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The Role of Attachment, Self-Esteem and Impulsivity on Intimate Partner Violence in Same- and Opposite-Sex Relationships

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To the Graduate Council:

I am submitting herewith a dissertation written by Megan Schmidt entitled "The Role of Attachment, Self-Esteem and Impulsivity on Intimate Partner Violence in Same- and Opposite-Sex Relationships." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

Todd Moore, Major Professor

We have read this dissertation and recommend its acceptance:

Gregory Stuart, Leticia Flores, Lois Presser

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(Original signatures are on file with official student records.)

The Role of Attachment, Self-Esteem and Impulsivity on Intimate Partner Violence in Same- and
Opposite-Sex Relationships

A Dissertation Presented for the
Doctor of Philosophy
Degree
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Abstract

Intimate partner violence (IPV) is a pervasive problem that impacts individuals in both same and opposite sex relationships. As such, understanding risk factors for the perpetration of this type of violence within each population are important for intervention efforts. The present study examined the interactive effects of attachment, self-esteem, and impulsivity on men and women's perpetration of intimate partner violence in same- and opposite- sex relationships. Participants were 417 individuals recruited from an undergraduate and community population, who completed measures of adult attachment, self-esteem, impulsivity, as well as physical and psychological aggression against intimate partners within the past 12 months. Tests of mediation, moderation, moderated mediation, and moderated moderated mediation were conducted. Results revealed that self-esteem mediated the relationship between problematic attachment and psychological aggression. In addition, (lack of) perseverance moderated the indirect effect of problematic attachment on psychological aggression through self-esteem. Finally, results revealed that among heterosexual participants, sensation seeking moderated the indirect effect of problematic attachment on psychological aggression through self-esteem. However, those findings were not significant among gay and lesbian participants. Limitations and future directions are discussed.

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Chapter I

Introduction and General Information

Intimate Partner Violence

Intimate partner violence (IPV) is a pervasive problem, receiving considerable attention over the past thirty years in research and public health domains. IPV perpetration, which is defined as the use of sexual, physical, psychological, financial and stalking tactics to harm one's partner (Finneran & Stephenson, 2013) has been shown to occur at alarmingly high rates along with a large economic and social burden (Black et. al., 2011; National Center for Injury Prevention and Control, 2003). Accurately determining rates of IPV has been a particular challenge given the difficulty and underreporting often associated with surveying both perpetrators and victims of IPV (Schafer, Caetano, & Clark, 2002; Szinovacz & Egley, 1995). Despite these difficulties, large national and international surveys have shown that IPV is pervasive (Krug, Mercy, Dahlberg, & Zwi, 2002; Smith, 2017). According to the 2011 National Intimate Partner and Sexual Violence Survey (Breiding, 2014), an estimated 22.3% of women and 14% of men experienced physical IPV at some point in their life, and 8.8% of women and .5% of men were raped by an intimate partner. Worldwide, approximately one third of women have experienced physical and/or sexual violence by their romantic partner (García-Moreno, 2013). Further, 38% of female homicides globally and 55.3% nationally are committed by a current or former romantic male partner (Petrosky et al., 2017; Stöckl, 2013).

Though much research has established men's violence towards women, a growing body of literature suggests that women perpetrate similar or higher rates of IPV against their male partners (Straus, 2011). It has been suggested that "ordinary" IPV, such as hitting, pushing, and throwing things at one's partner occurs relatively frequently and proportionally between male

and female partners; whereas more “severe” forms of IPV, such as choking or punching occur less frequently and are primarily perpetrated by men (Straus, 2010). In line with this idea, numerous studies have shown that compared to men, women commit equal or higher rates of physical IPV (Archer, 2000; Katz, Kuffel, & Coblenz, 2002). In a systematic review of the literature on IPV, Straus (2011) found that the median percentage of men who perpetrated severe IPV was 5.1% compared to 7.1% of women, indicating that women are more likely to commit severe acts of IPV.

The body of literature comparing rates of men and women’s IPV perpetration has been criticized because many studies fail to include important variables, such as the motive for violence perpetration, rates of initiation by each partner, and the consequences of the violence for each partner (Kimmel, 2002; Saunders, 2002). For example, a large body of evidence suggests that women are more likely than men to perpetrate violence as a means of self-defense (DeKeseredy, Saunders, Schwartz, & Alvi, 1997; Kimmel, 2002; Saunders, 2002). Further, men’s violence towards women causes more fearfulness, physical and psychological injury, and more deaths (Caldwell, Swan & Woodbrown, 2012; Straus, 2011).

A recent study investigating the intersection of violent and controlling behaviors by each partner found that men were more likely than women to perpetrate violence against their non-violent female partners (i.e., intimate terrorism), whereas women were found to be more likely to perpetrate controlling behaviors when their partner was non-violent and non-controlling (Mennicke & Kulkarni, 2016). Further, women were more likely to perpetrate violent and controlling behaviors in relationships with male partners who were also violent and controlling (Mennicke & Kulkarni, 2016). These findings are consistent with prior studies which find that women are twice as likely as men to report that they perpetrated IPV in self-defense, whereas

men were three times more likely to report IPV perpetration as a tactic for intimidation (Gondolf, 1998; Makepeace, 1986). Further, in domestic homicide situations, women are more likely to use violence in self-defense (Saunders, 2000). Taken together, these findings indicate that while rates of IPV perpetrated by both men and women may be similar, significant differences do exist between men and women's IPV perpetration. In addition, the manner in which women's use of IPV is framed can result in serious negative consequences for policy change (Saunders, 2002). More specifically, it has been argued that if IPV is framed as being mutual, then women could be arrested for domestic violence despite their motives for perpetrating violence (Saunders, 2002). In other words, women could still be arrested whether or not their IPV perpetration is actually self-defense (Saunders, 2002). As such, understanding these differences requires serious attention.

Despite the significant amount of literature that exists on IPV, relatively less information is known about IPV in same-sex relationships. More specifically, a recent review found that out of approximately 14,200 articles that exist on IPV, only about 400 of those address IPV in same-sex relationships, equating to only 3% of the existing literature on IPV (Edwards, Sylaska, & Neal, 2015). Yet, recent studies of same-sex IPV have suggested that it occurs at similar rates or higher compared to heterosexual relationships (Edwards et al., 2015; Goldberg and Meyer 2013; Hellemans et al., 2015; Stiles-Shields and Carroll, 2015). In 2011, Messinger conducted secondary data analyses on the National Violence Against Women Survey and found that same-sex IPV is nearly twice as likely to occur compared to opposite-sex IPV and that lesbians and gay men are at increased risk of experiencing all forms of IPV (verbal, controlling, physical, sexual), compared to heterosexual individuals.

Edwards, Sylaska, and Neal (2015) conducted a systematic, critical review of the literature of same-sex IPV in order to provide recommendations for future directions. Despite finding that prevalence rates of same-sex IPV varied widely across studies, some similarities emerged in the literature. For example, Craft, Serovich, McKenry, and Lim (2008) conducted a study using a community population of self-identified gay men and lesbians and found that within their sample, psychological violence was the most prevalent form of violence, with 93.5% of gay men and 97.6% of lesbians reporting having perpetrated this type of violence. These findings were consistent with others indicating that psychological abuse is the most common form of violence committed in both lesbian and gay relationships (Blosnich & Bossarte, 2009; Craft & Serovich, 2005, Lockhart, White, Causby & Isaac, 1994; Renzetti, 1988; Renzetti, 1992).

Studies investigating rates of physical same-sex IPV have found that 35-39% of gay men and 46% of lesbians perpetrate some form of physical IPV (Bartholomew, Regan, White, & Oram, 2008; Craft & Serovich, 2005; Edwards, et al., 2015; Miller, Greene, Causby, White, & Lockhart, 2001). Additionally, 27.5% of men in same-sex relationships report perpetrating sexual IPV, which is consistent with reports of sexual IPV victimization (33.3%) (Craft & Serovich, 2005). Regarding lesbians, multiple studies indicate that less than 1% report experiencing sexual same-sex IPV in their relationships (Bradford et al., 1994; Lie & Gentlewarrior, 1991). However, Blosnich and Bossarte (2009) used data from the 2005–2007 Behavioral Risk Factor Surveillance System survey and found that within their sample of self-identified victims of same-sex IPV (n=85), 51.6% of women experienced sexual same-sex IPV from their lesbian partner.

According to the National Intimate Partner and Sexual Violence Survey, 43.8% of lesbians and 26% of gay men reported having experienced some form of IPV within their lifetime, including stalking, physical violence, and rape (Walters, Chen, & Breiding, 2013). However, it has been suggested that certain communities are more likely to report experiencing specific types of violence. Findings from the most recent NCAVP LGBTQ and HIV Affected IPV in 2015 Report (Smith, 2017) found that gay men were nearly twice as likely to experience physical violence compared to men who did not identify as gay, whereas lesbians were two times more likely to experience isolation by their partner compared to women who did not identify as lesbian.

It should be noted that research on the prevalence rates of same-sex IPV have been found to vary considerably depending multiple factors, such as the way in which authors define IPV (i.e., broad vs. specific), sampling methods (i.e., national, clinical, convenience sampling), underreporting, failure to account for partner responses within samples, failure to assess for the gender of the participant's partner, and time frame assessed (i.e., lifetime rates vs. past year) (Edwards, Sylaska, & Neal, 2015; Murray & Mobley, 2009). Thus, higher prevalence rates of same-sex IPV occur in studies with broader and more inclusive definitions of IPV and those that include a longer time frame for IPV assessed (Edwards, Sylaska, & Neal, 2015). Despite these issues with prevalence rates of same-sex IPV, it is clear that the outcomes for individuals who have experienced this type of violence are especially negative.

Gay and lesbian victims of IPV have been shown to experience similar or worse outcomes compared to heterosexual individuals (Eaton et al., 2008; Gehring & Vaske, 2017; Houston & McKirnan, 2007; Walters et al., 2013). Houston and McKirnan (2007) found that within a sample of gay and bisexual men, those who experienced IPV were more likely to report

substance abuse, depression and other mental health problems than those who had not experienced violence. Similarly, Walters and colleagues (2013) found that 33.5% of lesbians, compared to 28.2% of heterosexual women who experienced IPV within their lifetime reported experiencing at least one negative effect (e.g., missing school or work, fearfulness, concerns for physical safety, symptoms of PTSD) as a result of the abuse.

Using data from the second wave of the National Longitudinal Study of Adolescent to Adult Health, Gehring and Vaske (2017) found that among youth in same-sex relationships, that IPV was significantly associated with increased levels of depression. Further, youth who reported experiencing same-sex IPV in their relationships were almost 5 times more likely to engage in violent misbehavior than those who had not experienced same-sex IPV. The authors suggested these findings may be due to the result of individuals trying to cope with victimization when very few resources are available to them (Gehring & Vaske, 2017). More specifically, individuals in same-sex relationships may not have access to adequate resources for IPV. Indeed, research has shown that domestic violence shelters often operate from a heteronormative model of IPV and thus either exclude or are unqualified and unable to meet the unique needs of gay and lesbian victims of IPV and almost no shelters or programs exist for gay victims of SSIV (Gehring & Vaske, 2017; Lyon, Lane, & Menard, 2008; Sorenson & Thomas, 2009).

In addition to the limited resources available for sexual minority victims of IPV, other barriers to care exist for these individuals. Fear of stigma is thought to be a significant deterrent for LGBTQ victims reporting their experiences (Calton, Cattaneo, and Gebhard, 2016). Given that they experience discrimination in many other areas of their lives, it may be that fearing discrimination from law enforcement and employees of domestic violence shelters may deter individuals from seeking help (Calton, Cattaneo, and Gebhard, 2016). Further, reporting

violence would force these individuals to “out” themselves, which may have negative repercussions for familial relationships or employment status (Renzetti, 1997). LGBTQ individuals also face added challenges reporting their IPV experiences to law enforcement agencies given historical reactions to sexual minority individuals (e.g., police violence, homophobia) by police (Bornstein et al., 2006). A 2010 study comparing the number of protection orders requested to those granted across 14 states and 2 Canadian cities, found that 55% of protection orders requested by LGBTQ individuals were denied (NCAVP, 2010). Clearly, systemic inequalities exist for LGBTQ individuals, significantly impacting their ability and willingness to seek support.

Research on correlates and predictors for IPV in opposite-sex couples is extensive and includes thousands of studies (Yakubovich et al., 2017). Though similarities can be drawn between conflict that occurs in same- and opposite-sex couples, given the dearth of information known about same-sex IPV, as well as the impact that this type of violence has on those who experience it, investigating risk factors unique to this type of violence is especially important.

Theory

Many studies of same-sex IPV have been criticized for either lacking theoretical integration or over-relying on one specific theory to explain same-sex IPV (Badenes-Ribera, Sánchez-Meca, & Longobardi, 2017; Longobardi & Badenes-Ribera, 2017; Murray & Mobley, 2009; Ristock, 2003; Zavala, 2017). Given the unique pressures and experiences that LGBTQ individuals face, which go above and beyond those experienced by heterosexual individuals, it is important to consider theories that incorporate variables unique to same-sex IPV, in order to more fully understand the causes of same-sex IPV (Murray & Mobley, 2009; Ristock, 2003).

One such theory is the Minority Stress Theory, which suggests that minority individuals experience stress due to being members of a marginalized and stigmatized group (Meyer, 2003). Minority stress is considered a series of chronic and socially based psychosocial stressors that occur for individuals with minority status, above and beyond stressors that individuals typically experience (Meyer, 2003). According to this model, LGBTQ individuals experience a variety of stressors related to their sexual orientation including, violence, discrimination, and internalized homonegativity, just to name a few (Longobardi & Badenes-Ribera, 2017).

Internalized homonegativity is the degree to which LGBTQ individuals have internalized negative attitudes and beliefs about homosexuality, which often manifests in low self-esteem and self-hate (Rostosky et al., 2007). Internalized homonegativity is often used interchangeably with internalized homophobia; however, internalized homonegativity is thought to reflect the social and political stigma which influences negative beliefs and attitudes about LGBTQ individuals, rather than just subjective or personal attitudes and beliefs (Berg, Munthe-Kaas, and Ross, 2015; Herek, 2004; Mayfield, 2001).

The feminist framework of IPV is helpful at explaining contextual and societal pressures that influence same-sex IPV. The feminist framework suggests that living in a patriarchal society creates power imbalances between men and women (Elliot, 1996). More recent perspectives on feminist theory of IPV have expanded upon this idea by suggest that IPV should be thought of as occurring not just as a result of patriarchy, but rather the intersection of oppression and identity (George & Stith, 2014). In other words, sexism, racism, and homophobia, just to name a few all influence the power imbalances that facilitate one's use of violence (George & Stith, 2014). As such, understanding systems of oppression in which both victims and perpetrators exist is important to understanding the function of IPV. While traditional theories suggest that these

imbalances lead men to perpetrate violence against women as a means to maintain or regain their control, this theory has implications for same-sex relationships as well (Elliot, 1996; George & Stith, 2014). Indeed, research on same-sex IPV has found that similar themes of power and control are present in same-sex couples (Mason et al., 2014; Ristock, 2003).

It has been suggested that internalized homonegativity may be related to same-sex IPV due to the negative beliefs one has about LGBTQ identity (Balsam, 2001; Renzetti 1992). As such, individuals with internalized homonegativity may project their hostile and negative attitudes about LGBTQ individuals onto their partner, thus resulting in an increased likelihood for perpetrating aggression during times of conflict (Balsam, 2001; Carvalho, Lewis, Derlega, Winstead, & Viggiano, 2011). Indeed research has shown that internalized homophobia is associated with same-sex IPV perpetration (for review see Longobardi & Badenes-Ribera, 2017). Though the Minority Stress Theory is important for understanding unique pressures that sexual minority individuals face, it does not adequately account for all the factors that may contribute to relationship stress and violence. Thus, this area of research may benefit from a model that provides an organizing framework for understanding the influence and interactions of risk factors that result in same-sex IPV.

Finkel (2007) proposed a meta-theory known as the I3 (pronounced 'I-cubed model') model in an effort to provide coherence to the numerous risk factors associated with IPV. This meta-theory helps provide understanding to both the process by which a given risk factor promotes aggression and how multiple risk factors interact to exacerbate or alleviate aggressive behaviors (Slotter & Finkel, 2011). The I3 model suggests that IPV occurs as a result of the interaction between three processes; instigation, impellance, and inhibition (Finkel, 2007). Within this model, instigating factors are situational or contextual experiences that provoke

aggressive behavior (i.e., arguments, alcohol use, pain, physiological arousal), impelling factors are dispositional or situational characteristics that lead to an individual feeling as though they need to aggress (i.e., anger, attachment anxiety, dissatisfaction with power) and inhibitory factors are dispositional or situational characteristics that decrease an individual's likelihood to engage in aggressive behavior (i.e., self-control, empathy, negative beliefs about IPV) (Finkel, 2007). Instigatory and impelling factors are thought to represent the readiness for aggressivity, such that when these two factors are strong and inhibitory factors weak, then aggression is likely to occur (Finkel, 2007; Finkel, 2014). In other words, when instigatory and impelling factors are high, inhibitory factors may be unable to override one's proclivity for aggression, thereby leading to aggressive behaviors (Finkel, 2014).

Finkel and colleagues (2012) conducted a series of four separate studies, utilizing various methodologies, in order to provide evidence for the I3 model by investigating the role that dispositional aggressiveness has in IPV perpetration in heterosexual relationships. Dispositional aggressiveness reflects an individual's tendency toward angry affect, hostile cognition, and aggressive interpersonal behavior (Buss & Perry, 1992), and has been found to have a robust association with aggressiveness and IPV perpetration (Bettencourt, Talley, Benjamin, & Valentine, 2006; Norlander & Eckhardt, 2005; Schumacher, Feldbau-Kohn, Slep, & Heyman 2001). Though dispositional aggressiveness is considered an impelling factor, its association with IPV perpetration is not always conclusive, as evidenced by the variability in effect sizes across extant studies (e.g., Bettencourt et al., 2006; Norlander & Eckhardt, 2005). From the perspective of the I3 model, the variability across these findings is likely due to the interaction between various instigatory and inhibitory factors impacting participants in each study (Finkel, 2007; Finkel et al., 2011). As such, the authors sought to assess the impact that instigatory and

inhibitory factors have on the association between dispositional aggressivity and IPV perpetration in order to illustrate the explanatory power of the I3 model (Finkel, 2007; Finkel et al., 2011).

In study one, the authors used data from the National Comorbidity Survey–Replication (NCS–R; Kessler & Merikangas, 2004), a nationally representative survey of married individuals, to assess whether the association between dispositional aggressiveness (impellor) and IPV perpetration is stronger when self-regulation (inhibition) is weak. The authors operationalized dispositional aggressiveness in terms of individuals diagnosed Intermittent Explosive Disorder (IED), because individuals with this diagnosis tend to frequently exhibit extreme anger and impulsive acts of aggression (Kessler et al., 2006), similar to those with high dispositional aggressiveness. Inhibition was operationalized as general self-regulatory strength depletion and was measured using an item which asked how frequently participants felt exhausted without a reason over the preceding month. The authors found that indeed the association between dispositional aggressiveness and IPV perpetration was higher for individuals with high self-regulatory depletion compared to those with low depletion, indicating that when impelling factors are high and disinhibiting factors are also high (i.e., inhibition low), then individuals are more likely to behave aggressively.

In study two, the authors assessed dispositional aggressivity (impellor) in an undergraduate sample of participants using self-report measures and then randomly assigned participants to complete a self-control depletion task or no depletion task (inhibitor) (Finkel et al., 2011). After completing the depletion or no depletion task, participants were then asked to indicate how likely they would be to aggress towards a romantic partner in response to provocation. Results found that the association between self-reported dispositional

aggressiveness and inclinations towards IPV perpetration were higher for those in the depletion task compared to those who did not complete the task. These findings indicate that when individuals are high in impelling factors and subsequently become disinhibited, they are more inclined to behave aggressively towards their partners in response to instigation compared to when they are not disinhibited.

Study three involved a five-week daily diary study within a sample of dating couples to assess whether provocation from one's partner (instigator) would interact with dispositional aggressiveness (impellor) and executive functioning control (inhibitor), to predict IPV perpetration. (Finkel et al., 2011). Dispositional aggressiveness and executive control were assessed at baseline, and provocation and IPV perpetration were assessed nightly. It is important to note that the authors assessed IPV perpetration using a behavioral analogue in which participants were asked to indicate how many pins they would place in a voodoo doll that represented their partner. In other words, they were required to project their feelings about their partner onto the doll, and then insert pins into the doll as a means of "hurting" it. This task has been well validated within existing IPV literature (DeWall et al., 2011). Results indicated that individuals high in dispositional aggressivity who were also low in executive control, behaved more aggressively (i.e., inserted more pins into the voodoo doll) in response to provocation compared to those with low dispositional aggressivity and high executive control. When instigatory and impelling factors are high and inhibiting factors low, then aggression is more likely to occur.

Finally, study four utilized longitudinal data (1 week of daily baseline and 6-month follow-up) to assess for the interaction between dispositional aggressivity and IPV perpetration (Finkel et al., 2011). In this study, instigation was operationalized as self-reported partner

neuroticism. Partner neuroticism has been found to be a good reflection of the likelihood that couples will experience conflict, because individuals high in neuroticism have a tendency to enact especially provoking behavior during couple interactions (Buss, 1991; Caughlin, Huston, & Houts, 2000; Caughlin & Vangelisti, 2000; Donnellan, Conger, & Bryant, 2004; McNulty, 2008). The impelling factor in this study was self-reported dispositional aggressivity and the disinhibiting factor was chronic psychosocial stress, which has been shown to undermine self-regulation (Baumeister, Heatherton, & Tice, 1994; Muraven, Tice, & Baumeister, 1998; Oaten & Cheng, 2005). The results demonstrated that IPV perpetration was strongest among participants who experienced higher levels of stress and who had a highly anxious partner. Indicating that individuals with higher levels of self-control disinhibiting stress who also have more frequent conflict with their partner, are more likely to report higher rates of IPV perpetration (Finkel et al., 2011).

Similarly, Denson, von Hippel, Kemp and Teo (2010) conducted two laboratory-based experiments to assess the impact that glucose had on reducing aggressive responding in response to provocation. In study one, participants completed measures of trait aggressiveness and then were randomly assigned to either a self-control depletion condition, in which they had to break a learned behavior or a control condition and then were randomly assigned to receive a beverage containing either glucose or a placebo liquid. All participants then participated in an aggression task in which they were provoked by a fake opponent and told that they were going to compete against this opponent in a reaction time competition. During the task, if participants won, they were allowed to punish their partner by delivering an uncomfortably loud blast of white noise and if they lost, the opponent delivered the blast of noise. The authors found that when given the opportunity to retaliate against their provoking opponent (instigator), individuals high in trait

aggression (impellor), who consumed glucose (inhibitor) were less aggressive than those given a placebo beverage. Additionally, glucose consumption (inhibitor) was found to reduce aggression among those high in trait aggression (impellor) even following the prior depletion of self-control (disinhibitor) during the depletion task.

During study two, the authors assigned participants to receive provocation (instigator) or not and then a glucose beverage (inhibitor) or a placebo liquid. Participants then participated in the same reaction time task; however, the task only lasted for one trial rather than 25 trials, as was done in study one. Similarly, the authors found that for those who were provoked, glucose reduced aggression among those who were also high in trait aggression. These two studies provide further support for the I3 model, such that when instigating factors (i.e., provocation) and impelling factors are high (i.e., trait aggression) and inhibition low (i.e., self-control depletion) that individuals are more likely to respond aggressively. However, when inhibition is high (i.e., glucose, non-depletion control) then individuals are able to override instigatory and impelling factors. Though these findings provide support for the model, investigating other potential instigating, impelling, and inhibiting factors using the I3 model is important for expanding the current body of literature. Further, support for this model would be strengthened by investigating its efficacy in a diverse population of individuals.

Though the I3 model has been well established within the IPV literature (e.g., Denson et al., 2012, Finkel et al., 2012, Finkel & Eckhardt, 2013, Slotter & Finkel, 2011, Slotter et al., 2012), a dearth of research exists using the I3 model to explain same-sex IPV. As such, literature on same-sex IPV may benefit from using the I3 model to investigate risk factors associated with same-sex IPV. Further, given the saliency of minority stress within this population, the explanatory power of the I3 model may be strengthened through the integration of minority

stress theory. Of relevance to the current study, it is proposed that during times of stress or conflict in their intimate relationships (i.e., instigation), those with attachment insecurity and low self-esteem (i.e., high impelling factors) who are also high in impulsivity, may lack the disinhibiting factors required in order to override aggressive responding (see figure 1 in Appendix B; All figures are available in Appendix B). This may be especially salient for same-sex couples, given that they experience stressors (i.e., minority stress) above and beyond opposite-sex couples. As such, the next sections will review the literature on these constructs and how they may be relevant to this model and research on same-sex IPV.

Attachment

Based upon Bowlby's (1969) work on infant-caregiver relationships, attachment is described as a universal human need to form close bonded relationships with others. Bowlby (1969) theorized that early childhood experiences with caregivers create internal working models which individuals use to understand themselves, others, relationships, and the world. By observing children's response to separation and reunion with their parents, researchers identified three basic attachment styles: secure, avoidant, and anxious-ambivalent (Ainsworth, Blehar, Waters, and Wall, 1978). A secure attachment style was formed for those children whose parents responded predictably and warmly, resulting in children being able to trust their caregiver's availability. An avoidant attachment style formed as a result of caregivers being emotionally and physically distant, resulting in children who are mistrustful of care-giving leading them to become distant and avoidant. Finally, anxious-ambivalent was formed in response to unpredictable care-giving, resulting in children who are clingy and demanding.

Fonagy, Target, Gergely, Allen, and Bateman, (2003) expanded this line of research by suggesting that problems with early attachment not only influences one's expectations of

relationships, but also one's ability to understand and regulate their own internal experiences. Based upon the Social Biofeedback Theory of Parental Affect-Mirroring (Gergely & Watson, 1996, 1999), these capacities develop as a result of caregivers helping infants differentiate internal affect and physiological states (Fonagy et al., 2003). Through the caregiver's affect-mirroring behaviors (i.e., facial expressions and vocal responses), the infant begins to associate their internal affect state with the caregiver's empathic facial expressions and vocalizations (Fonagy et al., 2003). Therefore the caregiver's facial expressions and vocal responses help act as a signifier to the infant's now signified internal state (Fonagy et al., 2003). Further, it is suggested that this parental mirroring also helps to reduce the arousal of the infant's internal state through the organization and understanding of the overwhelming amalgamation of emotions and physiological experiences the infant has; thereby allowing the infant to develop emotion modulating capacities (Fonagy et al., 2003).

Across development, affect mirroring results in self-understanding and the ability to understand or "mentalize" others' mental states as well (Fonagy et al., 2003). Specifically, these early experiences with caregivers allow infants to develop the mental capacity to interpret themselves and others within a social context (Fonagy et al., 2003). Termed the "Interpersonal Interpretive Function (IIF)," the authors suggest that this differs from Bowlby's (1969) Internal Working Model (IWM), because it is a mechanism for interpreting novel experiences, rather than a storehouse for past representations of and experiences with others (Fonagy et al., 2003). These mental capacities can only develop from early experiences with caregivers, and are susceptible to impairment if the infant receives inadequate bonding and closeness with their caregiver.

Adult attachment reflects the interaction of internal working models that individuals form about themselves and others, as well as the capacity for self and other understanding (Allen &

Westhaver, 2017; Bartholomew, 1990; Bartholomew & Horowitz, 1991; Collins, Guichard, Ford, & Feeney, 2004; Fonagy et al., 2003; Griffin & Bartholomew, 1994). Positive models of self are characterized by feelings that one is fundamentally loveable and worthy, whereas negative views of self are characterized by feelings that one is unworthy of being loved and prone to criticism and rejection. Similarly, positive models of others are characterized by feelings that others are caring and approachable and negative models assume rejection, lack of care, and coldness from others. It is suggested that the combination of positive and negative models of self and others makes up one's attachment style. More specifically, Bartholomew (1990) suggested that those who view themselves and others positively are considered securely attached; whereas, viewing themselves and others negatively would be termed fearfully attached. Those who view themselves negatively and others positively are termed preoccupied. Finally, those who value themselves positively, but others negatively are considered dismissive.

These early experiences with caregivers have been found to persist across time and influence the ways in which adults navigate and interpret their relationships (Fonagy et al., 2003; Hazan & Shaver, 1987). Hazan and Shaver (1987) used early childhood attachment styles to conceptualize the ways in which individuals experience romantic relationships. They identified that individuals in each attachment category experienced unique constellations of emotions and beliefs in their romantic relationships. Securely attached adults characterized their relationships as happy and their partners as trustworthy and dependable (Hazan & Shaver, 1987). Avoidant adults characterized intimacy as dangerous, expecting their partner to be overwhelming and consuming (Hazan & Shaver, 1987). Finally, anxious-ambivalent adults characterized their relationships as labile, causing the individual to behave with jealousy and emotional lability (Hazan & Shaver, 1987).

Contemporary research on attachment has found that these three categories consistently fall into two dimensions; attachment avoidance and attachment anxiety, suggesting that attachment should be conceptualized as dimensional, rather than categorical (Brennan, Clark, & Shaver, 1998; Fraley & Shaver, 2000). Brennan, Clark and Shaver (1998) described attachment avoidance as chronic intimacy avoidance, difficulty trusting and being close with others, and a need to be independent and self-reliant. Attachment anxiety represents the desire for closeness and intimacy along with and sensitivity towards rejection and abandonment. Individuals low in both avoidance and anxiety are considered to be securely attached (Mikulincer & Shaver, 2007). It has been suggested that attachment is an especially important factor to investigate in regards to LGBTQ individuals (Mohr, 1999). Though Bowlby (1988) believed that attachment style was primarily based upon early experiences and consistent across time, he contended that these attachment styles could be impacted by other important relationships throughout one's life. This is especially important when considering LGBTQ individual's experiences "coming out." The experience of coming out to one's peers, family, friends and even strangers can be threatening and dangerous, due to potential rejection and harm (Fassinger, 1991; Garnets & Kimmel, 1993; Herek, Gillis, Cogan, & Glunt, 1997). Indeed, in a national survey on homeless LGBTQ youth, approximately 75% reported that they were either forced from their home or ran away due to familial rejection (Choi, Wilson, Shelton, & Gates, 2015). Given that the process of coming out is considered to activate one's attachment system, it is suggested that those who experience rejection and abandonment by their important attachment figures (e.g., parents, friends, etc.) may be especially susceptible to having problematic attachment characteristics become exacerbated (Colgan, 1987; Mohr, 1999; Mohr & Fassinger, 2003). In other words, considering attachment as dimensional, maladaptive attachment characteristics may become more salient for those

individuals who experience frequent rejection from important others, putting them at risk for engaging in problematic interactions within their relationships.

Attachment style has been found to be a salient risk factor in IPV research (Abbey, Parkhill, Clinton-Sherrod, & Zawacki, 2007; Dutton, Starzomski, Saunders, & Bartholomew, 1994; Gormley & Lopez, 2010; Lawson, 2008; Mauricio & Lopez, 2009; Sonkin & Dutton, 2003). Research has shown that male perpetrators of IPV are more often insecurely attached compared to non-perpetrators (Dutton, Starzomski, Saunders, & Bartholomew, 1994; Mauricio & Gormley, 2001). It has been suggested that when relationships are under stress, the personality characteristics central to each attachment style become activated (Tweed & Dutton, 1998). Further, if the individual lacks self-regulation abilities and views others as untrustworthy, malicious, or unloving, then they are at increased risk for reacting negatively in response to relationship conflict. Indeed, research has shown that insecure attachment style is related to numerous other personality characteristics relevant to IPV perpetration including, dependency, abandonment anxiety, jealousy, impulsivity and low self-esteem (Buunk, 1997; Cohen et al., 2003; Guerrero, 1998; Holtzworth-Munroe, Stuart, & Hutchinson, 1997; Scott, Levy, & Pincus, 2009). As such, individuals with an anxious style may be more likely to perpetrate IPV as a means for preventing their partner from withdrawing (Bookwala & Zdaniuk, 1998; Dutton, 2007; Gormley, 2005). Those with avoidant attachment styles may experience intimacy as intrusive and threatening; thereby using aggression as a means of distancing oneself from their partner (Gormley, 2005). As such, using Finkel's I3 model, problematic attachment style can be conceptualized as an impelling factor given that it influences one's psychological state, such that it increases one's proclivity for using aggression in response to instigation.

Self-Esteem

Though there is much inconsistency within the literature regarding the definition of self-esteem, it has generally been defined as the positive or negative valuation of one's self (Rosenberg, Schooler, Schoenbach & Rosenberg, 1995). It is suggested that these valuations develop due to judgements made about various aspects of one's life, such as who one is, what one does, what one has, one's appearance to others, and who one is attached with (Bailey, 2003). As such, the manner in which one's positive and negative evaluations interact determines one's level of self-esteem (Bailey, 2003). In other words, positive self-evaluation results in high self-esteem, whereas negative self-evaluation results in low self-esteem (Rosenberg, 1965).

It has been suggested that self-esteem develops based upon early experiences within the parent-child relationship; including, the parent's ability and means of coping with the child's undesirable emotions, the parent's ability to adequately mirror the child's affect, the child's self-acceptance, and the child's social behavior and development (Fonagy et al., 2003; Harter, 1983). Self-esteem has been shown to fluctuate across time based upon developmental periods (Robins & Trzesniewski, 2005). More specifically, self-esteem occurs at high levels in childhood, but slowly wanes into adolescence (Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002; Trzesniewski, Donnellan, & Robins, 2001; Trzesniewski & Robins, 2004). It begins to increase in adult hood and then declines into old age (Robins et al., 2002; Trzesniewski et al., 2001; Trzesniewski & Robins, 2004). However, self-esteem is also impacted by environmental and social stressors (Robins & Trzesniewski, 2005). Self-esteem has been conceptualized as occurring at three distinct levels; the personal level, relational level and collective level (Du, King, & Chi, 2017). The personal level refers to an individual's unique attributes and how they compare or differentiate them from others (Du et. a., 2017). The relational level refers to aspects

of one's self-concept that are developed from interpersonal attachments with important others (i.e., romantic partners, family, friends) (Brewer and Chen, 2007; Du et. a., 2017). Finally, the collective level refers to one's self-concept being derived from aspects of and involvement in one's social groups (Du et. a., 2017). It has been shown that personal, relational, and collective levels of self-esteem can be acquired through perceived support from others, which has been shown to result in higher levels of psychological well-being (Bettencourt & Dorr, 1997; Crocker, Luhtanen, Blaine, & Broadnax, 1994; Du, Li, Chi, Zhao & Zhao, 2015; Manhas, 2014). As such, when individuals lack support from important others and social groups, it is likely that they experience increased levels of psychological distress.

The minority stress model (Meyer, 2003) helps provide understanding to the unique difficulties faced by sexual minority individuals that lead to negative mental and physical health outcomes. According to the minority stress model, LGBTQ individuals experience stressors unique to their identity status, above and beyond those experienced by heterosexual individuals. Meyer (2003) proposes that environmental factors, such as social and cultural norms that are rejecting of minority individuals results in the development and internalization of negative self-perceptions and appraisals leading to mental health problems. Much research has identified a link between negative perceptions of homosexual identities and poor mental and physical health problems (i.e., psychological distress, depression, low self-esteem, IPV) (Allen & Oleson, 1999; Dyer et al., 2012; Mason et al., 2014).

Low self-esteem is a common problem faced by many LGBTQ individuals, as well as a common characteristic of individuals with problematic attachment and who perpetrate IPV (Meyer, 2003; Mikulincer & Shaver, 2007). Specifically, individuals who are insecurely attached are at risk for experiencing low self-esteem because they are sensitive to disapproval,

criticism, and perceived rejection from others (Mikulincer & Shaver, 2007). Extant literature has suggested that low self-esteem is related to male to female IPV (Schwartz, Waldo, & Daniel, 2005). Further, male perpetrators of IPV have been found to experience lower self-esteem compared to non-batterers (Hurlbert, Whittaker, & Munoz, 1991; Neidig, Friedman, & Collins, 1986).

According to the Sociometer Model, (Leary, Tambor, Terdal, & Downs, 1995), self-esteem serves as a subjective “indicator” that allows individuals to monitor other’s reactions to them (Leary, Schreindorfer, & Haupt, 1995; Murphy, Stosny, & Morrel, 2005). As such, changes to self-esteem serve as a gauge that indicates the occurrence of social rejection (Murphy et al., 2005). Extant research has established a link between individual’s fear of abandonment and partner violence (Holtzworth-Munroe & Anglin, 1991; Holtzworth-Munroe & Hutchinson, 1993; Murphy, Meyer, & O’Leary, 1994). Given that self-esteem is influenced by early parent-child interactions, it may be that individuals who did not develop adequate internal self-regulation capacities are more likely both experience low self-esteem and act on those feelings, thereby increasing the risk for violence perpetration (Fonagy et al., 2003; Murphy et al., 2005). Though low self-esteem is considered an impelling factor, not all individuals with low self-esteem perpetrate violent acts against their partners. As such, understanding additional factors that may lead to IPV is warranted.

Impulsivity

Impulsivity is a personality characteristic, conceptualized as a lack of self-reflection and planning, rapid and careless decision-making, and an overall tendency to act without considering consequences (Quinn & Hardin, 2013; Schalling, 1978). Surprisingly, there has been much inconsistency within the extant body of literature as to what traits constitute impulsivity.

Specifically, the body of research on impulsivity has been shown to suffer from problems due to the variability regarding how researchers conceptualize impulsivity and its corresponding behaviors, resulting in significant inconsistency across measures. In an effort to provide some consistency, Whiteside and Lynam, (2001) used the Five Factor Model of personality (McCrae & Costa, 1990) to organize traits and behaviors found across ten commonly used measures of impulsivity. They found that four common factors emerged from across the measures including, urgency, lack of premeditation, lack of perseverance, and sensation seeking.

Urgency reflects the tendency to experience strong impulses, in response to negative affect (Whiteside & Lynam, 2001). Premeditation refers to the tendency to reflect and consider the potential ramifications of an act before engaging in it (Whiteside & Lynam, 2001). Perseverance refers to one's ability to focus, even on boring tasks, and engage in self-discipline (Whiteside & Lynam, 2001). Finally, sensation seeking refers to the openness and enjoyment one gets from pursuing activities that are exciting, new, or dangerous (Whiteside & Lynam, 2001). Taken together, individuals high in impulsivity engage in impulsive behaviors in an effort to reduce negative emotions, have difficulty sustaining focus, and engage in exciting or dangerous behaviors, all without considering the consequences of these behaviors.

Impulsivity has been associated with a variety of negative behaviors including, externalizing behaviors, substance use, and violence (Verdejo-García, Lawrence, & Clark, 2008). It has been suggested that impulsivity is especially deleterious because when faced with distressing situations, impulsive individuals are more likely to utilize the most easily available methods for coping in order to provide short-term relief, despite the potential long-term negative consequences (Hull & Slone, 2004; Magid et al., 2007).

Indeed, impulsivity has been found to be linked to increased aggressive behaviors (Abbey et al., 2002; Hynan & Grush, 1986) including IPV perpetration (Cohen et al., 2003; Schafer et al., 2004; Shorey, Brasfield, Febres, & Stuart, 2010). Impulsivity is especially salient to IPV perpetration because it is characterized as the inability to regulate one's behaviors in response to negative affect (Magid, MacLean, & Colder, 2007; Webster & Jackson 1997). As such, high impulsivity serves as a factor that exacerbates one's likelihood for aggressivity, whereas low impulsivity, or high self-control, serves as an aggression inhibiting factor. Given that impulsivity has been found to be a predictor of IPV, it may be that impulsive individuals turn to aggression as a means of coping with relationship conflict and stress (Schafer, Caetano, and Cunradi, 2004).

Though the literature linking impulsivity to IPV is established, it has been suggested that it is not impulsivity per se, that results in IPV, but rather the coalescence of impulsivity and anger that results in IPV perpetration (Shorey et al., 2010; Stuart & Holtzworth-Munroe, 2005). There is a strong relationship between impulsivity and anger (Barratt, 1994) and Stuart and Holtzworth-Munroe, (2005) proposed a model suggesting that trait anger mediated the relationship between impulsivity and IPV. In other words, impulsivity would only lead to aggression if the individual is also high in trait anger. Though Stuart and Holtzworth-Munroe's (2005) findings were not supported in the original article, replication of this model in a sample of women arrested for domestic violence found that indeed the impulsivity and IPV link was mediated by trait anger in both IPV and more general aggression (Shorey et al., 2010).

In an effort to organize and identify characteristics of individuals prone to perpetrating IPV, researchers have attempted to develop typological models in order to classify subtypes of batterers (Finkel & Eckhardt, 2011). Holtzworth-Munroe and Stuart (1994) conducted a review of 15 studies on male batterers and identified three distinct subtypes of perpetrators; family only

perpetrator, the dysphoric/borderline perpetrator and the generally violent/antisocial perpetrator. Later scholarship on male batterer typologies suggested that IPV perpetration could be codified within a bimodal typology; impulsive and premeditated (Chase, O'Leary, & Heyman, 2001). Individuals who committed impulsive IPV are considered to have dysphoric/borderline personality traits indicative of problematic attachment, impulsivity, dependency and emotional lability; whereas those who committed premeditated IPV are considered to have more antisocial personality traits and be more deliberate and instrumental in their violent acts (Chase et al., 2001).

However, more recent scholarship on batterer subtypes suggests that these can be grouped into two main types; non-pathological perpetrators and pathological (Finkel & Eckhardt, 2011). Finkel and Eckhardt (2011) suggest that non-pathological perpetrators are those who tend to exhibit familial aggression or aggression within their relationship, report conflict within their relationship, and have more psychosocial stress. However, these individuals tend to evidence low levels of psychopathology and substance use problems. Individuals within the pathological category of perpetrators tend to exhibit greater impulsivity and higher levels of psychopathology, such as dysphoric and borderline traits, including emotional lability, separation insecurity, and hostility (Dutton, 2007; Eckhardt, Samper, & Murphy, 2008; Murphy, Taft, & Eckhardt, 2007). Further, these individuals are more likely to report concurrent substance use issues and are more likely to have been exposed to early childhood violence (Holtzworth-Munroe et al., 2000; Waltz et al., 2000).

Theoretical Integration

The reviewed literature may be integrated within the I3 model, in order to understand the manner in which these risk factors interact to result in violence perpetration (Finkel, 2007). The

I³ model suggests that IPV occurs as a result of the interactive effects between instigation, impellance, and inhibition (Finkel, 2007). As such, those high in instigatory and impelling factors and low in inhibitory factors would be more likely to perpetrate aggression towards their partner, because they lack the disinhibiting forces needed to abstain from violence (Finkel, 2007).

Of relevance here is problematic attachment, self-esteem and impulsivity. Individuals with problematic attachment styles did not have their early emotional needs met by their caregivers (Bowlby, 1969; Fonagy et al., 2003). As such, they developed expectations of others as being dismissive or intrusive, and untrustworthy (Hazan & Shaver, 1987). For those individuals with attachment problems, relationship conflict likely triggers feelings of anxiety, jealousy, fear, and abandonment, resulting in insecurity about one's self-worth and low self-esteem (Hazan & Shaver, 1987; Mikulincer & Shaver, 2007). In an effort to prevent abandonment by their partner and counteract low self-esteem, these individuals may perpetrate violence to prevent their partner from withdrawing (Gormley, 2005). Alternatively, these individuals may turn to violence as a means of distancing themselves from their partner (Gormley, 2005). As such, problematic attachment and low self-esteem act as impelling factors, because they both increase one's readiness for responding to provocation violently.

However, not all individuals with problematic attachment and low self-esteem behave violently. Impulsivity may help explain why some engage in aggression during conflict and others do not. More specifically, in response to negative emotions, individuals high in impulsivity are more likely to rashly engage in coping mechanisms without considering the consequences of these behaviors (Hull & Slone, 2004; Magid et al., 2007). As such, in response to relationship conflict, impulsive individuals lack the inhibiting factors needed to override the

impelling forces of problematic attachment and low self-esteem, resulting in perpetration of violence in an effort to end the conflict.

Lesbians and gay men may be at an increased risk of perpetrating IPV given their sexual minority status. Minority Stress Theory suggests that sexual minority individuals experience chronic and socially based stressors due to being members of a marginalized and stigmatized group (Meyer, 2003). This may take the form of early (and chronic) rejection or abandonment by caretakers, peers and society. As a result, lesbians and gay men are at risk of developing internalized negative attitudes and beliefs about homosexuality, which often manifest in low self-esteem and self-hate (Rostosky, Riggle, Gray, & Hatton, (2007). As a result, sexual minority individuals are more likely to develop expectations of rejection and abandonment by important others, as well as low self-esteem, thereby increasing risk of violence perpetration (Colgan, 1987; Mohr, 1999; Mohr & Fassinger, 2003)

Purpose and Hypotheses

The purpose of the present study is to evaluate (1) whether problematic attachment and low self-esteem are associated with IPV, (2) the extent to which impulsivity moderates the relationship between low self-esteem and IPV, (3) whether impulsivity increases the effect of low self-esteem on problematic attachment and subsequent IPV, and (4) whether the relationship between problematic attachment, low self-esteem, impulsivity and IPV is stronger for gay men and lesbians, compared to heterosexual men and women. In summary, the present study's four hypotheses are consistent with a moderated mediation effect.

It is hypothesized that low self-esteem will mediate the association between problematic attachment and IPV (Hypothesis 1). Impulsivity will moderate the relationship between low self-esteem and IPV (Hypothesis 2). The indirect effect of low self-esteem on problematic attachment

and IPV should be stronger among those who report high, but not low, levels of impulsivity (Hypothesis 3). The indirect effect of low self-esteem on problematic attachment and IPV, moderated by impulsivity, will be stronger for gay men and lesbians compared to heterosexual men and women (Hypothesis 4).

Chapter II

Methods

Participants

The current study utilized data that were drawn from a larger investigation with individuals in same-sex and opposite-sex relationships among both undergraduate and community based non-undergraduate populations. Students were recruited from the University of Tennessee and received course credit for completing the study. Non-undergraduate participants were recruited via advertisements posted on social media and listservs across the nation and individuals were given the option of enrolling themselves in a raffle for a chance to win a gift card.

In total, 671 undergraduate students and 702 non-undergraduate individuals participated in the study. For the present study, 10 individuals endorsed non-binary gender, 19 identified as transgender, 28 individuals identified as bisexual and 21 endorsed “other” as their sexual orientation. These individuals were excluded from the study. Additionally, 496 individuals reported not being in a relationship and were excluded from the study. This resulted in a sample of 648 individuals.

Missing value analysis of the sample indicated that 310 cases were missing at least one item, equating to 27% of the overall variable items. Within this population, 222 people missed at least 80% or more of items on one or more of the questionnaires of interest (e.g., attachment, self-esteem, impulsivity, violence); as such, listwise deletion was utilized for these individuals resulting in a sample of 426 participants. The remaining sample of 79 cases was missing a small number of variables, resulting in a missing data total of 0.33% of the overall data. Imputation was performed in order to estimate and replace the missing data for these 79 participants.

PROCESS (Hayes, 2012), which was used to analyze the study hypotheses, utilizes listwise deletion for missing data. As such, individuals missing data for key demographics variables (i.e., age, gender, level of education, income) which were used as control variables were excluded. Specifically, two participants did not indicate level of education, three individuals did not indicate income, and four individuals did not indicate age. This left a final sample of 417 participants.

In order to determine the appropriate imputation method, Little's MCAR test, was performed ($\chi^2 = 8599.236$ $df = 7812$, $p = .000$) within the original sample of 648 individuals to identify the type of missing data (i.e., missing completely at random (MCAR), missing at random (MAR), missing not at random (MNAR)) (Rubin, 1976). As a result, data were assumed to be MAR. MAR means that the missingness is conditional on another variable within the dataset (Schlomer, Bauman, & Card, 2010). As such, preliminary correlational analyses will be conducted prior to testing the main hypotheses in order to identify variables that will be entered as control variables, thus controlling for potential bias (Schlomer et al., 2010). Expectation Maximization was used to impute missing data given its appropriateness for imputing data that is MAR (Soley-Bori, 2013). Research has shown that under conditions in which there is a medium sample size ($50 < n < 1000$), the incidence of missing data is low ($m \leq 5\%$), and multiple regression analyses will be used, that Expectation Maximization is the most valid imputation method (Cheema, 2014).

This resulted in a final sample of 417 respondents with 197 non-undergraduate and 220 undergraduate student participants. Participants' age ranged from 18 years to 67 years, with an average age of 22.82 years ($SD = 8.47$). The sample was comprised of 238 women (57.1%) and 179 men (42.9%), with 83 (19.9%) women identifying as lesbian and 107 (25.7%) men

identifying as gay. Average length of relationship was 26.32 months ($SD = 40.91$).

Predominantly, those who participated in the study had completed some college, but had not earned a degree (52.5%), followed by those with a high school diploma (23.7%), and a those with a Bachelor's degree (9.8%). The majority of the sample identified as Caucasian (88%), followed by black or African American (5.3%), Hispanic or Latino (3.6%), Asian American (1.4%), and Other (3.1%).

Measures

The study instruments involved several self-report measures, including a demographics questionnaire, the Adult Attachment Scale (AAS; Collins, 1990), the Rosenberg Self-Esteem Scale (SES; Rosenberg, 1965), the Urgency, Premeditation, Perseverance and Sensation Seeking scale (UPPS; Whiteside and Lynam, 2001) and the Revised Conflict Tactics Scale (CTS2; Straus et al., 1996).

Demographics. The demographics questionnaire is a 24-item self-report measure used to assess basic information about each participant, including age, race, income, education, sexual orientation, relationship status, length of relationship, etc.

Attachment. The Adult Attachment Scale (AAS; Collins & Read, 1990) is an 18 item self-report measure used to assess individual's experiences in romantic relationships. Participants rate each item from 1 ("not at all characteristic of me") to 5 ("very characteristic of me"). These items are combined to form 2 subscales, Anxiety (6 items) and Avoidance (12 items). Anxiety measures the degree to which a person fears rejection and abandonment by others (e.g., "In relationships I often worry that my partner does not really love me"). Avoidance measures the degree to which individuals feel uncomfortable with closeness and intimacy and not confident in the availability of others (e.g., "I find it difficult to allow myself to depend on others."). These

subscales are considered continuous measures of dimensions that underlie each attachment style, rather than reflecting a discrete attachment style. Though there has been debate within the literature regarding whether attachment should be conceptualized as dimensional or categorical, recent research suggests that dimensional models of attachment are more consistent with individual differences in attachment representations and attachment within specific relationship contexts (Fraley, Hudson, Heffernan, & Segal, 2015; Fraley & Spieker, 2003). Higher scores reflect higher levels of anxiety and avoidance with lower scores reflecting more comfort with closeness, intimacy and less fear of rejection. In the current study, reliability for the avoidance ($\alpha = .85$) subscale was good. However, the anxiety scale evidenced a questionable Chronbach's alpha of ($\alpha = .66$). Item-total statistics revealed that question two ("I do not worry about being abandoned") was decreasing the alpha coefficient. As such, this item may be removed from the proposed analyses, as doing so will increase the Chronbach's alpha for the anxiety subscale to .71.

Self-Esteem. The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) is a 10 item self-report inventory designed to measure global feelings of self-worth and self-acceptance. Participants rate items on a 4 point scale ranging from Strongly Agree to Strongly Disagree. Participants are asked to rate sentences according to how closely they describe them (e.g., "At times I think I am no good at all"). Lower scores reflect higher self-esteem. In the current study, reliability analysis demonstrated good reliability within the sample ($\alpha = .92$).

Impulsivity. Urgency, Premeditation, Perseverance and Sensation Seeking (UPPS; Whiteside & Lynam, 2001) is a 45 item scale which measures impulsivity across four distinct domains; premeditation, urgency, sensation seeking, and perseverance. Urgency reflects one's tendency to engage in impulsive behaviors in order to alleviate negative emotions with high

scorers being more likely to engage in impulsive behaviors in order to alleviate negative emotions despite the long-term negative consequences of these actions. Premeditation reflects one's tendency to reflect on the consequences of an act before engaging in it, with high scorers being more likely to react in the moment without regard for the potential consequences.

Perseverance refers to an individual's ability to sustain focus on a boring or difficult task. Higher scores reflect difficulty resisting distracting stimuli and persisting with tasks. Sensation seeking is comprised of two aspects: a tendency to seek activities that are exciting and interest in trying new activities that may or may not be risky. High scores reflect enjoyment in engaging in risky activities, whereas low scores reflect one's avoidance of risk and danger. Given that there is a growing body of literature supporting the idea that impulsivity should not be treated as a unitary trait, each facet of impulsivity will be investigated individually (Cloninger et al., 1991; Derefinko, DeWall, Metze, Walsh, & Lynam, 2011; Whiteside and Lynam, 2001). The current study demonstrated good reliability for the (lack of) premeditation ($\alpha = .85$), negative urgency ($\alpha = .87$), sensation seeking ($\alpha = .84$), and (lack of) perseverance ($\alpha = .85$) subscales.

Violence. The Revised Conflict Tactics Scale (CTS-2; Straus, Hamby, Bony-McCoy, & Sugarman, 1996) is a 78 item self-report measure used to assess a range of behaviors that individuals engage in to deal with conflict within intimate relationships. Participants report the frequency with which they engage in each behavior on a scale from 0 (never) to 6 (more than 20 times). The psychological aggression and physical assault subscales of the CTS-2 were administered. Psychological aggression is an 8 item subscale which assesses the frequency of verbally aggressive acts (e.g., "I shouted or yelled at my partner"). Physical assault is a 12 item subscale which assesses the frequency of physically violent acts (e.g., "I slapped my partner"). In order to form total scores for each subscale, a chronicity variable is calculated by adding the

midpoints of the score range to form total scores. In other words, if a participant indicated a response of “3-5” times in the past year, then their score would be a “4.” In the current study the physical assault ($\alpha = .88$) and psychological violence ($\alpha = .70$) subscale’s reliability scores were acceptable.

Procedures

Participation in the study was completed entirely online via either the computer program Qualtrics or through the University of Tennessee’s online research participation website, Sona. Non-undergraduate research participants were solicited for participation through online announcements to websites, including Facebook and Craigslist, as well as paper flyers posted within the community. The study was made available to students on the Sona Systems portal, as this is the site that all Introductory Psychology students use for study participation. Once interested, participants were presented with a page containing a brief description of the study and any possible risks or benefits involved. If the participants elected to continue, they were directed to the survey, if not then they were directed to the end of the survey.

All participants read a consent form, which informed them of any potential risks and/or benefits of completing the study, before being presented with the survey. Participants were informed that their participation was voluntary and that choosing not to complete the study would not result in any negative consequences.. Consent was electronically obtained by participants selecting “Yes” or “No” on a button at the bottom of the online consent page. If they selected “No,” they were thanked for their time and directed to exit out of the screen. If they selected “Yes,” they were sent to the first survey page of the study. Participants under age 18 were excluded from the study. The university’s Institutional Review Board approved all materials and procedures.

Data Analytic Plan

Preliminary analyses were conducted prior to testing the main hypotheses, in order to identify potential significant group differences among participant demographic information.

In order to test each hypothesis, the PROCESS (Hayes, 2012) macro for SPSS was used. PROCESS is a computational procedure used to test moderation and mediation effects, as well as moderated mediation and moderated moderated mediation (Hayes, 2012; Hayes, 2018). PROCESS uses ordinary least squares regression to estimate the conditional indirect effects of statistical path models (Hayes, Montoya, & Rockwood, 2017). The PROCESS macro aids in the application of bootstrapping methods recommended by Preacher and Hayes (2008) for testing conditional process modeling (e.g., moderated mediation, moderated moderated mediation) (Hayes, 2012). Since bootstrapping does not assume a normal sampling distribution it is thought to provide more statistical power than the Sobel test, which is a more traditional test of mediational effects, (Preacher & Hayes, 2008). Though there has been a growing popularity with using the statistical technique Structural Equation Modeling (SEM) to test path models, comparisons across these two techniques reveal trivial differences in results, suggesting no benefit to using SEM over PROCESS (Hayes, Montoya, & Rockwood, 2017).

The analytic procedure involved four steps; mediation, moderation, moderated mediation, and then moderated moderated mediation. In the first model (Hypothesis 1), which tested for mediation, the outcome variable (psychological aggression, physical aggression) was regressed on the predictor (avoidant attachment, anxious attachment) in order to test the total effects. To assess the indirect effect, the outcome variable (psychological aggression, physical aggression) was regressed simultaneously onto the predictor variable (avoidant attachment, anxious attachment) and mediator (self-esteem). In the second model, which tests for moderation

(Hypothesis 2), the outcome variable (psychological aggression, physical aggression) was regressed onto the predictor variable (avoidant attachment, anxious attachment), the moderator variable ((lack of) premeditation, negative urgency, sensation seeking, (lack of) perseverance) and then the predictor x moderator interaction (avoidant attachment x (lack of) premeditation, avoidant attachment x negative urgency, avoidant attachment x sensation seeking, avoidant attachment x (lack of) perseverance, anxious attachment x (lack of) premeditation, anxious attachment x negative urgency, anxious attachment x sensation seeking, anxious attachment x (lack of) perseverance). In the third model (Hypothesis 3), to test for moderated mediation, the outcome variable (psychological aggression, physical aggression) was regressed on the predictor variable (anxious attachment, avoidant attachment), the moderator ((lack of) premeditation, negative urgency, sensation seeking, (lack of) perseverance), the predictor x moderator interaction (avoidant attachment x (lack of) premeditation, avoidant attachment x negative urgency, avoidant attachment x sensation seeking, avoidant attachment x (lack of) perseverance, anxious attachment x (lack of) premeditation, anxious attachment x negative urgency, anxious attachment x sensation seeking, anxious attachment x (lack of) perseverance), the mediator (self-esteem), and the mediator x moderator interaction (self-esteem x (lack of) premeditation, self-esteem x negative urgency, self-esteem x sensation seeking, self-esteem x (lack of) perseverance). In the fourth model (Hypothesis 4), to test for moderated moderated mediation, the outcome variable (psychological aggression, physical aggression) was regressed on the predictor variable (avoidant attachment, anxious attachment), the moderator ((lack of) premeditation, negative urgency, sensation seeking, (lack of) perseverance), the second moderator (sexual orientation), as well as all two- and three-way interactions between the variables.

Moderated mediation occurs when the indirect effect of X on Y through M is conditioned on values of a moderator variable (Hayes, 2015). In other words, a conditional indirect effect is defined as the degree to which the indirect effect of the independent variable on the dependent variable through the mediator varies at specific values of a moderator (Preacher, Rucker, & Hayes, (2007). Traditional models of moderated mediation suggest that conditional indirect effects be interpreted only in the presence of a significant interaction involving the moderator (Hayes, 2015). An indirect effect is comprised of the effect of X on M and the effect of M on Y while controlling for X. As such, if the specified path is moderated, then one can conclude that the indirect effect is also being moderated (Hayes, 2015). However, if the interaction effect of either path (i.e., X on M or M on Y) is not significant, then it is suggested that one can assume that the indirect effect is not being moderated (Hayes, 2015). However, Hayes (2015) developed a formal test of moderated mediation, termed the index of moderated mediation. Hayes (2015) describes moderated mediation as a process in which the moderator variable has a nonzero weight in the function that links the indirect effect of X on Y through M to the moderator. The index of moderated mediation identifies whether the weight of the moderator, within the function which links the indirect effect to the moderator, is significantly different from zero (Hayes, 2015). Importantly, this test removes the requirement that an interaction term between the moderator and another variable in the model be significant, because it quantifies the relationship between X and the indirect effect of X on Y through M, by allowing X to function as a linear moderator of its' own indirect effect (Hayes, 2015). As such, with a significant index of moderated mediation, one can conclude that the indirect effect of the predictor variable (X) on the outcome variable (Y) through the mediator (M) is significantly moderated by the moderator (W).

Moderated moderated mediation occurs when the moderation of the indirect effect of one variable is moderated by a second variable (Hayes, 2018). In other words, the conditional indirect effect, which is the product of the paths X to M and M to Y moderated by W changes at different values of Z (Hayes, 2018). The index of conditional moderated mediation by W is a formal test which quantifies the size of the conditional indirect effect of X on Y by W at varying values of Z. According to Hayes (2018) “if the index of conditional moderated mediation by W at a specific value of Z is statistically different from zero, then this implies that W moderates the size of the indirect effect of X at that value of Z” (p. 20). In the current study, given that sexual orientation (Z) is dichotomous, the index of conditional moderated mediation by W quantifies the conditional indirect effect for heterosexual and gay/lesbian groups (Hayes, 2018). However, Hayes (2018) cautions that one should establish whether an effect is actually moderated before probing the interaction. The index of moderated moderated mediation is a formal test to identify whether Z moderates the moderation of the indirect effect of X by W (Hayes, 2018). The index of moderated moderated mediation “quantifies the rate of change in the moderation of the indirect effect of X by W as Z is changing (Hayes, 2018, p. 20).” As such, if the confidence intervals for the index of moderated moderated mediation contains zero, then Z does not moderate the moderation effect of W. Taken together, it is recommended that the index of moderated moderated mediation be significant, in order to establish moderated moderation before interpreting the index of conditional moderated mediation by W at a specific values of Z (Hayes, 2018).

Notably, the PROCESS macro only produces standardized regression coefficients for simple moderation models (Hayes, 2015; Hayes, 2017). Hayes (2017) recommends reporting unstandardized regression coefficients. He argues that while many believe that standardizing

effects adds to the interpretability and comparability of findings, given that standardized regression effects are scaled based upon variability within the sample it is suggested that this actually limits the comparability of the results across studies (Hayes, 2017). In the current study, given that standardized coefficients could only be reported for the analyses conducted for hypothesis 2 (i.e., moderation), unstandardized effects were reported throughout the results.

Chapter III

Results

Analyses were conducted in order to identify possible violations of the assumptions of homoscedasticity and multicollinearity. Given that the sample size was large (i.e., >40) tests of normality were not conducted, because it is suggested that within large samples, normality of the data would not significantly impact results (Ghasemi & Zahediasl, 2012). Tests of the variance inflation factors (VIF) were conducted in order to identify multicollinearity. Multicollinearity occurs when there are strong correlations between one or more predictor variables (Field, 2009). Tests to identify whether the data met the assumption of collinearity indicated that multicollinearity was not a concern (i.e., Tolerance >.01, VIF<10; See Table 1 in Appendix C; All Tables are available in Appendix C.). The Breusch-Pagan Test (Breusch & Pagan, 1979) was conducted in order to identify heteroscedasticity. Results revealed that heteroscedasticity was present for psychological aggression ($LM = 47.04$; $p < .001$) and physical aggression ($LM = 210.33$, $p < .001$). Ordinary Least Squares Regression analyses assume homoscedasticity, meaning that the variance in error terms in a regression are constant (Hayes & Cai, 2007). As such, heteroscedasticity implies that the standard errors (i.e., variability) of a variable are unequal across the range of values of the predictor variable (Taylor, 2013). This is problematic as it increases the potential for Type I error (Hayes & Cai, 2007). As such, consistent with recommendations by Hayes and Cai (2007), heteroskedasticity-consistent standard error estimators, which estimate adjusted and robust standard errors in regression models, were used in analyses (H3; Hayes & Cai, 2007).

Descriptive statistics were completed in order to identify the distribution of data (see Table 2 in Appendix C). Analyses revealed normal distributions for the self-esteem, attachment,

and impulsivity variables. However, the psychological and physical aggression variables were shown to be non-normally distributed. Specifically, psychological aggression (skewness = 2.82, $SE = .12$) and physical aggression (skewness = 11.98, $SE = .12$) were shown to be significantly positively skewed. As such these two variables were log transformed in order to normalize the distribution of the data.

Pearson correlational analyses were conducted in order to test the relationships between demographics variables and the main variables of interest (See Table 3 in Appendix C). Results from the analyses revealed that self-esteem was significantly associated with religion ($r = -.134$), and income ($r = .121$). Avoidant attachment was significantly associated with race ($r = .146$), religion ($r = .098$), income ($r = -.098$), and self-esteem ($r = -.423$). Significant associations emerged between anxious attachment and sexual orientation ($r = .100$), income ($r = -.167$), self-esteem ($r = -.257$), and avoidant attachment ($r = .339$). Psychological aggression was significantly associated with race ($r = .100$), level of education ($r = -.111$), self-esteem ($r = -.170$), avoidant attachment ($r = .179$), and anxious attachment ($r = .181$). Analyses revealed significant associations between physical aggression and level of education ($r = -.122$), religion ($r = -.105$), avoidant attachment ($r = .135$), and psychological aggression ($r = .478$). Negative urgency was shown to be significantly associated with self-esteem ($r = -.342$), avoidant attachment ($r = .313$), anxious attachment ($r = .415$), psychological aggression ($r = .360$), physical aggression ($r = .131$), and (lack of) premeditation ($r = .204$). Sensation seeking was significantly associated with age ($r = -.220$), sexual orientation ($r = -.200$), level of education ($r = -.171$), self-esteem ($r = .237$), and avoidant attachment ($r = -.128$). Finally, (lack of) perseverance was significantly associated with self-esteem ($r = -.394$), avoidant attachment ($r = .228$), anxious attachment ($r =$

.120), (lack of) premeditation ($r = .495$), negative urgency ($r = .271$), and sensation seeking ($r = -.191$).

In order to identify variables to be used as control variables, independent-samples t-tests were conducted among key demographics variables. Meta-analyses investigating demographic variables associated with IPV have shown that age, gender, level of education, and income have been found to be significantly associated with IPV (Capaldi, Knoble, Shortt, & Kim, 2012). Notably, it has been shown that within a national sample, individuals who reported more involvement in religious activities were less likely to perpetrate IPV compared to those with less involvement (Ellison & Anderson, 2001). Given the current study examined religious affiliation (i.e., Christian, Jewish, Muslim, etc.), rather than amount of involvement, religion was not included. Differences in age, gender, race, level of education, and income between each sample were investigated in order to identify significant differences between each recruitment sample (i.e., Facebook sample vs. college sample) (see Table 4 in Appendix C). Results revealed that participants in the Facebook sample ($M = 27.44$, $SD = 10.44$) were significantly older than the college sample ($M = 18.68$, $SD = 1.56$, $t(415) = 12.29$, $p < .001$) and had a higher level of education ($M = 3.84$, $SD = 1.46$) than the college sample as well ($M = 2.70$, $SD = .57$, $t(415) = 10.73$, $p < .001$). More women were recruited in the college sample ($M = 1.70$, $SD = .46$) compared to the Facebook sample ($M = 1.43$, $SD = .50$, $t(415) = -5.63$, $p < .001$) and reported having a higher income ($M = 6.19$, $SD = 1.92$) than those in the Facebook sample ($M = 4.30$, $SD = 2.18$, $t(415) = -9.36$, $p < .001$).

Given the distribution of gay and lesbian participants in the Facebook sample and heterosexual participants in the college sample, independent t-tests were also conducted among demographics variables in order to identify significant differences between sexual orientation

(see Table 5 in Appendix C). Consistent with those found previously, significant differences emerged for age, gender, level of education, and income. Results revealed that heterosexual participants were younger ($M = 19.32$, $SD = 3.95$) than gay and lesbian participants ($M = 26.99$, $SD = 10.35$, $t(415) = -10.31$, $p < .001$). Heterosexual participants were more likely to be female ($M = 1.68$, $SD = .47$) compared to gay and lesbian participants ($M = 1.44$, $SD = .50$, $t(415) = 5.20$, $p < .001$), and have a higher income ($M = 6.19$, $SD = 1.90$) than gay and lesbian participants as well ($M = 4.24$, $SD = 2.19$, $t(415) = 9.73$, $p < .01$). Results revealed that gay and lesbian participants had a higher level of education ($M = 3.76$, $SD = 1.44$) than heterosexual participants ($M = 2.80$, $SD = .76$, $t(415) = -8.65$, $p < .001$). Given these results, age, gender, level of education, and income, were included as covariates in the final analyses.

Hypothesis I. Test of Mediation

To test hypothesis 1, a total of four mediation analyses were conducted using the PROCESS macro (model 4; Hayes, 2012; see figure 2 in Appendix B) in order to identify a significant mediation effect of self-esteem on avoidant and anxious attachment and psychological and physical IPV while controlling for age, gender, level of education and income. A bias-adjusted bootstrapping with a sample size of 5,000 was utilized.

Avoidant Attachment and Psychological Aggression

Bootstrap analysis revealed that the model for avoidant attachment on psychological aggression through self-esteem was significant $F(6, 410) = 4.22$, $p < .001$; $R^2 = .059$ (see figure 3 in Appendix B). A significant direct effect emerged between avoidant attachment and psychological aggression ($b = .009$, $SE = .004$, 95% CI = [.001, .017]) (see table 6 in Appendix C). The total effect was also significant ($b = .013$, $SE = .004$, 95% CI = [.006, .021]). The regression of avoidant attachment on self-esteem was significant and negative ($b = -.305$, $SE =$

.037, 95% CI = [-.377, -.233]). The regression of self-esteem on psychological aggression was also significant and negative ($b = -.013$, $SE = .006$, 95% CI = [-.025, -.001]). A significant indirect effect of avoidant attachment on psychological aggression through self-esteem ($b = .004$, $SE = .002$, 95% CI = [.000, .008]) was also evidenced, suggesting a partial mediation effect given that the direct effect remained significant. These findings indicate self-esteem mediates the effect of anxious attachment on psychological aggression.

Anxious Attachment and Psychological Aggression

Analyses revealed that the model for anxious attachment on psychological aggression through self-esteem was significant $F(6, 410) = 4.26$, $p < .001$; $R^2 = .063$ (see figure 4 in Appendix B). A significant direct effect emerged for anxious attachment on psychological aggression ($b = .020$, $SE = .008$, 95% CI = [.003, .036]) (see table 6 in Appendix C). The total effect was also significant ($b = .026$, $SE = .008$, 95% CI = [.011, .042]). A significant negative relationship was found for anxious attachment and self-esteem ($b = -.346$, $SE = .067$, 95% CI = [-.478, -.215]). The regression of self-esteem on psychological aggression evidenced a significant negative relationship ($b = -.015$, $SE = .006$, 95% CI = [-.026, -.003]). A significant indirect effect was found for anxious attachment on psychological aggression through self-esteem ($b = .005$, $SE = .002$, 95% CI = [.001, .010]), suggesting a partial mediation effect given that the direct effect remained significant. These findings indicate self-esteem mediates the effect of anxious attachment on psychological aggression.

Avoidant Attachment and Physical Aggression

Analyses revealed that the model for avoidant attachment on physical aggression was not significant $F(6, 410) = 1.42$, $p = .207$; $R^2 = .045$. The direct effect of avoidant attachment on physical aggression was not significant ($b = .004$, $SE = .002$, 95% CI = [-.001, .008]) (see table 7

in Appendix C). The total effect was also not significant ($b = .004$, $SE = .002$, 95% CI = [-.000, .009]). The effect of avoidant attachment on self-esteem was significant and negative ($b = -.305$, $SE = .037$, 95% CI = [-.377, -.233]). The effect of self-esteem on physical aggression was not significant ($b = -.001$, $SE = .002$, 95% CI = [-.005, .003]). Finally, the indirect effect of avoidant attachment on physical aggression through self-esteem was not significant ($b = .000$, $SE = .001$, 95% CI = [-.001, .002]). These findings indicate self-esteem does not mediate the effect of avoidant attachment on physical aggression.

Anxious Attachment and Physical Aggression

The model for anxious attachment on physical aggression was also not significant $F(6, 410) = 1.34$ $p = .240$; $R^2 = .034$. The direct effect of anxious attachment on physical aggression was not significant ($b = -.000$, $SE = .004$, 95% CI = [-.008, .007]) (see table 7 in Appendix C). The total effect was also not significant ($b = .002$, $SE = .003$, 95% CI = [-.004, .008]). The effect of anxious attachment on self-esteem was significant ($b = -.346$, $SE = .067$, 95% CI = [-.478, -.215]). However, the effect of self-esteem on physical aggression was not significant ($b = -.003$, $SE = .003$, 95% CI = [-.008, .002]). The indirect effect of anxious attachment on physical aggression was not significant ($b = .001$, $SE = .001$, 95% CI = [-.001, .003]). These findings indicate self-esteem does not mediate the effect of anxious attachment on physical aggression.

Taken together, these findings indicate that self-esteem significantly mediates the effect of both anxious and avoidant attachment on psychological aggression, but not physical aggression.

Hypothesis II. Test of Moderation

To test hypothesis 2, a total of eight moderation analyses were conducted using the PROCESS macro (model 1; Hayes, 2012; see figure 5 in Appendix B) in order to investigate the

moderating role of impulsivity (i.e., (lack of) premeditation, negative urgency, sensation seeking, and (lack of) perseverance) on self-esteem and psychological and physical aggression. Age, gender, level of education, and income were entered as covariates. In addition, the predictor and moderator variables were mean centered prior to analysis and a bias-adjusted bootstrapping with a sample size of 5,000 was utilized.

Self-esteem, Impulsivity, and Psychological Aggression

The model for self-esteem, (lack of) premeditation, and psychological aggression was significant $F(7, 409) = 3.19, p < .01; R^2 = .054$. Self-esteem was significantly associated with psychological aggression ($b = -.019, SE = .006, 95\% CI = [-.029, -.007]$) (see Table 8 in Appendix C). The association between (lack of) premeditation and psychological aggression was not significant ($b = .005, SE = .006, 95\% CI = [-.007, .017]$), and the interaction term was also not significant ($b = -.001, SE = .001, 95\% CI = [-.003, .000]$), indicating that (lack of) premeditation does not moderate the relationship between self-esteem and psychological aggression.

The model for self-esteem, negative urgency, and psychological aggression was significant $F(7, 409) = 9.14, p < .001; R^2 = .148$. Self-esteem was not associated with psychological IPV ($b = -.005, SE = .005, 95\% CI = [-.016, .006]$) (see Table 8 in Appendix C). The association between negative urgency and psychological IPV was significant ($b = .031, SE = .005, 95\% CI = [.021, .041]$), but the interaction term was not significant ($b = -.001, SE = .001, 95\% CI = [-.003, .000]$), indicating that negative urgency does not moderate the relationship between self-esteem and psychological aggression.

The model for self-esteem, sensation seeking, and psychological aggression was significant $F(7, 409) = 3.15, p < .05; R^2 = .05$. Self-esteem was significantly associated with psychological aggression ($b = -.020, SE = .006, 95\% CI = [-.031, -.008]$) (see Table 8 in

Appendix C). The association between sensation seeking and psychological aggression was not significant ($b = .006$, $SE = .005$, 95% CI = [-.004, .015]), and the interaction term was also not significant ($b = .000$, $SE = .001$, 95% CI = [-.001, .001]), indicating that sensation seeking does not moderate the relationship between self-esteem and psychological aggression.

Finally, the model for self-esteem, (lack of) perseverance, and psychological aggression was significant $F(7, 409) = 3.17$, $p < .01$; $R^2 = .056$. Self-esteem was significantly associated with psychological aggression ($b = -.015$, $SE = .006$, 95% CI = [-.026, -.005]) (see Table 8 in Appendix C). The association between (lack of) perseverance and psychological aggression was not significant ($b = .003$, $SE = .007$, 95% CI = [-.010, .016]), and the interaction term was also not significant ($b = -.002$, $SE = .001$, 95% CI = [-.004, .000]), indicating that (lack of) perseverance does not moderate the relationship between self-esteem and psychological aggression.

Self-esteem, Impulsivity, and Physical Aggression

The model for self-esteem, (lack of) premeditation, and physical aggression was not significant $F(7, 409) = 1.08$, $p = .37$; $R^2 = .036$. Self-esteem was not significantly associated with physical aggression ($b = -.003$, $SE = .002$, 95% CI = [-.007, .002]) (see Table 9 in Appendix C). The association between (lack of) premeditation and physical aggression was also not significant ($b = .001$, $SE = .004$, 95% CI = [-.006, .008]). The interaction term was not significant ($b = .000$, $SE = .001$, 95% CI = [-.001, .001]), indicating (lack of) premeditation does not moderate the relationship between self-esteem and physical aggression.

The model for self-esteem, negative urgency, and physical aggression was not significant $F(7, 409) = 1.32$, $p = .24$; $R^2 = .046$. Self-esteem was not significantly associated with physical aggression ($b = -.001$, $SE = .002$, 95% CI = [-.006, .004]) (see Table 9 in Appendix C). The

association between negative urgency and physical aggression was significant ($b = .004$, $SE = .002$, 95% CI = [.000, .008]), but the interaction term was not significant ($b = -.000$, $SE = .000$, 95% CI = [-.001, .000]), indicating negative urgency does not moderate the relationship between self-esteem and physical aggression.

The model for self-esteem, sensation seeking, and physical aggression was not significant $F(7, 409) = 1.13$, $p = .34$; $R^2 = .035$. Self-esteem was not significantly associated with physical aggression ($b = -.003$, $SE = .003$, 95% CI = [-.008, .002]) (see Table 9 in Appendix C). The association between sensation seeking and physical aggression was not significant ($b = .000$, $SE = .002$, 95% CI = [-.004, .004]), and the interaction term was also not significant ($b = -.000$, $SE = .000$, 95% CI = [-.001, .000]), indicating sensation seeking does not moderate the relationship between self-esteem and physical aggression.

Finally, the model for self-esteem, (lack of) perseverance, and physical aggression was not significant $F(7, 409) = 1.24$, $p = .28$; $R^2 = .037$. Self-esteem was not significantly associated with physical aggression ($b = -.002$, $SE = .002$, 95% CI = [-.007, .003]) (see Table 9 in Appendix C). The association between (lack of) perseverance and physical aggression was not significant ($b = .002$, $SE = .003$, 95% CI = [-.003, .007]), and the interaction term was also not significant ($b = -.000$, $SE = .000$, 95% CI = [-.001, .000]), indicating (lack of) perseverance does not moderate the relationship between self-esteem and physical aggression.

Taken together, these findings suggest that impulsivity does not moderate the effect of self-esteem and psychological or physical aggression. However, self-esteem was significantly associated with psychological aggression, but not physical aggression. Finally, negative urgency was significantly associated with psychological and physical aggression.

Hypothesis III. Test of Moderated Mediation

In order to assess the strength of the conditional indirect effect of self-esteem on attachment and IPV across varying types of impulsivity, a 2nd stage moderated mediation model was conducted using the PROCESS macro (model 14; Hayes, 2012; see figure 6 in Appendix B). A total of 16 moderated mediation models were analyzed. Interaction terms were mean centered prior to analysis and a bias-adjusted bootstrapping with a sample size of 5,000 was utilized. Age, gender, level of education, and income were entered as covariates.

Avoidant Attachment, Impulsivity and Psychological Aggression

The moderating effect of (lack of) premeditation on the relationship between avoidant attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(8, 408) = 3.42, p < .01; R^2 = .068$. However, the index of moderated mediation was not significant ($b = .001, SE = .000, 95\% CI = [-.000, .001]$), indicating that moderated mediation had not occurred (see table 10 in Appendix C). The direct effect of avoidant attachment on psychological aggression was significant ($b = .010, SE = .004, 95\% CI = [.002, .018]$). The interaction term ($b = -.002, SE = .001, 95\% CI = [-.004, .000]$), and the effect of (lack of) premeditation on psychological aggression ($b = .006, SE = .006, 95\% CI = [-.006, .018]$) were not significant.

The moderating effect of negative urgency on the relationship between avoidant attachment, self-esteem, and psychological aggression was explored and the model was significant $F(8, 408) = 8.03, p < .001; R^2 = .151$. However, the index of moderated mediation was insignificant ($b = .000, SE = .000, 95\% CI = [-.000, .001]$), indicating no moderated mediation had occurred (see table 10 in Appendix C). The direct effect of avoidant attachment on psychological aggression ($b = .005, SE = .004, 95\% CI = [-.002, .012]$) and the interaction term

($b = -.001$, $SE = .001$, 95% CI = $[-.003, .000]$) were also not significant. However, the effect of negative urgency on psychological aggression was significant ($b = .030$, $SE = .005$, 95% CI = $[.020, .040]$).

The moderating effect of sensation seeking on the relationship between avoidant attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(8, 408) = 3.28$, $p < .01$; $R^2 = .063$. The index of moderated mediation was not significant ($b = .000$, $SE = .000$, 95% CI = $[-.000, .000]$), indicating that moderated mediation had not occurred (see table 10 in Appendix C). The direct effect of avoidant attachment on psychological aggression was significant ($b = .009$, $SE = .004$, 95% CI = $[.001, .017]$). Neither the effect of sensation seeking on psychological aggression ($b = .006$, $SE = .005$, 95% CI = $[-.003, .016]$) or the interaction term ($b = -.000$, $SE = .001$, 95% CI = $[-.002, .001]$) were significant.

The moderating effect of (lack of) perseverance on the relationship between avoidant attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(8, 408) = 3.20$, $p < .01$; $R^2 = .069$ (see figure 7 in Appendix B). The index of moderated mediation was also significant ($b = .001$, $SE = .000$, 95% CI = $[.000, .001]$), indicating that the indirect effect of avoidant attachment on psychological aggression through self-esteem was significantly moderated by (lack of) perseverance (see table 10 in Appendix C). Avoidant attachment revealed a significant direct effect on psychological aggression ($b = .009$, $SE = .004$, 95% CI = $[.001, .017]$). The interaction term was not significant ($b = -.002$, $SE = .001$, 95% CI = $[-.004, .000]$), but was trending towards significance ($p = .08$). Explication revealed that at high levels of (lack of) perseverance, the conditional indirect effect was significant ($b = .005$, $SE = .002$, 95% CI = $[.001, .010]$), but not at low levels ($b = .000$, $SE = .002$, 95% CI = $[-.005, .005]$)

(see figure 8 in Appendix B). In other words, these findings indicate that the conditional indirect effect of avoidant attachment on psychological aggression through self-esteem was stronger among those reporting high levels of (lack of) perseverance, compared to those reporting low levels of (lack of) perseverance.

Avoidant Attachment, Impulsivity, and Physical Aggression

The moderating effect of (lack of) premeditation on the relationship between avoidant attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(8, 408) = .560, p = .811; R^2 = .040$. The index of moderated mediation ($b = -.005, SE = .008, 95\% CI = [-.024, .008]$) was not significant indicating that moderated mediation did not occur (see table 11 in Appendix C). The direct effect of avoidant attachment on physical aggression ($b = .133, SE = .099, 95\% CI = [-.061, .327]$) and the interaction term ($b = .017, SE = .027, 95\% CI = [-.036, .070]$) were not significant. The effect of (lack of) premeditation on physical aggression was also not significant ($b = .032, SE = .171, 95\% CI = [-.305, .369]$).

The moderating effect of negative urgency on the relationship between avoidant attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(8, 408) = .580, p = .794; R^2 = .043$. The index of moderated mediation was not significant ($b = .005, SE = .005, 95\% CI = [-.003, .017]$), indicating that moderated mediation had not occurred (see table 11 in Appendix C). The direct effect of avoidant attachment on physical aggression, ($b = .135, SE = .115, 95\% CI = [-.092, .362]$), the effect of negative urgency on physical aggression ($b = .085, SE = .058, 95\% CI = [-.029, .200]$) and the interaction term ($b = -.015, SE = .017, 95\% CI = [-.049, .019]$) were also not significant.

The moderating effect of sensation seeking on the relationship between avoidant attachment, self-esteem, and physical aggression was analyzed and revealed that the model was

not significant $F(8, 408) = .535, p = .830; R^2 = .040$. The index of moderated mediation ($b = .004, SE = .004, 95\% CI = [-.002, .012]$) was also not significant indicating that moderated mediation had not occurred (see table 11 in Appendix C). The direct effect of avoidant attachment on physical aggression ($b = .142, SE = .113, 95\% CI = [-.080, .365]$), the effect of sensation seeking on physical aggression ($b = -.008, SE = .074, 95\% CI = [-.153, .136]$) and the interaction term ($b = -.012, SE = .012, 95\% CI = [-.036, .012]$) were also not significant.

The moderating effect of (lack of) perseverance on the relationship between avoidant attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(8, 408) = .578, p = .797; R^2 = .041$. The index of moderated mediation ($b = .004, SE = .004, 95\% CI = [-.002, .013]$) was not significant indicating that moderated mediation had not occurred (see table 11 in Appendix C). The direct effect of avoidant attachment on physical aggression ($b = .138, SE = .111, 95\% CI = [-.080, .355]$), the effect of (lack of) perseverance on physical aggression ($b = .097, SE = .093, 95\% CI = [-.086, .280]$) and the interaction term ($b = -.013, SE = .012, 95\% CI = [-.036, .011]$) were also not significant.

Anxious Attachment, Impulsivity, and Psychological Aggression

The moderating effect of (lack of) premeditation on the relationship between anxious attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(8, 408) = 3.38, p < .01; R^2 = .070$. The index of moderated mediation was not significant ($b = .001, SE = .000, 95\% CI = [-.000, .001]$), indicating that moderated mediation had not occurred (see table 12 in Appendix C). The direct effect of anxious attachment on psychological aggression was significant ($b = .019, SE = .009, 95\% CI = [.003, .036]$). The effect of (lack of) premeditation on psychological aggression ($b = .004, SE = .006, 95\% CI = [-.009,$

.016]) and the interaction term were not significant ($b = -.002$, $SE = .001$, 95% CI = [-.003, .000]).

The moderating effect of negative urgency on the relationship between anxious attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(8, 408) = 7.98$, $p < .001$; $R^2 = .148$. The index of moderated mediation was not significant ($b = .000$, $SE = .000$, 95% CI = [-.000, .001]), revealing that moderated mediation had not occurred (see table 12 in Appendix C). The direct effect of anxious attachment on psychological aggression ($b = .004$, $SE = .008$, 95% CI = [-.012, .020]) and the interaction term were not significant ($b = -.001$, $SE = .001$, 95% CI = [-.003, .000]). However, the effect of negative urgency on psychological aggression was significant ($b = .030$, $SE = .005$, 95% CI = [.020, .040]).

The moderating effect of sensation seeking on the relationship between anxious attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(8, 408) = 3.29$, $p < .01$; $R^2 = .067$. The index of moderated mediation was not significant ($b = .000$, $SE = .000$, 95% CI = [-.001, .001]), indicating that moderated mediation had not occurred (see table 12 in Appendix C). However, the direct effect of anxious attachment on psychological aggression was significant ($b = .020$, $SE = .009$, 95% CI = [.003, .036]). The effect of sensation seeking on psychological aggression ($b = .006$, $SE = .005$, 95% CI = [-.004, .016]) and the interaction term were not significant ($b = .000$, $SE = .001$, 95% CI = [-.001, .002]).

The moderating effect of (lack of) perseverance on the relationship between anxious attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(8, 408) = 3.42$, $p < .001$; $R^2 = .075$ (see figure 9 in Appendix B). The index of moderated mediation was significant ($b = .001$, $SE = .000$, 95% CI = [.000, .002]), indicating

significant moderated mediation had occurred (see table 12 in Appendix C). The direct effect of anxious attachment on psychological aggression was significant ($b = .021$, $SE = .009$, 95% CI = [.005, .038]), but the effect of (lack of) perseverance on psychological aggression was not ($b = .003$, $SE = .007$, 95% CI = [-.010, .016]). The interaction term was not significant, ($b = -.002$, $SE = .001$, 95% CI = [-.004, .000]) but was trending towards significance ($p = .05$). Explication of this effect (see figure 10 in Appendix B) revealed that at high levels of (lack of) perseverance, the indirect effect was significant ($b = .007$, $SE = .003$, 95% CI = [.002, .013]), but at low levels of (lack of) perseverance, the indirect effect was not significant ($b = .000$, $SE = .003$, 95% CI = [-.006, .006]). In other words, these findings indicate that the conditional indirect effect of anxious attachment on psychological aggression through self-esteem was stronger among those reporting high levels of (lack of) perseverance, compared to those reporting low levels of (lack of) perseverance.

Anxious Attachment, Impulsivity, and Physical Aggression

The moderating effect of (lack of) premeditation on the relationship between anxious attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(8, 408) = .524$, $p = .839$; $R^2 = .034$. The index of moderated mediation ($b = -.007$, $SE = .010$, 95% CI = [-.030, .008]) was not significant, indicating that moderated mediation did not occur (see table 13 in Appendix C). The direct effect of anxious attachment on physical aggression ($b = -.127$, $SE = .165$, 95% CI = [-.452, .197]), the effect of (lack of) premeditation on physical aggression ($b = .031$, $SE = .168$, 95% CI = [-.299, .361]) and the interaction term ($b = .021$, $SE = .029$, 95% CI = [-.037, .078]) were not significant.

The moderating effect of negative urgency on the relationship between anxious attachment, self-esteem, and physical aggression was analyzed and revealed that the model was

not significant $F(8, 408) = .564, p = .808; R^2 = .039$. The index of moderated mediation was not significant ($b = .004, SE = .005, 95\% CI = [-.003, .016]$) indicating moderated mediation did not occur (see table 13 in Appendix C). The direct effect of anxious attachment on physical aggression ($b = -.197, SE = .212, 95\% CI = [-.614, .220]$), the effect of negative urgency on physical aggression ($b = .160, SE = .113, 95\% CI = [-.062, .381]$) and the interaction term ($b = -.012, SE = .015, 95\% CI = [-.041, .018]$), were also not significant.

The moderating effect of sensation seeking on the relationship between anxious attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(8, 408) = .565, p = .807; R^2 = .032$. The index of moderated mediation was not significant ($b = .004, SE = .005, 95\% CI = [-.003, .014]$) indicating moderated mediation did not occur (see table 13 in Appendix C). The direct effect of anxious attachment on physical aggression ($b = -.132, SE = .181, 95\% CI = [-.487, .224]$), the effect of sensation seeking on physical aggression ($b = -.014, SE = .071, 95\% CI = [-.154, .126]$), the interaction term ($b = -.012, SE = .013, 95\% CI = [-.037, .013]$) were not significant.

The moderating effect of (lack of) perseverance on the relationship between anxious attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(8, 408) = .603, p = .776; R^2 = .033$. The index of moderated mediation was not significant ($b = .004, SE = .004, 95\% CI = [-.001, .012]$), indicating moderated mediation had not occurred (see table 13 in Appendix C). The direct effect of anxious attachment on physical aggression ($b = -.115, SE = .166, 95\% CI = [-.441, .212]$), the effect of (lack of) perseverance on physical aggression ($b = .117, SE = .098, 95\% CI = [-.076, .310]$), and the interaction term ($b = -.010, SE = .010, 95\% CI = [-.029, .009]$), were also not significant.

Taken together, these findings indicate that (lack of) perseverance moderates the indirect effect of both anxious and avoidant attachment on psychological through self-esteem. This effect was not evidenced for physical aggression.

Hypothesis IV. Test of Moderated Moderated Mediation

In order to assess the strength of the conditional indirect effect of attachment on aggression through self-esteem across varying types of impulsivity and moderated by sexual orientation, a 2nd stage moderated moderated mediation was conducted using the PROCESS macro (model 18; Hayes, 2012; see figure 11 in Appendix B). A total of 16 moderated moderated mediation models were analyzed. Interaction terms were mean centered prior to analysis and a bias-adjusted bootstrapping with a sample size of 5,000 was utilized. Age, gender, level of education, and income were entered as covariates and significant moderated moderated mediation effects were explicated at the 16th, 50th, and 84th percentiles of impulsivity.

Avoidant Attachment, Impulsivity, Sexual Orientation and Psychological Aggression

The moderating effect of sexual orientation on the conditional moderating effect of (lack of) premeditation on the relationship between avoidant attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(12, 404) = 2.92, p < .001; R^2 = .082$. The index of moderated moderated mediation was not significant ($b = .001, SE = .001, 95\% CI = [-.000, .002]$), indicating moderated moderation mediation did not occur (see table 14 in Appendix C). The direct effect of avoidant attachment on psychological aggression was significant ($b = .010, SE = .004, 95\% CI = [.002, .018]$). The effect of (lack of) premeditation on psychological aggression was not significant ($b = .004, SE = .006, 95\% CI = [-.008, .017]$). The effect of the interaction between self-esteem, (lack of) premeditation, and sexual orientation was found to not be significant ($b = -.003, SE = .002, 95\% CI = [-.007, .001]$).

The moderating effect of sexual orientation on the conditional moderating effect of negative urgency on the relationship between avoidant attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(12, 404) = 6.71, p < .001; R^2 = .162$. The index of moderated moderated mediation was not significant ($b = .000, SE = .001, 95\% CI = [-.001, .001]$), indicating that moderated moderation mediation did not occur (see table 14 in Appendix C). The direct effect of avoidant attachment on psychological aggression ($b = .005, SE = .004, 95\% CI = [-.002, .013]$) and the interaction effect between self-esteem, negative urgency, and sexual orientation ($b = -.001, SE = .002, 95\% CI = [-.004, .003]$) were not significant. The effect of negative urgency on psychological aggression was significant ($b = .029, SE = .006, 95\% CI = [.017, .040]$).

The moderating effect of sexual orientation on the conditional moderating effect of sensation seeking on the relationship between avoidant attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(12, 404) = 3.23, p < .001; R^2 = .082$ (see figure 12 in Appendix B). The index of moderated moderated mediation was also significant ($b = .001, SE = .000, 95\% CI = [.000, .002]$), indicating that moderated moderation mediation was occurring (see table 15 in Appendix C). The direct effect of avoidant attachment on psychological aggression was significant ($b = .010, SE = .004, 95\% CI = [.001, .018]$). The effect of sensation seeking on psychological aggression ($b = .006, SE = .005, 95\% CI = [-.004, .015]$) was not significant. The effect of the interaction between self-esteem, sensation seeking, and sexual orientation was found to be significant ($b = -.003, SE = .001, 95\% CI = [-.005, -.000]$). Explication revealed that the conditional moderating effect of sensation seeking on the relationship between avoidant attachment, self-esteem, and psychological aggression was significant and negative among heterosexual individuals reporting low levels of

sensation seeking ($b = -.036$, $SE = .009$, 95% CI = $[-.054, -.018]$), but not for those reporting high levels ($b = -.014$, $SE = .011$, 95% CI = $[-.035, .007]$) (see figure 13 in Appendix B). These effects were not significant for gay and lesbian individuals.

The moderating effect of sexual orientation on the conditional moderating effect of (lack of) perseverance on the relationship between avoidant attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(12, 404) = 2.35$, $p < .01$; $R^2 = .181$. The index of moderated moderated mediation was not significant ($b = .000$, $SE = .001$, 95% CI = $[-.001, .001]$), indicating that moderated moderated mediation did not occur (see table 15 in Appendix C). The direct effect of avoidant attachment on psychological aggression was significant ($b = .009$, $SE = .004$, 95% CI = $[.001, .017]$). However, the effect of (lack of) perseverance on psychological aggression ($b = .002$, $SE = .007$, 95% CI = $[-.011, .015]$) and the interaction effect between self-esteem, (lack of) perseverance, and sexual orientation were found to not be significant ($b = -.000$, $SE = .002$, 95% CI = $[-.004, .004]$).

Avoidant Attachment, Impulsivity, Sexual Orientation, and Physical Aggression

The moderating effect of sexual orientation on the conditional moderating effect of (lack of) premeditation on the relationship between avoidant attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(12, 404) = .970$, $p = .477$; $R^2 = .067$. The index of moderated moderated mediation was not significant ($b = -.000$, $SE = .000$, 95% CI = $[-.001, .000]$), indicating that moderated moderation mediation did not occur (see table 16 in Appendix C). The direct effect of avoidant attachment on physical aggression ($b = .003$, $SE = .002$, 95% CI = $[-.001, .008]$), (lack of) premeditation on physical aggression ($b = .002$, $SE = .003$, 95% CI = $[-.004, .009]$) and the interaction between self-esteem, (lack of)

premeditation, and sexual orientation ($b = .001$, $SE=.001$, 95% CI = [-.001, .004]) were not significant.

The moderating effect of sexual orientation on the conditional moderating effect of negative urgency on the relationship between avoidant attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(12, 404) = 1.19$, $p = .284$; $R^2 = .062$. The index of moderated moderated mediation was also not significant ($b = -.000$, $SE = .000$, 95% CI = [-.000, .001]), indicating moderated moderation mediation did not occur (see table 16 in Appendix C). The direct effect of avoidant attachment on physical aggression ($b = .003$, $SE = .002$, 95% CI = [-.001, .008]), negative urgency on physical aggression ($b = .003$, $SE = .002$, 95% CI = [-.001, .007]) and the interaction between self-esteem, negative urgency, and sexual orientation were not significant ($b = -.001$, $SE = .001$, 95% CI = [-.003, .001]).

The moderating effect of sexual orientation on the conditional moderating effect of sensation seeking on the relationship between avoidant attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(12, 404) = 1.27$, $p = .235$; $R^2 = .057$. The index of moderated moderated mediation ($b = .000$, $SE = .000$, 95% CI = [.000, .001]) was significant indicating significant moderation (see table 17 in Appendix C). The direct effect of avoidant attachment on physical aggression ($b = .004$, $SE = .002$, 95% CI = [-.001, .008]), sensation seeking on physical aggression, ($b = .000$, $SE = .002$, 95% CI = [-.004, .005]) and the interaction between self-esteem, sensation seeking, and sexual orientation ($b = -.001$, $SE = .001$, 95% CI = [-.003, .001]) were not significant. Explication of this interaction revealed that at the 16th, 50th, and 84th percentiles, none of the effects were significant. This implies that within the range of the current data, no value of sensation seeking creates a

statistically significant effect (Hayes, 2018). As such, it can only be concluded that sexual orientation had an effect on the conditional moderating effect of sensation seeking.

The moderating effect of sexual orientation on the conditional moderating effect of (lack of) perseverance on the relationship between avoidant attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(12, 404) = .944, p = .503; R^2 = .050$. The index of moderated moderated mediation was also not significant ($b = .000, SE = .000, 95\% CI = [-.000, .000]$), indicating that moderated moderated mediation did not occur (see table 17 in Appendix C). The direct effect of avoidant attachment on physical aggression ($b = .004, SE = .002, 95\% CI = [-.001, .008]$) and the effect of (lack of) perseverance on physical aggression ($b = .001, SE = .003, 95\% CI = [-.004, .007]$) were not significant. In addition, the effect of the interaction between self-esteem, (lack of) perseverance, and sexual orientation was not significant ($b = .000, SE = .001, 95\% CI = [-.001, .001]$).

Anxious Attachment, Impulsivity, Sexual Orientation, and Psychological Aggression

The moderating effect of sexual orientation on the conditional moderating effect of (lack of) premeditation on the relationship between anxious attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(12, 404) = 2.85, p < .001; R^2 = .083$. The index of moderated moderated mediation ($b = .001, SE = .001, 95\% CI = [-.001, .002]$) was not significant, indicating moderated moderated mediation did not occur (see table 18 in Appendix C). The direct effect of anxious attachment on psychological aggression was significant ($b = .019, SE = .009, 95\% CI = [.002, .036]$). The effect of (lack of) premeditation on psychological aggression ($b = .002, SE = .007, 95\% CI = [-.011, .015]$) and the interaction between self-esteem, (lack of) premeditation, and sexual orientation ($b = -.002, SE = .002, 95\% CI = [-.006, .002]$), were not significant.

The moderating effect of sexual orientation on the conditional moderating effect of negative urgency on the relationship between anxious attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(12, 404) = 6.77, p < .001$; $R^2 = .159$. The index of moderated moderated mediation was not significant ($b = .000, SE = .001, 95\% CI = [-.001, .001]$) indicating moderated moderation mediation did not occur (see table 18 in Appendix C). The direct effect of anxious attachment on psychological aggression was not significant ($b = .004, SE = .009, 95\% CI = [-.013, .021]$). The effect of negative urgency on psychological aggression was significant ($b = .029, SE = .006, 95\% CI = [.018, .040]$). The effect of the interaction between self-esteem, negative urgency, and sexual orientation was not significant ($b = -.000, SE = .002, 95\% CI = [-.004, .003]$).

The moderating effect of sexual orientation on the conditional moderating effect of sensation seeking on the relationship between anxious attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(12, 404) = .086, p < .001$; $R^2 = .086$ (see figure 14 in Appendix B). The index of moderated moderated mediation was significant ($b = .001, SE = .001, 95\% CI = [.000, .002]$), indicating significant moderated moderated mediation (see table 19 in Appendix C). The direct effect of anxious attachment on psychological aggression ($b = .020, SE = .008, 95\% CI = [.004, .037]$) was significant. The effect of sensation seeking on psychological aggression was not significant ($b = .005, SE = .005, 95\% CI = [-.005, .015]$). The effect of the interaction between self-esteem, sensation seeking, and sexual orientation was not significant ($b = -.003, SE = .001, 95\% CI = [-.006, -.001]$). Explication revealed that the conditional moderating effect of sensation seeking on the relationship between anxious attachment, self-esteem, and psychological aggression was significant and negative among heterosexual individuals reporting low levels of sensation

seeking ($b = -.040$, $SE = .009$, 95% CI = $-.056, -.023$), but not for those reporting high levels ($b = -.014$, $SE = .011$, 95% CI = $[-.036, .008]$) (see figure 15 in Appendix B). These effects were not significant for gay and lesbian individuals.

The moderating effect of sexual orientation on the conditional moderating effect of (lack of) perseverance on the relationship between anxious attachment, self-esteem, and psychological aggression was analyzed and revealed that the model was significant $F(12, 404) = 2.46$, $p < .05$; $R^2 = .087$. The index of moderated moderated mediation was not significant ($b = .000$, $SE = .001$, 95% CI = $-.001, .001$) indicating moderated moderated mediation did not occur (see table 19 in Appendix C). The direct effect of anxious attachment on psychological aggression was significant ($b = .021$, $SE = .009$, 95% CI = $[.004, .038]$). The effect of (lack of) perseverance on psychological aggression ($b = .002$, $SE = .007$, 95% CI = $[-.011, .015]$), and the interaction between self-esteem, (lack of) perseverance, and sexual orientation ($b = .000$, $SE = .002$, 95% CI = $[-.004, .004]$), were not significant.

Anxious Attachment, Impulsivity, Sexual Orientation, and Physical Aggression

The moderating effect of sexual orientation on the conditional moderating effect of (lack of) premeditation on the relationship between anxious attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(12, 404) = .947$, $p = .500$; $R^2 = .057$. The index of moderated moderated mediation was not significant ($b = -.001$, $SE = .000$, 95% CI = $[-.001, .000]$) indicating moderated moderated mediation did not occur (see table 20 in Appendix C). The direct effect of anxious attachment on physical aggression ($b = -.000$, $SE = .004$, 95% CI = $[-.007, .007]$) and the effect of (lack of) premeditation on physical aggression ($b = .002$, $SE = .003$, 95% CI = $[-.005, .008]$) were not significant. The effect of the

interaction between self-esteem, (lack of) premeditation, and sexual orientation was also not significant ($b = .001$, $SE = .001$, 95% CI = $[-.001, .004]$).

The moderating effect of sexual orientation on the conditional moderating effect of negative urgency on the relationship between anxious attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(12, 404) = 1.18$, $p = .295$; $R^2 = .055$. The index of moderated moderated mediation was not significant ($b = .000$, $SE = .000$, 95% CI = $[-.000, .001]$) indicating moderated moderated mediation did not occur (see table 20 in Appendix C). The direct effect of anxious attachment on physical aggression ($b = -.003$, $SE = .004$, 95% CI = $[-.012, .005]$) and negative urgency on physical aggression ($b = .005$, $SE = .003$, 95% CI = $[-.000, .009]$) were not significant. The effect of the interaction between self-esteem, negative urgency, and sexual orientation was also not significant ($b = -.001$, $SE = .001$, 95% CI = $[-.003, .001]$).

The moderating effect of sexual orientation on the conditional moderating effect of sensation seeking on the relationship between anxious attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(12, 404) = 1.31$, $p = .210$; $R^2 = .045$. The index of moderated moderated mediation was significant ($b = .000$, $SE = .000$, 95% CI = $[.000, .001]$) (see table 21 in Appendix C). The direct effect of anxious attachment on physical aggression was not significant ($b = -.000$, $SE = .004$, 95% CI = $[-.008, .007]$). The effect of sensation seeking on physical aggression was also not significant ($b = .000$, $SE = .002$, 95% CI = $[-.004, .005]$). The effect of the interaction between self-esteem, sensation seeking, and sexual orientation was not significant ($b = -.001$, $SE = .001$, 95% CI = $[-.003, .000]$). However, explication at the 16th, 50th, and 84th percentiles revealed no significant effects. As

such, it can only be concluded that sexual orientation had an effect on the conditional moderating effect of sensation seeking.

The moderating effect of sexual orientation on the conditional moderating effect of (lack of) perseverance on the relationship between anxious attachment, self-esteem, and physical aggression was analyzed and revealed that the model was not significant $F(12, 404) = .947, p = .500; R^2 = .040$. The index of moderated moderated mediation was not significant ($b = .000, SE = .000, 95\% CI = [-.001, .001]$) indicating moderated moderated mediation did not occur (see table 21 in Appendix C). The direct effect of anxious attachment on physical aggression was not significant ($b = -.001, SE = .004, 95\% CI = [-.008, .007]$). The effect of (lack of) perseverance on physical aggression was not significant ($b = .002, SE = .003, 95\% CI = [-.003, .007]$). The effect of the interaction between self-esteem, (lack of) perseverance, and sexual orientation was not significant ($b = .000, SE = .001, 95\% CI = [-.001, .001]$).

Taken together, these findings indicate that sensation seeking has a significant effect on the relationship between both anxious attachment, self-esteem, and psychological aggression, as well as avoidant attachment, self-esteem, and psychological aggression. Further, these relationships are stronger among heterosexual individuals, rather than lesbian and gay individuals.

Chapter IV

Discussion

While a significant amount of literature has examined risk factors for the perpetration of IPV in opposite-sex relationships, comparatively little has been done to investigate IPV in same-sex relationships (Edwards et. al., 2015). The goal of the present study was to examine risk factors for the perpetration of IPV in same- and opposite-sex relationships, in order to identify similarities across populations and possible risk factors unique to same-sex IPV. It was hypothesized that impulsivity would significantly moderate the effect of problematic attachment on aggression through self-esteem and that this association would be higher among lesbian and gay individuals, compared to heterosexual individuals. The interactive effects of attachment, self-esteem, impulsivity, and aggression were analyzed.

Hypothesis I examined the mediating effect of self-esteem on the relationship between attachment and aggression. Results showed that self-esteem partially mediated this effect for both avoidant and anxious attachment on psychological aggression, but not physical aggression. These findings indicate that individuals who scored higher on measures of avoidant and anxious attachment styles are more likely to experience low self-esteem and perpetrate psychological aggression. Indeed, individuals with problematic attachment are prone to perceiving criticism, disapproval, and rejection from significant others (Mikulincer & Shaver, 2007). Further, these individuals have been shown to be highly self-critical, self-doubting, and prone to utilizing maladaptive coping skills to combat feelings of worthlessness, thereby compounding their risk of experiencing low self-esteem (Wei, Heppner, Russell, & Young, 2006). As such, individuals with problematic attachment characteristics may experience conflict as more threatening to one's self-esteem, and experience more intense negative emotions in response to these feelings

(Murphy et al., 2005). Given that those with problematic attachment styles may also experience difficulty regulating their emotional experiences (Fonagy et al., 2003), it may be that these individuals verbally “lash out” at their partners during provocation or conflict.

In contrast to hypothesized effects, self-esteem did not have a significant mediating effect for attachment and physical aggression. While extant literature has established significant associations between self-esteem and physical IPV (Goldstein & Rosenbaum, 1985; Murphy et al., 2005; Neidig, et.al., 1986), as well as attachment and physical IPV (Velotti, Beomonte Zobel, Rogier, & Tambelli, 2018), a dearth of research has examined attachment and self-esteem together, on physical IPV perpetration (Buck, Leenaars, Emmelkamp, & Van Marle, 2012).

Buck et al., (2012) sought to identify the influence of specific personality characteristics (e.g., self-esteem, dependency, general distrust, distrust in partner, jealousy) on the relationship between insecure attachment and physical IPV. It was shown that self-esteem did not significantly predict IPV among insecurely attached individuals, however, this relationship was trending. They suggest that while self-esteem may play a role in the relationship between attachment and physical IPV, that this relationship may be better explained by other variables (e.g., separation anxiety and partner distrust) (Buck et al., 2012). Indeed it has been suggested that rather than having a direct influence on violent behavior, self-esteem plays a more indirect role (Burke et al., 1988; Murphy et al., 2005; Stith & Farley, 1993).

Consistent with results found by Buck et al., (2012), findings in the current study suggest that self-esteem does not mediate the relationship between attachment and physical IPV perpetration. As such, it may be that risk factors that were not assessed for in the current study, such as separation anxiety and partner distrust, may better explain the relationship between problematic attachment and physical IPV.

Hypothesis II examined the moderating role of impulsivity on self-esteem and psychological and physical aggression. No significant moderating effects were found for impulsivity (i.e., (lack of) premeditation, negative urgency, sensation seeking, (lack of) perseverance) on the relationship between self-esteem and psychological or physical aggression. These findings are inconsistent with hypothesized effects suggesting that the relationship between self-esteem and IPV would be stronger among those high in impulsivity. Self-esteem has been shown to be significantly associated with IPV. More specifically, low self-esteem has been linked to male to female IPV with those low in self-esteem reporting using more intimidation and threats in order to gain power over their partner (Schwartz, Waldo, & Daniel, 2005). Further, male batterers have been found to have lower self-esteem compared to non-batterers (Hurlbert, Whittaker, & Munoz, 1991; Neidig, Friedman, & Collins, 1986). Impulsivity has also been found to have significant associations with IPV and it has been suggested that impulsivity is especially salient to IPV perpetration because it is characterized as the inability to regulate one's behaviors in response to negative affect (Cohen et al., 2003; Magid et al., 2007; Schafer et al., 2004; Shorey et al., 2010; Webster & Jackson 1997).

However, in the current study, the moderating effect of impulsivity on the relationship between self-esteem and IPV was not significant. It has been suggested that the relationship between impulsivity and IPV is mediated by trait anger (Shorey et al., 2010; Stuart & Holtzworth-Munroe, 2005). Further, negative urgency which is a facet of impulsivity in which one acts rashly in response to negative affect has been strongly and consistently linked to aggression throughout the literature (Cyders & Smith, 2007; Derefinko et al., 2011; Scott, DiLillo, Maldonado, & Watkins, 2015; Settles et al., 2012; Whiteside & Lynam, 2001). Murphy et al., (2005) suggests that it is the unpleasant emotions which become elicited in response to

external confirmation of negative self-schemas that result in angry and abusive attacks. As such, it may be that low self-esteem does not act as a strong enough impellor variable to override the inhibitory factors required for one to impulsively act aggressively. Rather, it may be that it is the interaction between low self-esteem and other negative emotions that elicits impulsive aggressivity. In line with this, research has shown that compared to their non-abusive counterparts, abusive men with low self-esteem were found to perceive their partner's actions as more threatening to their self-esteem, thereby leading to IPV perpetration in order to counter those feeling (Goldstein, & Rosenbaum, 1985). As such, the lack of significant moderation effects for impulsivity on self-esteem and IPV in the current study may be better explained by incorporating other factors that increase one's proclivity to impulsively respond with aggression.

However, consistent with existing literature (Derefinko, DeWall, Metze, Walsh, & Lynam, 2011; Miller, Flory, Lynam, & Leukefeld, 2003), direct effects for impulsivity and self-esteem on aggression were evidenced. Specifically, negative urgency was significantly and positively associated with physical aggression, suggesting that individuals reporting higher levels of negative urgency also report perpetrating a higher frequency of physically aggressive acts. Self-esteem was also significantly and negatively associated with psychological aggression when controlling for (lack of) premeditation. Similar findings were revealed for self-esteem on psychological aggression while controlling for sensation seeking and (lack of) perseverance. By removing the influence of (lack of) premeditation, sensation seeking, and (lack of) perseverance, the results revealed that those higher in self-esteem report perpetrating less psychological aggression.

Indeed, Individuals who perpetrate IPV have been found to experience lower levels of self-esteem compared to non-perpetrators (Hurlbert, Whittaker, & Munoz, 1991; Neidig,

Friedman, & Collins, 1986). It is suggested that individuals with low self-esteem use maladaptive coping behaviors to counter feelings of worthlessness (Wei, Heppner, Russell, & Young, 2006). As such, it may be that during conflict with their partner, these individuals turn to aggression as a means of coping with these negative feelings.

Hypothesis III examined the moderating effect of impulsivity on the indirect effect of attachment on IPV through self-esteem. These findings revealed that (lack of) perseverance significantly moderated the indirect effect of self-esteem on the relationship between avoidant attachment and psychological aggression. Similarly, (lack of) perseverance was found to significantly moderate the indirect effect of self-esteem on the relationship between anxious attachment and psychological aggression, as well. In other words, individuals who endorse problematic attachment characteristics within their relationships have lower self-esteem and perpetrate more psychological aggression if they tend to be more impulsive compared to those who are less impulsive. Interestingly, a limited amount of research has found a significant relationship between lack of perseverance and IPV (Derefinko et al., 2011; Leone, Crane, Parrott, & Eckhardt, 2016). However, Leone et al. (2016) suggested that the relationship between lack of perseverance and IPV may be due to an individual's inability to sustain adequate attempts at implementing adaptive coping mechanisms during partner conflict. It has been shown that individuals with avoidant and anxious attachment styles engage in problematic conflict resolution tactics, which increase the likelihood of IPV (Bonache, Gonzalez-Mendez & Krahé, 2019). As such, these individuals likely lack adequate inhibitory control to restrain themselves from behaving aggressively during conflict (Leone et al., 2016).

Hypothesis IV examined the moderating effect of sexual orientation on the conditional moderating effect of impulsivity on the indirect effect of attachment, self-esteem, and

aggression. Results revealed that the moderating effect of sensation seeking on the indirect effect of avoidant attachment on psychological aggression through self-esteem was significant and negative for heterosexual individuals. These findings were not significant for lesbian and gay individuals. Similarly, results revealed that the moderating effect of sensation seeking on the indirect effect of anxious attachment on psychological aggression through self-esteem was significant and negative for heterosexual individuals. Again, these findings were not significant for lesbian and gay individuals. As such, for heterosexual individuals, lower levels of sensation seeking may serve as a protective factor against the perpetration of psychological aggression, even among those reporting intimacy avoidance and anxiety. In addition, results revealed that there was a significant moderating effect of sexual orientation on the moderating effect of sensation seeking on the indirect effect of avoidant attachment on physical aggression through self-esteem, as well as anxious attachment on physical aggression through self-esteem. However, explication revealed no significant effects. As such, these findings suggest that sexual orientation does have a moderating effect on the conditional moderating effect of sensation seeking on attachment, self-esteem, and physical aggression, but not within the range of data in the current study.

Sensation seeking has been shown to be related to aggression, as well as a constellation of characteristics that place individuals at risk for perpetrating aggression (Derefinko et al., 2011; Joireman, Anderson, & Strathman, 2003; Marcus, 2012; Zuckerman et al., 1993). Specifically, individuals high in sensation seeking have been shown to be less affiliative, lower in self-control, more paranoid, and overall less satisfied in their relationships (Jacobs, 1975; Kish, 1971; Thornquist, Zuckerman, & Exline, 1991; Zuckerman & Link, 1968). Taken together, it has been suggested that it is not sensation seeking per se that results in aggression, but rather an overall

difficulty with self-regulation and tendency towards maladaptive coping mechanisms (Joireman et. al., 2003). As such, individuals high in sensation seeking may lack the self-regulating abilities to override aggressive impulses during conflict. Further, these individuals are more prone to using problematic coping mechanisms, such as drugs or alcohol, which exacerbate disinhibition (Joireman et. al., 2003). However, those low in sensation seeking may be better able to regulate negative impulses during conflict, despite also having personality characteristics, such as intimacy avoidance and anxiety which place them at an increased risk for perpetrating IPV.

Overall these results support the hypothesis that individuals with problematic attachment characteristics experience lower self-esteem and higher rates of psychological IPV perpetration. Further, this relationship appears to be influenced by impulsivity. More specifically, within the entire sample, lack of perseverance served as a risk factor for IPV perpetration, whereas for heterosexual individuals, low levels of sensation seeking served as a protective factor against IPV perpetration. However, the hypothesis that these effects would be stronger among same-sex relationships compared to opposite-sex relationships was not supported.

According to the I3 Model (Finkel, 2007), IPV occurs as a result of instigating and impelling factors overriding inhibitory factors. In the current study, it appears that problematic attachment characteristics, as well as low-self-esteem act as impelling factors which increase one's readiness to behave aggressively. When individuals also experience the inability to persevere through difficult or boring tasks, then this relationship becomes exacerbated. As such, individuals with attachment problems, who likely experience feelings of anxiety, jealousy, fear, and abandonment in response to relationship conflict, are more likely to experience low self-esteem and perpetrate IPV. Further, this relationship is stronger if they also struggle persevering through difficult tasks, because they struggle with sustaining adaptive inhibitory mechanisms

during partner conflict. However, it is suggested that individuals low in sensation seeking may have the self-regulatory ability to override instigatory and impelling factors, thereby inhibiting their aggressive responding.

It was hypothesized that the relationship between attachment, self-esteem, impulsivity, and IPV would be stronger among lesbian and gay individuals compared to heterosexual individuals. Specifically, Minority Stress Theory suggests that sexual minority individuals experience chronic and socially based stressors due to being members of a marginalized and stigmatized group (Meyer, 2003). As such, sexual minority individuals are more likely to develop expectations of rejection and abandonment by important others, as well as low self-esteem, increasing the risk of violence perpetration (Colgan, 1987; Mohr, 1999; Mohr & Fassinger, 2003). These findings were not supported in the current study. It may be that the relationship between attachment, self-esteem, impulsivity, and IPV does not exist within same-sex relationships. More specifically, given that these risk factors have been grounded in research on heterosexual IPV, identifying risk factors more pertinent to lesbians and gay men, such as internalized homophobia (Balsam & Szymanski, 2005; Meyer, 2003), minority stress (Balsam & Szymanski, 2005; Meyer, 2003), HIV status (Bowen & Nowinsky, 2012; Gill, Krentz, & Siemieniuk, 2013), or identity concealment (Bartholomew et al., 2008; Edwards & Sylaska, 2013), to name a few, may better explain same-sex IPV.

However, an alternative explanation for these results may be due to the reluctance for individuals to disclose same-sex IPV. Specifically, it has been suggested that LGBTQ individuals may not be willing to report their IPV experiences in order to avoid “betraying” the LGBTQ community, by creating or perpetuating negative stereotypes (Ristock & Timbang, 2005). As such, individuals may have been less willing to report IPV experiences, in an effort to

prevent the LGBTQ community being further marginalized or oppressed (Kaschak, 2001; McLaughlin and Rozee, 2001; Ristock, 2003; Rollè, Giardina, Caldarera, Gerino, & Brustia, 2018). While social desirability bias is often considered as occurring at the individual level in order to present one's self in a better light (Visschers et. al., 2017), it may be that social desirability bias also influences individual's desire to present their community in a better light as well. As such, assessing for social desirability bias in LGBTQ research or other marginalized groups may be especially important.

Limitations and Future Directions

In the current study, significant limitations warrant attention. First, the current study used a design in which samples were investigated across sexual orientation, rather than within gender and sexual orientation. Important differences may exist between men and women's reports of IPV perpetration. Importantly, existing literature has identified different patterns within the types of violent acts perpetrated by men and women. Specifically, the NCAVP LGBTQ and HIV Affected IPV in 2015 Report (Smith, 2017) found that gay men were more likely to experience physical violence, whereas lesbians were more likely to experience isolation by their partner. In heterosexual relationships, it has been suggested that men are more likely than women to perpetrate violence against a female partner, whereas women are found to be more likely to perpetrate controlling behaviors against their male partner (Mennicke & Kulkarni, 2016).

It is apparent that differences do exist between men and women's IPV perpetration and that these patterns may be associated with sexual orientation. As such, future research on same-sex IPV perpetration would be strengthened by examining aggressive acts within samples of men and women, in order to elucidate key differences that could better inform intervention efforts. For example, it has been suggested that in response to distress, men are more likely to respond

behaviorally, whereas women are more likely to respond emotionally (Umberson, Anderson, Williams, & Chen, 2003). As such, investigating differences among gender and the intersection of sexual orientation would be especially important in uncovering differences in the types and motivations for same-sex IPV perpetration. Further, in their review of existing literature on same-sex IPV, Edwards et al., (2015) suggests that future studies should utilize diverse assessment methodologies that allow more diverse response options for sexual orientation or gender identity, in order to allow for individuals who may be questioning their sexual orientation or gender identity or who may have not officially come “out” to be included in analyses.

Second, this study utilized a cross sectional design, which was not able to capture situational events that may lead to IPV perpetration. As such, the extent to which IPV functions to alleviate attachment insecurity or increase self-esteem remains unclear. Future research would benefit from utilizing other assessment methods (e.g., event based, experimental) in order to better understand situational events that may precede IPV perpetration. Further, given that the current study also did not assess for IPV victimization, these types of assessment methods may help elucidate bidirectional violence perpetration (i.e., proactive vs. reactive), which could provide better understanding of perpetration rates, as well as situational and contextual factors leading to violence.

Third, this study recruited community and college student participants. Individuals in the community sample volunteered to participate in the study in order to be enrolled in a raffle to receive a gift card, whereas each individual in the college sample received course credit. As such, within the community sample, selection bias may have influenced the types of individuals who volunteered to participate. Selection bias occurs when a sample is not a nonrandom subset of a population (Berk, 1983). In other words, community individuals who were inherently

motivated to participate in research, may have been more likely to volunteer given that compensation was not ensured for each individual. Given that the community sample was primarily comprised of lesbian and gay participants, this may have influenced the results regarding same-sex IPV perpetration. More specifically, these individual's willingness to participate may reflect overall more conscientiousness, which could result in less violence perpetration. Future research would benefit from utilizing rigorous sampling methods that aim to reduce the influence of selection bias.

Fourth, the current study did not evaluate social desirability bias. Social desirability bias occurs when an individual answers questions in a deliberately falsified manner, in order to manage other's impressions of them (Sugarman & Hotaling, 1997; Visschers, Jaspert, & Vervaeke, 2017). The influence of social desirability bias has been a significant concern for the field of IPV research, given the stigma surrounding IPV perpetration (Saunders, 1991). Indeed a numerous studies have identified an association between social desirability bias and decreased self-reported IPV perpetration (Arias & Beach, 1987; Bell & Naugle, 2007; Fernández-González et al., 2013; Sugarman & Hotaling, 1997; Visschers et al., 2017). As such, it is unclear the extent to which social desirability bias may have influenced individuals' willingness to disclose physical violence perpetration. Future research on IPV perpetration should utilize measures of socially desirable responding, in order to help control for social desirability bias.

Though not a limitation, it is worth noting that the age of the lesbian and gay sample ranged from 18 to 67 which could have important implications for research. More specifically, it may be that older lesbian and gay individuals feel apprehension around disclosing sensitive information for research given the significant experiences of discrimination that they have experienced. For example, the criminalization of homosexuality in all U.S. states until 1961, the

classification of homosexuality as a psychiatric disorder until 1973, and AIDS epidemic that occurred throughout the 1980s, just to name a few. As such, it may be that while younger generations of LGBTQ individuals continue to experience significant forms of discrimination and marginalization, that changing cultural and societal attitudes may have resulted in younger people developing different thoughts, feelings, and attitudes about IPV research. As such, it is suggested that future research take into consideration the generational differences that exist for the LGBTQ population.

Finally, these findings have important clinical implications as well. According to the I³ model (Finkel, 2007), IPV occurs in situations in which impelling and instigatory factors override inhibitory factors. Given that situations will inevitably arise that are instigatory in nature, intervention efforts should ideally be aimed at reducing the influence of impelling factors that increase one's readiness to behave aggressively, while also strengthening inhibiting factors. As such, it has been suggested that integrative treatment approaches, which emphasize skills that can be utilized during conflict episodes, as well as identifying underlying emotional problems that facilitate the use of aggression, may be most helpful at reducing the occurrence of IPV (Babcock et al., 2004; Dutton, 2007; Saunders, 2008).

More specifically, individuals would benefit from learning communication and conflict resolution skills that help them appropriately navigate disagreements. Further, the addition of self-regulation or self-calming skills, such as mindfulness or deep breathing, would also be helpful by allowing individuals to recognize and ameliorate aggressive urges during conflict situations. Notably, research has shown that skills based approaches for the treatment of domestic violence is associated with increases in self-esteem (Murphy et al., 1995). As such, skill building may be an especially help intervention component.

In addition to teaching skills, Lawson, Kellam, Quinn, and Malnar (2012) suggest that interventions should also focus on building motivation for treatment, by helping individuals to resolve ambivalent feelings that they may have towards treatment. In addition, they suggest that focus should also be given to helping individuals explore and understand the role that early experiences with key attachment figures may have on the ways in which individuals interpret and understand themselves and others, in order to reduce the influence of attachment related concerns (e.g., fear of rejection, abandonment, distrust) (Lawson et al., 2012).

Conclusion

Understanding risk factors for same-sex and opposite-sex IPV continues to warrant further understanding. Despite the limitations of the current study, these findings indicate attachment, self-esteem, and impulsivity interact to influence the perpetration of IPV. More specifically, it appears that self-esteem plays an important role in facilitating the relationship between characteristics of avoidant attachment style and psychological IPV, as well as characteristics of anxious attachment style and psychological IPV. Further, these associations were moderated by impulsivity, such that those who lack the ability to persevere through difficult or boring tasks perpetrate a higher frequency of psychological IPV, compared to those who are better at persevering. Alternatively, low sensation seeking served as a protective factor against the perpetration of IPV, despite individuals also reporting characteristics of avoidant and anxious attachment. Taken together, these findings indicate that intervention efforts aimed at teaching adaptive communication and conflict resolution skills, as well as emotion regulation skills may be especially important at helping reduce the frequency of psychological aggression perpetration. Though the relationship between attachment, self-esteem, and impulsivity was not significant among lesbian and gay individuals, these findings indicate that this combination of

risk factors may be especially salient among heterosexual individuals. However, future research should be conducted in order to understand the unique relationships between attachment, self-esteem, and impulsivity, as well as other relevant variables on the perpetration of IPV.

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Appendices

Appendix A

Demographic Questionnaire

1. Age: _____
2. Zip Code: _____
3. Gender: Female / Male / _____
4. Are you transgender? Yes / No
5. Are you currently a student? Yes / No
6. What grade level? High School
Freshman
Sophomore
Junior
Senior
5th Year Plus
Other
7. Are you a full-time student or part-time? Full-time Part-time
8. Member of a Greek Organization? Yes / No
9. Approximate Cumulative GPA: _____
10. How would you describe your current level of education:

No High School Diploma/Equivalent	Bachelor's Degree
High School Diploma/Equivalent	Master's Degree
Some College but no Degree	Doctoral Degree or Equivalent
Associates Degree	Other Degree:
11. Working? Yes Full-time
 Yes Part-Time
 No
12. Are you of Hispanic, Latino, or Spanish origin? Yes / No
13. Racial Background: Please select all that apply
 1. White/Caucasian
 2. Black or African-American
 3. Asian-American
 4. Native (North, Central, South American)
 5. Indian/Middle Eastern
 6. Hawaiian/Pacific Islander
 7. Other (please list):
14. Religious Background/Affiliation: Circle One
 1. Christian
 2. Jewish
 3. Muslim
 4. Buddhist
 5. Hindi

6. Atheist (do not believe in deities)
 7. Agnostic (no definite belief if God does or does not exist)
 8. Other (please list):_____

15. Family Income Level: Circle One
1. Less than \$10,000
 2. \$10,000 - \$20,000
 3. \$20,000 - \$30,000
 4. \$30,000 - \$40,000
 5. \$40,000 - \$50,000
 6. \$50,000 - \$75,000
 7. \$75,000 - \$100,000
 8. Greater than \$100,000
16. What is your relationship status?
1. Single, not dating anyone right now
 2. Dating but not serious or exclusive
 3. Seriously dating
 4. Engaged
 5. Married/Partnered
 6. Divorced/Widowed
 7. Separated
17. How many total lifetime sexual partners have you had?
18. If you are currently dating someone, engaged or are married, how long have you been with this person?
 Years _____ Months _____
19. Sexual Orientation: Heterosexual / Gay / Lesbian / Bisexual/ Other _____

0	Exclusively heterosexual
1	Predominantly heterosexual, only incidentally homosexual
2	Predominantly heterosexual, but more than incidentally homosexual
3	Equally heterosexual and homosexual
4	Predominantly homosexual, but more than incidentally heterosexual
5	Predominantly homosexual, only incidentally heterosexual
6	Exclusively homosexual
X	Non-sexual

Using the Scale above, please answer the following questions:

20. You would describe your level of sexual activity as: _____
21. You would describe your level of sexual attraction as: _____
22. What is the gender of your current partner? Male / Female / Other
23. How many serious romantic relationships have you been involved in throughout your lifetime? _____
24. Why did your last relationship end? (check all that apply)
- | | | | |
|--------------|----------|-------|------------------|
| Infidelity | Distance | Abuse | Loss of Feelings |
| Other: _____ | | N/A | |

Adult Attachment Scale

Please read each of the following statements and rate the extent to which it describes your feelings about romantic relationships. Please think about all your relationships (past and present) and respond in terms of how you generally feel in these relationships. If you have never been involved in a romantic relationship, answer in terms of how you think you would feel.

Please use the scale below by placing a number between 1 and 5 in the space provided to the right of each statement.

1-----2-----3-----4-----5
Not at all Very
characteristic characteristic
of me of me

- (1) I find it relatively easy to get close to others. _____
- (2) I do not worry about being abandoned. _____
- (3) I find it difficult to allow myself to depend on others. _____
- (4) In relationships, I often worry that my partner does not really love me. _____
- (5) I find that others are reluctant to get as close as I would like. _____
- (6) I am comfortable depending on others. _____
- (7) I do not worry about someone getting too close to me. _____
- (8) I find that people are never there when you need them. _____
- (9) I am somewhat uncomfortable being close to others. _____
- (10) In relationships, I often worry that my partner will not want to stay with me. _____
- (11) I want to merge completely with another person. _____
- (12) My desire to merge sometimes scares people away. _____
- (13) I am comfortable having others depend on me. _____
- (14) I know that people will be there when I need them. _____
- (15) I am nervous when anyone gets too close. _____
- (16) I find it difficult to trust others completely. _____
- (17) Often, partners want me to be closer than I feel comfortable being. _____
- (18) I am not sure that I can always depend on others to be there when I need them. _____

Rosenberg Self-Esteem Scale

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle Strongly Agree. If you agree with the statement, circle Agree. If you disagree, circle Disagree. If you strongly disagree, circle Strongly Disagree.

1. On the whole, I am satisfied with myself.

 Strongly Agree Agree Disagree Strongly Disagree

2. At times, I think I am no good at all.

 Strongly Agree Agree Disagree Strongly Disagree

3. I feel that I have a number of good qualities.

 Strongly Agree Agree Disagree Strongly Disagree

4. I am able to do things as well as most other people.

 Strongly Agree Agree Disagree Strongly Disagree

5. I feel I do not have much to be proud of.

 Strongly Agree Agree Disagree Strongly Disagree

6. I certainly feel useless at times.

 Strongly Agree Agree Disagree Strongly Disagree

7. I feel that I'm a person of worth, at least on an equal plane with others.

 Strongly Agree Agree Disagree Strongly Disagree

8. I wish I could have more respect for myself.

 Strongly Agree Agree Disagree Strongly Disagree

9. All in all, I am inclined to feel that I am a failure.

 Strongly Agree Agree Disagree Strongly Disagree

10. I take a positive attitude toward myself.

 Strongly Agree Agree Disagree Strongly Disagree

Conflict Tactics Scale (CTS2)

Please answer the following questions based on your current intimate relationship that has lasted at least one month. If you are not currently dating anyone or have been dating for less than one month, please answer 0 on all questions.

No matter how well a couple gets along, there are times when they disagree, get annoyed with the other person, want different things from each other, or just have spats or fights because they are in a bad mood, are tired, or for some other reason. Couples also have many different ways of trying to settle their differences. This is a list of things that might happen **when you have differences**. Please circle how many times you did each of these things in the past six months, and how many times your partner did them in the past six months. If you or your partner did not do one of these things in the past six months, but it happened before, circle “7.” If you have been in your relationship for at least one month but less than 6 months, please answer the questions based on the time you have been together.

Please keep in mind that all information is kept strictly confidential!

How often did this happen in the past six months?

0 = This never happened.

1 = Once in the past six months.

2 = Twice in the past six months.

3 = 3-5 times in the past six months.

4 = 6-10 times in the past six months.

5 = 11-20 times in the past six months.

6 = More than 20 times in the past six months.

7 = Not in the past six months, but it did happen before.

5. I insulted or swore at my partner.	0	1	2	3	4	5	6	7
6. My partner did this to me.	0	1	2	3	4	5	6	7
7. I threw something at my partner that could hurt.	0	1	2	3	4	5	6	7
8. My partner did this to me.	0	1	2	3	4	5	6	7
9. I twisted my partner's arm or pulled his/her hair.	0	1	2	3	4	5	6	7
10. My partner did this to me.	0	1	2	3	4	5	6	7
15. I made my partner have sex without a condom.	0	1	2	3	4	5	6	7
16. My partner did this to me.	0	1	2	3	4	5	6	7
17. I pushed or shoved my partner.	0	1	2	3	4	5	6	7
18. My partner did this to me.	0	1	2	3	4	5	6	7
19. I used force (like hitting, holding down, or using a weapon) to make my partner have oral or anal sex.	0	1	2	3	4	5	6	7
20. My partner did this to me.	0	1	2	3	4	5	6	7

21. I used a knife or gun on my partner.	0	1	2	3	4	5	6	7
22. My partner did this to me.	0	1	2	3	4	5	6	7
25. I called my partner fat or ugly.	0	1	2	3	4	5	6	7
26. My partner called me fat or ugly.	0	1	2	3	4	5	6	7
27. I punched or hit my partner with something that could hurt.	0	1	2	3	4	5	6	7
28. My partner did this to me.	0	1	2	3	4	5	6	7
29. I destroyed something belonging to my partner.	0	1	2	3	4	5	6	7
30. My partner did this to me.	0	1	2	3	4	5	6	7
33. I choked my partner.	0	1	2	3	4	5	6	7
34. My partner did this to me.	0	1	2	3	4	5	6	7
35. I shouted or yelled at my partner.	0	1	2	3	4	5	6	7
36. My partner did this to me.	0	1	2	3	4	5	6	7
37. I slammed my partner against a wall.	0	1	2	3	4	5	6	7
38. My partner did this to me.	0	1	2	3	4	5	6	7
43. I beat up my partner.	0	1	2	3	4	5	6	7
44. My partner did this to me.	0	1	2	3	4	5	6	7
45. I grabbed my partner.	0	1	2	3	4	5	6	7
46. My partner did this to me.	0	1	2	3	4	5	6	7
47. I used force (like hitting, holding down, or using a weapon) to make my partner have sex.	0	1	2	3	4	5	6	7
48. My partner did this to me.	0	1	2	3	4	5	6	7
49. I stomped out of the room or house or yard during a disagreement.	0	1	2	3	4	5	6	7
50. My partner did this to me.	0	1	2	3	4	5	6	7
51. I insisted on sex when my partner did not want to (but did not use	0	1	2	3	4	5	6	7

physical force.								
52. My partner did this to me.	0	1	2	3	4	5	6	7
53. I slapped my partner.	0	1	2	3	4	5	6	7
54. My partner did this to me.	0	1	2	3	4	5	6	7
57. I used threats to make my partner have oral or anal sex.	0	1	2	3	4	5	6	7
58. My partner did this to me.	0	1	2	3	4	5	6	7
61. I burned or scalded my partner on purpose.	0	1	2	3	4	5	6	7
62. My partner did this to me.	0	1	2	3	4	5	6	7
63. I insisted my partner have oral or anal sex (but did not use physical force).	0	1	2	3	4	5	6	7
64. My partner did this to me.	0	1	2	3	4	5	6	7
65. I accused my partner of being a lousy lover.	0	1	2	3	4	5	6	7
66. My partner accused me of this.	0	1	2	3	4	5	6	7
67. I did something to spite my partner.	0	1	2	3	4	5	6	7
68. My partner did this to me.	0	1	2	3	4	5	6	7
69. I threatened to hit or throw something at my partner.	0	1	2	3	4	5	6	7
70. My partner did this to me.	0	1	2	3	4	5	6	7
73. I kicked my partner.	0	1	2	3	4	5	6	7
74. My partner did this to me.	0	1	2	3	4	5	6	7
75. I used threats to make my partner have sex.	0	1	2	3	4	5	6	7
76. My partner did this to me.	0	1	2	3	4	5	6	7

UPPS

Below are a number of statements that describe ways in which people act and think. For each statement, please indicate how much you agree or disagree with the statement. If you **Agree Strongly** circle **1**, if you **Agree Somewhat** circle **2**, if you **Disagree somewhat** circle **3**, and if you **Disagree Strongly** circle **4**. Be sure to indicate your agreement or disagreement for every statement below. Also, there are a few more questions on the next page

	Agree Strongly	Agree Some	Disagree Some	Disagree Strongly
1. I have a reserved and cautious attitude toward life.	1	2	3	4
2. I have trouble controlling my impulses.	1	2	3	4
3. I generally seek new and exciting experiences and sensations.	1	2	3	4
4. I generally like to see things through to the end.	1	2	3	4
5. My thinking is usually careful and purposeful.	1	2	3	4
6. I have trouble resisting my cravings (for food, cigarettes, etc.).	1	2	3	4
7. I'll try anything once.	1	2	3	4
8. I tend to give up easily.	1	2	3	4
9. I am not one of those people who blurt out things without thinking.	1	2	3	4
10. I often get involved in things I later wish I could get out of.	1	2	3	4
11. I like sports and games in which you have to choose your next move very quickly.	1	2	3	4
12. Unfinished tasks really bother me.	1	2	3	4
13. I like to stop and think things over before I do them.	1	2	3	4
14. When I feel bad, I will often do things I later regret in order to make myself feel better now.	1	2	3	4
15. I would enjoy water skiing.	1	2	3	4
16. Once I get going on something I hate to stop.	1	2	3	4
17. I don't like to start a project until I know exactly how to proceed.	1	2	3	4
18. Sometimes when I feel bad, I can't seem to stop what I am doing even though it is making me feel worse.	1	2	3	4
19. I quite enjoy taking risks.	1	2	3	4

20	I concentrate easily.	1	2	3	4
.					
21	I would enjoy parachute jumping.	1	2	3	4
.					
22	I finish what I start.	1	2	3	4
.					
23	I tend to value and follow a rational, "sensible" approach to things.	1	2	3	4
.					
1.	I have a reserved and cautious attitude toward life.	1	2	3	4
2.	I have trouble controlling my impulses.	1	2	3	4
3.	I generally seek new and exciting experiences and sensations.	1	2	3	4
4.	I generally like to see things through to the end.	1	2	3	4
5.	My thinking is usually careful and purposeful.	1	2	3	4
6.	I have trouble resisting my cravings (for food, cigarettes, etc.).	1	2	3	4
7.	I'll try anything once.	1	2	3	4
8.	I tend to give up easily.	1	2	3	4
9.	I am not one of those people who blurt out things without thinking.	1	2	3	4
10	I often get involved in things I later wish I could get out of.	1	2	3	4
.					
11	I like sports and games in which you have to choose your next move very quickly.	1	2	3	4
.					
12	Unfinished tasks really bother me.	1	2	3	4
.					
13	I like to stop and think things over before I do them.	1	2	3	4
.					
14	When I feel bad, I will often do things I later regret in order to make myself feel better now.	1	2	3	4
.					
15	I would enjoy water skiing.	1	2	3	4
.					
16	Once I get going on something I hate to stop.	1	2	3	4
.					
17	I don't like to start a project until I know exactly how to proceed.	1	2	3	4
.					
18	Sometimes when I feel bad, I can't seem to stop what I am doing even though it is making me feel worse.	1	2	3	4
.					
19	I quite enjoy taking risks.	1	2	3	4
.					
20	I concentrate easily.	1	2	3	4

.					
21	I would enjoy parachute jumping.	1	2	3	4
.					
22	I finish what I start.	1	2	3	4
.					
24	When I am upset I often act without thinking.	1	2	3	4
.					
25	I welcome new and exciting experiences and sensations, even if they are a little frightening and unconventional.	1	2	3	4
.					
26	I am able to pace myself so as to get things done on time.	1	2	3	4
.					
27	I usually make up my mind through careful reasoning.	1	2	3	4
.					
28	When I feel rejected, I will often say things that I later regret.	1	2	3	4
.					
29	I would like to learn to fly an airplane.	1	2	3	4
.					
30	I am a person who always gets the job done.	1	2	3	4
.					
31	I am a cautious person.	1	2	3	4
.					
32	It is hard for me to resist acting on my feelings.	1	2	3	4
.					
33	I sometimes like doing things that are a bit frightening.	1	2	3	4
.					
34	I almost always finish projects that I start.	1	2	3	4
.					
35	Before I get into a new situation I like to find out what to expect from it.	1	2	3	4
.					
36	I often make matters worse because I act without thinking when I am upset.	1	2	3	4
.					
37	I would enjoy the sensation of skiing very fast down a high mountain slope.	1	2	3	4
.					
38	Sometimes there are so many little things to be done that I just ignore them all.	1	2	3	4
.					
39	I usually think carefully before doing anything.	1	2	3	4
.					
40	Before making up my mind, I consider all the advantages and disadvantages.	1	2	3	4
.					
41	In the heat of an argument, I will often say things that I later regret.	1	2	3	4
.					
42	I would like to go scuba diving.	1	2	3	4
.					
43	I always keep my feelings under control.	1	2	3	4
.					

44	I would enjoy fast driving.	1	2	3	4
.	Sometimes I do impulsive things that I	1	2	3	4
45	later regret.				

.

Appendix B

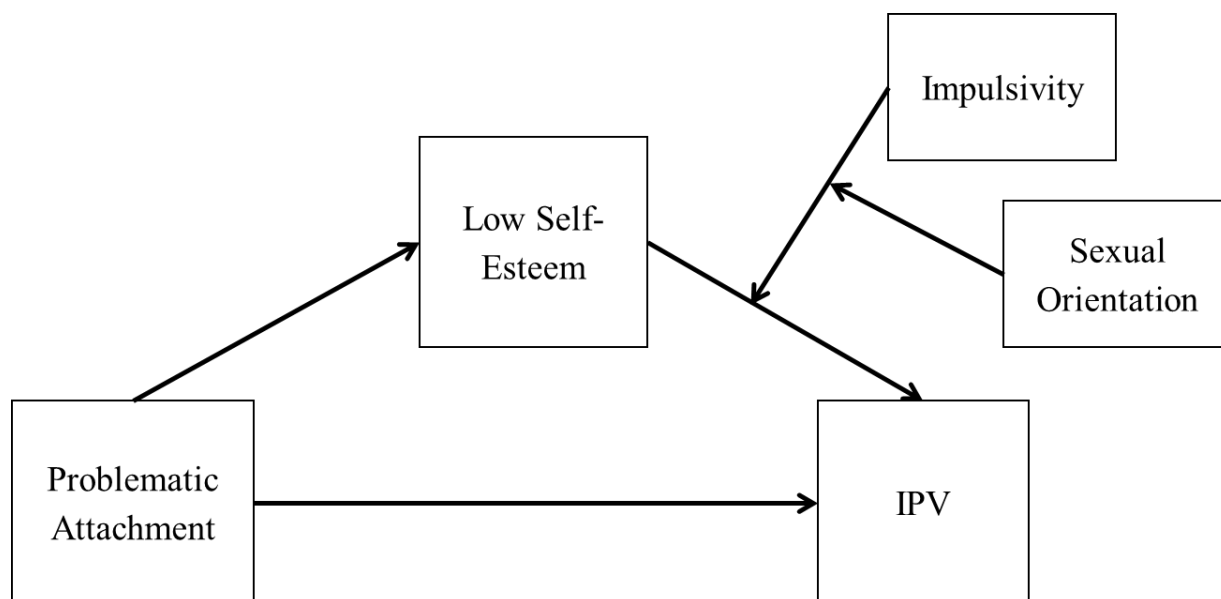


Figure 1. Model of Interaction Between Variables of Interest.

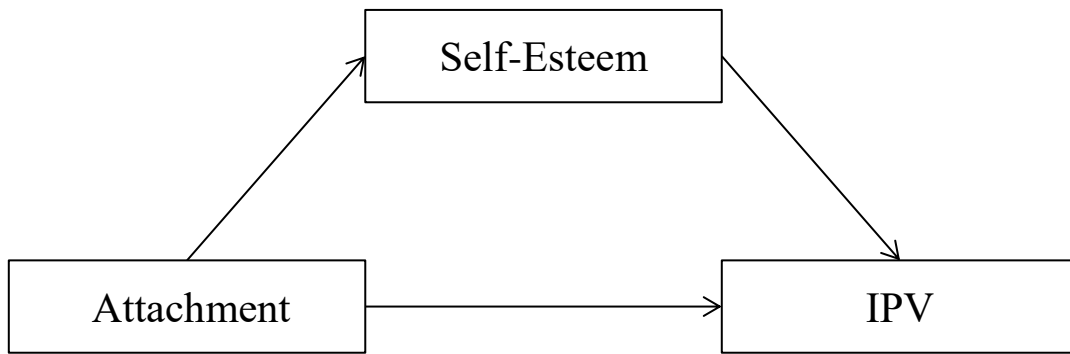


Figure 2. Conceptual Model of Mediation.

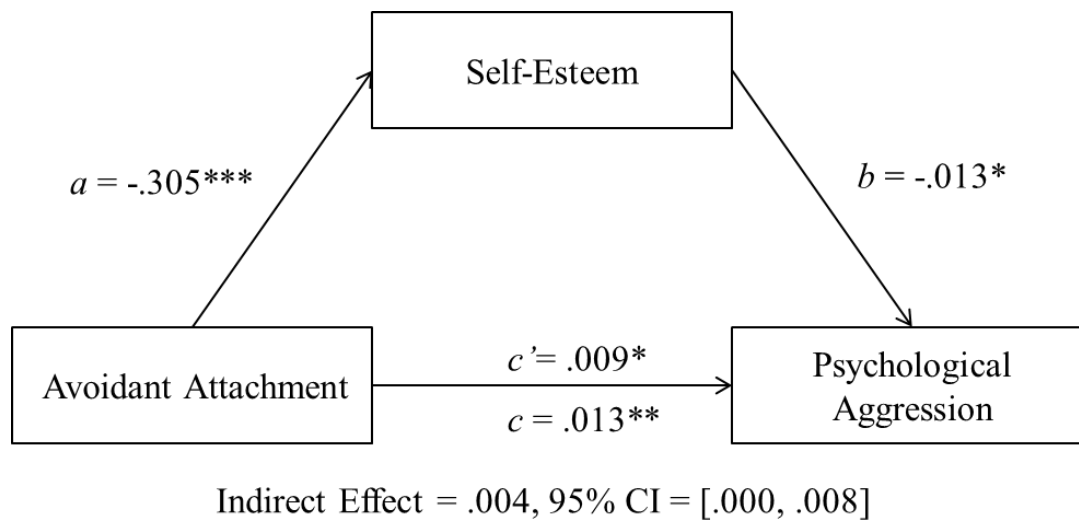


Figure 3. Significant Mediation Model for Avoidant Attachment and Psychological Aggression.
Note: $p < .05^*$, $p < .01^{**}$, $p < .001^{***}$

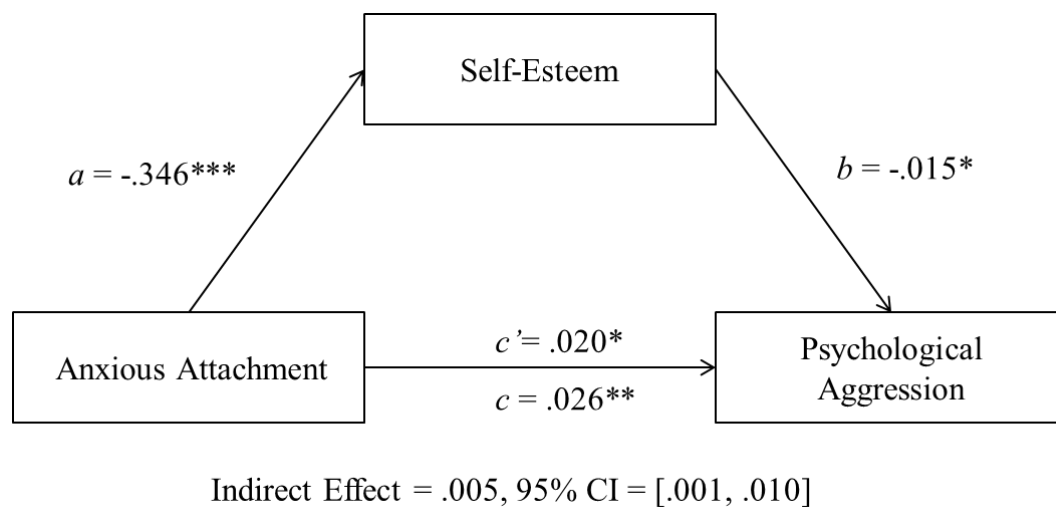


Figure 4. Significant Mediation Model for Anxious Attachment and Psychological Aggression.
Note: $p < .05^*$, $p < .01^{**}$, $p < .001^{***}$

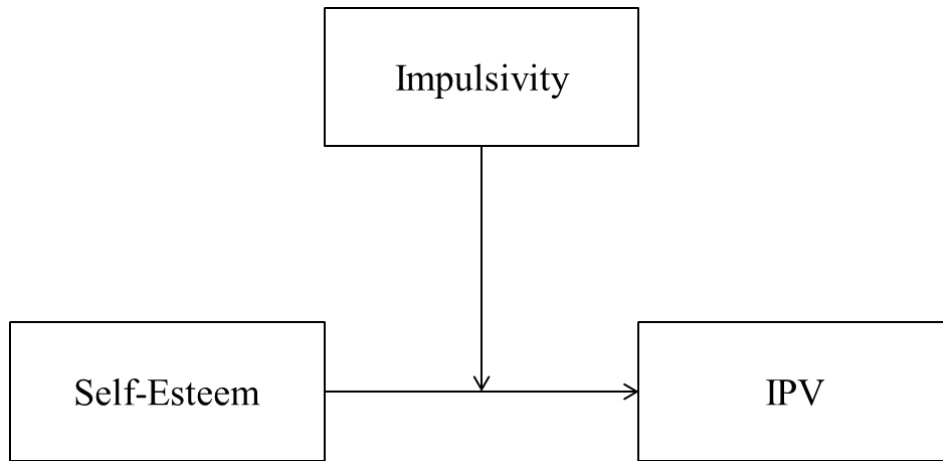


Figure 5. Conceptual Model of Moderation.

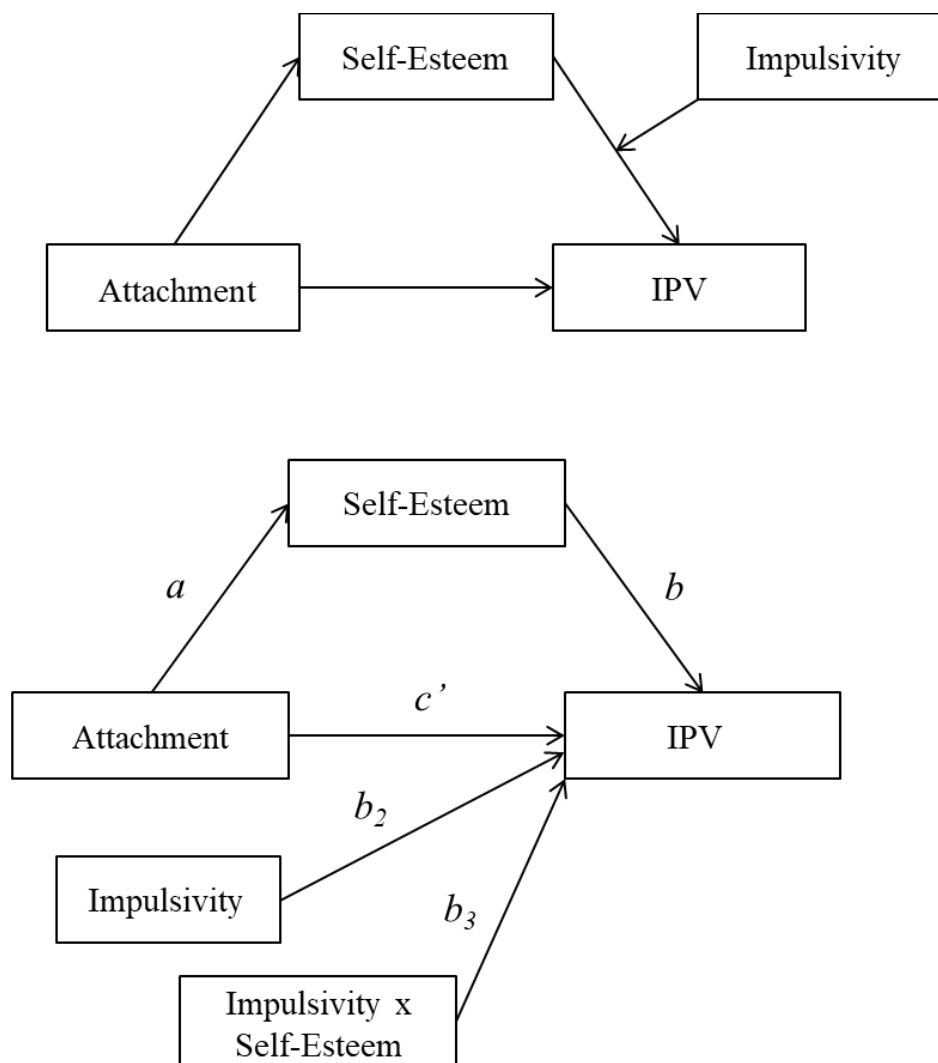


Figure 6. Conceptual Model and Statistical Model of Moderated Mediation.

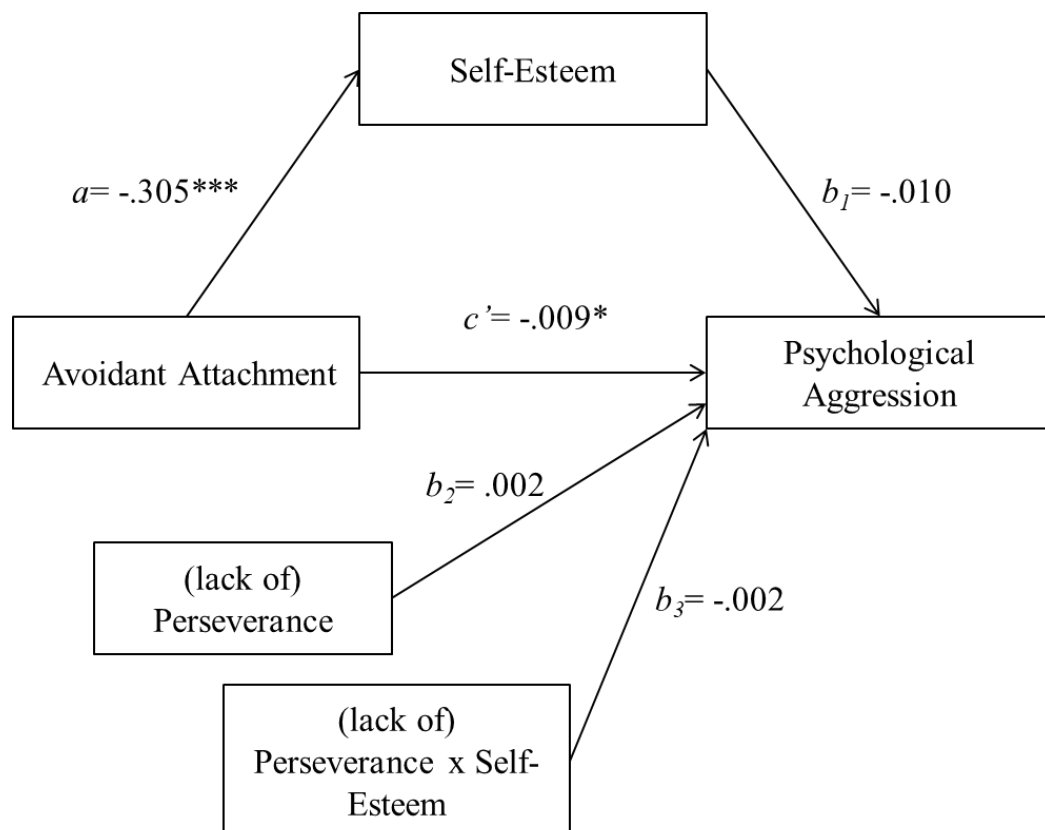


Figure 7. Significant Moderated Mediation Model for Avoidant Attachment, Self-Esteem, (lack of) Perseverance, and Psychological Aggression.

Note: $p < .05^*$, $p < .01^{**}$, $p < .001^{***}$

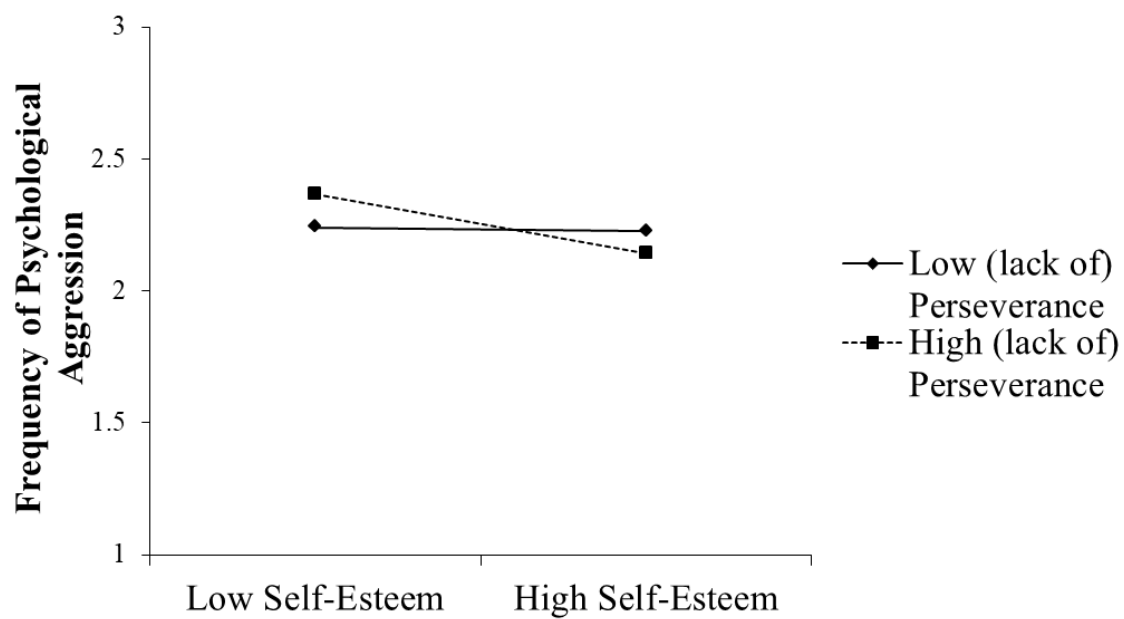


Figure 8. The Effect of (lack of) Perseverance on Self-Esteem, and Psychological Aggression.

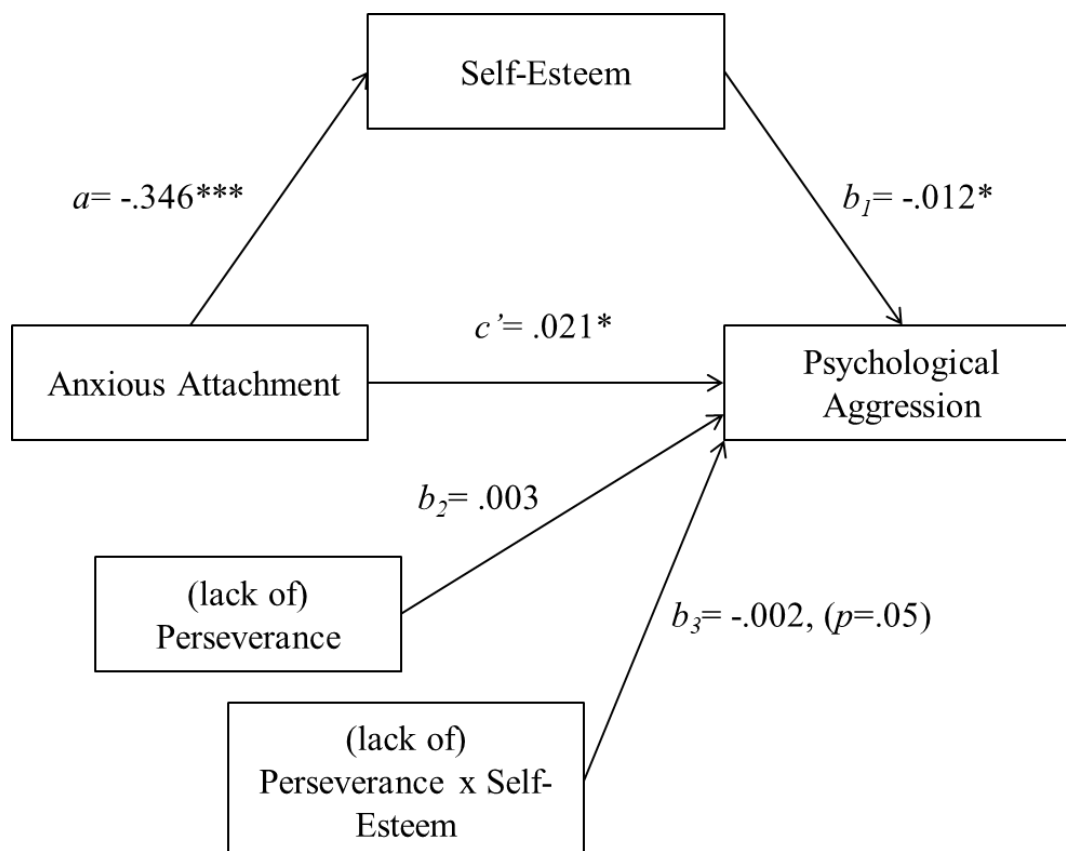


Figure 9. Significant Moderated Mediation Model for Anxious Attachment, Self-Esteem, (lack of) Perseverance, and Psychological Aggression.

Note: $p < .05^*$, $p < .01^{**}$, $p < .001^{***}$

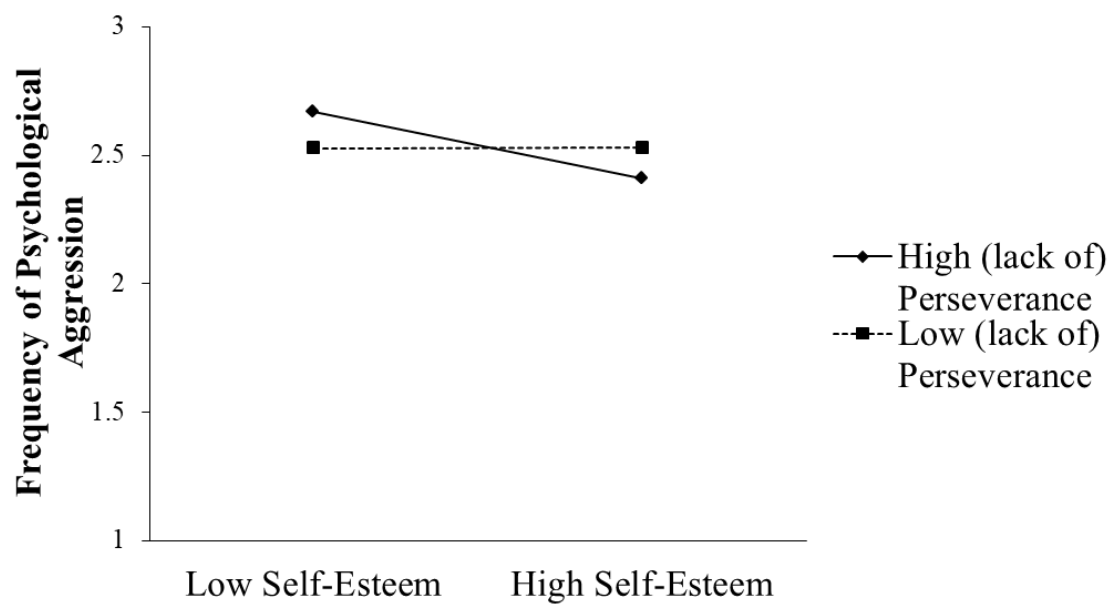


Figure 10. The Effect of (lack of) Perseverance on Self-esteem and Psychological Aggression.

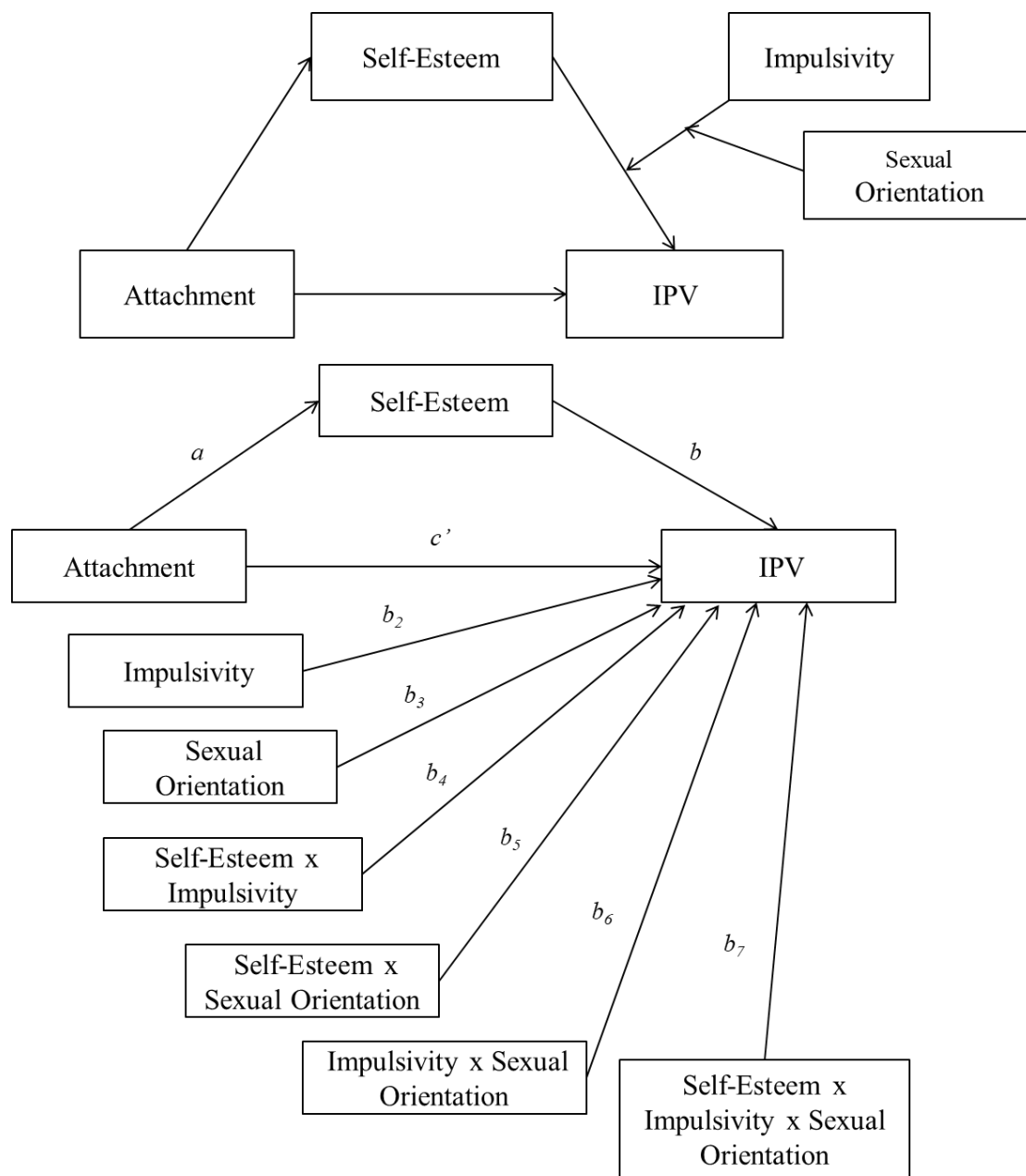


Figure 11. Conceptual Model and Statistical Model of Moderated Moderated Mediation.

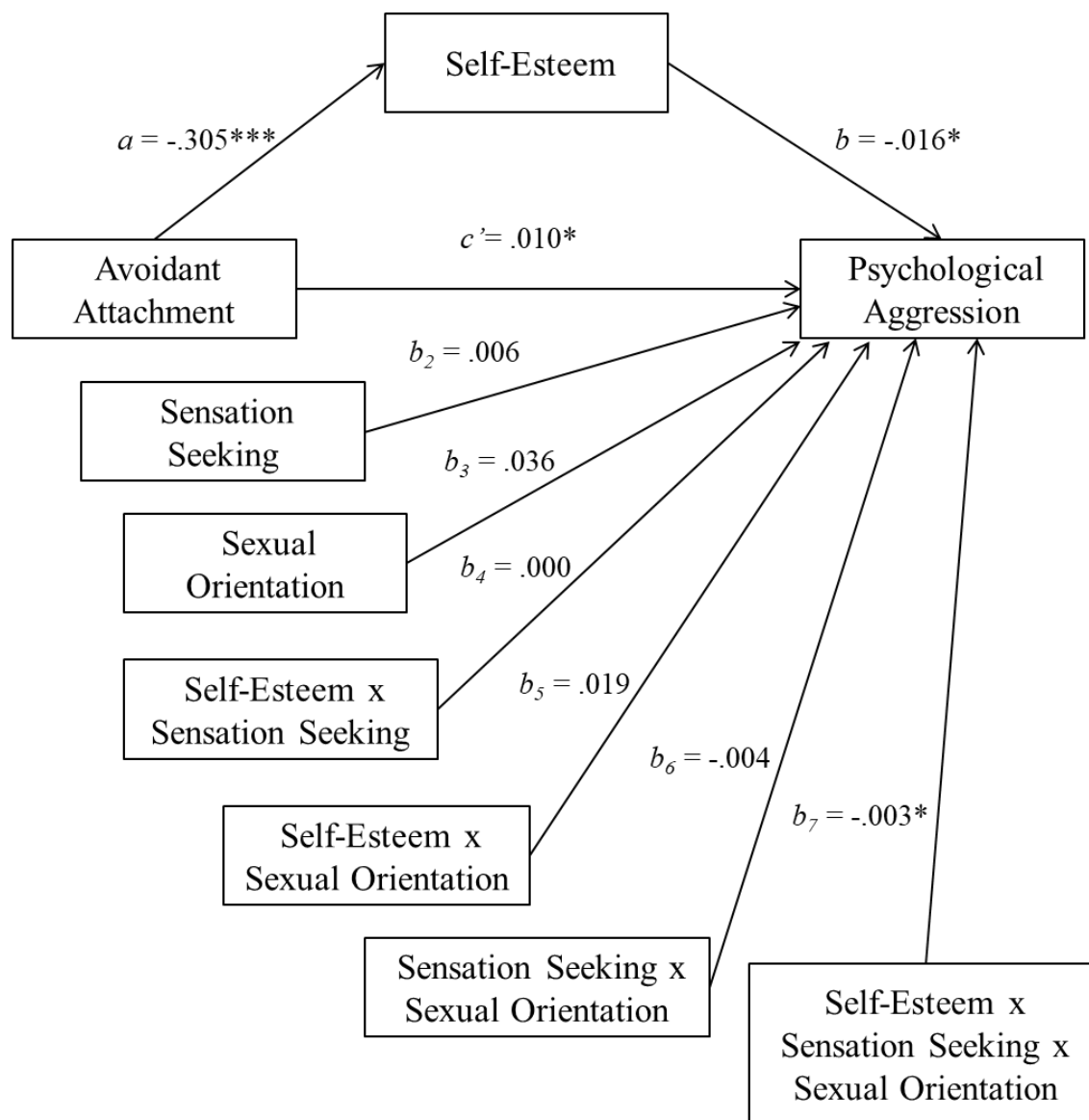


Figure 12. Statistical Model of Moderated Moderated Mediation Model for Avoidant Attachment, Self-Esteem, Sensation Seeking, and Sexual Orientation on Psychological Aggression.

Note: $p < .05^*$, $p < .01^{**}$, $p < .001^{***}$

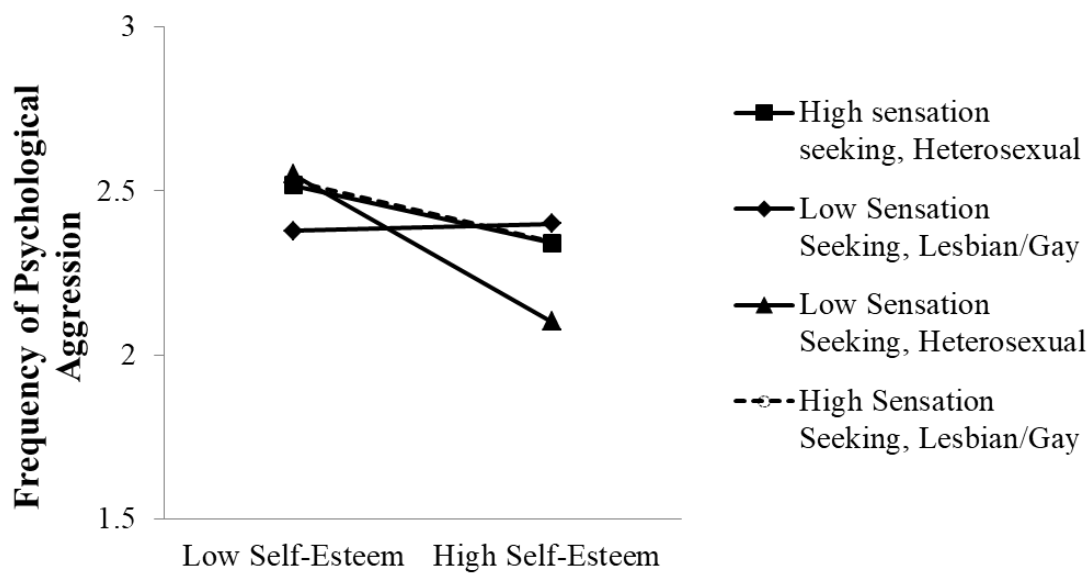


Figure 13. The Effect of Sexual Orientation and Sensation Seeking on Self-Esteem and Psychological Aggression.

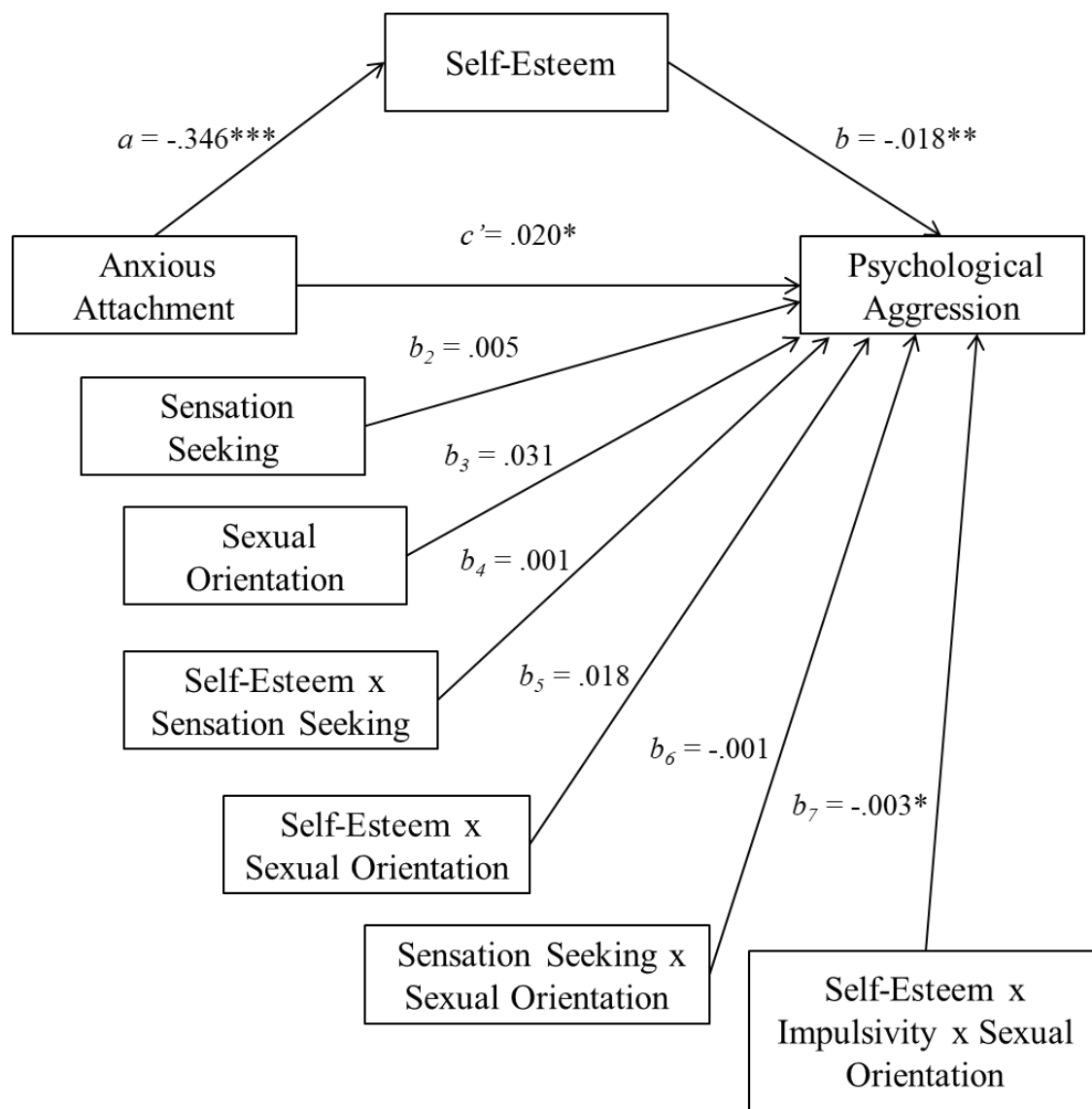


Figure 14. Statistical Model of Moderated Moderated Mediation for Anxious Attachment, Self-Esteem, Sensation Seeking, and Sexual Orientation on Psychological Aggression.

Note: $p < .05^*$, $p < .01^{**}$, $p < .001^{***}$

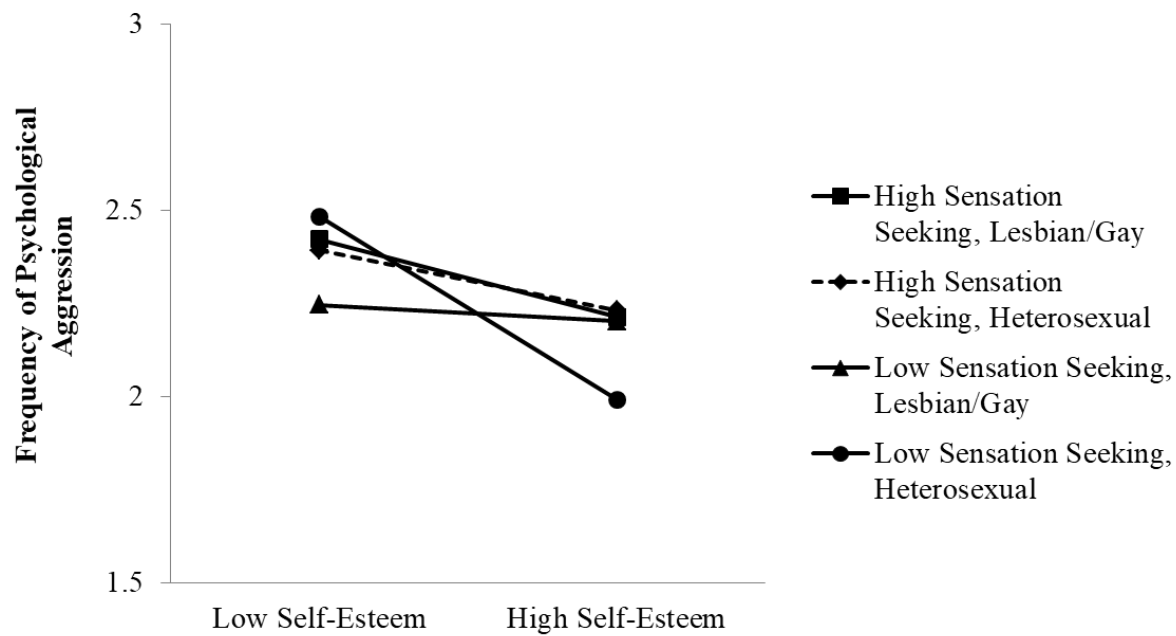


Figure 15. The Effect of Sexual Orientation and Sensation Seeking on Self-Esteem and Psychological Aggression.

Appendix C

Table 1. Collinearity Statistics

	Collinearity Statistics	
	Tolerance	VIF
Self-esteem	0.66	1.52
Avoidant Attachment	0.75	1.34
Anxious Attachment	0.77	1.30
(lack of) Premeditation	0.68	1.47
Negative Urgency	0.7	1.43
Sensation Seeking	0.87	1.15
(lack of) Perseverance	0.57	1.75

Table 2. Descriptive Statistics

	Variable	<i>M</i>	<i>SD</i>	Skewness	Skewness SE	Kurtosis	Kurtosis SE
1.	Self-Esteem	30.62	6.08	-0.341	0.12	-0.227	0.238
2.	Avoidant Attachment	31.73	8.34	-0.049	0.12	-0.526	0.238
3.	Anxious Attachment	13.54	4.3	0.314	0.12	-0.184	0.238
4.	(lack of) Premeditation	20.7	5.06	0.048	0.12	-0.411	0.238
5.	Sensation Seeking	33.12	6.81	-0.058	0.12	-0.185	0.238
6.	Negative Urgency	29.25	6.8	-0.03	0.12	-0.179	0.238
7.	Perseverance	19.82	5.09	0.204	0.12	-0.308	0.238
8.	Psychological Aggression	8.89	16.55	2.82	0.12	8.51	0.238
9.	Physical Aggression	1.81	10.62	11.98	0.12	160.1	0.238

Table 3. Results of Pearson Correlational Analysis

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Age	--															
2 Gender	-.30**	--														
3 Sexual Orientation	.45**	-.25**	--													
4 Race	-.04	-.01	.02	--												
5 Level of Education	.44**	-.19**	.39**	-.03	--											
6 Religion	.23**	-.18**	.48**	.07	.17**	--										
7 Income	-.08	.00	-.43**	-.09	-.06	-.29**	--									
8 Self-esteem	.06	.05	-.09	.06	.04	-.13**	.12*	--								
9 Avoidant Attachment	-.01	.05	.08	.15**	-.02	.10*	-.10*	-.42**	--							
10 Anxious Attachment	.01	.02	.10*	-.02	-.07	-.01	-.17**	-.26**	.34**	--						
11 Psychological Aggression	-.02	.04	-.01	.10*	-.11*	.00	-.05	-.17**	.18**	.18**	--					
12 Physical Aggression	-.08	.00	.00	.00	.03	-.12*	-.11*	-.09	.14**	.04	.48**	--				
13 (lack of) Premeditation	.02	-.01	-.09	-.05	.01	-.01	.02	-.04	-.02	.09	.04	.02	--			
14 Negative Urgency	-.04	.07	.01	-.03	-.09	-.06	-.04	-.34**	.31**	.42**	.36**	.13**	.20**	--		
15 Sensation Seeking	-.22**	.09	-.20**	.04	-.17**	-.04	.04	.24**	-.13**	-.06	.03	.01	.07	.08	--	
16 (lack of) Perseverance	-.03	-.05	-.01	-.07	-.02	.05	.00	-.39**	.23**	.12*	.09	.06	.50**	.27**	-.19**	--

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

Table 4. Means for Independent Samples T-test for Samples

	Facebook	College	Mean Difference	<i>t</i>	<i>p</i>
Age	27.44	18.68	8.76	12.29	.000
Gender	1.43	1.70	-0.26	-5.63	.000
Race	1.27	1.22	0.052	0.64	.141
Level of Education	3.84	2.70	1.14	10.72	.000
Income	4.30	6.19	-1.88	-9.36	.002

Table 5. Means for Independent Samples T-test for Sexual Orientation

	Hetero	Gay/ Lesbian	Mean Difference	<i>t</i>	<i>p</i>
Age	19.32	26.99	-7.67	-10.31	.000
Gender	1.68	1.44	0.246	5.20	.000
Race	1.23	1.26	-.030	-0.366	.365
Level of Education	2.80	3.76	-9.56	-8.76	.000
Income	6.19	4.24	1.95	9.73	.002

Table 6. Results of Mediation Analyses for Avoidant and Anxious Attachment Style, Self-Esteem, and Psychological Aggression.

	<i>b</i>	S.E.	<i>t</i>	<i>p</i>	95%CI	
					Lower	Upper
Avoidant Attachment						
Avoidant Att. → Self-esteem (a path)	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Psychological Agg.	-.013	.006	-2.06	.040	-.025	-.001
Avoidant Att. → Psychological Agg.	.013	.004	3.59	.000	.006	.021
Avoidant Att. → Psychological Agg, Indirect Effect	.009	.004	2.24	.026	.001	.017
Age	.004	.003	1.34	.182	-.002	.001
Gender	.043	.065	.656	.512	-.086	.171
Education	-.062	.021	-2.96	.003	-.104	-.021
Income	-.007	.014	-.480	.631	-.034	.021
Anxious Attachment						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Psychological Agg.	-.015	.006	-2.56	.011	-.026	-.003
Anxious Att. → Psychological Agg.	.026	.008	3.29	.001	.011	.042
Anxious Att. → Psychological Agg, Indirect Effect	.020	.008	2.32	.021	.003	.036
Age	.004	.003	1.22	.224	-.002	.009
Gender	.050	.065	.764	.445	-.078	.178
Education	-.060	.021	-2.66	.008	-.099	-.015
Income	-.003	.014	-.220	.826	-.031	.024

Table 7. Results of Mediation Analyses for Avoidant and Anxious Attachment, Self-Esteem, and Physical Aggression.

	<i>b</i>	S.E.	<i>t</i>	<i>p</i>	95%CI	
					Lower	Upper
<u>Avoidant Attachment</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Physical Agg.	-.001	.002	-.352	.725	-.005	.003
Avoidant Att. → Physical Agg.	.004	.002	1.78	.076	-.000	.009
Avoidant Att. → Physical Agg, Indirect Effect	.004	.002	1.61	.109	-.001	.008
Age	.000	.001	----	----	-.001	.002
Gender	-.001	.001	-1.17	.242	-.003	.001
Education	-.018	.030	-.614	.540	-.077	.040
Income	-.024	.011	-2.27	.024	-.045	-.003
	-.012	.007	-1.79	.074	-.024	.001
<u>Anxious Attachment</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Physical Agg.	-.003	.003	-1.12	.262	-.008	.002
Anxious Att. → Physical Agg.	.002	.003	.689	.491	-.004	.008
Anxious Att. → Physical Agg, Indirect Effect	-.000	.004	-.121	.904	-.008	.007
Age	.001	.001	----	----	-.001	.003
Gender	-.0011	.001	-1.03	.302	-.003	.001
Education	-.014	.028	-.476	.634	-.070	.042
Income	-.024	.011	-2.19	.029	-.046	-.003
	-.012	.007	-1.73	.084	-.026	.002

Table 8. Results of Moderation Analyses for Self-Esteem, Impulsivity, and Psychological Aggression.

	<i>b</i>	<i>S.E.</i>	<i>t</i>	<i>p</i>	95%CI	
					Lower	Upper
<u>(lack of) Premeditation</u>						
Self-esteem → Psychological Agg.	-.019	.006	-3.31	.001	-.029	-.007
Premeditation → Psychological Agg.	.005	.006	.820	.413	-.007	.017
Self-esteem x Premeditation	-.001	.001	-1.50	.135	-.003	.000
Age	.004	.003	1.46	.145	-.002	.010
Gender	.051	.065	.776	.439	-.078	.179
Education	-.061	.021	-2.84	.005	-.103	-.019
Income	-.009	.014	-.596	.552	-.036	.020
<u>Negative Urgency</u>						
Self-esteem → Psychological Agg.	-.005	.005	-.954	.341	-.016	.006
Negative Urg. → Psychological Agg.	.031	.005	6.25	.000	.021	.041
Self-esteem x Negative Urg.	-.001	.001	-1.55	.121	-.003	.000
Age	.003	.003	.934	.351	-.003	.009
Gender	.013	.063	.211	.833	-.110	.137
Education	-.049	.022	-2.26	.024	-.091	-.006
Income	-.009	.013	-.669	.504	-.035	.017
<u>Sensation Seeking</u>						
Self-esteem → Psychological Agg.	-.020	.006	-3.44	.001	-.031	-.008
Sensation Seeking → Psychological Agg.	.006	.005	1.21	.226	-.004	.015
Self-esteem x Sensation Seeking	.000	.001	-.044	.965	-.001	.001
Age	.005	.003	1.68	.094	-.001	.011
Gender	.054	.066	.817	.414	-.076	.184
Education	-.060	.021	-2.83	.005	-.101	-.018
Income	-.008	.014	-.566	.572	-.036	.020
<u>(lack of) Perseverance</u>						
Self-esteem → Psychological Agg.	-.015	.006	-2.80	.005	-.026	-.005
Perseverance → Psychological Agg.	.003	.007	.521	.603	-.010	.016
Self-esteem x Perseverance	-.002	.001	-1.73	.084	-.004	.000
Age	.004	.003	1.37	.170	-.002	.010
Gender	.057	.065	.866	.387	-.072	.185
Education	-.061	.021	-2.87	.004	-.103	-.019
Income	-.008	.014	-.539	.590	-.036	.020

Table 9. Results of Moderation Analyses for Self-Esteem, Impulsivity, and Physical Aggression.

	<i>b</i>	<i>S.E.</i>	<i>t</i>	<i>p</i>	95% CI	
					Lower	Upper
<u>(lack of) Premeditation</u>						
Self-esteem → Physical Agg.	-.003	.002	-1.15	.251	-.007	.002
Premeditation → Physical Agg.	.001	.004	.321	.748	-.006	.008
Self-esteem x Premeditation	.000	.001	.599	.550	-.001	.001
Age	-.001	.001	-1.03	.305	-.003	.001
Gender	-.013	.028	-.451	.652	-.068	.043
Education	-.025	.011	-2.23	.027	-.047	-.003
Income	-.012	.007	-1.81	.071	-.026	.001
<u>Negative Urgency</u>						
Self-esteem → Physical Agg.	-.001	.002	-.442	.659	-.006	.004
Negative Urg. → Physical Agg.	.004	.002	2.17	.030	.000	.008
Self-esteem x Negative Urg.	-.000	.000	-.709	.479	-.001	.000
Age	-.001	.001	-1.11	.267	-.004	.001
Gender	-.020	.031	-.655	.513	-.080	.040
Education	-.022	.011	-2.09	.037	-.043	-.001
Income	-.012	.007	-1.82	.069	-.026	.001
<u>Sensation Seeking</u>						
Self-esteem → Physical Agg.	-.003	.003	-1.21	.227	-.008	.002
Sensation Seeking → Physical Agg.	.000	.002	.043	.966	-.004	.004
Self-esteem x Sensation Seeking	-.000	.000	-.716	.474	-.001	.000
Age	-.001	.001	-1.06	.292	-.003	.001
Gender	-.012	.029	-.428	.669	-.068	.044
Education	-.024	.011	-2.22	.027	-.045	-.003
Income	-.013	.007	-1.80	.072	-.026	.001
<u>(lack of) Perseverance</u>						
Self-esteem → Physical Agg.	-.002	.002	-.878	.381	-.007	.003
Perseverance → Physical Agg.	.002	.003	.653	.514	-.003	.007
Self-esteem x Perseverance	-.000	.000	-1.06	.288	-.001	.000
Age	-.001	.001	-1.03	.301	-.003	.001
Gender	-.013	.029	-.453	.651	-.069	.043
Education	-.024	.011	-2.21	.028	-.045	-.003
Income	-.012	.007	-1.79	.074	-.025	.001

Table 10. Results of Moderated Mediation Analyses for Avoidant Attachment, Impulsivity, and Psychological Aggression.

	<i>b</i>	S.E.	<i>t</i>	<i>p</i>	95% CI	
					Lower	Upper
<u>(lack of) Premeditation</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Psychological Agg.	-.012	.006	-2.08	.038	-.024	-.001
Avoidant Att. → Psychological Agg.	.010	.004	2.51	.013	.002	.018
Premeditation → Psychological Agg.	.006	.006	.949	.343	-.006	.018
Premeditation x Self-esteem → Psychological Agg.	-.002	.001	-1.72	.085	-.004	.000
Index of Moderated Mediation	.001	.000	----	----	-.000	.001
<u>Negative Urgency</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Psychological Agg.	-.003	.006	-.476	.634	-.014	.008
Avoidant Att. → Psychological Agg.	.005	.004	1.32	.186	-.002	.012
Negative Urg. → Psychological Agg.	.030	.005	-.476	.634	.020	.040
Negative Urg. x Self-esteem → Psychological Agg.	-.001	.001	-1.61	.109	-.003	.000
Index of Moderated Mediation	.000	.000	----	----	-.000	.001
<u>Sensation Seeking</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Psychological Agg.	-.014	.006	-2.30	.022	-.027	-.002
Avoidant Att. → Psychological Agg.	.009	.004	2.26	.024	.001	.017
Sensation Seeking. → Psychological Agg.	.006	.005	1.27	.203	-.003	.016
Sensation Seeking x Self-esteem → Psychological Agg.	-.000	.001	-.124	.901	-.002	.001
Index of Moderated Mediation	.000	.000	----	----	-.000	.000
<u>(lack of) Perseverance</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Psychological Agg.	-.010	.006	-1.73	.084	-.022	.001
Avoidant Att. → Psychological Agg.	.009	.004	2.30	.022	.001	.017
Perseverance → Psychological Agg.	.002	.007	.335	.738	-.011	.015
Perseverance x Self-esteem → Psychological Agg.	-.002	.001	-1.75	.081	-.004	.000
Index of Moderated Mediation	.001	.000	----	----	.000	.001

Table 11. Results of Moderated Mediation Analyses for Avoidant Attachment, Impulsivity, and Physical Aggression.

	<i>b</i>	S.E.	<i>t</i>	<i>P</i>	95% CI	
					Lower	Upper
<u>(lack of) Premeditation</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Physical Agg.	-.030	.051	-.585	.559	-.131	.071
Avoidant Att. → Physical Agg.	.133	.099	1.35	.179	-.061	.327
Premeditation → Physical Agg.	.032	.171	.187	.851	-.305	.369
Premeditation x Self-esteem → Physical Agg.	.017	.027	.637	.525	-.036	.070
Index of Moderated Mediation	-.005	.008	----	----	-.024	.008
<u>Negative Urgency</u>						
Avoidant Att. → Self-esteem (a path)	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Physical Agg. (b ₁ path)	.007	.052	.127	.899	-.092	.362
Avoidant Att. → Physical Agg. (c' path)	.135	.115	1.17	.244	-.092	.362
Negative Urg. → Physical Agg. (b ₂ path)	.085	.058	1.46	.144	-.029	.200
Negative Urg. x Self-esteem → Physical Agg. (b ₃ path)	-.015	.017	-.856	.393	-.049	.019
Index of Moderated Mediation	.005	.005	----	----	-.003	.017
<u>Sensation Seeking</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Physical Agg.	-.039	.059	-.664	.507	-.156	.077
Avoidant Att. → Physical Agg.	.142	.113	1.26	.210	-.080	.365
Sensation Seeking. → Physical Agg.	-.008	.074	-.110	.912	-.153	.136
Sensation Seeking x Self-esteem → Physical Agg.	-.012	.012	-.994	.321	-.036	.012
Index of Moderated Mediation	.004	.004	----	----	-.002	.012
<u>(lack of) Perseverance</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Physical Agg.	.009	.052	.167	.868	-.094	.111
Avoidant Att. → Physical Agg.	.138	.111	1.24	.215	-.080	.355
Perseverance → Physical Agg.	.097	.093	1.04	.297	-.086	.280
Perseverance x Self-esteem → Physical Agg.	-.013	.012	-1.07	.287	-.036	.011
Index of Moderated Mediation	.004	.004	----	----	-.002	.013

Table 12. Results of Moderated Mediation Analyses for Anxious Attachment, Impulsivity, and Psychological Aggression.

	<i>b</i>	S.E.	<i>t</i>	<i>P</i>	95% CI	
					Lower	Upper
<u>(lack of) Premeditation</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Psychological Agg.	-.015	.006	-2.59	.010	-.026	-.004
Anxious Att. → Psychological Agg.	.019	.009	2.25	.025	.003	.036
Premeditation → Psychological Agg.	.004	.006	.606	.545	-.009	.016
Premeditation x Self-esteem → Psychological Agg.	-.002	.001	-1.52	.130	-.003	.000
Index of Moderated Mediation	.001	.000	----	----	-.000	.001
<u>Negative Urgency</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Psychological Agg.	-.005	.006	-.881	.379	-.016	.006
Anxious Att. → Psychological Agg.	.004	.008	.457	.648	-.012	.020
Negative Urg. → Psychological Agg.	.030	.005	5.92	.000	.020	.040
Negative Urg. x Self-esteem → Psychological Agg.	-.001	.001	-1.57	.117	-.003	.000
Index of Moderated Mediation	.000	.000	----	----	-.000	.001
<u>Sensation Seeking</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Psychological Agg.	-.016	.006	-2.69	.007	-.028	-.004
Anxious Att. → Psychological Agg.	.020	.009	2.32	.021	.003	.036
Sensation Seeking. → Psychological Agg.	.006	.005	1.21	.226	-.004	.016
Sensation Seeking x Self-esteem → Psychological Agg.	.000	.001	.179	.858	-.001	.002
Index of Moderated Mediation	.000	.000	----	----	-.001	.001
<u>(lack of) Perseverance</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Psychological Agg.	-.012	.006	-2.01	.045	-.023	-.001
Anxious Att. → Psychological Agg.	.021	.009	2.50	.013	.005	.038
Perseverance → Psychological Agg.	.003	.007	.448	.655	-.010	.016
Perseverance x Self-esteem → Psychological Agg.	-.002	.001	-2.00	.046	-.004	.000
Index of Moderated Mediation	.001	.000	----	----	.000	.002

Table 13. Results of Moderated Mediation Analyses for Anxious Attachment, Impulsivity, and Physical Aggression.

	<i>b</i>	S.E.	<i>t</i>	<i>p</i>	95%CI	
					Lower	Upper
<u>(lack of) Premeditation</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Physical Agg.	-.128	.111	-1.15	.250	-.346	.090
Anxious Att. → Physical Agg.	-.127	.165	-.772	.441	-.452	.197
Premeditation → Physical Agg.	.031	.168	.185	.853	-.299	.361
Premeditation x Self-esteem → Physical Agg.	.021	.029	.710	.478	-.037	.078
Index of Moderated Mediation	-.007	.010	----	----	-.030	.008
<u>Negative Urgency</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Physical Agg.	-.078	.082	-.958	.338	-.239	.083
Anxious Att. → Physical Agg.	-.197	.212	-.929	.354	-.614	.220
Negative Urg. → Physical Agg.	.160	.113	1.42	.157	-.062	.381
Negative Urg. x Self-esteem → Physical Agg.	-.012	.015	-.791	.429	-.041	.018
Index of Moderated Mediation	.004	.005	----	----	-.003	.016
<u>Sensation Seeking</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Physical Agg.	-.143	.135	-1.06	.291	-.409	.123
Anxious Att. → Physical Agg.	-.132	.181	-.727	.467	-.487	.224
Sensation Seeking. → Physical Agg.	-.014	.071	-.196	.845	-.154	.126
Sensation Seeking x Self-esteem → Physical Agg.	-.012	.013	-.962	.336	-.037	.013
Index of Moderated Mediation	.004	.005	----	----	-.003	.014
<u>(lack of) Perseverance</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Physical Agg.	-.086	.099	-.869	.385	-.281	.109
Anxious Att. → Physical Agg.	-.115	.166	-.691	.490	-.441	.212
Perseverance → Physical Agg.	.117	.098	1.19	.233	-.076	.310
Perseverance x Self-esteem → Physical Agg.	-.010	.010	-1.04	.299	-.029	.009
Index of Moderated Mediation	.004	.004	----	----	-.001	.012

Table 14. Results of Moderated Moderated Mediation Analyses for Avoidant Attachment, (lack of Premeditation, Negative Urgency, and Psychological Aggression).

	<i>b</i>	S.E.	<i>t</i>	<i>p</i>	95%CI	
					Lower	Upper
<u>(lack of) Premeditation</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Psychological Agg.	-.014	.006	-2.19	.029	-.026	-.001
Avoidant Att. → Psychological Agg.	.010	.004	2.42	.016	.002	.018
Premeditation → Psychological Agg.	.004	.006	.665	.506	-.008	.017
Sexual Orientation → Psychological Agg.	.002	.087	.020	.984	-.170	.173
Self-esteem x Premeditation → Psychological Agg.	-.001	.001	-1.22	.223	-.003	.001
Self-esteem x Sexual Orientation → Psychological Agg.	.019	.011	1.66	.099	-.004	.041
Premeditation x Sexual Orientation → Psychological Agg.	-.008	.013	-.583	.560	-.033	.018
Self-esteem x Premeditation x Sexual Orientation → Psychological Agg.	-.003	.002	-1.27	.204	-.007	.001
Index of Moderated Moderated Mediation	.001	.001	----	----	-.000	.002
<u>Negative Urgency</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Psychological Agg.	-.004	.006	-.743	.458	-.016	.007
Avoidant Att. → Psychological Agg.	.005	.004	1.42	.158	-.002	.013
Negative Urg. → Psychological Agg.	.029	.006	5.02	.000	.017	.040
Sexual Orientation → Psychological Agg.	-.019	.087	-.214	.830	-.190	.152
Self-esteem x Negative Urg. → Psychological Agg.	-.001	.001	-1.16	.247	-.003	.001
Self-esteem x Sexual Orientation → Psychological Agg.	.023	.011	2.01	.045	.001	.045
Negative Urg. x Sexual Orientation → Psychological Agg.	.011	.011	.956	.340	-.011	.032
Self-esteem x Negative Urg. x Sexual Orientation → Psychological Agg.	-.001	.002	-.322	.748	-.004	.003
Index of Moderated Moderated Mediation	.000	.001	----	----	-.001	.001

Table 15. Results of Moderated Moderated Mediation Analyses for Avoidant Attachment, Sensation Seeking, (lack of) Perseverance, and Psychological Aggression.

	<i>b</i>	S.E.	<i>t</i>	<i>p</i>	95% CI	
					Lower	Upper
<u>Sensation Seeking</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Psychological Agg.	-.016	.007	-2.50	.013	-.029	-.004
Avoidant Att. → Psychological Agg.	.010	.004	2.30	.022	.001	.018
Sensation Seeking → Psychological Agg.	.006	.005	1.12	.264	-.004	.015
Sexual Orientation → Psychological Agg.	.036	.089	.402	.688	-.139	.211
Self-esteem x Sensation Seeking → Psychological Agg.	.000	.001	.387	.699	-.001	.002
Self-esteem x Sexual Orientation → Psychological Agg.	.019	.012	1.62	.106	-.004	.042
Sensation Seeking x Sexual Orientation → Psychological Agg.	-.004	.010	-.381	.703	-.024	.016
Self-esteem x Sensation Seeking x Sexual Orientation → Psychological Agg.	-.003	.001	-2.28	.023	-.005	-.000
Index of Moderated Moderated Mediation	.001	.000	----	----	.000	.002
<u>(lack of) Perseverance</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-.377	-.233
Self-esteem → Psychological Agg.	-.012	.006	-1.87	.062	-.024	.001
Avoidant Att. → Psychological Agg.	.009	.004	2.24	.026	.001	.017
Perseverance → Psychological Agg.	.002	.007	.262	.794	-.011	.015
Sexual Orientation → Psychological Agg.	.000	.087	.003	.998	-.171	.172
Self-esteem x Perseverance → Psychological Agg.	-.002	.001	-1.75	.080	-.004	.000
Self-esteem x Sexual Orientation → Psychological Agg.	.020	.011	1.75	.080	-.002	.042
Perseverance x Sexual Orientation → Psychological Agg.	-.009	.013	-.641	.522	-.035	.018
Self-esteem x Perseverance x Sexual Orientation → Psychological Agg.	-.000	.002	-.038	.970	-.004	.004
Index of Moderated Moderated Mediation	.000	.001	----	----	-.001	.001

Table 16. Results of Moderated Moderated Mediation Analyses for Avoidant Attachment, (lack of) Premeditation, Negative Urgency, and Physical Aggression.

	<i>b</i>	S.E.	<i>t</i>	<i>p</i>	95%CI	
					Lower	Upper
<u>(lack of) Premeditation</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-3.77	-.233
Self-esteem → Physical Agg.	-.000	.002	-.139	.889	-.005	.004
Avoidant Att. → Physical Agg.	.003	.002	1.63	.104	-.001	.008
Premeditation → Physical Agg.	.002	.003	.660	.510	-.004	.009
Sexual Orientation → Physical Agg.	.005	.027	.192	.848	-.047	.058
Self-esteem x Premeditation → Physical Agg.	.000	.001	-.087	.931	-.001	.001
Self-esteem x Sexual Orientation → Physical Agg.	.002	.005	.408	.683	-.007	.011
Premeditation x Sexual Orientation → Physical Agg.	-.013	.006	-1.94	.053	-.025	.000
Self-esteem x Premeditation x Sexual Orientation → Physical Agg.	.001	.001	1.24	.217	-.001	.004
Index of Moderated Moderated Mediation	-.000	.000	----	----	-.001	.000
<u>Negative Urgency</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-3.77	-.233
Self-esteem → Physical Agg.	.001	.003	.234	.816	-.004	.005
Avoidant Att. → Physical Agg.	.003	.002	1.38	.167	-.001	.008
Negative Urg. → Physical Agg.	.003	.002	1.35	.177	-.001	.007
Sexual Orientation → Physical Agg.	-.013	.032	-.418	.676	-.077	.050
Self-esteem x Negative Urg. → Physical Agg.	-.000	.000	-.371	.711	-.001	.001
Self-esteem x Sexual Orientation → Physical Agg.	.002	.005	.652	.515	-.007	.013
Negative Urg. x Sexual Orientation → Physical Agg.	.002	.004	.353	.725	-.007	.010
Self-esteem x Negative Urg. x Sexual Orientation → Physical Agg.	-.001	.001	-1.36	.174	-.003	.001
Index of Moderated Moderated Mediation	.000	.000	----	----	-.000	.001

Table 17. Results of Moderated Moderated Mediation Analyses for Avoidant Attachment, Sensation Seeking, (lack of) Perseverance, and Physical Aggression.

	<i>b</i>	S.E.	<i>t</i>	<i>p</i>	95%CI	
					Lower	Upper
<u>Sensation Seeking</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-3.77	-.233
Self-esteem → Physical Agg.	-.002	.002	-.679	.498	-.006	.003
Avoidant Att. → Physical Agg.	.004	.002	1.65	.100	-.001	.008
Sensation Seeking → Physical Agg.	.000	.002	.139	.889	-.004	.005
Sexual Orientation → Physical Agg.	.020	.036	.546	.585	-.052	.091
Self-esteem x Sensation Seeking → Physical Agg.	-.000	.000	-.458	.647	-.001	.001
Self-esteem x Sexual Orientation → Physical Agg.	.001	.006	.125	.901	-.011	.012
Sensation Seeking x Sexual Orientation → Physical Agg.	.001	.004	.187	.852	-.007	.008
Self-esteem x Sensation Seeking x Sexual Orientation → Physical Agg.	-.001	.001	-1.41	.158	-.003	.001
Index of Moderated Moderated Mediation	.000	.000	----	----	.000	.001
<u>(lack of) Perseverance</u>						
Avoidant Att. → Self-esteem	-.305	.037	-8.36	.000	-3.77	-.233
Self-esteem → Physical Agg.	.000	.002	-.005	.996	-.005	.005
Avoidant Att. → Physical Agg.	.004	.002	1.56	.121	-.001	.008
Perseverance → Physical Agg.	.001	.003	.507	.612	-.004	.007
Sexual Orientation → Physical Agg.	.006	.030	.200	.841	-.053	.065
Self-esteem x Perseverance → Physical Agg.	-.000	.000	-1.10	.271	-.001	.000
Self-esteem x Sexual Orientation → Physical Agg.	.001	.005	.226	.821	-.008	.010
(Perseverance x Sexual Orientation → Physical Agg.	-.005	.005	-.902	.367	-.015	.006
Self-esteem x Perseverance x Sexual Orientation → Physical Agg.	.000	.001	.029	.977	-.001	.001
Index of Moderated Moderated Mediation	.000	.000	----	----	-.000	.000

Table 18. Results of Moderated Moderated Mediation Analyses for Anxious Attachment, (lack of) Premeditation, Negative Urgency, and Psychological Aggression.

	<i>b</i>	S.E.	<i>t</i>	<i>p</i>	95% CI	
					Lower	Upper
<u>(lack of) Premeditation</u>						
Anxious Att. → Self-esteem	-.343	.067	-5.16	.000	-.478	-.215
Self-esteem → Psychological Agg.	-.016	.006	-2.69	.007	-.028	-.004
Anxious Att. → Psychological Agg.	.019	.009	2.17	.031	.002	.036
Premeditation → Psychological Agg.	.002	.007	.362	.717	-.011	.015
Sexual Orientation → Psychological Agg.	-.003	.089	-.033	.974	-.177	.171
Self-esteem x (lack of) Premeditation → Psychological Agg.	-.001	.001	-1.04	.300	-.003	.001
Self-esteem x Sexual Orientation → Psychological Agg.	.019	.011	1.66	.098	-.003	.040
Premeditation x Sexual Orientation → Psychological Agg.	-.009	.013	-.680	.497	-.034	.017
Self-esteem x Premeditation x Sexual Orientation → Psychological Agg.	-.002	.002	-1.13	.258	-.006	.002
Index of Moderated Moderated Mediation	.001	.001	----	----	-.001	.002
<u>Negative Urgency</u>						
Anxious Att. → Self-esteem	-.343	.067	-5.16	.000	-.478	-.215
Self-esteem → Psychological Agg.	-.007	.006	-1.16	.248	-.018	.005
Anxious Att. → Psychological Agg.	.004	.009	.480	.632	-.013	.021
Negative Urg. → Psychological Agg.	.029	.006	5.09	.000	.018	.040
Sexual Orientation → Psychological Agg.	-.014	.088	-.156	.877	-.187	.159
Self-esteem x Negative Urg. → Psychological Agg.	-.001	.001	-1.12	.263	-.003	.001
Self-esteem x Sexual Orientation → Psychological Agg.	.022	.011	1.98	.048	.000	.044
Negative Urg. x Sexual Orientation → Psychological Agg.	.010	.011	.921	.358	-.012	.032
Self-esteem x Negative Urg. x Sexual Orientation → Psychological Agg.	-.000	.002	-.237	.813	-.004	.003
Index of Moderated Moderated Mediation	.000	.001	----	----	-.001	.001

Table 19. Results of Moderated Moderated Mediation Analyses for Anxious Attachment, Sensation Seeking, (lack of) Perseverance, and Psychological Aggression.

	<i>b</i>	S.E.	<i>t</i>	<i>p</i>	95% CI	
					Lower	Upper
<u>Sensation Seeking</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Psychological Agg.	-.018	.006	-3.01	.003	-.030	-.006
Anxious Att. → Psychological Agg.	.020	.008	2.42	.016	.004	.037
Sensation Seeking → Psychological Agg.	.005	.005	1.07	.286	-.005	.015
Sexual Orientation → Psychological Agg.	.031	.091	.345	.730	-.147	.209
Self-esteem x Sensation Seeking → Psychological Agg.	.001	.001	.742	.459	-.001	.002
Self-esteem x Sexual Orientation → Psychological Agg.	.018	.011	1.58	.115	-.004	.041
Sensation Seeking x Sexual Orientation → Psychological Agg.	-.001	.010	.097	.923	-.021	.019
Self-esteem x Sensation Seeking x Sexual Orientation → Psychological Agg.	-.003	.001	-2.37	.018	-.006	-.001
Index of Moderated Moderated Mediation	.001	.001	----	----	.000	.002
<u>(lack of) Perseverance</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Psychological Agg.	-.013	.006	-2.18	.030	-.025	-.001
Anxious Att. → Psychological Agg.	.021	.009	2.41	.016	.004	.038
Perseverance → Psychological Agg.	.002	.007	.362	.718	-.011	.015
Sexual Orientation → Psychological Agg.	-.001	.089	-.007	.995	-.175	.173
Self-esteem x (lack of) Perseverance → Psychological Agg.	-.002	.001	-1.95	.052	-.004	.000
Self-esteem x Sexual Orientation → Psychological Agg.	.020	.011	1.76	.080	-.002	.042
(lack of) Perseverance x Sexual Orientation → Psychological Agg.	-.007	.013	-.510	.610	-.033	.020
Self-esteem x (lack of) Perseverance x Sexual Orientation → Psychological Agg.	.000	.002	-.011	.991	-.004	.004
Index of Moderated Moderated Mediation	.000	.001	----	----	-.001	.001

Table 20. Results of Moderated Moderated Mediation Analyses for Anxious Attachment, (lack of) Premeditation, Negative Urgency, and Physical Aggression.

	<i>b</i>	S.E.	<i>t</i>	<i>p</i>	95%CI	
					Lower	Upper
<u>(lack of) Premeditation</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Physical Agg.	-.002	.002	-.952	.342	-.007	.003
Anxious Att. → Physical Agg.	-.000	.004	-.079	.938	-.007	.007
Premeditation → Physical Agg.	.002	.003	.597	.551	-.005	.008
Sexual Orientation → Physical Agg.	.008	.028	.275	.784	-.048	.063
Self-esteem x Premeditation → Physical Agg.	.000	.001	.070	.944	-.001	.001
Self-esteem x Sexual Orientation → Physical Agg.	.002	.005	.426	.670	-.007	.011
Premeditation x Sexual Orientation → Physical Agg.	-.013	.007	-1.96	.051	-.026	.000
Self-esteem x Premeditation x Sexual Orientation → Physical Agg.	.001	.001	1.26	.210	-.001	.004
Index of Moderated Moderated Mediation	-.001	.000	----	----	-.001	.000
<u>Negative Urgency</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Physical Agg.	-.001	.003	-.521	.603	-.006	.004
Anxious Att. → Physical Agg.	-.003	.004	-.767	.443	-.012	.005
Negative Urg. → Physical Agg.	.005	.003	1.81	.071	-.000	.009
Sexual Orientation → Physical Agg.	-.009	.033	-.264	.792	-.074	.056
Self-esteem x Negative Urg. → Physical Agg.	-.000	.000	-.231	.818	-.001	.001
Self-esteem x Sexual Orientation → Physical Agg.	.003	.005	.579	.563	-.007	.013
Negative Urg. x Sexual Orientation → Physical Agg.	.001	.004	.245	.807	-.007	.009
Self-esteem x Negative Urg. x Sexual Orientation → Physical Agg.	-.001	.001	-1.31	.192	-.003	.001
Index of Moderated Moderated Mediation	.000	.000	----	----	-.000	.001

Table 21. Results of Moderated Moderated Mediation Analyses for Anxious Attachment, Sensation Seeking, (lack of) Perseverance, and Physical Aggression.

	<i>b</i>	S.E.	<i>t</i>	<i>p</i>	95% CI	
					Lower	Upper
<u>Sensation Seeking</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Physical Agg.	-.004	.003	-1.24	.215	-.010	.002
Anxious Att. → Physical Agg.	-.000	.004	-.102	.919	-.008	.007
Sensation Seeking → Physical Agg.	.000	.002	.089	.929	-.004	.005
Sexual Orientation → Physical Agg.	.022	.038	.576	.565	-.053	.097
Self-esteem x Sensation Seeking → Physical Agg.	-.000	.000	-.423	.673	-.001	.001
Self-esteem x Sexual Orientation → Physical Agg.	.001	.006	.098	.922	-.011	.012
Sensation Seeking x Sexual Orientation → Physical Agg.	.002	.004	.427	.670	-.006	.010
Self-esteem x Sensation Seeking x Sexual Orientation → Physical Agg.	-.001	.001	-1.45	.149	-.003	.000
Index of Moderated Moderated Mediation	.000	.000	----	----	.000	.001
<u>(lack of) Perseverance</u>						
Anxious Att. → Self-esteem	-.346	.067	-5.16	.000	-.478	-.215
Self-esteem → Physical Agg.	-.002	.003	-.780	.436	-.007	.003
Anxious Att. → Physical Agg.	-.001	.004	-.145	.886	-.008	.007
Perseverance → Physical Agg.	.002	.003	.695	.488	-.003	.007
Sexual Orientation → Physical Agg.	.010	.031	.311	.756	-.052	.071
Self-esteem x Perseverance → Physical Agg.	-.000	.000	-1.07	.287	-.001	.000
Self-esteem x Sexual Orientation → Physical Agg.	.001	.005	.170	.865	-.009	.010
Perseverance x Sexual Orientation → Physical Agg.	-.005	.005	-1.10	.273	-.015	.004
Self-esteem x Perseverance x Sexual Orientation → Physical Agg.	.000	.001	.043	.966	-.001	.001
Index of Moderated Moderated Mediation	.000	.000	----	----	-.001	.001

Vita

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