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**Psychological intimate partner violence and childhood cumulative trauma: The mediating role of affect dysregulation, maladaptive personality traits, and negative urgency**

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# INTIMATE PARTNER VIOLENCE AND CHILDHOOD CUMULATIVE TRAUMA

## Abstract

The current study examined the mediating role of affect dysregulation, maladaptive personality traits and negative urgency in the association between childhood cumulative trauma (CCT) and psychological intimate partner violence (IPV). A total of 241 men and women from the general population answered self-report questionnaires assessing these variables. Results indicated that 70% of participants reported at least two different types of childhood trauma while, over the past year, 80% indicated having perpetrated or experienced psychological IPV. Path analyses of a sequential mediation model confirmed that the CCT-IPV association is explained by affect dysregulation, maladaptive personality traits, and negative urgency. These findings support the need to assess affect regulation and personality traits in CCT survivors. Psychosocial interventions should aim to increase self-soothing skills and decrease negative urgency in order to prevent psychological IPV.

Keywords: intimate partner violence; childhood interpersonal trauma; adverse childhood experiences

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Current policies and practices for perpetrators and victims of intimate partner violence (IPV) in Canada, the United States of America and the United Kingdom, have their foundations in feminist theories and practice such as the Duluth model (Pence & Paymar, 1993). Research has demonstrated that the theoretical underpinnings of these approaches are flawed (e.g. Bates, Graham-Kevan & Archer, 2014) and that these approaches are not effective (e.g. Babock, Green & Robie, 2004). In the face of such challenges, a growing number of researchers emphasized the need to attend to the history of childhood interpersonal trauma (CT) and its emotional sequelae in treating violent men (Fisher, Goodwin, & Archer, 2014; Sonkin & Dutton, 2003).

CT includes the experience of physical, psychological and sexual abuse, physical and psychological neglect, witnessing physical or psychological interparental violence and bullying during childhood (Godbout, Briere, Sabourin, & Lussier, 2014). Recent studies have shown that CT is associated with a higher risk of sustaining (Lilly, London, & Bridgett, 2014) and perpetrating (Brassard, Darveau, Pélouquin, Lussier, & Shaver, 2014) psychological intimate partner violence (IPV) in adulthood. However, it has been suggested that examining single CT experiences, such as sexual abuse or physical abuse separately, might be insufficient in order to better understand the consequences of CT. In addition, considering that most children who experience CT will sustain additional victimization throughout relationships (Finkelhor, Omrod, & Turner, 2007), the experience of multiple types of CT, known as cumulative CT or CCT, and its effect on IPV warrants further examination.

Psychological IPV refers to the use of verbal and non-verbal communication to emotionally harm and/or exert control over one's partner (Breiding, Basile, Smith, Black, & Mahendra, 2015). Psychological violence is the most prevalent form of IPV in the general population, with prevalence rates reaching 57% in couple partners, and is equally high in men and women (Breiding et al., 2015; Hellemans, Loeys, Dewitte, Smet, & Buysse, 2015). In

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addition to its deleterious impact on couples' well-being, psychological IPV is also recognized as a precursor to other forms of violence within relationships (Frieze, 2005) still, this form of violence between romantic partners is rarely analyzed separately from other forms of IPV. In addition, very few studies have examined the presence and underlying mechanisms of its associations with CCT (Dugal, Godbout, Bélanger, Hébert, & Goulet, 2018).

In order to better understand the association between CCT and the experience of psychological IPV in adult romantic relationships, the current study was inspired by the empirically based theoretical framework proposed by Holtzworth-Munroe and Stuart (1994). In identifying subtypes of male batterers, the authors isolated two types of perpetrators of IPV that were more likely to report a history of CT: the dysphoric/borderline perpetrator and the violent/antisocial perpetrator. Despite distinguishing features, these two classes of individuals shared a tendency to react without thinking to negative affect despite the likelihood that these actions might result in adverse consequences, which is known as negative urgency (Whiteside & Lynam, 2001), that was associated with affect dysregulation and maladaptive personality traits. Thus, these three variables were retained as hypothetical mediators and are introduced below.

### **Affect Dysregulation**

Affect dysregulation is a multidimensional construct that encompasses both a cognitive and a behavioral dimension (Berzenski & Yates, 2010). Cognitively, it refers to the inability to control and tolerate strong and negative emotions, as well as to inhibit mood swings without resorting to avoidance strategies (Briere, 2002). Behaviorally, it reflects the inability to refrain from externalizing those emotions through dysfunctional behaviors such as self-harm, substance abuse, impulsivity, or violent behaviors (Briere & Runtz, 2002).

CT could hamper the development of affect regulation skills by exposing children to extreme emotional demands, while simultaneously preventing them from learning how to tolerate

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distress and control its expression (Gratz, Paulson, Jakupcak, & Tull, 2009). It has already been shown that adult survivors of CCT are more likely to resort to dysfunctional or impulsive strategies to numb negative affects or to reduce their impact and duration (Briere, Hodges, & Godbout, 2010). As violence is often an impulsive strategy used to deal with negative affect triggered by relational conflicts (Ruddle, Pina, & Vasquez, 2017), affect dysregulation is likely to be a mechanism partly explaining why CCT survivors are at higher risk of perpetrating IPV in adulthood. Affect dysregulation could also heighten the risk of sustaining IPV due to difficulties in detecting risky situations (e.g. inability to identify and respond to dangerous situations in an assertive or escape-focused manner; Walsh, Gonsalves, Scalora, King, & Hardyman, 2012). Yet, these hypotheses remain to be tested.

### **Maladaptive Personality Traits**

When Paulhus and Williams (2002) introduced the notion of a “*Dark Triad*”, they discussed a set of three socially aversive, or maladaptive personality traits widely distributed across the general population at a subclinical level: Machiavellianism, psychopathy and narcissism (Savard, Lussier, Sabourin, & Brassard, 2014). Machiavellianism describes individuals who are cunning, selfish and who do not hesitate to use others to further their own ends (Paulhus & Williams, 2002). Psychopathic individuals are generally dishonest, insensitive, and impulsive; they present antisocial behaviors, a lack of remorse, anxiety and empathy and they hardly tolerate frustration (Savard et al., 2014). Narcissism characterizes those who believe they are superior and who seek attention, prestige, or admiration from others (Savard et al., 2014).

The antisocial and impulsive behaviors that characterize these maladaptive personality traits have been argued to result from the influence of environmental risk factors such as the experience of abuse and neglect during childhood (Schimmenti, Passanisi, Di Carlo, & Caretti,

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2015). Poythress, Skeem and Lilienfeld (2006) also showed that CCT was associated with psychopathic and antisocial personality traits, but that this relationship was specific to the impulsive lifestyle features of these personality traits. Maladaptive personality traits have also been associated with both perpetration and victimisation of psychological IPV (Carton & Egan, 2017) through insensitivity to others' experience during conflict and a tendency to react impulsively and aggressively to negative emotions (Long, Felton, Lilienfeld, & Lejuez, 2014).

### **Negative Urgency**

Negative urgency, a dimension of impulsivity, has been associated with numerous maladaptive behaviors performed in response to negative emotions, such as psychological IPV in adulthood (Shorey, Brasfield, Febres, & Stuart, 2011). In addition, for CCT survivors, the experience of maltreatment is positively associated with negative urgency (Gagnon, Daelman, McDuff, & Kocka, 2013). Yet, even though CT would appear to act as a risk factor for negative urgency, the specific mechanisms behind this association are not fully understood. According to Gaher, Arens and Shishido (2015), deficits in affect regulation could partly explain the development of negative urgency in CT survivors. Thus negative urgency can be considered as a central feature of the behavioral impact of affect dysregulation (Weiss, Tull, Anestis, & Gratz, 2012). Individuals with a history of CCT and who present maladaptive personality traits are also considered to have a dispositional tendency to show impulsive behaviors (Malesza & Ostaszewski, 2016; Paulhus & Williams, 2002). Therefore, affect dysregulation and maladaptive personality traits, which heighten the propensity to exert impulsive behaviors when failing to cope with negative emotions, could act as mechanisms through which CCT survivors experience psychological IPV.

## **Aims of the Current Study**

Research has shown that not all survivors of CCT become IPV perpetrators nor are revictimized in their romantic relationships (Dugal et al., 2018). Thus, there is a need to explore the mechanisms that might mediate the relationship between CT and psychological IPV in adulthood. Despite previous literature demonstrating significant associations between CT, affect dysregulation, maladaptive personality traits, negative urgency and psychological IPV, none have yet examined their relations simultaneously in an integrative model. In addition, studies that have examined these links have rarely considered cumulative CT (Gratz et al., 2009), included both perpetrated and sustained psychological IPV (Lilly et al., 2014), distinguished psychological IPV from physical IPV (Berzenski & Yates, 2010) or approached the study of these variables in a gender inclusive way (Gratz et al., 2009); the current study will address these issues and allow a complex and dynamic understanding of these phenomena.

The current study aims to examine the mediating role of affect dysregulation, maladaptive personality traits and negative urgency in the association between CCT and psychological IPV perpetration and victimization, by testing a multivariate integrative model, and to provide preliminary, cross-sectional support for this model. As suggested by previous research (Berzenski & Yates, 2010; Dugal et al., 2018), this study will also examine whether the relationship between CCT and perpetrated or sustained psychological IPV is mostly driven by the behavioral impacts of CCT, rather than by its more affective or personality repercussions. Thus, it is expected that CCT will be associated with higher affect dysregulation and maladaptive personality traits, which will heighten negative urgency in CCT survivors and, in turn, lead to higher levels of psychological IPV perpetration and victimization. Acknowledging the dynamic and often bidirectional nature of IPV in the general population (Langhinrichsen-Rohling, Misra, Selwyn &

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Rohling, 2012), it is hypothesized that perpetrated and sustained psychological IPV will be positively correlated in the model. Although the correlational nature of the study precludes from drawing conclusions regarding the causal and temporal links between the study variables, this study constitutes a first step in this research direction, which is a common procedure in the literature on CT (e.g., Bigras, Daspe, Godbout, Briere, & Sabourin, 2017; Shahar, Doron, & Szepeswol, 2015).

### **Method**

#### **Participants and Procedure**

A total 241 participants (62 men and 179 women) were recruited to answer an anonymous online survey. Participants had to be over 18 years old, speak French, and involved in an intimate relationship for at least six months. The mean age was 28.8 years ( $SD = 10.1$ , range = 19–65). The sample comprised full-time workers (36.1%), part-time workers (8.8%), students (54.2%) or retirees (0.8%). Participants were either married (14.5%), cohabiting (49.4%), or dating a regular partner (36.1%). For their education, 2.1% of participants held a high school diploma, 26.6% attained a college or professional studies degree, 47.3% completed undergraduate studies and 24.1% completed graduate studies, demonstrating a high proportion of high-educated participants in this sample. A total of 47.5% reported an annual income of CAD\$19,999 or less, 21.3% reported an income between CAD\$20,000 and CAD\$39,999 and 31.2% reported an income of CAD\$40,000 or more, which indicated a high proportion of low-income participants.

Invitations for participating in the survey, described as exploring early experiences and romantic relationships, were shared through social networks (e.g., Facebook, Twitter) managed

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by the authors' research teams, and sent to electronic mailing lists of the university's faculty, staff and students, as well as to electronic mailing lists of various research associations in the Canadian province of Quebec. As approved by the Institutional Review Board of the (author's University), participants were asked to complete a consent form and the research questionnaires without consulting their partner. No compensation was offered to participants. Results of an a priori G\*Power 3 analysis (Faul, Erdfelder, Buchner, & Lang, 2009) indicated that a sample size of 241 participants was sufficient to detect a weak-to-moderate association between CT and IPV, based on results from Smith-Marek et al. (2015), with a standard Type I error rate ( $\alpha = .05$ ) and a power of .80.

### Measures

**Demographics.** A demographic questionnaire gathered information on participants' age, sex, occupation, relational status, sexual orientation, level of education and annual income.

**Childhood Cumulative Trauma.** Participants were administered a French version of the Childhood Cumulative Trauma Questionnaire (CCTQ; Godbout, Bigras, & Sabourin, 2017), a self-report questionnaire assessing eight types of CT (physical, psychological and sexual abuse, physical and psychological neglect, witnessing physical and psychological violence, and bullying). This measure was adapted from existing questionnaires (e.g., Early Trauma Inventory-Self-Report, Bremner, Bolus, & Mayer, 2007; Childhood Maltreatment Questionnaire, Godbout, Dutton, Lussier, & Sabourin, 2009) and showed satisfactory psychometric qualities (e.g., Bigras, Godbout, Hébert, & Sabourin, 2017). Items for physical and psychological abuse were rated on a seven-point Likert scale ranging from zero (*never*) to seven (*almost every day*) indicating the annual frequency of each type of maltreatment experienced. In the current sample, the

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Cronbach's alpha for physical abuse was .74 and .91 for psychological abuse. Childhood sexual abuse was measured through two checklist questions assessing whether participants experienced, before the age of 18, any unwanted sexual contact (e.g., touching, penetration) with any person, or experienced any sexual contact with a person five years older, or in a position of authority (e.g. parents, teachers). Witnessing interparental physical and psychological violence was measured by two items, one item was used to assess physical neglect while three items were used to measure psychological neglect ( $\alpha = .82$ ). Bullying was examined using one item based on the Center for Disease Control and Prevention definition (Gladden, Vivolo-Kantor, Hamburger, & Lumpkin, 2014). In order to assess CCT, each scale previously mentioned was dichotomously coded (0 = absence, 1 = presence) and summed up to obtain a continuous score, ranging from zero to eight, indicating the number of different types of CT experienced. This is in line with the literature where CCT is operationalized as the total number of different types of trauma experienced (Briere et al., 2010).

**Affect Dysregulation.** Affect instability and affect skills deficits were assessed using nine items from a French adaptation (Bigras, Godbout, & Briere, 2015) of the affect dysregulation scale of the Inventory of Altered Self-Capacities (IASC; Briere, 2000). Participants indicated how frequently they experienced different affect regulation difficulties over the last six months on a five-point Likert scale ranging from one (*never*) to five (*very often*). Total scores ranged from nine to 45, with higher scores reflecting affect regulation difficulties. Transformation of the scores into *t*-scores allowed to determine whether participants were above or below the clinical cut-off of 70 (Briere, 2000). In the present study, Cronbach's alpha was .92, a value consistent with that of the original standardized and validated scale (Briere & Runtz, 2002).

**Maladaptive Personality Traits.** The French and validated version (Savard, Simard, &

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Jonason, 2017) of the *Dark Triad Dirty Dozen* (Jonason & Webster, 2010) was used to measure Machiavellianism, psychopathy and narcissism. The *Dark Triad Dirty Dozen* includes 12 items asking participants to indicate how much they agree, on a Likert scale ranging from one (*disagree strongly*) to nine (*agree strongly*), with statements such as: “I have used deceit or lied to get my way” (Machiavellianism), “I tend to lack remorse” (psychopathy), and “I tend to expect special favors from others” (narcissism). Scores on each subscale were standardised (z-scores) and averaged to create a composite Dark Triad score indicating the presence of maladaptive personality traits, as proposed by Jonason and colleagues (2009, 2010), and depicting generally callous, manipulative and antisocial traits. The internal consistency coefficients from the original standardized (Jonason & Webster, 2010) and the French validated scale (Savard et al., 2017) were replicated in the current sample with a Cronbach’s alpha of .90.

**Negative Urgency.** The negative urgency scale (the tendency to react without thinking to negative affect) of the abridged and French validation (Billieux et al., 2012) of the *UPPS Impulsive Behavior Scale* (Whiteside & Lynam, 2001) was used. This scale includes four items rated on a Likert scale ranging from one (*disagree strongly*) to four (*agree strongly*), with statements such as: “When I am upset I often act without thinking”, “In the heat of an argument, I will often say things that I later regret”, “I often make matters worse because I act without thinking when I am upset”, and “When I feel rejected, I will often say things that I later regret”. In its French version, the negative urgency scale showed good internal consistency (Billieux et al., 2012) and, in the current sample, the reliability estimate was high (Cronbach’s  $\alpha = .88$ ).

**Intimate Partner Violence.** Inflicted and sustained psychological IPV were assessed using items from the French adaptation (Hébert & Parent, 2000; Lussier, 1997) of the Revised Conflict Tactics Scale (CTS-2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) and a back-

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translation of the *Coercive Control Scale* (Johnson et al., 2014). Since no French version of the *Coercive Control Scale* was developed at the time of the study, a French translation of the questionnaire was created, back-translated to English and approved as equivalent by a group of three bilingual people. Using items from the psychological IPV subscale of the CTS-2, participants were asked the frequency, during the last year, at which they inflicted and sustained psychological violence (insulting, yelling, or threatening) to their partner on a six-point Likert scale ranging from zero (*this never happened*), to six (*more than 20 times during the past 12 months*). Coercive control was assessed using nine “yes-no” items indicating the use of non-violent control tactics used by the participant and his or her partner, including “Tries to limit your contact with family and friends” and “Prevents you from knowing about or having access to the family income even when you ask”. For the purpose of this study, items from the CTS-2 were dichotomized, as per the authors’ recommendations (Straus et al., 1996), and added to the total score of the *Coercive Control Scale* in order to create composite variables of frequency of exposure to perpetrated and sustained psychological IPV. The internal consistencies of the original measures were replicated in the current sample with adequate reliability for both perpetrated ( $\alpha = .70$ ) and sustained ( $\alpha = .76$ ) psychological IPV.

### **Statistical Analyses**

Descriptive analyses and correlations were conducted using SPSS 22. In order to test the hypothesized model (Figure 1), path analyses were conducted using *Mplus*, version 7 (Muthén & Muthén, 1998-2012) which is robust to non-normality and accounts for missing data through the use of Maximum Likelihood Estimation with Robust Standard Errors (MLR). Model fit was assessed using the comparative fit index (CFI; Bentler, 1990), the root mean square error of approximation (RMSEA; Steiger, 1990), the standardized root mean square residual (SRMR), the chi-square statistic and the ratio of chi-square to degrees of freedom ( $X^2/df$ ). A combination of a

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non-statistically significant chi-square value, a CFI value of .90 or higher, a RMSEA value below .06, a SRMR value below .08, and a ratio of chi-square to degrees of freedom less than three indicate good fit (Hu & Bentler, 1999; Kline, 2011; Ullman, 2001). To examine the mediational roles of affect dysregulation, maladaptive personality traits and negative urgency, the magnitude and significance of direct effects (i.e., path coefficients from CCT to perpetrated and sustained psychological IPV) as well as indirect effects (i.e., the product of the path coefficients from CCT to maladaptive personality traits, from maladaptive personality traits to negative urgency and from negative urgency to perpetrated psychological IPV), were computed using 95% bootstrap confidence intervals (MacKinnon & Fairchild, 2009). Bootstrap confidence intervals were used to examine the indirect effects of affect dysregulation and maladaptive personality traits on negative urgency in a mediators' series to predict psychological IPV perpetration and victimization. This bias-corrected method is based on a distribution of the product of coefficients, and generates confidence limits of the value of the coefficient for indirect effects. Finally, the proportions of the total effect that were mediated through affect dysregulation, maladaptive personality traits and negative urgency (indirect effect/total effect) were measured.

### **Results**

#### **Descriptive Statistics**

Descriptive statistics are presented in Table 1. In the sample, 70.1% ( $n = 169$ ) of participants reported having experienced at least two different types of CT. The number of different types of maltreatment experienced and the prevalence of all types of CT were similar across gender, except for physical abuse and bullying which were more highly endorsed by men. The mean scores for affect dysregulation did not significantly differ across gender. A total of 22.0% of participants ( $n = 53$ ) scored above the clinical cut-off for affect dysregulation. Mean scores for Machiavellianism and psychopathy were significantly higher in men than in women,

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but did not significantly differ for narcissism. Scores on the negative urgency scale also did not differ across gender. Among participants, 79.7% ( $n = 192$ ) reported at least one instance of psychological IPV perpetration towards their partner over the past 12 months, while 80.5% ( $n = 194$ ) reported IPV victimization. Mean scores for the frequency of IPV perpetration and victimization did not differ across gender and indicated a mean frequency of 11 to 20 experiences of psychological violence in the past year.

### Correlations

Bivariate correlations among CCT, affect dysregulation, maladaptive personality traits, negative urgency, perpetrated and sustained psychological IPV are presented in Table 2. Statistically significant correlations were found between all variables, except between affect dysregulation and maladaptive personality traits.

### Integrative Mediational Model

Results of path analyses showed significant direct paths from CCT to psychological IPV perpetration ( $\beta = .24, p < .001, R^2 = 5.8\%$ ) and victimization ( $\beta = .24, p < .001, R^2 = 5.7\%$ ). When the mediators were added to the model, these direct paths were no longer significant. The mediation model (see Figure 1) adequately fitted the data (CFI = .97, RMSEA = .06, CI [.00, .11],  $\chi^2[8] = 14.51, p = .07$ , Ratio  $\chi^2/df = 1.81$ , SRMR = .06). The standardized coefficients are presented in Figure 1. CCT positively predicted negative urgency through affect dysregulation ( $b = .19, 95\% \text{ CI} = .09, .30$ ) and maladaptive personality traits ( $b = .09, 95\% \text{ CI} = .01, .16$ ), respectively explaining 69% and 31% of the total effect of CCT on negative urgency. Then, as hypothesized, two sequential mediations were found. First, the indirect effect of CCT through affect dysregulation and negative urgency were significant for perpetrated psychological IPV ( $b = .11, 95\% \text{ CI} = .03, .20$ ), as well as sustained psychological IPV ( $b = .14, 95\% \text{ CI} = .04, .23$ ). This

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sequential mediation through affect dysregulation and negative urgency explained 68% of the total effect of CCT on perpetrated psychological IPV and 69% of the total effect of CCT on sustained psychological IPV. Second, the indirect effects of CCT, through maladaptive personality traits and negative urgency, were significant for perpetrated psychological IPV ( $b = .05$ , 95% CI = .01, .10) as well as for sustained psychological IPV ( $b = .06$ , 95% CI = .01, .12). This sequential mediation explained 32% of the total effect of CCT on perpetrated psychological IPV and 31% of the total effect of CCT on sustained psychological IPV. To assess the generalizability of the mediational model across gender, sex was added as a covariate in the final model. Results from this additional analysis revealed that controlling for the effect of gender did not change the significance and strength of the associations between the study variables. In order to compensate for the correlational nature of the study, the integrative model was also tested by changing the order of the study variables yet, none of the resulting models adequately fitted the data.

### **Discussion**

The current study is the first to support the hypothesis that the relationship between CCT and psychological IPV is mediated by negative urgency processes that are, in turn, explained by affect dysregulation and maladaptive personality traits. Our sequential mediational model also goes a step further than past studies (Briere et al., 2010; Poythress et al., 2006) and provides a plausible, more precise, description of affective, cognitive and personality factors explaining how CCT may lead to inflicted and perpetrated IPV during adulthood.

The current results thus suggest that negative urgency holds a crucial role in the trajectories of CCT survivors who report experiencing psychological IPV. This is consistent with previous studies that have concluded that maladaptive behaviors performed in response to

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negative emotions and a lack of self-control are associated with the perpetration of aggressive behaviors, especially IPV (Shorey et al., 2011; Stuart & Holtzworth-Munroe, 2005). Of particular interest, CCT was indirectly associated with sustained psychological IPV through higher affect dysregulation, maladaptive personality traits and negative urgency. Indeed, even though research has suggested that partners' negative urgency is associated with IPV, no study has yet demonstrated the specific impact of negative urgency on psychological IPV victimization. Such associations suggest that negative urgency in CCT survivors not only impacts on the management of negative verbal behaviors such as insulting, yelling or uttering threats, but can also increase interpersonal vulnerability. For instance, people who are high in negative urgency frequently engage in impulsive or dysfunctional behaviors when they are upset (Blake, Hopkins, Sprunger, Eckhardt, & Denson, 2017) without being necessarily violent. This tendency, when partners discuss distressing events, potentially heightens one's risk of sustaining psychological IPV, for instance following impulsive reactions to feeling upset or rejected by the partner. It is also possible that individuals who show negative urgency tend to associate with partners who present similar tendencies, thus enhancing their risk of sustaining IPV (Iverson, McLaughlin, Adair, & Monson, 2014). However, future longitudinal studies are warranted to examine this potential cycle of violence between partners.

The findings from the current study hold empirically-based, theoretical implications. Indeed, the choice of mediators for this study was inspired by Holtzworth-Munroe and Stuart's (1994) conceptualization of male batterers, which was here applied to men and women from the general population, who report experiencing psychological IPV. Interestingly, these results suggest that the affective and behavioral mechanisms that are at play in severe IPV perpetrated by male batterers are somewhat similar to those observed in adult couples from the general

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population, even though the type of violence they report is generally less severe and not nested in a general pattern of coercive control (Johnson, 2008).

Also, in contrast to previous studies, the current study incorporates psychological IPV, reported as sustained and inflicted by participants. Yet, to date, only few studies suggest that CT increases the risk to simultaneously experience both psychological IPV victimization and perpetration in adult couple relationships (Dugal et al., 2018; Godbout et al., 2009). Consistent with these studies, the present results show that in individuals from the general population, perpetrated and sustained psychological IPV are highly correlated. This finding supports dyadic models of IPV in couples' interactions (Cantos & O'Leary, 2014; Capaldi & Kim, 2007) and research indicating that bidirectional IPV is the most common pattern found in this population (e.g. Straus, 2008; Langhinrichsen-Rohling et al., 2012). This may be particularly true at low and moderate levels of psychological violence. Importantly, the findings of the current study support research that indicates IPV should be studied within a general aggression framework (e.g. Bates, Archer & Graham-Kevan, 2017), such as the General Aggression model (Anderson & Bushman, 2002), rather than a separate type of violence with a "special" aetiology (e.g. Browne, 1987). It allows a new understanding of the mechanisms through which survivors of CCT experience psychological IPV in adulthood; future research should consider other variables that could be examined to better understand the link between CCT and IPV (e.g. communication abilities, alcohol or drug use).

### **Limitations**

The use of self-report measures might heighten the risk of distortions in the recall of victimization or aggression experiences as well as enhance social desirability biases. Yet, the

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administration of online anonymous questionnaires has been known to provide more reliable results when it comes to experiences of violence (Brock et al., 2015; Whisman & Snyder, 2007). In future research, recruiting both partners and conducting Actor-Partner Interdependence Models (Kenny, Kashy, & Cook, 2006) could help rescind this limitation by taking into account IPV as reported by both partners. In addition, since the design of this study is correlational, the direction or temporal order of the associations between the variables included in the mediation model cannot be unequivocally ascertained. Rather, the integrative model was hypothesized using a theoretical framework in which cognitive or emotional processes predict impulsive or violent behaviors. While this theoretically grounded analytic strategy has been recommended for analyses examining repercussions of violent experiences (Byrne, 2013), the order of causation between the studied variables should be confirmed using longitudinal data. Finally, characteristics of the sample limit the generalizability of the study due to the preponderance of students in the current sample.

### **Implications**

Findings of the current study hold implications for interventions aimed at perpetrators and victims of psychological IPV. Current policies and practices in Canada, the United States of America and the United Kingdom, have their foundations in feminist theories and practice such as the Duluth model (Pence & Paymar, 1993). Research has demonstrated that the theoretical underpinnings of these approaches are flawed (e.g. Bates, Graham-Kevan & Archer, 2014) and that these approaches are not effective (e.g. Babcock, Green & Robie, 2004). The current study provide an empirical basis for future intervention programs aimed at CCT survivors or adults who report psychological IPV. For instance, results support the need to assess affect regulation and personality in CCT survivors as well as in perpetrators and victims of psychological IPV.

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Results also emphasize the need to develop prevention and intervention programs aiming to increase resilience and decrease negative urgency in order to prevent or reduce psychological IPV or to limit its consequences. Such programs could include attachment, mindfulness or mentalization-based techniques (Diamond et al., 2014; Huprich, Nelson, Paggeot, Lengu, & Albright, 2017; Rathus, Cavuoto, & Passarelli, 2006) that would focus on the treatment of affect dysregulation, maladaptive personality traits or negative urgency by working on internal representations of self and other. Cognitive-behavioral interventions aimed at the development of communication and conflict resolution skills in CCT survivors or couples dealing with mild to moderate psychological IPV could also hamper partners' tendency to react in a dysfunctional manner to negative emotions arising during couple interactions.

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