = .020, 95% CI [-.659, -.083]) through shame-proneness. No indirect effect was found for relational victimization on psychosomatic symptoms or emotional problems through shame-proneness.

Exploratory Multigroup Path Analysis

A multigroup path analysis was used to compare boys and girls on the path coefficients of the model in Figure 1. Across groups, the chi-square from a model with all path coefficients allowed to be unequal across groups was compared to the chi-square from a model with only the path coefficients constrained to be equal across groups. Maximum likelihood estimation was used in order to compare the chi-square results (Muthén & Muthén, 2017). Since the model with freely estimated path coefficients in both groups was a saturated model (i.e., just-identified), the model with all path coefficients constrained was compared to a chi-square of zero with zero degrees of freedom. The model with all path coefficients constrained to be equal across groups

had model fits that were significantly poorer, $\Delta\chi^2(11) = 20.674$, $p = .037$, CFI = .936, RMSEA = .097, SRMR = .088, suggesting that the model could be improved. It indicates that there is an overall sex difference in the path coefficients. Thus, a series of chi-square difference tests were conducted to determine which path coefficients differ across different groups.

The initial unconstrained model was gradually restricted by adding cross-group equality constraints on each path coefficient. The paths from TDV victimization on shame-proneness were first constrained (*path A*s), followed by the paths from shame-proneness on internalizing symptoms (*path B*s), the paths from TDV victimization on psychosomatic symptoms (*path C*s) and emotional problems (*path D*s). The chi-square difference tests showed that constraining path *A*s (i.e., from TDV victimization on shame-proneness) significantly worsened the model fit, $\Delta\chi^2(3) = 13.513$, $p = .004$, CFI = .930, RMSEA = .194, SRMR = .069. On the other hand, the models constraining path *B*s, $\Delta\chi^2(2) = 3.415$, $p = .181$, path *C*s, $\Delta\chi^2(3) = 3.358$, $p = .340$, and path *D*s, $\Delta\chi^2(3) = 1.102$, $p = .777$, did not show significant poorer model fit compared to the unconstrained model. Further chi-square difference tests showed that when the paths from psychological victimization to shame-proneness (path *A1*), $\Delta\chi^2(3) = 6.677$, $p = .010$, and from physical/sexual victimization to shame-proneness (path *A2*), $\Delta\chi^2(3) = 6.616$, $p = .010$, were constrained, the models showed significant poorer model fit, implying that these two paths should not be constrained equal across groups.

According to the results from the multigroup analysis, we tested a model with all the path coefficients constrained equal except for the two paths from psychological and physical/sexual victimization to shame-proneness. The final model showed good model fit and it did not significantly worsen model fits compared to the fully unconstrained model, $\Delta\chi^2(9) = 8.410$, p

= .493, CFI = 1, RMSEA < .001, 90% CI [.000, .111], SRMR = .052. Thus, this more parsimonious model was preferred over the fully unconstrained model.

Standardized results for the final partially constrained model are presented in Figure 3. Results showed that for boys, shame-proneness was positively associated with psychological victimization (b = 1.615, SE = .483, p = .001) and negatively associated with physical/sexual victimization (b = -1.303, SE = .459, p = .005). However, for girls, shame-proneness was not significantly associated with either psychological victimization (b = .172, SE = .259, p = .506) or physical/sexual victimization (b = -.228, SE = .339, p = .502).

Discussion

This study examined the longitudinal direct and indirect associations between teen dating victimization and internalizing symptoms among adolescents, as well as the potential mediating role of shame-proneness in this relationship. Specifically, this study addressed four main hypotheses: (1) adolescents' TDV victimization would have a positive effect on internalizing symptoms; (2) adolescents' TDV victimization would have a positive effect on shame-proneness; (3) shame-proneness would positively associate with internalizing symptoms; (4) shame-proneness would mediate the association between TDV victimization and internalizing symptoms. In addition, this study also explored the potential sex difference in the associations among TDV victimization, shame, and internalizing symptoms. In general, current findings partially supported the hypotheses. Results have suggested that among the three types of TDV victimization, only psychological victimization predicted heightened shame-proneness and more emotional problems eight months later. Shame-proneness positively associated with psychosomatic symptoms and emotional problems, and fully mediated the effect of psychological TDV victimization on internalizing symptoms. Exploratory analysis also identified

significant sex difference in the association between TDV victimization and shame-proneness. The following sections will discuss the results of this study and their implications. The strengths and limitations of this study will also be addressed.

TDV Victimization on Internalizing Symptoms

Our first hypothesis that adolescents' TDV victimization would have a positive longitudinal effect on internalizing symptoms was partially supported. Results showed that when considering all forms of TDV victimization, only psychological victimization demonstrated a positive total effect on emotional problems, but not on psychosomatic symptoms. That is, adolescents who reported greater psychological TDV victimization also tended to report more emotional problems around eight months later. This finding supports previous research that has shown a longitudinal effect of psychological TDV victimization on internalizing mental health issues such as anxiety and depressive symptoms (Ackard et al., 2007; Bonomi et al., 2013; Brown et al., 2009; Choi et al., 2017; Exner-Cortens et al., 2013; Foshee et al., 2013; Nahapetyan et al., 2014; Pierce, 2017; Roberts et al., 2003; van Dulmen et al., 2012). It indicates that psychological or emotional dating violence is an especially distressing experience for adolescents, who are in a critical developmental stage characterized by the desire for intimacy, acceptance, and heightened concerns about negative evaluations from others (Downey et al., 1999). Consequently, repeated exposure to emotional attack by their romantic partner can significantly disrupt their emotional welling-being, leading to the development of internalizing symptoms. Notably, the direct effect of psychological victimization on emotional problems was no longer significant when accounting for shame-proneness. It implies that shame-proneness fully mediated this relationship which will be further discussed in subsequent sections.

In contrast, the results did not suggest any total or direct effect of psychological TDV on psychosomatic symptoms. Conversely, previous research on adult romantic relationships has documented an association between IPV victimization and somatic symptoms (Coker et al., 2002; Kaura & Lohman, 2007; Lown & Vega, 2001; Resnick et al., 1997; Sutherland et al., 2001). However, the association between TDV victimization and psychosomatic symptoms has received less attention and has been shown to vary across sex and different types of violence (Beckmann & Kliem; 2021; Haynie et al., 2013). One possible explanation for the current finding is that psychological victimization may primarily impact adolescents' emotional well-being rather than manifesting directly as somatic symptoms. The emotional toll of the victimization, such as fear, shame, anger, and negative self-perceptions, may be more closely related to the development of emotional problems, while having a weaker association with somatic symptoms. In fact, studies on bullying have found that psychological symptoms are more strongly associated with bullying victimization than physical symptoms (Due et al., 2005). Moreover, previous studies that suggested a link between TDV victimization and somatic symptoms only employed cross-sectional designs (Beckmann & Kliem; 2021; Haynie et al., 2013), whereas the current study contained an eight-month gap between the victimization and the reporting of somatic symptoms. Thus, the time lapse may be too long for somatic symptoms to persist. Additionally, it is plausible that dating violence in adolescents is less likely to cause somatic symptoms compared to intimate partner violence in adults, given that adolescent dating partners have more independence in terms of living arrangments and finance, (Knox et al., 2009), and may thus experience less stress resulting from dating violence. However, it is worth noting that the 95% confidence interval did show a positive trend for the total effect of psychological TDV on psychosomatic symptoms, although not statistically significant. Considering that most

of the participants did not report TDV victimization or psychosomatic symptoms in the past two weeks, the non-significant result may also be attributed to insufficient statical power due to small cell sizes.

On the other hand, the positive association between TDV victimization and internalizing symptoms was not evident across all forms of TDV victimization, highlighting the importance of conceptualizing and examining TDV as a multidimensional construct. Results did not indicate any total or direct effect between physical/sexual victimization and internalizing symptoms. Although a large number of studies did not separately examine the effect of different types of TDV when evaluating their consequences (e.g., Ackard et al., 2007; Exner-Cortens et al., 2013; Pierce, 2017; Roberts et al., 2003), studies that have compared psychological TDV with physical or sexual TDV have reported similar patterns to our current findings. For example, Choi and colleagues (2017) found that adolescents who experienced more emotional/verbal violence and more psychological violence displayed higher levels of anxiety and depressive symptoms compared to non-victims, whereas those who experienced more sexual violence did not exhibit increased levels of anxiety and depression. Likewise, Foshee and colleagues (2013) found that victimization of psychological, but not physical, dating violence predicted internalizing symptoms. One possible explanation is that physical or sexual TDV may often be less chronic and long-lasting compared to psychological violence, and thus may have a weaker impact on victims' emotional well-being over time. Moreover, it worth noting that many instances of physical and sexual violence in dating relationships occur within a playful or joking context (Jouriles et al., 2009; Muñoz-Rivas et al., 2007). In fact, playing or joking has been reported as the most common motive for physical violence among teenagers, which tends to decrease as they get older (Muñoz-Rivas et al., 2007). This could account for the discrepancy between our current

findings and research on adult IPV, which has found an association between physical or sexual victimization and mental health problems (e.g., Coker et al., 2002). Thus, while physical violence might be viewed as more severe in terms of potential physical harm, psychological violence may be perceived by adolescents as more distressing and more intentionally hurtful (i.e., less likely to be caused by innocent motives). In addition, given that physical and sexual violence are more overt and visible, victims may find it easier to recognize and address such forms of violence, leading to immediate intervention and support, which could mitigate their long-term emotional impact.

Finally, no total or direct effect was found between relational TDV victimization and internalizing symptoms. Relational violence involving social manipulation and relationship damage has rarely been examined in the TDV literature (Schad et al., 2008; Persram et al., 2021; Zimmer-Gembeck et al., 2018). However, relational violence has been well-studied in the peer victimization literature and has been suggested to predict internalizing symptoms such as anxiety and depression among adolescents (Duru et al., 2019; Prinstein et al., 2001; Zimmer-Gembeck & Pronk, 2012). The same positive association with internalizing symptoms was found in studies investigating relational violence victimization in romantic relationships among adults (Goldstein, Chesir-Teran & McFaul, 2008; Zimmer-Gembeck et al., 2018). Despite the growing interest in relational violence within the context of teen dating violence, the current body of research on relational victimization presents mixed findings (Zimmer-Gembeck et al., 2018). Specifically, Schad et al. (2008) reported a positive association between relational violence victimization and depressive symptoms among adolescent dating relationships, whereas Leadbeater et al. (2008) found that this association became non-significant when controlling for overt dating violence (e.g., physical violence). Ellis et al. (2009) also suggested that relational victimization predicted

later emotional maladjustments only for girls but not for boys or the overall sample. The inconsistencies among previous findings and the current results may be attributed to the lack of consensus on the definition of relational aggression in dating relationships (Ellis et al., 2009). While some studies focused on manipulating and damaging behaviors within the partners (e.g., Leadbeater et al., 2008; Schad et al., 2008), the current study also included behaviors aimed at damaging the social relationships of the victim with peers, which may not directly affect the emotional well-being of the victims. Other reasons for the null effect may be due to the similarities between psychological and relational forms of dating violence, as both include manipulation behaviors characterized by power and control dynamics. Thus, controlling for psychological TDV might have masked the effect of relational TDV on internalizing symptoms. Considering these factors, it is important to investigate and understand the underlying mechanisms and processes that contribute to the differential prediction of internalizing symptoms by the three froms of TDV victimization .

TDV Victimization and Shame-Proneness

The second hypothesis of the current study that adolescents' TDV victimization would have a positive effect on shame-proneness was also partially supported. In line with previous research that illustrated a positive association between psychological dating violence victimization and shame-proneness in adults (Beck et al., 2011; Oflaz et al., 2022; Street & Arias, 2001), the current findings indicated that psychological TDV victimization among adolescents had a direct positive effect on shame-proneness, the tendency to have negative self-attributions and feel inherently flawed and unworthy across situations (Tangney & Dearing, 2003). Instances of repeated insults, blame, and disregard from romantic partners become internalized as self-blame and negative self-evaluations, leading the victim to feel undesired and

unattractive (Kaufman, 2004). Consequently, the self continues to regenerate internal shaming even in situations outside of the romantic relationship, particularly when their mistakes and imperfections are exposed (Gilbert, 2007). This internalization of shame can be particularly risky during adolescence, a developmental period characterized with heightened vulnerability to shame due to egocentrism, self-consciousness, and preoccupation with others' evaluation and judgments (Elkind, 1967).

It was of some surprise that we found a negative effect of physical/sexual victimization on shame-proneness, which contradicts previous studies suggesting a positive association between sexual victimization in romantic relationships or childhood sexual abuse and shame specific to those incidents (Coffey et al., 1996; Feiring et al., 1998, 2002; Messing et al., 2014; Whiffen & MacIntosh, 2005). However, shame-proneness as an outcome of physical or sexual dating violence has not been examined. Meanwhile, another study suggested that sexual abuse is not as strongly linked to shame compared to psychological or emotional abuse (Vizin et al., 2016). Considering the high correlation between psychological and physical/sexual TDV victimization, this negative relationship observed between physical/sexual victimization and shame-proneness could be attributed to multicollinearity and the suppression effect. This occurs when the psychological TDV victimization (i.e., the suppressor) positively correlates with both physical/sexual victimization and shame-proneness, resulting a weaker or even reversed relationship between the two variables when the suppressor is included in the model (Tu et al., 2008). Yet another possibility is that the current measure did not capture chronic and repeated violence in dating relationships, as it only assessed experiences over the past two weeks. Transient and episodic incidents of physical or sexual violence might be perceived as a warning sign that motivate adolescents to seek help or leave a destructive relationship. In contrast,

adolescents might choose to stay in an abusive relationship after experiencing psychological victimization due to the social pressure to maintain a relationship and a lack of a understanding regarding healthy relationship behavior (Banister et al., 2003; Cutter-Wilson & Richmond, 2011). Additionally, other sources of variance might account for reduced shame-proneness following physical/sexual TDV victimization, such as the sex differences. As suggested by the exploratory multigroup analyses, only boys displayed a negative association between physical/sexual TDV victimization and shame-proneness. It is possible that adolescent boys are less likely to blame themselves and internalize shame following physical and sexual violence, as they often experience less severe injuries and are often influenced by stereotypical concepts of masculinity that downplay the significance of physical and sexual victimization for boys (Barter & Stanley, 2016).

On the other hand, in contrast to our hypothesis, the current study did not find any significant effect of relational victimization on shame-proneness. As previously mentioned, one reason might be the collinearity between psychological and relational and the subsequent suppression effect, which can attenuate the association between relational victimization and shame-proneness (Tu et al, 2008). Moreover, since shame-proneness is a dispositional characteristic, it has been suggested to remain relatively stable from middle childhood onwards (Tangney & Dearing, 2003). Thus, it might take repetitive and chronic negative relationship experiences to influence one’s shame-proneness (Kaufman, 2004). In addition, unlike psychological violence, relational violence includes indirect and covert behaviours that exert influence on the victims' social circle, which may not directly affect their self-image and attribution style.

Shame-Proneness and Internalizing Symptoms

Consistent with our third hypotheses, there was a positive association between shame-proneness and internalizing symptoms. Adolescents who demonstrated a greater tendency to experience shame across various situations were also more likely to face both psychosomatic and emotional difficulties. This finding adds support to existing literature demonstrating a positive effect of shame-proneness on poor mental health, such as depressive and anxiety symptoms, lower self-esteem, social withdrawal, and psychological and physical distress (Harper & Arias, 2004; Muris et al., 2015; Stuewig & McCloskey, 2005; Tangney et al., 1992; Tilghman-Osborne et al., 2008). As a deeply distressing and agonizing emotion, shame invokes negative self-concept and self-appraisals, impeding the victims of dating violence in their social relationships and isolating them from seeking help (Kaufman, 2004; Kennedy & Prock, 2018). Therefore, the propensity to feel shame and adopt negative self-attributions across various situations serves as a substantial precursor to emotional problems and somatic symptoms.

The Mediating Role of Shame

To investigate the mechanism underlying the positive total effect of psychological TDV victimization on emotional problems, this study also examined the potential mediating role shame-proneness. The findings suggested an indirect effect of psychological TDV victimization on emotional problems via shame-proneness. Moreover, the direct effect of became non-significant when including shame-proneness, suggesting that shame-proneness fully mediated this relationship. That is, experiences of psychological abuse such as verbal insults, threats, or manipulations within adolescents' romantic relationships were internalized, leading to an increased propensity to feel shame, which, in turn, contributed to the development of internalizing symptoms. This finding is consistent with a previous study by Street and Arais

(2001), which found that the shame-proneness fully explained the positive relationship between emotional/verbal victimization in women's romantic relationships and PTSD symptomatology. Likewise, studies on psychological abuse within the family context have also yielded similar results, showing that shame-proneness mediated the link between victimization and depressive symptoms (Coates & Messman-Moore, 2014; Stuewig & McCloskey, 2005). However, Irwin et al., (2018) suggested that characterological and bodily shame, but not shame-proneness, mediated the relationship between peer victimization and internalizing symptoms. Therefore, it is crucial for future research to differentiate between trait shame and specific types of shame and investigate their distinct roles. Overall, this finding highlights the significance of shame in efforts to improve the mental well-being among dating violence victims and emphasizes the need to educate adolescent victims on effective coping strategies for negative emotions such as shame.

Exploratory Findings on Sex Differences

The current study not only aimed to test the proposed hypotheses regarding the associations among TDV victimization, shame-proneness, and internalizing symptoms, but also explored potential sex differences in these variables and their associations. No significant sex difference was found in terms of the frequency of psychological, physical/sexual, or relational TDV victimization, in accord with previous research that suggested that both boys and girls can experience various forms of TDV at similar prevalence rates. This finding partially supports previous research that showed comparable rates of physical victimization across sexes (Wincentak et al., 2017) but higher rates of sexual victimization among adolescent girls compared to boys (Eisner, 2021; Foshee, 1996; Théorêt et al., 2021; Wincentak et al., 2017). It also expands the existing mixed findings regarding the sex difference in psychological victimization (Eisner, 2021; Exner-Cortens et al., 2021; Stonard et al., 2014).

The exploratory multigroup analysis indicated a significant sex difference in the effect of psychological and physical/sexual victimization on shame-proneness. Specifically, for boys, psychological victimization positively predicted shame-proneness, while physical/sexual victimization negatively predicted shame-proneness. However, for girls, neither psychological victimization nor physical/sexual victimization had a significant effect on shame-proneness. This indicates that boys might be more likely than girls to internalize a negative self-attribution and become self-conscious after experiencing psychological violence in intimate relationships. Conversely, they may be less likely to internalize shame after experiencing physical and sexual violence. Previous studies have also found that emotional abuse, as compared to physical violence, is more likely to elicit negative feelings in boys (Barter & Stanley, 2016). On the contrary, boys reported that they often found physical and sexual TDV funny (Barter & Stanley, 2016). One explanation is that boys often experience less severe injuries and fewer negative emotional outcomes (e.g., fear, distress, and humiliation) than girls following physical and sexual victimization (Haynie et al., 2013; Muñoz-Rivas et al., 2007). Furthermore, boys may also be influenced by stereotypical concepts of masculinity, which tend to trivialize the significance of physical and sexual victimization for them (Barter & Stanley, 2016).

It is important to note, however, that this investigation was only exploratory in nature and cannot generate conclusive results. Future research using a more rigorous approach is needed to examine the sex difference in the associations between TDV victimization, shame, and negative psychological consequences.

Strengths, Limitations and Directions for Future Research

This study made significant contributions to the extant literature on teen dating violecne and internalizing symptoms across several key areas. Firstly, the current study adopted a

longitudinal design, allowing causal inferences to be drawn. It was also one of the few studies that used a comprehensive measure that captured all essential dimensions of TDV and separately examined the individual effects of each form TDV. The findings provided support for the notion that psychological TDV victimization predicted increased emotional problems. Secondly, the study was conducted during the challenging context of the COVID-19 pandemic, which added an extra layer of complexity to adolescents' emotional and physical well-being. Thus, the results provided valuable information into how adolescents coped with victimization within their intimate relationships during the global pandemic. Thirdly, the present study pioneered the investigation of the underlying mechanism linking TDV victimization and mental health outcomes, specifically by examining the potential mediating role of shame-proneness. The results revealed that shame-proneness fully mediated the relationship between psychological victimization and emotional problems, highlighting the significance for addressing emotional management in interventions targeting TDV. Lastly, this study examined sex differences through exploratory multigroup analyses, which identified intriguing disparities in the effect of TDV victimization on shame-proneness between adolescent boys and girls.

From the statistical perspective, the current study does have several limitations. Firstly, the final sample size was relatively small ($N = 188$), which is below the recommended minimum sample size ($N = 200$) for SEM studies (Kline, 2016). Additionally, low rates of participants who reported TDV victimization or psychosomatic symptoms in the past two weeks resulted in extremely small cell sizes in the analyses. Thus, considering the large number of estimated parameters in this model, the study might have lacked sufficient power to detect certain relationships and sex differences. Future studies would benefit from expanding the sample size and extending the assessment period for TDV victimization.

In addition, it is worth noting that psychological, physical/sexual, and relational TDV often co-occur in dating relationships (Choi et al., 2013), leading to the issue of multicollinearity in the current analyses. Meanwhile, the high positive skewness observed in almost all items of the TDV measure may also have influenced this multicollinearity. As a result, the associations between each type of TDV victimization and shame-proneness may have been affected by suppression effects, which might have attenuated or even reversed the relationships (Tu et al., 2008).

From a conceptual standpoint, the current study also has a few limitations that could be addressed in future research. While the current study examined the role of shame in the association between TDV and internalizing symptoms, it only focused on trait shame (i.e., shame-proneness), which tends to be relatively stable and consistent over time. Thus, future research could benefit from exploring the role of multiple types of shame, such as state shame, bodily shame, or shame specific to the victimization experience. In addition, since adolescents often experience multiple types of violence concurrently in their romantic relationships (Choi et al., 2017; Exner et al., 2013), studying the effects of a combined violence would be beneficial. Finally, as previous studies have highlighted the reciprocal nature of TDV, with individuals often reporting both perpetration and victimization within the same relationship (Alleyne-Green et al., 2012), it would also be interesting to investigate the unique role of mutual dating violence among dating dyads.

Implications

The current study has several implications on future research. The findings highlight the distinct effect of different forms of TDV on mental health outcomes. Specifically, this study contributes to the existing literature by including relational violence, an aspect that has received

limited attention in previous research. This underscores the importance of conceptualizing TDV as a multidimensional construct and utilizing comprehensive measurement tools in future research to capture the nuances of each form of TDV. Moreover, it is crucial to consider the unique features of teen dating violence compared to violence in adult romantic relationships.

The current study also provides practical insights for different stakeholders involved in addressing teen dating violence and promoting mental well-being among adolescents. The findings support the need for interventions targeting TDV to address various manifestations of psychological and relational victimizations, such as verbal abuse, intentional ignorance, control and manipulation (Persram et al., 2021). It is not uncommon to see teenagers who identify themselves as victims of emotional abuse found it extremely difficult to leave a relationship (Banister et al., 2003), which may lead to chronic and repeated victimization. Thus, adolescents should receive education on healthy relationship dynamics and be informed about the negative consequences of teen dating violence. This knowledge can help adolescents recognize victimization and motivate them to seek immediate assistance.

Additionally, the current study revealed the critical role of shame in mitigating the negative mental health consequences of TDV. It emphasizes the importance of incorporating social-emotional learning (SEL) into TDV prevention and intervention programs. Such programs should focus on building adolescents' skills in self-awareness, emotion management, and relationship skills. By developing these competencies, adolescents can effectively cope with emotions such as shame, anger and jealousy in relationships, challenge negative self-evaluations, establish health self-concept, and foster healthy communication and interaction patterns within intimate relationships. Given the significant role of families in addressing and preventing TDV, the study highlights the need for families to foster open and supportive communication with their

adolescent children regarding healthy relationships, emotional well-being, and the dynamics of TDV. Creating a home environment with safety, trust, and respect where adolescents feel comfortable discussion their emotions and relationship is also crucial. Furthermore, educators should be equipped with necessary knowledge and skills to identify and respond to signs of TDV among students. Families and educators should also collaborate with counselors, social workers, and community organizations to establish a network of resources for students experiencing TDV.

Moreover, the current study contributed to the understanding of differential impact of TDV on boys and girls, which can inform tailoring interventions to meet their specific needs. The findings suggest that interventions for boys should address the potential for self-consciousness and negative self-attribution resulting from psychological violence, while interventions for girls should consider the unique challenges associated with physical and sexual victimization and their potential for internalizing shame.

Lastly, the study's examination of TDV during the COVID-19 pandemic underscores the need to consider contextual factors in understanding and addressing the impact of victimization on adolescents' well-being. Future interventions should take into account the additional challenges and stressors faced by adolescents during times of crisis and provide appropriate support.

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Appendices

Figure 1

Hypothesized Model for Path Analysis

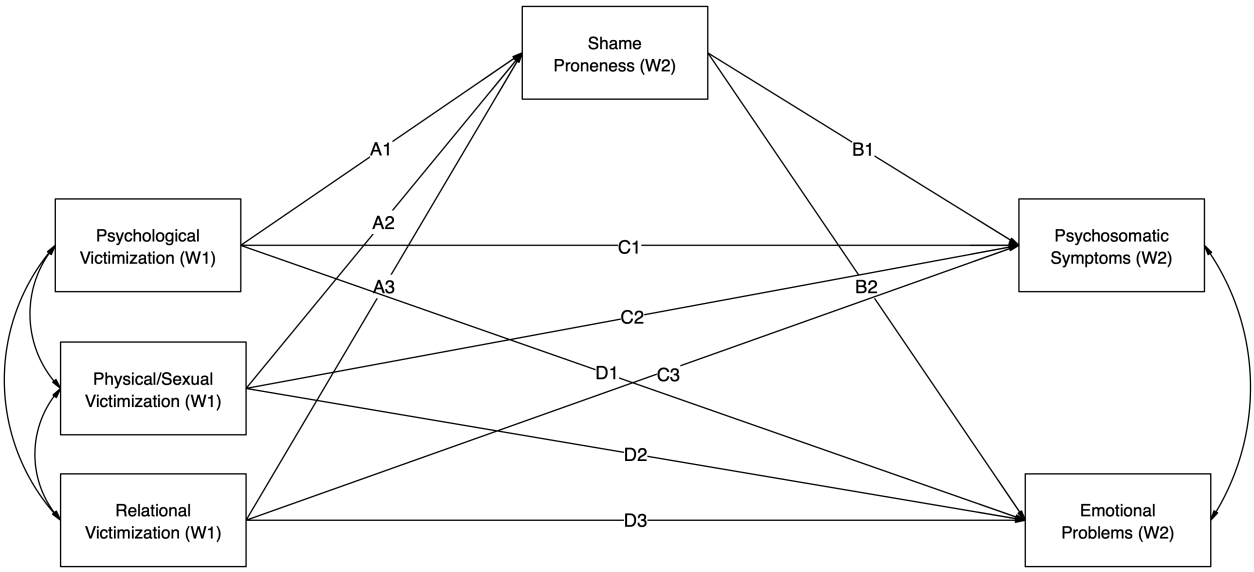
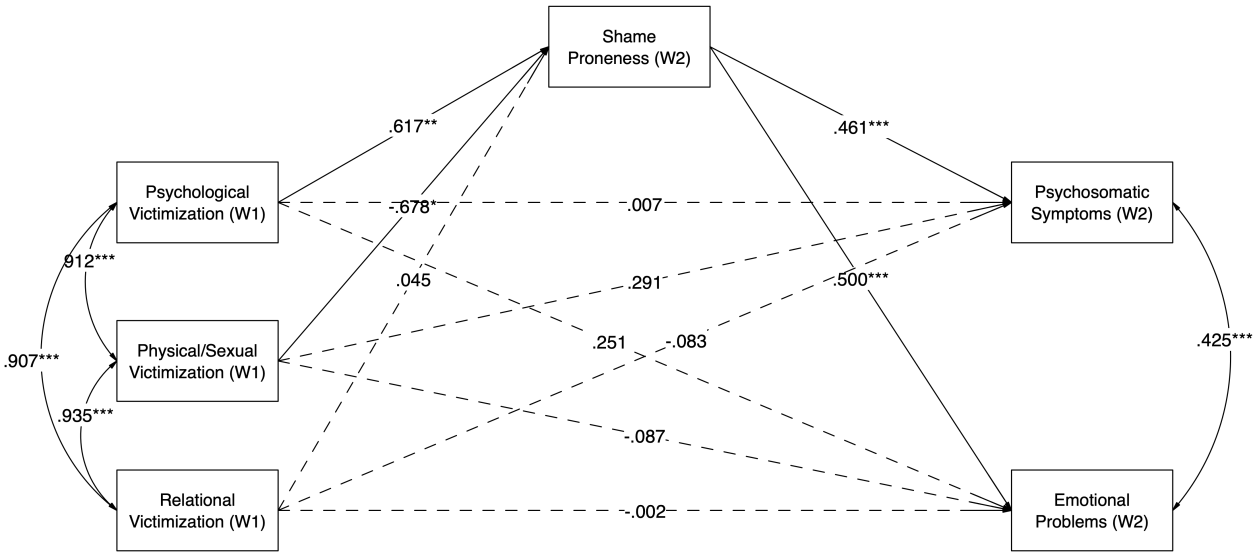


Figure 2

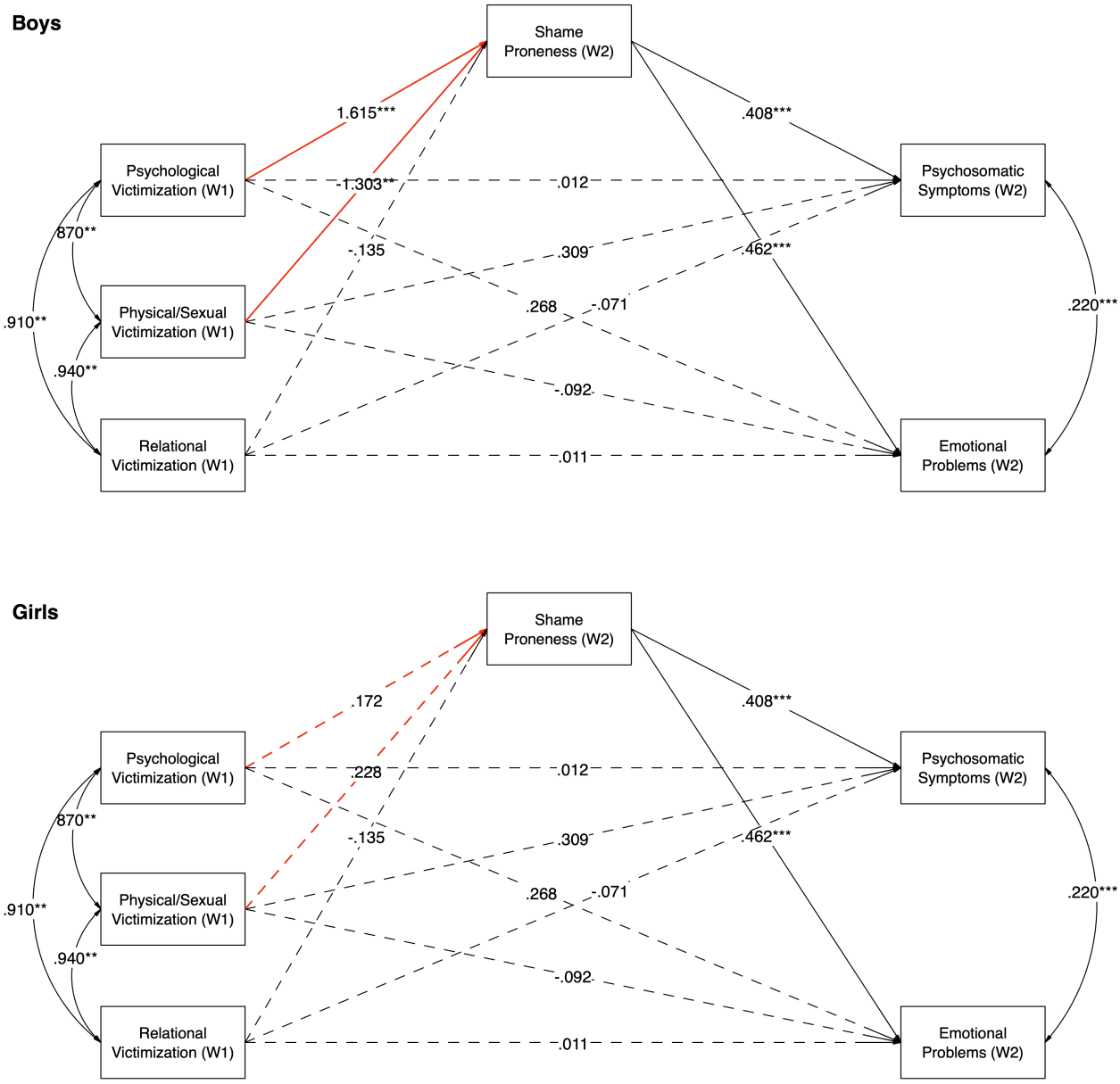
Path Analysis Model with Standardized Coefficients



*$p < .05$, ** $p < .01$, *** $p < .001$

Figure 3

Path Coefficients of Exploratory Multigroup Path Analyses Grouped by Sex



Note. Path coefficients are *unstandardized*. Paths in red were allowed to differ by sex. Model fit: $\chi 2$ (9) = 8.410, p = .493; RMSEA = .000 (90% CI [.000, .111]); CFI = 1.000; SRMR = .052. $p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 1

Descriptive Statistics and Correlations Among All Variables

	PSYC	PHSE	RELA	SHAME	SOMA	EMOP
PSYC	--					
PHSE	.912***	--				
RELA	.907***	.935***	--			
SHAME	.028	-.084	-.039	--		
SOMA	.212**	.185*	.188*	.435***	--	
EMOP	.179*	.094	.121	.514***	.562***	--
mean	0.43	0.29	0.30	2.83	1.69	2.80
SD	0.73	0.73	0.76	0.85	0.76	0.79

Note. PSYC = psychological TDV victimization, PHSE = physical/sexual TDV victimization, RELA = relational TDV victimization, SHAME = shame-proneness, SOMA = psychosomatic symptoms, EMOP = emotional problems.
*$p < .05$, ** $p < .01$, *** $p < .001$

Table 2

Mean Difference Test Comparing All Variables Across Sexes

Variable	Boys (n = 77)		Girls (n = 110)		*t(df)*	*p*
	M	*SD*	*M*	*SD*		
PSYC	1.78	11.26	0.38	0.55	1.09 (76)	.279
PHSE	1.72	11.27	0.18	0.50	1.20 (76)	.235
RELA	1.73	11.28	0.21	0.50	1.19 (76)	.241
SHAME	3.83	11.03	3.88	9.18	-0.03 (185)	.977
SOMA	5.41	18.98	3.50	13.08	0.81 (185)	.417
EMOP	6.41	18.78	3.76	9.20	1.14 (102)	.255

Note. PSYC = psychological TDV victimization, PHSE = physical/sexual TDV victimization, RELA = relational TDV victimization, SHAME = shame-proneness, SOMA = psychosomatic symptoms, EMOP = emotional problems. Equal variances were not assumed for all variables except SHAME and SOMA according to the Levene's tests for equality of variances.

Table 3

Parameter Coefficients of the Path Analysis

	b	*β*	*SE*	*p*
Shame proneness				
Psychological TDV	.720	.617	.218	.005
Physical/Sexual TDV	-.784	-.678	.264	.010
Relational TDV	.051	.045	.259	.861
Psychosomatic symptoms				
Psychological TDV	.008	.007	.156	.963
Physical/Sexual TDV	.304	.291	.246	.236
Relational TDV	-.084	-.083	.248	.738
Shame proneness	.415	.461	.066	<.001
Emotional problems				
Psychological TDV	.273	.251	.178	.158
Physical/Sexual TDV	-.093	-.087	.188	.644
Relational TDV	-.002	-.002	.190	.990
Shame proneness	.464	.500	.064	<.001
Correlation				
Psychological ~~ Physical/Sexual TDV	.485	.912	.025	<.001
Psychological ~~ Relational TDV	.497	.907	.027	<.001
Physical/Sexual ~~ Relational TDV	.517	.935	.022	<.001
Psychosomatic Symptoms ~~ Emotional Problems	.186	.425	.064	<.001

Table 4

Total Effects and Indirect Effects (via Shame-Proneness) in the Path Analysis

	Psychosomatic Symptoms			Emotional Problems		
	β	*p*	*Bootstrapped 95% CI*	*β*	*p*	*Bootstrapped 95% CI*
Total Effect						
Psychological TDV	.291	.112	[-.056, .676]	.559	.001	[.240, .917]
Physical/Sexual TDV	-.021	.942	[-.617, .435]	-.425	.074	[-.901, .040]
Relational TDV	-.062	.823	[-.659, .458]	.020	.923	[-.415, .418]
Indirect Effect						
Psychological TDV	.284	.011	[.093, .480]	.308	.015	[.100, .595]
Physical/Sexual TDV	-.312	.021	[-.602, -.075]	-.339	.020	[-.659, -.083]
Relational TDV	.021	.861	[-.198, .269]	.023	.862	[-.227, .291]