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## Adverse childhood experiences, self-control, and teen dating violence perpetration

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### Abstract

Teen dating violence (TDV) is a serious public health concern that can cause long-term problems in its victims. The present study used data collected in a study funded by the CDC to explore whether self-control operates as a mediator between adverse childhood experiences (ACE) and TDV perpetration. The survey was distributed to random samples of 6th and 9th graders from 14 public schools in Michigan (N = 1236). Preliminary correlation tests revealed a strong negative relationship between self-control and TDV perpetration as well as a positive relationship between ACE and TDV perpetration. Hayes' (2012) PROCESS macro was used to establish mediation, and all components of self-control except for physical activity were found to partially mediate the effects of ACE on physical TDV perpetration.

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ADVERSE CHILDHOOD EXPERIENCES, SELF-CONTROL, AND TEEN DATING  
VIOLENCE PERPETRATION

By

Madison Trace

A Senior Thesis Submitted to the

Eastern Michigan University

Honors College

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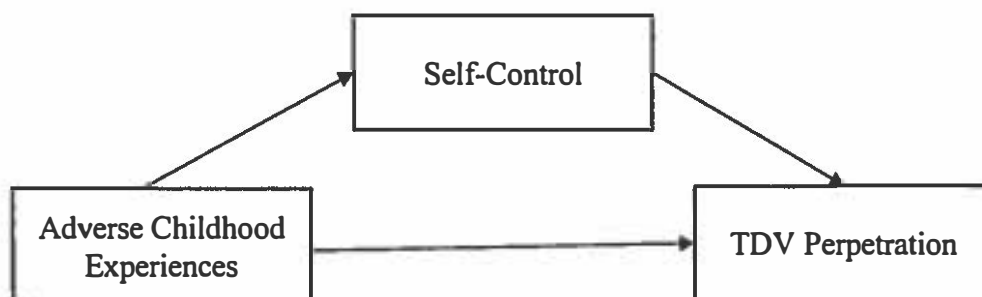
### **Abstract**

Teen dating violence (TDV) is a serious public health concern that can cause long-term problems in its victims. The present study used data collected in a study funded by the CDC to explore whether self-control operates as a mediator between adverse childhood experiences (ACE) and TDV perpetration. The survey was distributed to random samples of 6th and 9th graders from 14 public schools in Michigan (N = 1236). Preliminary correlation tests revealed a strong negative relationship between self-control and TDV perpetration as well as a positive relationship between ACE and TDV perpetration. Hayes' (2012) PROCESS macro was used to establish mediation, and all components of self-control except for physical activity were found to partially mediate the effects of ACE on physical TDV perpetration.

### **Introduction**

Teen dating violence (TDV) is defined as physical, mental, and sexual abuse found in intimate relationships between adolescents. It has been found to impact approximately 1.5 million youth in a single year and can cause several long term mental and physical health problems in its victims (CDC 2006). Long term impacts of relationship violence include an increased risk of substance abuse, eating disorders, mental illness, risky sexual behaviors, pregnancy, and relationship violence victimization later in life (Silverman, Raj, and Hathaway 2001). However, despite the risks associated with TDV, not much is known about this phenomenon in comparison to other forms of interpersonal violence. It has only been in the last couple of decades that TDV has been recognized as a public health problem (Mulford and Giordano 2008).

As a result, an improved understanding of this issue remains necessary to identify pathways of prevention and treatment. Mediating and moderating factors have not been thoroughly explored in terms of understanding what factors may influence individuals to perpetrate TDV. The purpose of the present study is to contribute to the existing body of research on TDV through analysis and identification of potential mediating effects. More specifically, the study quantitatively analyzed the relationship between three major variables: 1) adverse childhood experiences; 2) the respondent's (R) overall level of self-control; and 3) R's self-reported level of TDV perpetration. Past research has found a correlation between violence victimization during childhood and violence perpetration later in life (Jouriles et. al 2012; Wolfe 2004). Extending this research to TDV, I hypothesize that violence victimization by household members during childhood increases the likelihood of perpetrating abuse in adolescent dating relationships. Furthermore, self-control has also been correlated to deviance and crime perpetration as well (Gottfredson and Hirschi 1990). As an individual's level of self-control increases, their ability to defer short term gratification for long term benefits also increases, and their subsequent risk of engaging in deviant behaviors decreases. Thus, I hypothesize that self-control operates as a mediator on the impact of ACE and TDV perpetration. Below is an illustrated model of our hypothesis.



## Literature Review

### *Teen Dating Violence*

Teen dating violence has become a prevalent issue that can have severe negative consequences for victims, yet it remains a phenomenon that has not been thoroughly explored (Santelli et al. 1995). Much of research on dating and intimate partner violence has focused on abuse found in heterosexual adult relationships, but victimization experienced by teenagers can be especially harmful because they are in a critical stage of growth and development and have limited experience with dating relationships (Mulford and Giordano 2008). Research has found various short and long-term negative health consequences associated with TDV, further indicating that this phenomenon is a serious public health concern. Victims of dating violence have reported higher levels of depression, eating disorders, post-traumatic stress, suicidal thoughts, and drug abuse (Ackard, Neumark-Sztainer, and Hannan 2003; Banyard and Cross 2008; Exner-Cortens, Eckenrode, and Rothman 2013; Wolitzky-Taylor 2008). Teenagers who had experienced TDV were also found to engage in subsequent risky sexual behavior at higher rates than their non-victimized counterparts (Silverman et al. 2001). Additionally physical injuries were also closely linked to dating violence with one third to one half of youth who experienced dating violence reporting sustaining injuries (Tharp et al. 2017). Longitudinal studies suggest violence experienced during this period may continue later in life as individuals victimized as adolescents are at a higher likelihood of being victimized in future relationships (Exner-Cortens et al. 2013; Jouriles et al. 2017; Smith, White, and Holland 2003).

The scope of this issue is difficult to estimate, with prevalence rates ranging from 9% to 46% of adolescents experiencing TDV as victims and/or perpetrators (Glass et al. 2003). This large variation may be attributed to several methodological factors such as using different operational definitions of TDV, how it is measured, and what populations were sampled. However, analyzing past studies on prevalence rates of TDV is pertinent to our understanding of this issue. In a recent meta-analysis, Wincetak, Connolly, and Card (2017) examined over one hundred studies conducted on TDV. They found participants reported physical TDV victimization at prevalence rates averaging 20% and sexual victimization around 9%. Large variances within the data were also found in the study, with physical TDV rates ranging from 1% to 61% and sexual TDV ranging from <1% to 54% (Wincetak et al. 2017). In terms of gender differences, girls perpetrated physical violence towards dating partners at prevalence rates averaging 25% and boys at 13%. However, victimization levels were not significantly different between the two groups (Wincetak et al. 2017).

In addition to prevalence rates varying due to methodology, turning our attention to risk factors and predictors may increase our understanding of how and why TDV occurs. Perpetration of TDV has been associated with poor mental health symptoms such as depression, anxiety, post-traumatic stress disorder, and difficulty with anger management (Ackard et al. 2003; Foshee, Reyes, and Ennett 2010; Glass et al. 2003; Wekerle et al. 2009). Researchers have also found alcohol and drug abuse were significant longitudinal predictors of TDV (Foshee et al. 2010; Temple et. al 2012). However, it should be noted that risk factors may vary depending on race and gender. For example, anxiety was found to be a predictor for only white teens, while anger was a



predictor for black ones (Foshee et al. 2010). Marijuana use, depression, and aggression were found to be significantly predictive for teenage girls, but not for boys (Foshee et al. 2010).

Additionally, peer and family influence may play a key role in the development of TDV as they provide the foundation on which much of a child's development is built upon. Teens who had or believed they had friends who engaged in dating violence were more likely to participate in violent behavior themselves (O'Keefe 2005; Reed et al. 2011). In regards to family, exposure to various forms of violence at home is a strong predictor for experiencing TDV (Dahlberg 1998; Jouriles et al. 2012; Karlsson 2016; Temple et al. 2012; Richards, Tillyer, and Wright 2017; Wekerle et al. 2009; Wolfe et al. 2004). O'Keefe and colleagues (1986) found an intergenerational component of violence as well, where over half of those who reported engaging in dating violence also reported witnessing intimate partner violence between parents. Another study found 10 out of 12 childhood adversities were significantly associated with physical dating violence in adolescents (Miller et al. 2011). Sexual abuse, interparental violence, and parent mental illness were the top three most influential adverse experiences for TDV (Miller et al. 2011). Wekerle and colleagues (2009) found emotional abuse by family members has also been linked to dating violence and mediated by PTSD symptomatology. Although it is clear that exposure to family does not directly result in violence perpetration, the substantial amount of research that has found correlations between these variables indicates a need to further explore these relationships.

#### *Adverse Childhood Experiences and Trauma*

Exposure to child abuse and trauma is linked to much of the same negative health consequences that are identified with TDV, making it pertinent to understand how it may influence TDV. Felitti and colleagues (1998) found individuals who experienced four or more categories of adverse childhood experiences (ACE) were 4 to 12 times more at risk for alcoholism, drug abuse, multiple sexual partners, depression, and suicide attempts. There is also evidence that issues such as teen pregnancy, financial problems, and high levels of stress are related to childhood adversity (Hillis et al. 2004). Although there are severe negative consequences of ACE and trauma, this issue is not uncommon in American households. Researchers found over half of their sample reported at least one adverse experience and one-fourth reported experiencing two or more (Felitti et al. 1998).

Experiencing adversity during childhood has also been linked to subsequent criminal and deviant behavior. Studies have linked child abuse with lowered empathy and various forms of youth interpersonal violence such as bullying, delinquency, physical fighting, and dating violence (Duke et al. 2010; Music 2011). Another study sampling juvenile offenders found with every additional adverse experience, the risk of becoming a serious, violent, and chronic offender rose, and offending trajectories were influenced (Baglivio 2015; Fox et al. 2015). For adult populations, a national study of criminals found 38% of women and 14% of men had experienced physical or sexual abuse in childhood (Harlow, 1999). Another study found those who experienced physical or sexual abuse were at an increased risk of victimization or perpetration of IPV (Whitfield et al. 2003). Experiences such as sexual abuse, emotional neglect, and domestic violence during childhood were also significant predictors of increased number of arrests for sex crimes (Levenson and Socia 2016).

### *Self-Control*

Self-control first took the spotlight in criminological theory and research in the wake of the publication of *The General Theory of Crime* by researchers Gottfredson and Hirschi (1990). In their book, the researchers operationalized self-control as the ability to defer short-term gratification in exchange for long-term benefits, and asserted that low self-control was the primary cause of criminal and deviant behavior (Gottfredson and Hirshi 1990). By possessing characteristics of low self-control such as impulsiveness, self-centeredness, and risk-seeking, an individual would be more likely to commit crimes that provided instant rewards and benefits (Gottfredson and Hirshi 1990). Furthermore, self-control was thought to be influenced primarily through parental socialization and unlikely to change past four years of age (Gottfredson and Hirshi 1990). After almost three decades, their theory has influenced academics to pursue a myriad of studies and debates on the nature of criminality and victimization (Hay and Forrest 2006; Muraven et al. 2006; Piquero and Bouffard 2007; Pratt and Cullen 2000). The interest in self-control and its impact has made its way into other topics as well, including academic achievement, mental health, and interpersonal relationships (Job, Friese, and Bernecker 2015; Mischel, Shoda, and Peake 1988; Tangey, Baumeister, and Boone 2004). Whether or not Gottfredson and Hirschi could have foreseen the scope of influence their book has had in academia, the concept of self-control has continued to be explored and challenged, arguably remaining relevant even today.

More recent research has generally defined self-control as an individual's ability to override initial antisocial impulses and regulate thoughts, emotions, and behaviors (de Ridder et al. 2012; Tangey, Baumeister, and Boone 2004). Through this interpretation,

the original definition of self-control made by Gottfredson and Hirschi still holds true as well. However, despite many researchers being able to come to a consensus on a definition, a debate exists on a number of different aspects pertaining to the general theory of crime such as the measurement and inherent nature of self-control (Gunter and Bakken 2012; Marcus 2003; Tittle, Ward, and Grasmick 2003). As a result, research pertaining to self-control has become highly varied in its methodology and interpretation.

One subject of controversy is that researchers have been unable to identify a single, best approach to measure the concept. A longstanding debate exists over whether behavioral or attitudinal measures of self-control are best when attempting to predict deviant and criminal behavior. An early method for operationalization was created by Grasmick, Tittle, Bursik, and Arneklev (1993) in the form of a 24 item attitudinal scale that measured six components of low self-control: a short temper, risk-seeking, self-centeredness, impulsivity, a preference of physical over mental activities, and a preference of simple tasks over complex ones. While the scale found that a significant relationship existed between self-control and crime, some researchers argued that behavioral measures of self-control were preferable. In the same year, Keane, Maxim, and Teevan measured self-control through behavioral indicators such as seat belt use and driving under the influence (1993). Although Gottfredson and Hirschi (1993) later asserted that behavioral measures were more favorable than self-reports, researchers found that both attitudinal and behavioral measures resulted in comparable correlations (Tittle, Ward, and Grasmick 2003; Walters 2016). Furthermore, some contended that behavioral measures aligned too closely with crime itself and created a tautology, thus making them less preferable to attitudinal ones (Gunter and Bakken 2012). As a result,

the Grasmick et al. scale has become the most widely used form of measurement for self-control used by researchers today.

Another topic of controversy regarding the general theory of crime is whether self-control is a trait established early in life and resistant to change or if it is malleable and varies situationally. Gottfredson and Hirschi (1993) originally assert that an individual's level of self-control become stable and unlikely to change after reaching four years old. They maintain that parental influence during the early stages of growth and development is the primary determinant of whether the child will be able to delay gratification and plan for the future (Gottfredson and Hirschi 1993). While strong evidential support exists for the role of parental socialization in self-control development, conclusions regarding the stability hypothesis have remained mixed at the very best (Hay and Forrest 2006; Jo and Bouffard 2014; Vazsonyi and Huang 2010).

Some research has found compelling evidence in favor of the stability hypothesis. Longitudinal studies observing both twin and non-twin groups found that self-control was not only stable for both groups, but a significant percentage of variation could be attributed to genetics (Beaver et al. 2008; Coyne and Wright 2014). Researchers have also found in a longitudinal study that levels of self-control appeared relatively stable in their participants over the 6 year period of observation. (Vazsonyi and Huang 2010). Some even found that up to 80 percent of the sample had stable self-control that became fixed as early as 7 years old (Hay and Forrest 2006). However, the researchers also noted that a small percentage of their participants experienced significant changes in their levels of self-control even past the age of 10 (Hay and Forrest 2006).

In contrast, Researchers Burt, Simons, and Simons (2006) found self-control growth was much more dynamic than originally hypothesized. They found substantial instability and change in their population in only a two year period of time (Burt, Simons, and Simons 2006). Furthermore, factors such as peer-networks and adhering to routine tasks may have also been found to influence self-control even in adults (Meldrum, Young, and Weerman 2012; Muraven 2010). More recent research has also turned its attention to the concept of ego-depletion, where self-control may be impacted by a pool of mental resources that can be used up and thus change as quickly as hour to hour (Inzlicht and Schmeichel 2012; Muraven, Pograsky, and Schmueli 2006; Park et. al 2016).

Regardless of the measurement tools or nature of self-control, research has shown strong support for this theory, finding that that low levels of self-control are correlated with crime, juvenile delinquency, and deviance (Burt and Simons 2006; Love 2006; Tittle, Ward, and Grasmick 2003) Even after controlling for various social factors such as age and gender, the relationship between self-control and crime remains robust (Evans et al. 1997, Paternoster and Brame 1998). A cross-national study also found that self-control was a predictor of deviant behavior in adolescents in the Netherlands, Hungary, Switzerland, and the United States, suggesting that aspects of self-control and deviance are not significantly varied across national contexts (Vazsonyi et al. 2001).

However, some studies suggest that self-control may only be influential when other variables are present. Tittle, Ward, and Grasmick (2003) found that although low self-control was a strong predictor of crime and deviance, its effect was unequal among different age groups and even completely failed to predict misbehavior in one group.

Morality may also have a strong impact on predicting crime perpetration, with self-control having shown to be more significantly predictive in those with weaker morality (Antonaccio and Tittle 2008; Wikström and Svensson 2010). An individual's level of thrill-seeking is another variable that can impact the relationship between self-control and crime, with results finding low self-control was more significantly related to crime perpetration in thrill-seeking individuals (Burt and Simmons 2013).

Research has not explicitly explored self-control as it pertains to interpersonal and dating relationships for teenagers. However, high levels of self-control have been linked to better interpersonal skills and more successful relationships (Mischel et al. 1988; Tangey et al. 2004; Rawn and Vohs 2006; Vohs, Finkenauer, and Baumeister 2011). Research has found that individuals with higher self-control were more likely to follow through on promises they make as well as be more willing to make personal sacrifices for the benefit of the relationship (Findley, Carvallo, and Bartak 2014; Peetz and Kamrath 2011). Individuals who are perceived to have high self-control are also more trusted by both intimate partners and strangers than those with low self-control (Gomillion et al. 2014; Righetti and Finkenauer 2011). Additionally, having high self-control or even believing in high self-control has been shown to increase faithfulness in a romantic relationship and reduce flirting behaviors with those outside of the relationship (Hamburg and Pronk 2015; Pronk, Karremans, and Wigboldus 2011).

Levels of self-control may also influence the likelihood of resolving conflict in romantic relationships. In a study on married and cohabitating people, researchers observed whether or not levels of self-control influenced couples' interactions in risky situations such as hurtful behavior and rejection and found that partners with high self-

control were more likely to curb self-protective behavior in reaction to rejection, therefore being more responsive and absolving conflict more easily (Gomillion et al. 2014). Furthermore, a study on self-regulation failure and intimate partner violence (IPV) found that participants with lower levels of self-control were more likely to act on violent impulses towards their partners (Finkel et al. 2009). However, a study of married couples in Bangkok, Thailand noted that only certain dimensions of self-control were a significant predictor of IPV perpetration and victimization (Kerley, Xu, and Sirisunyaluck 2008). Impulsivity was a predictor that encompassed both physical and emotional IPV perpetration whereas risk-taking was only a predictor of physical violence (Kerley et al 2008). Furthermore, an analysis of Gottfredson and Hirschi's theory as it applies to dating violence found that self-control only has a small contribution to dating violence perpetration, accounting for only 10% of the variance in dating violence when measured alone (Sellers 1999).

While a large amount of literature has shown there are various benefits to having high self-control in interpersonal relationships, Shea, Davisson, and Fitzsimons (2013) suggest that there can be drawbacks to having high self-control as well. They found that individuals with low self-control reported a high level of dependence on partners with high self-control, thus putting more responsibility on their partners (Shea et al. 2013). Additionally, research has found that people with high-self-control had higher performance expectations, were given larger workloads, and made greater sacrifices for their ongoing relationships, resulting in overall lower levels of relationship satisfaction (Koval et al. 2015).



## Methods

### *Participants and Procedures*

Data used for this study was from the SHARE survey funded by the CDC. It should be noted that I did not partake in research design or administration, only statistical analysis of the data set and the subsequent write up of the results. Participants of the study were randomly sampled 6<sup>th</sup> and 9<sup>th</sup> graders from 14 public schools in Wayne County Michigan (N=1236). A passive procedure was used for gaining informed consent was used, and parents were able to retract consent by returning a written form. Additionally, students gave written consent prior to the administration of the survey and were informed that they may withdraw from the study at any time. The sample was ethnically representative of the school districts with the composition of the study consisting of 66.7% White, 21.4% Black, 7.3% Hispanic, 6.8% Native American, 1.8% Asian, and 1.7% Arab American. In terms of gender, the sample was 52% female and 48% male. Data was collected through a survey that asked participants about various topics such as their social supports, family life, technology use, relationship experiences, environmental conditions, violence perpetration and victimization.

### *Measures*

*Self-control.* Respondents were administered the Grasmick et al. scale (1993). The 24 item attitudinal scale identified and measured six components of low self-control: a volatile temper, risk-seeking, self-centeredness, impulsivity, a preference of physical over mental activities, and a preference of simple tasks over complex ones (1993). Participants reported their levels of self-control by responding to a 4-point scale ranging from (0)

strongly disagree to (4) strongly agree. Examples of statements provided included “I often act at the spur of the moment” to indicate impulsivity, “Sometimes I will take a risk just for the fun of it” for risk-seeking, and “When I am really angry, other people better stay away from me” for temper (Gramick et al. 1993). Coding was created to indicate a high score on the scale represented low self-control, with reverse coding performed when appropriate. Internal consistency for the overall measure of self-control was strong ( $\alpha = .857$ ).

*Teen dating violence perpetration.* The study utilized The Safe Dates Physical Violence Scale (Foshee et. al 1996). Fifteen items within the scale included various acts of violence towards a dating partner (e.g. kicking, shoving, choking, and slapping). Questions that included reporting acts such as burning, hitting with a fist or other object, and assault with a weapon were omitted for stronger internal consistence ( $\alpha = .939$ ). Respondents were able to report their levels of dating violence perpetration from options ranging from (0) never, (1) once, (3) 2-4 times, (4) 5-9 times, and (5) 10+ times in the past year. Afterwards, a variable was created with the responses being combined for a total physical TDV perpetration score.

*Adverse childhood experiences.* The study’s primary focus was on child abuse perpetrated members in the participant’s household at any time of their life. Questions included in analysis included: “Did an adult in the household often swear at you, insult you, put you down, or humiliate you”, “Did an adult in the household push, grab, slap you or throw something at you”, and “Did you often feel that no one in your family loved you or thought you were important or special”. The scale used for this variable was the Adverse Childhood Experiences Scale formulated by Bernstein and colleagues (1994). Of

the 18 items in the original scale, only 6 were used for analysis for greater internal consistency ( $\alpha = .812$ ). Respondents were given the option to choose (0) no or (1) yes.

### *Data Analysis*

All data analysis was conducted in the Statistical Package for the Social Sciences (SPSS). The primary variables were coded appropriately and then identified through a factor analysis. Bivariate correlational tests were conducted as a preliminary test to observe any significant relationships among the variables. Mediation analysis was executed using Andrew F. Hayes' (2012) PROCESS macro. The indirect effect of different components of self-control on teen dating violence perpetration through self-reported experiences of childhood adversity was examined. 99% confidence intervals for the indirect effect were produced through bootstrapping, where random samples of the data were generated ( $k=1,000$ ) based on the original set to create a distribution and estimate the indirect effect. Based on the confidence intervals produced, it was possible to determine whether the indirect effect size of self-control was significant (confidence intervals did not contain 0) or not. All six components of self-control were analyzed through the PROCESS macro (Hayes 2012). A Bonferroni correction was completed due to multiple tests being ran ( $\alpha = .008$ ).

Although Baron and Kenny's (1986) procedure for mediation analysis is the most widely used by researchers, we chose to deviate from this norm and use the PROCESS macro for several reasons (Hayes 2009; Hayes 2012). The analysis proposed by Baron and Kenny (1986) requires a causal steps approach where paths of the model are estimated and the indirect effect is inferred. However, this approach results in a low statistical power and fails to quantify the indirect effect (Hayes 2009). The Sobel test is

another method often used in tandem with Baron and Kenny's (1986) method, but has been criticized for making the assumption that the sample distribution of the study is normal (Sobel 1982; Sobel 1986). Thus, Hayes' (2012) PROCESS macro was chosen to test for mediation where the indirect effect was able to be quantified and the distribution was created through bootstrapping.

## Results

### *Univariate Analysis*

Participants of the survey reported their levels of ACE, TDV perpetration, self-control. Descriptive statistics revealed our sample reported moderately low of adversity during childhood ( $M=2.91$ ,  $SD=3.67$ ). Average rates of TDV perpetration were also low but had higher levels of variability ( $M=4.95$ ,  $SD=9.22$ ). Of the six components of self-control, a preference for physical activity had the highest average score ( $M=11.11$ ,  $SD=2.75$ ) and self-centeredness had the lowest ( $M=8.09$ ,  $SD=2.34$ ). Average scores for Risk-Taking ( $M=9.62$ ,  $SD=2.8$ ), temper ( $M=9.42$ ,  $SD=3.07$ ), impulsivity ( $M=8.95$ ,  $SD=2.34$ ), simple tasks ( $M=8.4$ ,  $SD=2.5$ ) were all comparable, ranging from mid 8 to 9.

**Table 1. Descriptive statistics of ACE, TDV, and Self-Control components**

	N	Minimum	Maximum	Mean	Std. Deviation
ACE	1149	.00	18.00	2.9138	3.67073
TDV	925	.00	78.00	4.9470	9.22379
SimpleTasks	1183	4.00	16.00	8.4024	2.50084
RiskTaking	1183	4.00	16.00	9.6196	2.79818
PhysicalActivity	1180	4.00	16.00	11.1136	2.74886
SelfCentered	1151	4.00	16.00	8.0869	2.34489
Temper	1180	4.00	16.00	9.4186	3.06630
Impulsivity	1153	4.00	16.00	8.9497	2.33651
Valid N (listwise)	772				

### *Bivariate Analysis*

Preliminary bivariate correlational tests were conducted to examine any relationships between the three primary variables (see Table 2). The tests revealed a moderately strong positive relationship between ACE and TDV perpetration ( $r=.30$ ,  $p<.001$ ). The more ACEs the participant reported, the higher the likelihood of committing TDV perpetration. All components of self-control were also positively related to both ACE and TDV except for physical activity. Temper ( $r=.29$ ,  $p<.001$ ) and risk-taking ( $r=.18$ ,  $p<.001$ ) correlated the strongest with ACE while self-centeredness ( $r=.22$ ,  $p<.001$ ) and temper ( $r=.22$ ,  $p<.001$ ) correlated the strongest with TDV perpetration. Those who scored higher levels on the Grasmick et. al scale, indicating the possession of low self-control, had experienced more adversity and reported perpetrating dating violence at higher rate as well (1993).

Table 2. Correlations among ACE, TDV, and Self-Control components

		ACE	TDVphysical	SimpleTasks	RiskTaking
ACE	Pearson Correlation	1	.303**	.155**	.184**
	Sig. (2-tailed)		.000	.000	.000
TDVphysical	Pearson Correlation	.303**	1	.158**	.121**
	Sig. (2-tailed)	.000		.000	.001
SimpleTasks	Pearson Correlation	.155**	.158**	1	.287**
	Sig. (2-tailed)	.000	.000		.000
RiskTaking	Pearson Correlation	.184**	.121**	.287**	1
	Sig. (2-tailed)	.000	.001	.000	
PhysicalActivity	Pearson Correlation	.001	.012	.137**	.362**
	Sig. (2-tailed)	.984	.739	.000	.000
SelfCentered	Pearson Correlation	.146**	.222**	.408**	.352**
	Sig. (2-tailed)	.000	.000	.000	.000
Temper	Pearson Correlation	.286**	.219**	.350**	.397**
	Sig. (2-tailed)	.000	.000	.000	.000
Impulsivity	Pearson Correlation	.141**	.171**	.493**	.426**
	Sig. (2-tailed)	.000	.000	.000	.000

		PhysicalActivity	SelfCentered	Temper	Impulsivity
ACE	Pearson Correlation	.001	.146**	.286**	.141**
	Sig. (2-tailed)	.984	.000	.000	.000
TDVphysical	Pearson Correlation	.012	.222**	.219**	.171**
	Sig. (2-tailed)	.739	.000	.000	.000
SimpleTasks	Pearson Correlation	.137**	.408**	.350**	.493**
	Sig. (2-tailed)	.000	.000	.000	.000
RiskTaking	Pearson Correlation	.362**	.352**	.397**	.426**
	Sig. (2-tailed)	.000	.000	.000	.000
PhysicalActivity	Pearson Correlation	1	.258**	.173**	.253**
	Sig. (2-tailed)		.000	.000	.000
SelfCentered	Pearson Correlation	.258**	1	.371**	.391**
	Sig. (2-tailed)	.000		.000	.000
Temper	Pearson Correlation	.173**	.371**	1	.366**
	Sig. (2-tailed)	.000	.000		.000
Impulsivity	Pearson Correlation	.253**	.391**	.366**	1
	Sig. (2-tailed)	.000	.000	.000	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N=818

### *Multivariate Analysis*

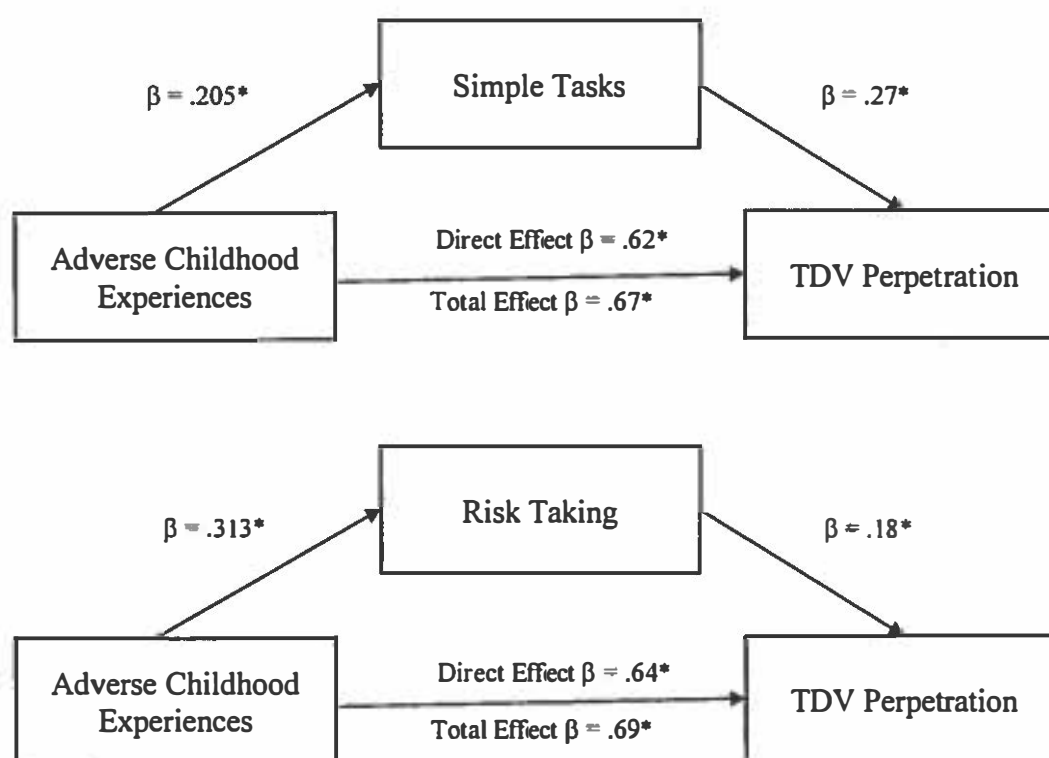
Regression analysis was used to test the hypothesis of whether self-control and its components act as mediators on the effect of ACE on physical TDV perpetration. Using Hayes' PROCESS macro (2012), we were able to establish that ACEs were significantly predictive of levels of self-control, and self-control was significantly predictive of TDV perpetration. However, when components of self-control were controlled for and the total effect of ACEs was increased significantly, we were able to observe support for the mediational hypothesis. Because ACEs still remained a significant predictor of TDV perpetration even after controlling for self-control, we can conclude partial mediation occurred. As shown in Figures 1-6, predictive pathways of the primary variables including the total and indirect effects are illustrated. Mediational testing revealed that all components except for physical activity appear to partially mediated the relationship between ACEs and TDV perpetration. 99% bootstrapped confidence intervals for the indirect effect were also recorded as shown on Table 3. Temper ( $b=.16$ ,  $SE = .04$ ,  $p<.001$ ) and self-centeredness ( $b=.1$ ,  $SE=.03$ ,  $p<.001$ ) had the largest indirect effects, thus partially mediating the total effect of ACEs on TDV perpetration the most out of all observed components of self-control. However, impulsivity ( $b=.07$ ,  $SE=.02$ ,  $p<.001$ ), simple tasks ( $b=.05$ ,  $SE=.02$ ,  $p<.001$ ). risk-taking ( $b=.05$ ,  $SE=.02$ ,  $p<.001$ ) were all partial mediators as well.

**Table 3. Total, direct, and indirect Effects of Self-Control on TDV Perpetration through ACEs**

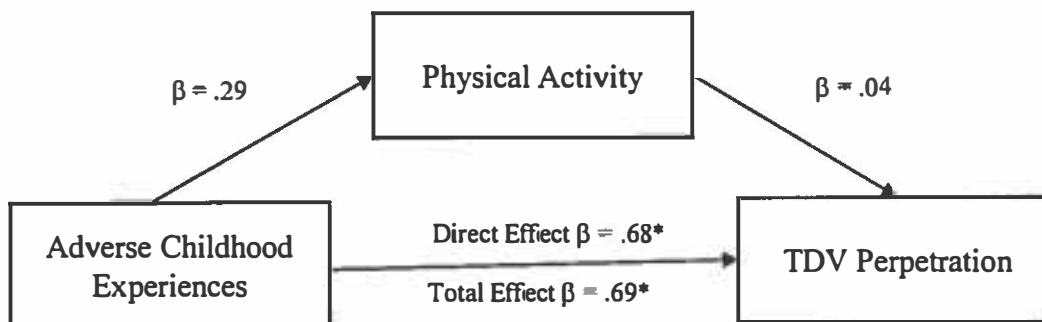
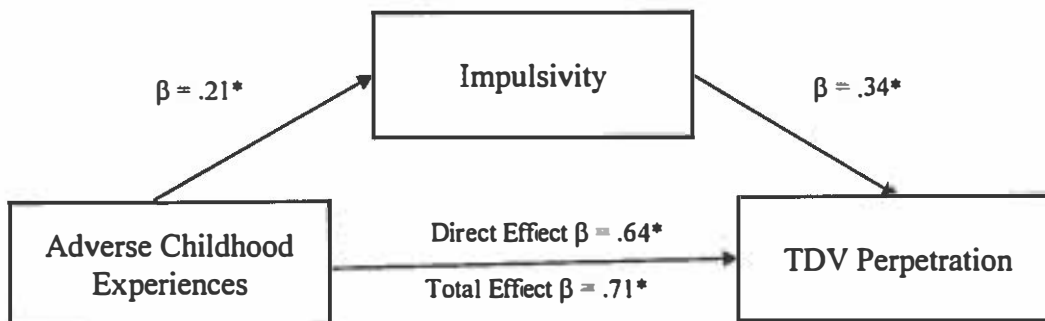
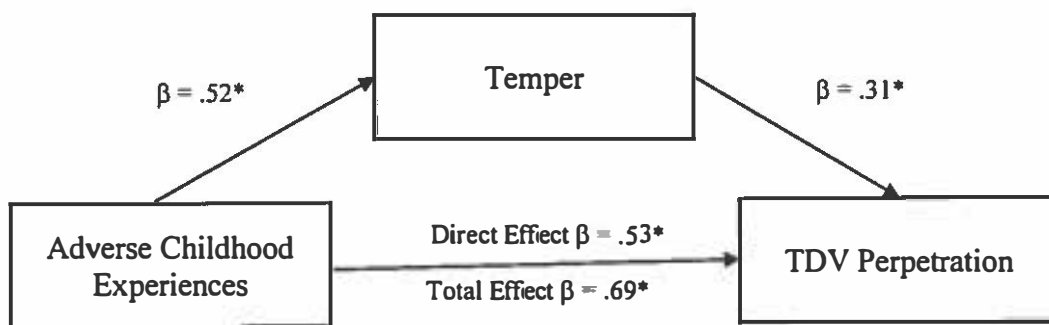
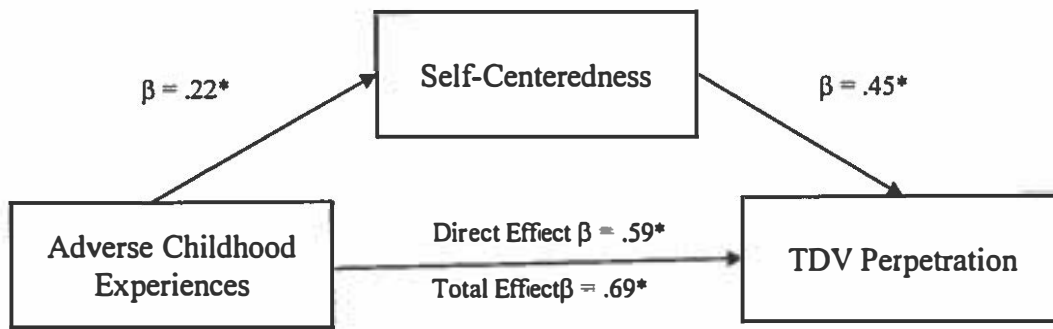
M	Total Effect		Direct Effect		Indirect Effect		
	B	SE	B	SE	B	SE	CI 99%
Simple Tasks	0.67*	.1	0.62*	0.1	0.05	0.02	.01-.14
Risk-Taking	.69*	.1	.64*	0.1	0.05	0.02	.002-.12
Self-Centeredness	.69*	.1	.59*	0.1	0.1	0.03	.04-.22
Temper	.69*	.1	0.53*	0.1	0.16	0.04	.07-.28
Impulsivity	0.71*	.1	.64*	0.1	0.07	0.02	.02-.16
Physical Activity	.69*	.1	.68*	0.1	0.01	0.004	-.006-.03

\* $p < .001$

**Figures 1-6. Mediation models with predictive pathways and total and direct effects**







## Discussion

Our study examined the relationship between adverse childhood experiences, self-control, and perpetration of physical dating violence. I hypothesized that self-control would mediate the effect of ACE on TDV perpetration, and results provided partial support. Contrary to my expectations, not all components of self-control appeared to mediate the impact of ACE on TDV perpetration. Statistical tests did reveal that five out of the six components of self-control partially mediated the relationship between ACE and TDV perpetration. Physical activity did not predict the likelihood of TDV perpetration, nor did it mediate the effect of ACE on TDV. However, the remaining five components of self-control did have a significant indirect effect that increased ACE's total effect on TDV perpetration. These findings were consistent with existing research that suggests that self-control remains an important factor in violence perpetration and gives further support of Gottfredson and Hirschi's (1990) general theory of crime. Having certain elements of the condition "low self-control" may exacerbate the effects of adverse experiences during childhood on the likelihood of engaging in dating violence perpetration.

I did not expect that preference for physical activities over mental ones would not be predictive of TDV perpetration nor mediate ACEs effects on it. However, physical activity was not significantly correlated to either of the two variables either, signifying that this component of self-control differs from the others that were measured and observed. My speculation is that the age of our population may have influenced the relationship among childhood adversity, physical activity, and violence perpetration. Younger populations may be more inclined to possess higher energy levels and thus

report a preference for physical over mental activities more frequently. My descriptive statistics may also offer support for this hypothesis, with physical activity having the highest average score compared to other components in our sample.

The regression analysis found temper and self-centeredness had the strongest mediating effect on the relationship between ACE and TDV perpetration. These findings may support the belief that prioritizing self-interest above others and the possessing a volatile temper may lead to lowered empathy and a higher motivation to lash out against others when angry. Therefore, when these elements of low self-control are present in an adolescent dating relationship, the risk of engaging in TDV perpetration significantly heightened. Additionally, observing that child adversity is predictive of a volatile temper and self-centeredness may support social learning theory where individuals learn from the people and traits around them. My interpretation of the results is that the participants who reported ACE observed members of their household exhibiting low self-control and abusive behavior. During this period, they internalized these characteristics and subsequently imitated them in their dating relationships.

These findings have strong implications for a number of different fields of research. Most evident is its pertinence to the field of criminology and its support for Gottfredson and Hirschi's (1990) general theory of crime. As many other studies have found, self-control appears to have a strong relationship to crime and deviance perpetration, even in the realm of TDV (Evans et al. 1997; Love 2006; Tittle, Ward and Grasmick 2003; Pratt and Cullen 2000). However, this study can be used in much more diverse areas of research as well. The link between childhood adversity and violence perpetration is compelling for trauma specialists who are interested in implementing both

prevention and treatment strategies for those impacted by violence. My results are also relevant to the work of developmental psychologists as parental socialization during critical periods of growth appears integral to the ways in which self-control is formed and managed. Finally, resilience research may flip our model on its head to theorize and research whether high levels of self-control may protect an individual from the full effects of child adversity. It should be noted that the areas of research listed above is not an exhaustive list of how this research may be used and interpreted, but they are examples of how this research contributes to the wider body of knowledge.

### *Limitations*

The findings of this study must be cautiously interpreted. One clear limitation of this study is that the relationship observed among ACE, self-control and TDV perpetration was assessed only through quantitative analysis. As a result, my findings and their interpretations are restricted to being based only on numerical values and close ended questions. The data collected is key to understanding the scope and significance of the effects of ACE on self-control and TDV perpetration, but gaining a deeper understanding of the issue requires going beyond statistical testing. Qualitative methodology such as in-depth interviews and direct observation is better equipped to gaining contextual information on how and why this relationship among the three variables occurs.

Another limitation regarding my study is that the data collected is based in self-reported measures. Due to the nature of our topics such as ACE and TDV perpetration, it is highly possible participants may have chosen not to answer questions pertaining to these sensitive issues. As a result, our results may be based on underreported numbers.

Self-reports through surveys also give us only a limited scope and understanding of the issue due to the very nature of TDV involving two individuals. Additionally, there is research suggesting that an individual's level of self-control may influence their responses on the Grasmick et. al scale (Piquero, MacIntosh, and Hickson 2000). Moving forward, it is important to continue critically evaluating our tools of measurement, seeking ways to improve them or overcome their shortcomings when necessary.

Finally, the last key limitation of my study is found in the characteristics of the observed sample. Only 6<sup>th</sup> and 9<sup>th</sup> graders and their responses were analyzed, thus making the study unable to be generalized to all individuals who fall under the category of teenager. The sample was also randomly selected from only 14 schools in Wayne County, Michigan. Although a large amount of 6<sup>th</sup> and 9<sup>th</sup> graders participated in the survey, the study is not able to be considered nationally representative. Therefore, research sampling more diverse groups of teenagers is necessary to observing this phenomenon more thoroughly.

#### *Future Directions*

Although the study has limitations, it provides a strong base for future studies to build upon. As noted in the limitations section, utilizing different methodology such as format of analysis, population sampling, and testing instruments is both beneficial and necessary for future research on these topics. Debates on the nature of self-control must also be explored further. In the interest of effectively identifying treatments and solutions for those who struggle with elements of low self-control and violence perpetration, we must have a better comprehension of whether self-control is stable or dynamic. It may be advantageous to critically observe how we conceptualize self-control as well. Many

studies using the Grasmick et al. scale do not examine self-control through its individual components, but we note here that physical activity was the only component to yield insignificant results, thus suggesting a multidimensional approach may be better.

### **Conclusion**

Teen dating violence perpetration is a serious public health concern that requires more attention and understanding. It is imperative to continue research in this area of interest as a means to identify pathways of prevention and minimize further harm. The study's objective was to understand how self-control impacted the role of child adversity on TDV perpetration, and it is the first, to my knowledge, to observe self-control as it specifically relates to this issue. Similar to existing literature, my findings established that there is a relationship between adverse childhood experiences such as child abuse and violence perpetration later in life (Jouriles et al. 2012; Wolfe et al. 2004). I found elements of low self-control excluding physical activity partially mediated the impact of adverse experiences during childhood on physical teen dating violence perpetration. The effect of childhood adversity was predictive of an increased likelihood of engaging in physical dating violence, but the total effect was escalated when low self-control was present. Ultimately, this research may aid in our growing understanding of TDV and provides information that other fields of research can build upon.

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