

The Influence of Emotional Affect on Sexual Assault

by

Nicholas Paruzzolo Bordignon

B.A., Simon Fraser University, 2014

Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Arts

in the

School of Criminology

Faculty of Arts and Social Sciences

© Nicholas Paruzzolo Bordignon 2016

SIMON FRASER UNIVERSITY

Summer 2016

All rights reserved.

However, in accordance with the *Copyright Act of Canada*, this work may be reproduced, without authorization, under the conditions for Fair Dealing. Therefore, limited reproduction of this work for the purposes of private study, research, education, satire, parody, criticism, review and news reporting is likely to be in accordance with the law, particularly if cited appropriately.

Approval

Name: Nicholas Paruzzolo Bordignon
Degree: Master of Arts
Title: *The Influence of Emotional Affect on Sexual Assault*

Examining Committee: **Chair:** Jennifer Wong
Assistant Professor

Eric Beauregard
Senior Supervisor
Professor

Martin Andresen
Supervisor
Professor

Joan Reid
External Examiner
Assistant Professor
Department of Criminology
University of South Florida

Date Defended/Approved: August, 15, 2016

Ethics Statement



The author, whose name appears on the title page of this work, has obtained, for the research described in this work, either:

- a. human research ethics approval from the Simon Fraser University Office of Research Ethics

or

- b. advance approval of the animal care protocol from the University Animal Care Committee of Simon Fraser University

or has conducted the research

- c. as a co-investigator, collaborator, or research assistant in a research project approved in advance.

A copy of the approval letter has been filed with the Theses Office of the University Library at the time of submission of this thesis or project.

The original application for approval and letter of approval are filed with the relevant offices. Inquiries may be directed to those authorities.

Simon Fraser University Library
Burnaby, British Columbia, Canada

Update Spring 2016

Abstract

This study examines the influence of emotional affect on an offender's decision-making during a sexual assault event. Based on 507 convicted sexual offenders, regressions were used to assess if emotional affective states lead an offender to utilize excessive levels of physical force and inflict a greater degree of physical injuries during an assault event. Findings indicate that negative emotional states, such as anger, increase the likelihood of an offender using excessive physical force during the assault event. Further findings suggest that negative emotional states also increase the likelihood of the offender inflicting higher levels of victim injury. Results suggest that emotional affect has a narrowing effect on an offender's decision-making process. The findings also indicate that emotional states prior to the sexual assault event are not significantly associated with either excessive physical force or violent, injurious outcomes. Theoretical and prevention implications are discussed.

Keywords: Sexual Offending – Emotional Affect – Decision-making – Assault Outcomes

Dedication

I would like to dedicate this thesis to the vast host of individuals that provided me with indelible guidance, support and unconditional love throughout my graduate career. In particular, I would like to dedicate this academic research to my parents, Renato Bordignon and Lorraine Paruzzolo, my four brothers Daniel, Andrew, Adam and Jordan, and my most beloved Laura. This work stands as a testament to their perpetual fidelity and abounding love.

Acknowledgements

In addition to acknowledging the overwhelming support provided by my family, friends, and peers, I would like to specifically acknowledge the academic support of my senior supervisor, Dr. Eric Beauregard, for his extraordinary assistance and guidance throughout the data collection and research process. This research would not be possible if it were not for his invaluable direction. I would also like to acknowledge the contributions of Ashley Hewitt and the Centre for Research on Sexual Violence for their cherished input and consistent reassurances. Furthermore, I would like to personally thank Dr. Martin Andresen and Dr. Garth Davies for providing me with the knowledge and ability to effectively analyze and interpret my data. Finally, I would like to acknowledge the contributions and support of the SFU School of Criminology, coffee, and Batman.

Table of Contents

Approval.....	ii
Ethics Statement.....	iii
Abstract.....	iv
Dedication.....	v
Acknowledgements.....	vi
Table of Contents.....	vii
List of Tables.....	ix
Glossary.....	x
Chapter 1. Introduction.....	1
Chapter 2. Literature Review.....	3
2.1. Visceral States, Affective States, and Emotions.....	3
2.2. Emotional Dysregulation And Aggression.....	4
2.3. Emotions and Sexual Assault.....	9
2.4. Decision-Making Models and Emotional Affect.....	11
2.5. Visceral States and Sexual Offending.....	14
2.6. Affective States and Sexual Offending.....	17
Chapter 3. Aim of Study.....	20
Chapter 4. Methods.....	24
4.1. Sample and Data Collection.....	24
Chapter 5. Measures.....	25
5.1. Dependent Variables.....	25
5.2. Independent Variables.....	26
5.2.1 Control Variables.....	27
5.2.2. Victim Characteristics.....	27
5.2.3. Situational factors.....	29
Chapter 6. Analytic Strategy.....	33
6.1. Binary logistic regression.....	33
6.2. Ordinal regression.....	33
Chapter 7. Results.....	35
7.1. Logistic Regression Analysis.....	35
7.2. Ordinal Regression Analysis.....	37

Chapter 8. Discussion	39
8.1. Alcohol and Violence.....	40
8.2. Affect Prior vs. Affect During	41
8.3. Affective States and Offender Decision-Making.....	43
Chapter 9. Conclusion	45
References	50

List of Tables

Table 1.	Descriptive Information for the Dependent and Control Variables (<i>n</i> =507).	25
Table 2.	Descriptive Information for Victim and Pre-Crime Characteristics.....	27
Table 3.	Descriptive Statistics for Crime Characteristics.....	29
Table 4.	Binary logistic regression; Ordinal regression	36

Glossary

Affective States	Affect refers to the positive or negative appraisal of the state itself (Zajonc, 1980; Keltner and Haidt 1999). Affective states can be used to refer to either emotions or moods.
Emotions	Emotions are brief, target-specific affective reactions to internal or external stimuli that exert a pervasive influence on offenders throughout the offending process (Berkowitz, 2000).
Visceral States	Visceral states are physiological impulses, such as hunger, thirst, sexual desire, physical pain, and affective emotion that influence and direct an individual's behaviour toward satisfying bodily needs (Nordgren, Plight, & Harreveld, 2007).

Chapter 1. Introduction

While there is a considerable amount of research regarding the role of emotions on the decision to sexually offend (e.g., Frijda, 1987; Howells, Day & Wright, 2004; Marshall & Marshall 2000; Wakeling, Webster, Moulden, & Marshall, 2007), there is a lack of empirical research focusing on the impact emotional affect has on decisions made during a sexual assault. Within the commission of the criminal event, sex offenders routinely employ a series of decisions (Beauregard & Leclerc, 2007). These decisions, much like the nature of the assault event, are dynamic rather than static. However, decision-making models of sexual assault are routinely criticized as being unrealistic and parsimonious (De Haan & Vos, 2003). In particular, rational choice models are predominately criticized as being overly cognitive in nature as well as ineffective at incorporating the role of emotions in criminal decisions (Van Gelder, 2013). Although decision-making models often overlook the importance of emotional affect, research suggests that emotional arousal is directly related to higher levels of sexual coercion and sexual aggression (Ariely & Lowenstein, 2006; Bouffard & Kunzi, 2012).

Emotions, such as anger, are brief, target-specific affective reactions to internal or external stimuli that exert a pervasive influence on offenders throughout the offending process (Berkowitz, 2000). Accordingly, emotional affect can alter an individual's cognitive appraisals and decision-making processes (Lowenstein, 1996, Martin & Delgado, 2011). Research has generally found that emotional arousal unduly increases the perceived benefits of engaging in criminal activity, especially when the perceived reward is consonant with the specific emotion being experienced by the offender (Carmichael & Piquero, 2004; Exum, 2002). Moreover, research indicates that formal and informal sanctions meant to deter offending behaviours fail to influence offenders under heightened arousal states. Consequently, offenders are directed towards obtaining immediate, short-term benefits without meaningful consideration of the associated costs. Rather than engage in a series of complex deliberations, offenders tend to make simplified judgments

that quickly settle on an immediate course of action. Although such decisions obtain immediate or short-term rewards, they often fail to yield maximum long-term benefit (Carroll, 1982). Thus, examining affect in the context of an offender's decision-making process offers a more comprehensive explanation of the decisions made by sexual offenders during the criminal event (Van Gelder, 2013).

This study aspires to demonstrate that sexual offenders engage in certain offending behaviours that, while appearing illogical and irrational, are consistent with their emotionally driven decision-making process. Accordingly, this study will examine if offenders act in a manner that is consonant with their dominant affective state during the sexual assault event. Furthermore, this study aims to contribute to a greater understanding of offender decision-making during sexual offenses. Building upon previous literature concerning the role of affect on sexual offending (Wakeling et al., 2007; Carmichael & Piquero, 2004; Shively, 2001), this study will examine if affective states can help explain the minority of sexual offenders that use excessive levels of force and inflict greater victim injuries during a sexual assault event.

Chapter 2. Literature Review

2.1. Visceral States, Affective States, and Emotions

In order to discuss the influence of emotional affect on offender decision-making during a sexual assault, it is necessary to clearly articulate the precise operationalization of affective states and emotions. Throughout relevant literature, studies routinely employ various terms or measures to effectively conceptualize and/or operationalize emotional arousal. In particular, three terms often appear in literature examining the influence of arousal states on offender decision-making: visceral states (Bouffard & Miller, 2014, Bouffard, 2011; 2002a; Lowenstein 1996; Lowenstein et al., 1997), affective states (Martin & Delgado, 2011; Nobre & Pinto-Gouveia, 2006) and emotional states (Berkowitz, 2000; Howard, 2009, 2011; Van Gelder, 2013). While these terms are related to one another, it is imperative to note that these terms cannot be used interchangeably. Although they possess a great deal of conceptual overlap, there are still substantial differences that exist between them.

Visceral states are physiological impulses, such as hunger, thirst, sexual desire, physical pain, and affective emotion that influence and direct an individual's behavior toward satisfying bodily needs (Nordgren, Plight, & Harrevelt, 2007). When experiencing a visceral state, an individual is driven to engage in behaviours that would resolve the state itself. As described by Lowenstein (1996), visceral factors have a direct hedonic impact as well as an affect on the relative desirability of different goods and actions. Accordingly, not only are individuals directed towards addressing the visceral state itself, but other activities unrelated to the particular visceral factor being experienced are devalued and/or ignored.

Certain visceral states, like hunger, thirst, and fatigue, are typical daily experiences that are relatively easy to address. For example, if an individual is hungry, they are directed towards eating nourishment. Similarly, individuals who are dehydrated are compelled to drink water to satisfy the physical need. However, other visceral states, such as sexual desire and affective emotion, can be more difficult to resolve. Moreover, the influence visceral states exert on behaviour is often in conflict with, and can ultimately undermine,

an individual's long-term interests. This notion is a primary reason why researchers have attributed numerous studies to examining the influence of visceral states on an offender's deliberation and decision-making process.

While visceral states are physiological responses to stimuli, affect refers to the positive or negative appraisal of the state itself (Zajonc, 1980; Keltner and Haidt 1999). Though the term encompasses numerous dispositional tendencies, affective states can be distinguished primarily by their situation dependence and stability over time (Frijda, 1988; Ellsworth and Scherer, 2003). Typically, affective states can be used to refer to either emotions or moods. Emotions, such as anger or happiness, are target-specific affective reactions to internal or external stimuli that exert a pervasive influence over an individual's appraisal of a situation in relation to their goals as well as their decision-making process (Berkowitz, 2000; Mauss, Cook, & Gross, 2007). Accordingly, emotions are highly dependent on the situational setting and can, therefore, change from moment to moment (Frijda, 2007). In contrast, moods are diffuse affective states that generally lack specific situational causes and can persist for hours, days, or extended periods of time (Forgas, 1995). Furthermore, moods are often conceptualized as a set of experiential, physiological and behavioural response tendencies that unfold over time.

In the context of the current study, affective states are conceptualized as an offender's emotional state rather than their dispositional mood. Due to the dynamic nature of sexual offending (Beauregard & Leclerc, 2007), it is necessary to account for the factors influencing offender decision-making in relation to situational stimuli and immediate target-specific goals. As emotions are dynamic rather than static in nature, it is highly beneficial to assess the influence an offender's emotional state can have on their decision-making during a sexual assault event. Consequently, although discussion of visceral states helps develop a broader understanding of offender decision-making, this study primarily focuses on the influence of emotional affective states.

2.2. Emotional Dysregulation And Aggression

Literature examining the influence of emotional affect on aggression often evaluates whether or not an individual can effectively manage and control their emotional

experiences. Emotion regulation can be defined as the attempts an individual makes to maintain, inhibit and enhance positive or negative emotional experiences and expressions (Gross, 2008; Robertson, Daffern, and Bucks, 2012). There are two primary types of regulation: 1) deliberate and controlled, and 2) automatic. Also known as strategic regulation, deliberate emotion regulation is driven by explicit goals and involves conscious effort as well as attentional resources (Mauss, Cook, & Gross, 2007). For example, an individual may purposely resist and/or suppress expressions of sadness during an interpersonal conflict to avoid appearing upset. In contrast, automatic emotion regulation can occur without a conscious decision and does not require an individual's direct attention (Ellsworth & Scherer, 2003; Robertson, Daffern, & Bucks, 2014; 2012). For example, an individual may automatically shift their attention away from a distressing – or unpleasant – scene or image. Though this requires little conscious thought on the part of the individual witnessing the aversive stimuli, the automatic regulation nonetheless aims to achieve the goal of avoiding the distressing image (Gross, 2008). However, due to the fact that automatic emotion regulation is often beyond the conscious control of individuals, most research has focused on the deliberate aspects of emotion regulation (Robertson, Daffern, and Bucks, 2012).

While emotion regulation refers to strategies used by an individual to inhibit or enhance their emotional experiences, emotion dysregulation – or maladaptive emotion regulation – occurs when an individual is either unable to contain the emotional experience sufficiently to engage in goal-directed behaviours or does not allow the emotion experience to occur naturally (Frijda, 2007; 1987; Robertson, Daffern, and Bucks, 2014; 2012). This failure to effectively manage and mediate emotional experiences is often associated with offending behaviours and/or criminal activity. However, the exact manner in which aggression manifests heavily depends on the type of emotion dysregulation that occurs: over-regulation or under-regulation.

An individual that over-regulates his/her emotions uses cognitive or behavioural strategies to escape from a particular emotional experience. Over-regulation can occur through experiential avoidance as well as the suppression of emotional expression (Robertson, Daffern, and Bucks, 2014). Experiential avoidance occurs when an individual is unwilling to engage with particular private experiences that activate distressing

emotions. As the individual is driven to avoid these aversive emotions, they actively take cognitive and/or behavioural steps to alter the form or frequency of these experiences. Similarly, an individual may actively avoid and/or cease contact with certain settings or stimuli that trigger activating thoughts or experiences. Conversely, expressive suppression occurs when an individual actively attempts to inhibit ongoing expressive behaviour relating to their particular emotional state.

While effective emotion regulation allows an individual to process difficult emotional experiences, dysregulation significantly interferes with the normal physiological and psychological processes that accompany an emotion experience (Martin & Delgado, 2011; Novaco, 2011). Accordingly, without allowing emotional experiences to fully unfold naturally, individuals jeopardize their ability to proceed with normal, pro-social behaviours. In particular, the over-regulation of emotion may increase aggression by exaggerating negative affective emotions and reducing inhibitions against violence. Specifically, expressive suppression can have a dramatic impact on the present internal state of an individual by increasing the level of negative emotion they experience (Robertson, Daffern, & Bucks, 2012). As internal states largely determine the inferences made in the automatic appraisal process, the perpetuation of negative affect is likely to bring an aggressive bias, thereby increasing an individual's preparedness to aggress. Moreover, the over-regulation of emotion may increase the likelihood of aggression by depleting available cognitive resources that would otherwise be used in the appraisal and deliberation of behavioural responses. Due to the constant attention needed to actively suppress or avoid aversive emotions, individuals diminish their cognitive processing abilities and subsequently compromise their decision-making processes.

As opposed to over-regulation, emotional under-regulation occurs when an individual fails to control, mediate, or temper their immediate emotional experience (Robertson, Daffern, & Bucks, 2012). Accordingly, under-regulation involves a failure to contain emotional experiences sufficiently enough to inhibit impulsive responses as well as maintain engagement in goal-directed behaviours. As a result, the behaviour that occurs in response to an emotional experience is often inseparable from the emotion itself (Gratz & Tull, 2010). For example, an individual who under-regulates his/her anger may

respond to interpersonal conflict with explosive verbal and/or physical aggression without consideration of the social censure concerning appropriate conduct.

Although emotion dysregulation can result in a wide array of negative behaviours, the influence of under-regulation on aggression is particularly clear with regard to anger. Aggressive behaviours are frequently preceded by feelings of anger, more so than any other emotion (Novaco, 2011). When experiencing anger, an individual's connected network of hostile thoughts and aggressive motor impulses is activated (Berkowitz, 2000). As aggressive scripts and schemas are primed, an individual's attention becomes narrowly focused on anger-related information. Accordingly, this priming directs an individual to interpret and appraise situational stimuli as hostile and/or threatening, thereby increasing the individual's preparedness to aggress. Moreover, although the experience of anger does not entirely impede analytic deliberation, a high level of emotional arousal can reduce information processing as well as consideration of alternative response behaviours or actions. Thus, due to the underlying role of anger in aggression, an individual who is unable to control his/her emotional experience and under-regulates their anger is more likely to engage in aggressive and/or violent behaviours.

Although anger has a strong, pervasive influence on the cognitive processes that lead to physical aggression, other negative emotions, such as sadness, anxiety, and fear, should not be overlooked. Multiple studies have found that other forms of negative emotional states are a predominant source of attendant aggression and that they are closely associated with physical violence (e.g., Berkowitz, 1993; Wilkowski & Robinson, 2008). However, while affective violence is typically accompanied by states of negative, not positive, affect, academic research that exclusively focuses on negative affective states fails to account for the heterogeneity of the motivations for violence (Gudjonsson & Sigurdsson, 2007). A study by McMurrin, Jinks, Howells, and Howard (2010) found that while some episodes of the violence reported by the young men in sample could be considered instrumental, many instances of violence did not. Though instrumental episodes of violence were related to obtaining tangible goods in a premeditated fashion, much of the reported violence was committed for thrill-seeking purposes (McMurrin et al., 2010).

In addition to varying motivations for physical violence, it is imperative to consider the influence an offender's dominant affect has on the type of violence that manifests. As suggested by Howard (2011), violence, whether it is impulsive or controlled, can be classified as being aversive or appetitive. Offenders utilizing aversive violence are typically characterized by having a dominant negative affect. Negative emotions, such as anger, fear, distress or anxiety, lead an offender to engage in behaviours that would reduce the aversive experience of their negative affect state (Howard, Howells, Jinks, and McMurrin, 2009). Typically, this involves the removal of an interpersonal threat or personal slight, real or perceived. While impulsive violence is often reactive in nature, controlled offenders are driven to remove the interpersonal threat or the grievance by considered, premeditated action. Conversely, while aversive violence aims to reduce and/or remove the experience of negative affect, appetitive violence seeks to enhance positive affect through the infliction of harm (Howard, 2009, 2011; Tragesser, Trull, Sher, and Park, 2008). Characterized by a dominant affect, offenders engaging in appetitive violence typically experience exhilaration and/or excitement during the commission of a criminal event. In contrast to offenders engaging in aversive violence, offenders have a pleasant anticipation for a desired positive outcome and enjoy the infliction of harm (Howard et al., 2009).

Although sudden shifts in an offender's emotional state can occur within the same violent episode (McMurrin et al., 2010), it is imperative to highlight the notion that both positive and negative affective states may lead to aggression and physical violence. Positive emotions such as excitement and exhilaration can lead an individual to engage in thrill-seeking, appetitive violence. The emotional dysregulation of positive emotions can occur when attempts are made by an offender to achieve ever-higher levels of excitement that lead to increasing amounts of violence and harm-infliction (Baumeister, Zell, and Tice, 2007; Martin & Delgado, 2011). Through the use of physical force, as well as the infliction of injury, a state of pleasant high arousal is maintained and enhanced (Howard, 2011). Accordingly, the failure to emotionally regulate positive emotions can be as deleterious as the failure to regulate negative affect.

2.3. Emotions and Sexual Assault

Although positive affect has been associated with physical aggression, literature examining the influence of emotions on sexual offending has generally focused on the examination of negative affective states. The link between negative affect and sexual offending is well supported in literature and there is a general consensus that negative affective states can significantly influence an offender's decision to offend (Wakeling et al., 2007; Howells, Day & Wright, 2004; Marshall & Marshall 2000; Frijda, 1987). Negative affective states often precede cognitive sequences that lead to sexually aggressive behaviour (Hall & Hirschman, 1991; Pithers, 1990). For example, Wakeling et al. (2007) found that although sexual arousal would immediately precede or trigger the decision to offend, intrafamilial child molesters commented that the abuse would occur at times when they were experiencing dominant negative affect. This is consistent with the notion that offenders who sexually assault children often do so when their affective state is primarily depressive (Hall & Hirschman, 1992). In contrast, hostile affective states, such as anger or frustration, are more likely to facilitate sexual aggression against adult victims (Nobre & Pinto-Gouveia, 2006; Hall & Hirschman, 1991).

The consistent findings led to the development of offense process models that attempt to incorporate the influence of emotional affect on the decision to sexually offend. A notable example of this is the relapse prevention model put forward by Pithers (1990). Although relapse-prevention models were originally designed to prevent relapse by persons with addiction (see Cummings, Marlatt, & Gordon, 1980), Pithers (1990) successfully applied the models to sexual offending. Arguing that recidivism is not an impulsive act but rather the result of multiple steps, the relapse prevention model highlighted the importance of situational components, cognitive evaluations and decision-making. Moreover, the model places great emphasis on adaptive coping responses.

According to Pithers (1990), offenders use deviant and non-deviant sexual thoughts, fantasies and behaviours to cope with – and provide relief from – negative emotional states. Accordingly, when faced experiencing negative affect, if offenders have successful adaptive coping response, they can remove themselves from high-risk situations and continue their abstinence. Similarly, effective coping can also prevent a

lapse from devolving into a full relapse. However, failure to respond to high-risk situations and/or lapses with effective coping strategies leads to a decrease in self-control and increases the likelihood of a relapse. Hence, if offenders fail to appropriately cope to high-risk situations, successive sequences may lead to a lapse of deviant fantasies and ultimately a relapse, whereby they engage in the commission of a sexual assault. Consequently, treatment models are typically designed to help sexual offenders maintain behavioral changes by anticipating and coping with negative emotional states as well as subsequent deviant sexual fantasies (Pithers, 1990).

Though Pithers' (1990) model is one of many theoretical pathways to sexual aggression, most cognitive-behavioral treatment programs for sexual aggressors are based on its framework (Lussier, Proulx, & McKibben, 2001). However, despite the relative efficacy of the framework, the role of emotional affect in the model is portrayed as being overly causal in nature, triggering both the relapse cycle and constituting high-risk situations. Moreover, the progression from a high-risk situation to a sexual assault is marked by a dominant – yet static – negative affective state. Though the 'problem of immediate gratification' is characterized by positive emotions and sexual arousal, it is conceptually a part of the abstinence violation effect, which is characterized by negative emotions (Ward, 2000). Accordingly, Pithers' (1990) model is unnecessarily restrictive and fails to accommodate, as well as account for, the dynamic nature of emotional affect on sexual aggression. Due to the diversity of offending processes, which differ as to the nature of the dominant emotional state, several alternative pathways to sexual aggression are outside the scope of Pithers' (1990) model. In particular, sexual offenders who follow an appetitive, positive affect pathway are excluded from consideration (Ward, 2000; Ward & Beech, 2005).

Moving beyond Pithers' (1990) incorporation of emotional affect in the sequence of offending, Hall and Hirschman (1991) developed a quadripartite model that focuses, in part, on the role of cognitive schemas in men's sexual aggression. As part of their four major subtypes of sexual aggressor, Hall and Hirschman (1991) argued that each subtype was facilitated primarily by one of four motivational precursors. In addition to physiological sexual arousal and cognitive appraisal, affective dyscontrol, typically in the form of anger and hostility, was posited as a third motivational factor that would facilitate sexual

aggression against adults. Although some sexual aggressors against children appear to be motivated by anger and physically aggressive impulses, these sexual aggressors represent a minority of all sexual offenders. Rather, sexual offenders who aggress against children often do so to cope with depressive negative states. Thus sexual offenders who victimize adults are more likely acting out direct expression of the affective state, in this case anger, whereas sexual offending against children likely occurs as a reaction to the negative, depressive state (Hall and Hirschman, 1991).

Regardless of whether a sexual offender targets adult or child victims, a negative affective state is the primary motivational precursors of the third subtype. According to the quadripartite model, the sexually aggressive act typical of this subtype is opportunistic and unplanned, rather than deliberate, compulsive, and controlled (Hall & Hirschman, 1991). Moreover, the offender is primarily motivated by impulse and predatory instinct and not by heightened sexually related physiological arousal or fantasy. However, although Hall and Hirschman (1991) discuss a separate subtype of offenders primarily motivated by physiological sexual arousal, the notion that emotional dysregulation and sexual arousal are distinct motivational factors of sexual aggression downplays the importance of their interplay in offender decision-making. Accordingly, by exclusively focusing on emotional regulation in regard to one particular sub-type of sexual aggressor, the quadripartite model inherently precludes meaningful discussion of the influence of emotional affect on the remaining subtypes. Consequently, it is beneficial to examine the influence that emotional affective states have on offender behaviours through the use of decision-making frameworks.

2.4. Decision-Making Models and Emotional Affect

Although it is routinely criticized as being overly parsimonious, the rational choice perspective is consistently used to model offender decision-making. As stated by Cornish and Clarke (1986), criminals implement rational decisions by weighing the rewards, efforts, and costs involved in the undertaking. Though the term 'rationality' lacks universal agreement, it can be operationally surmised as a "deliberate choice that people make from a range of behavioural options" (Van Gelder, 2013, p.746). However, even though the rational choice perspective is premised upon the presumption that human action is

rational, it is understood that offenders act within a limited or 'bounded' decision-making framework (Carroll, 1987; 1982). The notion of bounded rationality accounts for the fact that deliberations are often limited by a lack of information regarding the consequences of the act (Clarke & Cornish, 1985) as well as the temporal constraints of considering alternative actions (Van Gelder, 2013). In addition, Cornish and Clarke (1986) comment that offenders may possess limited abilities to deliberate or consider the full range of options or responses to a given situation. Accordingly, rather than engage in a series of complex deliberations, offenders tend to make simplified judgments that quickly settle on a course of action. Consequently, although such decisions often obtain immediate or short-term rewards, they often fail to yield maximum benefit (Carroll, 1987).

Even though the rational choice perspective derived from the economic theory of crime, it has been effectively applied to non-economic crimes such as sexual assault (Beauregard & Busina, 2013; Beauregard & Leclerc, 2007; Bouffard 2011; Bouffard & Kunzi 2012). Framed within the traditional rational choice perspective, sex offenders must weigh the perceived benefits of the assault itself with the potential costs of engaging in criminal activity, such as apprehension and punishment. However, the risk of facing negative consequences is largely contingent on whether or not the victim reports the assault to the police. Accordingly, offending behaviours that increase the likelihood of victim reporting are more likely to increase, rather than diminish, the risk of detection, apprehension, and punishment.

Researchers have generally found victim reporting to be a function of whether or not the sexual assault fits a traditional rape script (Mopas & Moore, 2012; Spargo & Ream, 2012). Within the social narrative of sexual assault, the traditional rape script refers to an attack that involves a stranger perpetrator, forcible tactics, and the sustainment of injuries (Clay-Warner & McMahon-Howard, 2009; Paul, Zinzow, McCauley, Kilpatrick, & Resnick, 2014). Although only a small number of offenders actually commit exceedingly violent assaults (Stevens, 1998), victims are more likely to report their victimization if they experience greater levels of interpersonal violence and/or sustain physical injuries (Gray, 2006; Lazar, 2010; Mopas & Moore, 2012). In a study of criminal achievement in sex offending, Lussier, Bouchard and Beauregard (2011) found that offenders who are more successful at delaying detection opt against using physical violence to increase victim

compliance. Rather, successful offenders utilize non-aggressive tactics, such as manipulation, deception, and persuasion, to minimize victim resistance and decrease the risk of the victim reporting the assault. Consequently, offenders who utilize lower levels of force and minimize the amount of victim injury can diminish the costs associated with sexual offending by decreasing the risk of apprehension (Mopas & Moore, 2012; Paul et al., 2014). Thus, it is tactically advantageous for sex offenders to engage in offending practices that limit the amount of force and physical aggression during a sexual assault (Lussier et al., 2011).

Despite the relative efficacy of the rational choice perspective, there are numerous shortcomings concerning the rational choice framework in relation to offender decision-making during a sexual assault (De Haan and Vos, 2003). First and foremost, the traditional hedonistic calculus used to frame an offender's decision-making presents an unrealistic depiction of real-world decision-making. Although the rational choice perspective nominally includes the influence of emotions in relation to the offender's 'background factors', the concept of bounded rationality fails to effectively account for the pervasive influence that emotional affect has on decision-making processes (Shover, 1991; Van Gelder, 2013). Moreover, the rational choice perspective emphasizes static decision-making. Accordingly, there is no apparent difference in the deliberation process that offender's use when engaging in criminal and non-criminal activity. To improve upon the traditional hedonistic calculus of the rational choice perspective, it is necessary to effectively incorporate the influence of emotional affect in a meaningful way (Van Gelder & De Vries, 2012). By considering the impact that emotional states have on an offender's decision making, it is possible to obtain a more realistic and authentic understanding of the decisions made by an offender during a sexual assault event.

Building upon the traditional decision-making framework, the dual-process prospective emphasizes there are two separate systems of mental processing that operate simultaneously when an offender engages in acts such as evaluating risks or deciding on a certain course of action (Van Gelder & De Vries, 2012; Van Gelder, 2013). Often referred to as the hot/cool perspective, dual-process models take into account an offender's emotional 'hot' system and cognitive 'cool' system. The cool system forms an offender's cognitive, systematic mode of processing information. Associated with effortful,

analytical judgments, the cool system is responsible for decisions based on extensive deliberation. Due to the ability to apply abstract and hypothetical reasoning, the cool system is much more sensitive to the consideration – and appreciation – of potential risks. Accordingly, the cool system operates roughly according to the precepts of rational choice theory (Van Gelder, De Vries, & Pligt, 2009).

In contrast, the emotional hot system operates under stimulus control and is far less cognitive in nature (Metcalf and Mischel, 1999). Offenders in a 'hot state' are more likely to engage in impulsive decision-making that is premised upon rapid heuristic judgments rather than complex deliberation (Van Gelder, 2013; Van Gelder & De Vries, 2012). In addition to requiring a low threshold for processing incoming information, the hot system often requires little or no cognitive effort. Accordingly, the hot system is relatively unresponsive to the probabilities of decision outcomes, and generally precludes consideration of potential long-term risks (Loewenstein et al., 2001). Rather, the hot mode disproportionately responds to properties of a situation that play only a minor role in cognitive appraisals and evaluations. For example, the vividness with which the outcomes can be imagined and the offender's temporal or spatial proximity to obtaining the perceived goal are greater determinants of behaviour than the potential for long-term risks (Slovic, 1987). Consequently, emotional appraisals in the hot system respond differently to risk probabilities and outcomes than cognitive evaluations of risk in the cold system (Loewenstein et al., 2001).

2.5. Visceral States and Sexual Offending

While the hot/cool perspective offers a more realistic account of offender decision-making, the notion that offenders in a hot state are more likely to make heuristic judgments with little, if any, consideration and/or appreciation of long-term risks is highly consonant with literature examining the influence of arousal states on offender decision-making. Moreover, the hot/cool perspective offers considerable insight to the existing literature concerning visceral arousal and sexual offending. In particular, the consideration of visceral factors on offender decision-making may offer some explanations for why offenders might focus on only a small number of consequences, rather than engage in intensive deliberation (Van Gelder, 2013). Sexual offenders who are in a state of arousal

will be directed towards engaging in behaviours that satisfy their visceral need. In addition to directing an offender's attention and focus towards mitigation or resolution, immediately experienced visceral factors have a disproportionate effect on the desirability of alternative actions. As the individual is driven to resolve the visceral state, consideration of alternative goals or actions are largely undervalued or ignored. Accordingly, the influence of visceral factors may account for offending behaviours that, while failing to obtain long-term maximum benefits, satisfy immediate goals related to the offender's visceral state.

Loewenstein et al. (1997) proposed that sexual arousal might indirectly influence the likelihood of 'sexual forcefulness' by impacting the perception of costs or benefits. To test whether or not sexual arousal had a 'bounding' effect on an individual's deliberation process, Loewenstein et al. (1997) collected responses to a hypothetical sexual coercion scenario from a sample of 80 male undergraduate students. The sample participants were randomly assigned to either a no-arousal condition, an immediate-arousal condition, in which the participants were provided with sexually arousing material, or a prior-arousal condition, in which participants were sexually aroused a day before the administration of the survey questions. As expected, the participants subject to the immediate arousal condition scored higher on measures concerning the likelihood of sexual coercion. Moreover, the findings found no statistically significant relationship between the sexual arousal the aggregated measure concerning the 'costs' (i.e. discovery without arrest, arrest, university dismissal, lost respect of family or friends) of engaging in sexual coercion.

A number of researchers have utilized a similar methodology and experimental design to examine how visceral states, particularly sexual arousal, influence and predict sexually coercive behaviour (Ariely & Loewenstein, 2006; Bouffard 2011; 2002a; Shively, 2001). Despite variations amongst the studies, the overall experimental design generally consists of exposing a group of male college students to sexually arousing material and then asking the participants to estimate their likelihood of engaging in sexually coercive behaviours in a given scenario (Ariely & Loewenstein, 2006; Bachman, Paternoster, & Ward, 1992; Bouffard & Kunzi, 2012; Bouffard & Miller, 2014). Typically, the subjects are asked to read a hypothetical 'date' scenario and estimate their likelihood of engaging in several sexually coercive tactics (Bouffard & Miller, 2014; Bouffard 2002a; Loewenstein et

al. 1997). The responses of subjects in the experimental group are then contrasted with those of the control group, who were not exposed to sexually explicit material. Although the exact design of the experiment varies from study to study, the overall format is consistently utilized (Bachman, Paternoster, & Ward, 1992; Bouffard & Miller, 2014, Bouffard, 2002a).

One distinct methodological variation was utilized in Ariely and Loewenstein's (2006) study concerning sexual arousal and the perception of immediate benefits. In this particular experiment, participants in the aroused condition were asked to view erotic, sexually arousing photographs while masturbating. Upon reaching a relatively high (75%) level of self-reported arousal, the participants were then asked to respond to a series of hypothetical questions. The findings indicate that sexual arousal was related to the participants finding numerous sexual activities to be more appealing than the participants in the no-arousal condition. Similarly, the participants in the arousal condition also reported higher likelihood of engaging in morally questionable behaviours to obtain sex. For example, when asked 'would you keep trying to have sex after your date says "no"?' aroused participants were more likely to respond 'yes' (Ariely & Loewenstein 2006, p. 94).

Despite the variations in methodological design, there is consensus amongst the findings that suggest sexual arousal increases subjects' expectations of their own sexual aggressiveness. Moreover, the findings are consistent with Loewenstein's (1996) suggestions concerning the attention-focusing effects of visceral states. In particular, sexual arousal influences the perception of the potential costs and benefits of engaging in criminal activity by increasing the perceived immediate rewards and benefits (Ariely & Loewenstein, 2006; Bouffard, 2002a; Carmichael & Piquero 2004) while simultaneously reducing the perception of costs (Loewenstein et al., 1997). Directing an offender's attention towards immediate gratification, this over-perception of the rewards of sexual assault limits an offender's ability to consider the potential risks of engaging in certain offending behaviours. As a consequence, offenders may fail to take into account the long-term ramifications of their actions and disregard offending behaviours that influence the likelihood of victim reporting (Bouffard, 2011; Carmichael & Piquero 2004).

2.6. Affective States and Sexual Offending

Although there has been a considerable amount literature examining the influence of visceral states on sexual offender decision-making, studies often focus solely on sexual arousal (Ariely & Lowenstein, 2006; Bouffard, 2011; 2002a; Shively, 2001; Lowenstein, 1996). While considering the impact that sexual arousal has on the deliberation process of a sexual offender is imperative to obtaining a greater understanding of sexual assault, narrowly focusing on one visceral factor precludes meaningful discussion of other factors that can influence decision-making. In particular, emotional affect is a visceral factor that warrants judicious examination due to the pervasive influence that emotions have on an individual's deliberation process. Intense emotional states, such as anger, have been found to have a similar 'bounding' effect on 'rational' decision-making. Specifically, emotions invariably impact an offender's behaviour by directing an individual's appraisal of perceived outcomes towards immediate gratification (Carmichael & Piquero, 2004; Damasio, 1994; Nobre & Pinto-Gouveia, 2006). Though they may be beyond the conscious control of the individual, emotional factors can significantly hinder or circumvent extensive deliberations exploring alternative courses of action (Howells, Day & Wright, 2004).

Various studies have examined the role of emotional arousal in relation to sexual offending. Yates, Barbaree and Marshall (1983) were amongst the first to examine the role of affect in relation to sexual deviance. Although this study did not specifically focus on sexual offending behaviours, it examined whether males exposed to a prior anger-producing insult from a female confederate would experience similar levels of sexual arousal to audiotaped depictions of rape and mutually consenting sex. The results suggest that anger enhanced sexual arousal to rape stimuli, as males under the experimental condition demonstrated greater arousal to the rape depiction than the control group (Yates et al., 1983). Further studies have obtained similar findings relating anger, and other variations of negative affect, to deviant sexual arousal (Nobre and Pinto-Gouveia, 2006) and/or coercive sexual behaviour (Howells, Day and Wright, 2004).

Further studies have specifically examined the mediating and moderating effects of emotional anger on offender decision-making (Carmichael and Piquero, 2004; Exum,

2002). Overall, these studies agree with the research on sexual arousal, in that they have all failed to find evidence for mediation of cost perceptions by arousal. Rather, Carmichael and Piquero (2004) support the sexual arousal findings from Bouffard (2002) and Loewenstein et al. (1997) in that emotional state may influence the perception of immediate benefit. In particular, Carmichael and Piquero (2004) found that although anger did not impact the perception of formal or informal sanctions resulting from an assault, it did increase the perception that the assault would provide the participant with immediate benefits (i.e. 'thrill'). In comparison to the participants anticipating less anger, the participants with more anger were only influenced by the perceived thrill rather than the combination informal sanctions and benefits. Accordingly, emotional states may indirectly influence offending by increasing perception of benefits consistent with the emotion being experienced by the offender emotions. Consequently, offenders experiencing anger, or other negative emotions, may unduly perceive the benefits of engaging in aggressive behaviour.

For example, in a study examining negative emotions and aggressive behaviour, Bushman, Baumeister, and Phillips (2001) found that people who believe that aggressive actions would make them feel less angry were more likely to behave aggressively in response to provocation. Even though violent acts do not typically improve or alleviate one's negative affective state (Geen & Quanty, 1977), the study participants who provided aggressive responses did so hoping that aggression would make them feel better (Bushman, Baumeister, & Phillips, 2001). Within the context of sexual assault, it is possible that offenders with a primarily negative affective state will utilize excessive levels of physical force and violence as means of alleviating their negative emotions. Consequently, as offenders are driven to engage in behaviours that immediately address or satisfy an emotional need, offenders may ignore or disregard alternative behaviours or tactics that would decrease the likelihood of the victim reporting the assault as well as the risk of apprehension (Marshall & Marshall, 2000).

This notion is consistent with Damasio's (1994) work on neuropsychology decision-making that found excessive levels of high or low arousal can lead offenders to make less deliberative decisions that work against their self-interest. Overemphasizing the short-term benefits of satisfying an emotional need, emotional affect in sexual assaults

disproportionately limits consideration of alternative courses of action over the long term (Loewenstein et al., 1997). As offenders are motivated to quickly resolve their affective states, they engage in a series of short-sighted decisions that ignore the long-term repercussions of their actions (Bouffard & Miller, 2014; Loewenstein, 1996). Rather than judiciously contemplate the long-term ramifications of their actions, offenders are motivated by the perceived benefits of responding to their emotional state and are subsequently directed towards short-term decisions. Though these decisions may not be beneficial to the offender's self-interest in the long-term, they often are nonetheless aimed at achieving the perceived immediate benefits. Thus, an offender responding to intense emotional states may act in a manner that appears to be irrational to objective observers, but is consonant with the goal of satisfying their emotional need.

Chapter 3. Aim of Study

While there is a great breadth of literature examining the role of emotional affect on criminal decision-making in an artificial, experimental environment (Bouffard, 2002a; 2002b, Bouffard & Miller, 2014; Howells, Day, & Wright, 2004; Heiman & Hatch 1980) there are relatively few studies that utilize actual criminal populations. Furthermore, literature highlighting the impact of emotions on criminal decision-making typically examines the influence of emotional affect in relation to cognitive sequences that lead to sexually aggressive behaviour (Hall & Hirschman, 1991; Pithers, 1990). Accordingly, rather than examine how affect influences the decisions made during the crime, researchers generally use emotional states to predict the facilitation of sexual aggression (Hall & Hirschman, 1991; Nobre & Pinto-Gouveia, 2006).

Although these studies offer a more accurate understanding of how visceral and/or affective states may influence an individual's likelihood of engaging in sexually aggressive behaviours, it is imperative to note that there are several limitations that constrain the findings of these experiments. Studies examining the role of visceral and/or affective states on predicting sexual aggression are generally limited by the exact nature of the experiment itself. Conducted within an academic office setting, the artificial nature of the visceral/affective manipulation may not reflect real world responses (Bouffard & Miller, 2014, Bouffard 2011; 2002a; 2002b; Lowenstein et al., 1997). As noted by Bouffard (2002b), the experimental setting may unduly influence the manner in which participants experience and mediate their arousal. Accordingly, participants may not respond as fully to the stimuli as they might in a similarly arousing situation occurring in a more casual and private setting (Bouffard, 2002b; Lowenstein et al., 1997). Furthermore, even though arousal manipulations beyond the use of video presentations or photographs could potentially create a level of arousal high enough to create the hypothesized impacts on the perceptions of consequences, ethical concerns limit the ability to test these alternatives (Bouffard, 2002b). Similarly, it is possible that individuals who derive arousal from deviant stimuli may not respond to low intensity manipulations (Hall & Hirschman, 1991; Yates et al., 1983).

Moreover, these studies may not accurately reflect criminal decision-making processes due to the hypothetical nature of the experiments. The interpretation of the results is solely contingent on the subjects' predicted criminal behaviour as opposed to actual criminal behaviour. Although the use of hypothetical scenarios can help explicate the decision-making process, Lowenstein et al. (1997) comment that it is premature to conclude that participants in an arousal condition are better at predicting their own behaviour more accurately than persons in control conditions without data to corroborate predicted behaviours with actual behaviours. Moreover, the use of detailed, hypothetical scenarios may not accurately reflect real-world decision-making processes (Van Gelder, 2013). Hypothetical scenarios generally incorporate several cost-and-benefit items that may prime participants to consider potential costs they would not have normally considered (Bouffard, 2011; 2002a). Making participants aware of the formal sanctions or consequences of their actions allows individuals to better calculate the risk of engaging in criminal behaviour (Bachman, Paternoster, & Ward, 1992). Consequently, results relating to the interplay between arousal and deterrence may not accurately reflect offending decisions in reality.

While the hypothetical nature of the experiments cast doubt on the generalizability of the findings, these studies are further limited by the use of undergraduate students as experiment participants. Though the use of undergraduate samples is widely common within the social sciences (Bouffard & Exum, 2013; Bouffard, Bry, Smith, & Bry, 2008), questions have been raised toward whether students accurately represent actual offenders and their deliberation processes and decision-making. In one of the few studies attempting to address this issue, Decker, Wright, and Logie (1993) found that their comparison sample of non-offenders were substantially less likely to report any hypothetical likelihood of burglary than the known offenders in their study. Even when presented with relatively low levels of cost certainty, the non-offender student sample were less likely to consider engaging in criminal behaviour than the sample of known young offenders. Similarly, a study by Bouffard et al. (2008) examined whether rational choice explanation studies could be generalized from university students to an actual offender sample. The results generally found that the content and process of hypothetical criminal decision making differ in the sample of known offenders, relative to university students.

A further study by Bouffard and Exum (2013) examined whether student samples provide meaningful insight into actual offenders' decisions concerning drunk driving. Even though the study found students and known offenders contemplate criminal opportunities in a similar manner, it would be inappropriate to simply extrapolate the findings to a different crime type. Conversely, the use of undergraduate student samples to specifically study and examine sexual aggression may not be entirely inappropriate. Although the lifetime prevalence of sexual assault within the general population of women is estimated to be between 11%-18% (Gross, Winslett, Roberts, and Gohm, 2006), the prevalence of sexual assault victimization increases substantially during the college years, with one in four women reporting attempted or completed sexual assault (Post, Biroscak, & Barboza, 2011). A study by Mouilso, Calhoun, and Rosenbloom (2013) examined a sample consisting of 304 college men using the Sexual Experiences Survey (SES) Male Version (see Koss, Gidycz, Wisniewski, 1987). The study found that 15.1% of the total sample reported perpetration of unwanted sexual contact since the age of 14 years and 4.9% reported perpetration that meets the legal definition of rape. However, it must be noted that the students that reported perpetrating sexual assault based their responses on actual occurrences of unwanted sexual contact rather than hypothetical scenarios.

Even though undergraduate student samples may account for undetected sexual offenders, questions concerning the efficacy of using student samples to generalize findings to known sexual offenders continue to persist, especially when studies employ hypothetical offending scenarios. In particular, there is substantial concern whether students predicting their own level of sexual coercion or violence – in the absence of actual offending data – can be used to accurately depict the influence of emotional arousal on criminal decision-making. Consequently, despite the fact that university students may or may not be a non-representative sample for sexual offending, few studies have examined the role of arousal and/or affective states on criminal decision-making within a non-student sample (Bachman et al., 1992; Bouffard, 2002a).

Furthermore, within the literature examining the influence of visceral states on criminal decision-making, there is an overemphasis on evaluating the role of sexual arousal on sexual offending. The narrow focus on one specific visceral state often excludes an examination of other visceral states, such as affective emotions. Multiple

studies have found that negative emotional states, that are a predominant source of anger and attendant aggression, are associated with higher levels of physical aggression and violence (e.g., Berkowitz, 1993). Further studies have found other variations of negative affect strongly relate to deviant sexual arousal (Nobre & Pinto-Gouveia, 2006; Yates, Barbaree, & Marshall, 1983) and/or coercive sexual behaviour (Howells et al., 2004). Thus, examination of both positive and negative affective states can contribute to a greater understanding of the decisions made by sexual offenders during sexual assault events.

To obtain a more accurate understanding of criminal decision-making during a sexual assault, this study utilizes data obtained from known sex offenders and incorporates situational factors into the analysis model. Moving beyond hypothetical scenarios of sexual coercion, this study examines the role of emotions on criminal decision-making in relation to actual offending behaviours and substantiated assault outcomes (Carmichael & Piquero, 2004). Accordingly, this study addresses whether an offender's emotional state can account for a greater degree of violence during the assault event.

Therefore, this study examines two offending aspects that can account for the influence of affective states: (1) an offender's use of excessive use of physical force; and (2) the degree of victim injury inflicted by the offender. Thus, by comparing an offender's dominant affect during the assault event with the outcome of the assault, this study assesses if emotional affect influences an offender to engage in higher levels of interpersonal violence and/or inflict a greater degree of victim injury.

Chapter 4. Methods

4.1. Sample and Data Collection

The sample is comprised of adult males who were convicted of a sexual crime in Canada between April 1994 and June 2005. All adult sexual offenders who received a sentence of at least two years in a Canadian federal penitentiary were recruited for a research project on recidivism. All participants signed a consent form indicating that the information gathered would be used for research purposes only. At the time of the survey, the majority of participants were incarcerated in a maximum-security institution run by the Correctional Service of Canada. The average stay in this institution is approximately 8 weeks, during which time inmates undergo correctional assessment procedures prior to their transfer to an institution suited to their risk level and treatment needs. Of the 507 offenders involved in this specific study, a large majority of them are Caucasian (89.7%). The average age of the offender at the time of their interview was 38.7 years old (SD=11.5, 18-78).

Data were collected during semi-structured interviews with each participant using a computerized questionnaire that includes correctional information; pre-crime, crime, and post crime factors; attitudes to the offender; apprehension; victimology; developmental factors; and diagnoses. Further, details about participants' criminal activities were obtained from official police records, victim statements, and institutional case files. In order to minimize response discrepancies, offenders were promised complete confidentiality and that the Correctional Service of Canada would not be able to use the provided information against them. Checking for and questioning inconsistencies monitored the reliability of responses. In cases of disagreement between self-reported data gathered obtained during the interviews and official data, such as police records and institutional files, the official data were used. Conducted jointly by two raters, inter-rater agreement was measured on the basis of 16 interviews and the consultation of official files. Ratings were done independently following these interviews. The mean Kappa was 0.87, which indicates a very strong agreement between the two raters.

Chapter 5. Measures

5.1. Dependent Variables

As seen in **Table 1**, the first dependent variable ‘level of force used by the offender’ (0=no force or just what was needed to commit the offense, 1=more force than what was needed to commit the offense) measures an offender’s use of excessive physical force during the assault. For the purpose of this study, this variable was dichotomized to specifically account for physical aggression that goes beyond the utilitarian purpose of ascertaining victim compliance (Hewitt & Beauregard, 2014; Stevens, 1998). Accordingly, offenders who used no force or minimalist, utilitarian force during the assault were coded together to juxtapose offenders that utilized excessive levels of physical force. In this sample, a majority of offenders did not use excessive physical force during assault (n=319) while 37% of offenders did (n=188). The frequency distribution of this sample is consistent with sexual assault literature. Despite the violent nature of sexual assault, most offenders report that they use a minimal amount of violence to gain victim compliance (Balemba & Beauregard, 2012; Hazelwood and Warren, 1990). Similarly, in a study of serial rapists, Stevens (1998) found that only a minority of offenders exhibited excessive force in the commission of the assault.

Table 1. Descriptive Information for the Dependent and Control Variables (n=507).

Variables	Prevalence n (%)
<i>Dependent Variables</i>	
<i>Level of Physical Force</i>	
Excessive force, more than necessary	188 (37)
No force or minimal force	319 (63)
<i>Degree of Victim Injury</i>	
Serious injury	103 (20)
Light injury	83 (17)
No injury	321 (63)
<i>Control Variables</i>	
Lambda of Sexual Crimes	M (SD, range) 0.84 (2.85, 0 – 56.19)

The second dependent variable 'level of victim injury' (0=*no injury*, 1=*light injury*, 2=*serious injury*) was selected as a quantifiable measure of a violent sexual assault outcome. Although there is a considerable amount of literature discussing the emotional and psychological harm of sexual assault (e.g., Cohn et al. 2013; Paul et al. 2014), it is beyond the scope of this study to examine such victimization. Accordingly, victim injury exclusively refers to the physical wounds victims sustain as a result of the sexual assault (Lussier et al., 2011). While *minor injury* refers to light wounds and minor contusions, including bruising or non-critical cuts, *serious injury* includes any physical injury that resulted in short or long-term hospitalization, death, and/or post-mortem mutilation. Among the 507 sex offenders in this study, 63.3% ($n=321$) of offenders did not injure the victim while 16.4% ($n=83$) and 20.3% ($n=103$) of offenders caused minor injury and serious injury, respectively.

The frequency distribution of victim injury in this sample is consistent with sexual assault literature. While sexual assault can result in physical injury, a surprising number of sexual victims do not sustain physical wounds. Alempijevic, Savic, Pavlekic, and Jecmenica, (2007) found that no extragenital physical injuries occurred in 35.6 percent of their research sample. Similarly, Maguire, Goodall and Moore (2009) found that almost 40 percent of adult victims in their sample did not sustain any body injury. Victims that were injured by the assault generally sustained relatively minor injuries such as tenderness or light bruising. This is consistent with research regarding adolescent victims. With nearly 50 percent of the victim sample sustaining no injuries, White and McLean (2006) suggest that genital and/or extragenital body wounds are not routinely found in adolescent sexual victims. However, it is imperative to note that the absence of physical injuries does not preclude sexual assault (Maguire, Goodall & Moore, 2009; Alempijevic et al., 2007). Moreover, the lack of physical wounds does not disrepute the violent nature of sexual assault nor diminish the emotional and psychological trauma experienced by victims (White & McLean, 2006).

5.2. Independent Variables

To insure the relationships between dominant affect and the dependent variables are not spurious, this study incorporates several control, pre-crime, and situational factors

that have been associated with aggressive sexual behaviours and violent assault outcomes. Variable selection was premised off of prior academic literature examining sexual offenders.

5.2.1 Control Variables

Due to the heterogeneity of sex offending, it is necessary to account for the subjects' varying degrees of criminal propensity for sexual crimes. This study uses the lambda of sex crimes as a control variable. This measure is obtained by taking the total number of sexual crimes relative to the number of crimes in general per individual offender. Accordingly, the higher the lambda ratio, the greater the likelihood of an offender engaging in sexual crimes. For this study, there was a mean lambda of 0.84 ($SD=2.8$, range= 0.0 – 56.1), indicating a relatively low average.

5.2.2. Victim Characteristics

Similarly, to account for the heterogeneity of sexual offenders, several variables were used to avoid possible confounding effects caused by the offender's victim preference. The frequency distributions for victim and pre-crime measurements can be seen in **Table 2**. The sex of the victims (0=*female*, 1=*male*) was predominately female ($n=406$) while 19.9% of the victims were male ($n=101$). The average age of the victims in this study was 18.4 years old ($SD=13.3$, range=1-82). The variable 'did the offender know the victim' (0=*no*, 1=*yes*) measures the relationship between the offender and the victim at the time of the assault. The term 'known' refers to a personal relationship between the offender and victim prior to the date the offence was committed. Accordingly, it is possible that the victim and offender may have briefly seen and/or spoken with one another prior to the assault, but this interaction is not characteristic of having a personal relation and would be coded as an unknown offender.

Table 2. Descriptive Information for Victim and Pre-Crime Characteristics

Variables	M (SD, range)
<i>Victim Characteristics</i>	
<i>Victim age</i>	18.4 (13.3, 1-82)

	Prevalence n (%)
<i>Sex of victim</i>	
Male	101 (20)
Female	406 (80)
<i>Offender known to victim</i>	
Yes, offender was known to the victim	405 (80)
No, offender was a stranger to the victim	102 (20)
<i>Pre-Crime Characteristics</i>	
<i>Dominant affect prior to crime</i>	
Positive Affect	215 (42)
Negative Affect	292 (58)
<i>Alcohol prior to crime</i>	
Yes	242 (48)
No	265 (52)

Although this study primarily focuses on situational factors during the assault, two measures of pre-crime factors are included to provide greater contextual understanding of the criminal event. Alcohol consumption prior to crime (0=no, 1= yes) measures whether or not the offender consumed alcohol prior to perpetrating the assault. While the aim of this study does not specifically examine the effects of alcohol on sexual offending, this measurement is nonetheless included due to the role alcohol has on an offender's emotional state and decision making-processes (Brecklin & Ullman, 2010). Similarly, in addition to exacerbating emotional states (Korcha, Cherpitel, Witbrodt, Borges, Hejazi-Bazargan, Bond, & Gmel, 2014), alcohol has been empirically linked to higher levels of aggression and interpersonal violence (Scott & Beaman, 2004). Approximately 48% of offenders consumed alcohol prior to the crime ($n=242$) while 52% of offenders did not ($n=265$).

The second pre-crime factor 'dominant affect before the crime' (0=*negative affect*, 1=*positive affect*) measures the offender's emotional state prior to the criminal event. *Negative affect* is comprised of seven emotional categories: i) *Anger-Frustration-Aggression*; ii) *Guilt-Regret-Shame*; iii) *Loneliness-Boredom*; iv) *Sadness-Depression*; v) *Anxiety-Agitation-Nervousness*; vi) *Fear*; and vii) *Emptiness-Confusion*. Although past studies typically use only anger (Lowenstein et al. 1997; Yates et al., 1983) or sadness (Wakeling et al., 2007) to operationalize negative affect, the aforementioned emotions

share similar central features that reflect negative emotionality (Watson & Clark, 1984). *Positive affect* is comprised of three emotional categories: i) *Happy-Joy-Love*; ii) *Calm, Well-Being*; and iii) *Excitement-Exhilaration*. A slight majority of offenders had a dominant negative affect before the crime ($n=292$) while 42% of offenders had a dominant positive affect ($n=215$).

5.2.3. Situational factors

The frequency distributions for situational measurements can be seen in **Table 3**. Consistent with similar literature examining sexual assault modus operandi strategies (Hewitt and Beauregard, 2014), this dichotomous measurement accounts for whether or not the offender had planned the sexual crime prior to its commission (0=*no premeditation/non-structured premeditation*, 1=*structured premeditation*). Structured premeditation refers to the level of planning that involves specific components such as the victim’s identity, certain victim characteristics, and whether or not the offender will use excessive force throughout the commission of the crime (Hewitt, Beauregard, and Davies, 2012). In this sample, a majority of offenders had either no premeditation or non-structured premeditation ($n=360$) as opposed to the 29% of offenders who had structured premeditation ($n=147$).

Table 3. Descriptive Statistics for Crime Characteristics

<i>Crime Characteristics</i>	Prevalence n (%)
Structured Premeditation (1 = Yes)	
Yes	147 (29)
No	360 (71)
Weapon used during the crime (1 = Yes)	
Yes	129 (25)
No	378 (75)
Victim forced to perform sex acts (1 = Yes)	
Yes, victim performed sex acts on offender	283 (56)
No, victim did not perform sex acts on offender	224(44)
Offender humiliated victim (1 = Yes)	
Yes	117 (23)
No	390 (77)

Approach used to commit crime (1 = Blitz)	
Blitz (physical force or threat of harm)	246 (49)
Con Approach (persuasion, manipulation, deception)	261 (51)
Reaction to victim resistance (1 = Coercive)	
Offender responded with physical coercion	302 (60)
Offender did not respond with physical coercion	205 (40)
Crime Length (1 = Longer than 30 minutes)	
Offender was with victim for longer than 30 minutes	169 (33)
Offender was with victim for less than 30 minutes	338 (67)
Dominant affect during the crime (1 = Positive)	
Positive Affect	262 (52)
Negative Affect	245 (48)

The measure 'weapon use during the crime' (0=no, 1=yes) accounts for whether or not an offender used a weapon during the assault. This measure does not discriminate between offenders who used the presence of a weapon to threaten the victim and offenders that used a weapon to cause physical harm to the victim. A strong majority of offenders did not use a weapon ($n=378$) while 25% of offenders did use a weapon during the assault ($n=129$). The variable 'did the offender force the victim to perform sexual acts' (0=no, 1=yes) measures if the victim was coerced into performing sexual acts on the offender. Getting the victim to participate in the assault can fulfill the sexual fantasies of an offender, thereby bringing them closer to sexual gratification (Leclerc and Tremblay 2007). For the purpose of this study, coerced victim participation is considered to have occurred if the offender forced the victim to perform at least one sexual act, such as fellatio, on the offender. Among the 507 sex offenders in this study, 44.2% ($n=224$) of offenders did not coerce the victims to perform sex acts on them while 55.8% (283) did coerce victim participation. Similarly, the variable 'did the offender humiliate the victim' (0=no, 1=yes) measures if the offender took any action to physically and/or verbally degrade the victim during the assault. This includes physical acts, such as offender urinating on the victim or forcing the victim into a degrading position, as well as verbal insults before, during, or after the sexual assault event. A majority of offenders did not actively humiliate the victim ($n=390$) while 23% of offenders physically and/or verbally degraded the victim ($n=117$).

The approach used to commit the assault (0=*con approach*, 1=*blitz*) measures the modus operandi strategy the offender utilizes. The *con approach* includes strategies that do not rely on physically overpowering the victim to obtain compliance and facilitate the assault (Hazelwood and Burgess, 2009). Such examples of these strategies include when an offender uses manipulation or subterfuge to gain the trust and confidence of the victim until he is in a position where he is able to overcome the victim's resistance (Balemba & Beauregard, 2012). Alternatively, the *blitz* approach is when the offender relies on the use physical force, or the threat of physical harm, to obtain victim compliance. Accordingly, the blitz approach does not inherently require the offender to use physical violence. Rather, the offender may use the presence of a weapon or threats of harm to scare and control the victim into submission (Hazelwood & Burgess, 2009). While 48.5% of offenders utilized a coercive approach to the commit the crime ($n=246$), 51.5% of offender employed a non-coercive offending strategy ($n=261$).

The variable 'reaction of offender to victim resistance' (0=*non-coercive response*, 1=*coercive response*) measures the response behaviours the offender employs when confronted with active resistance. Non-coercive response includes tactics that do not rely on physical force such as bribery, trickery or manipulation. Similarly, desistance from the attack is also considered to be a *non-coercive response*. In contrast, *coercive response* refers to the use of physical force, or the threat of harm, to overcome resistance. Nearly 60% of offenders reacted to victim resistance with a coercive response ($n=302$) while 40% of offenders responded non-coercively ($n=205$).

The variable 'time length' (0=*offender was with victim for less than 30 minutes*, 1=*offender was with victim for longer than 30 minutes*) measures the amount of time the offender spent with the victim starting when the criminal event began. The criminal event is considered to begin when the victim no longer consents to the actions posed by the offender (Mieczkowski & Beauregard, 2010). Accordingly, the time invested by the offender to encounter the victim or to bring the victim to the crime site is not considered if the victim did not manifest any form of resistance. Approximately 67% of offenders spent less than 30 minutes with the victim ($n=338$) while 33% of offenders had a crime length that exceeded 30 minutes ($n=169$).

The variable 'dominant affect during the crime' (0=*negative affect*, 1=*positive affect*) measures the offender's emotional state during the assault. Although this measure examines an offender's affect at a different stage of the criminal event, the coding is identical to the previously discussed variable 'dominant affect before the crime'. A slight majority of offenders had a dominant positive affect during the crime ($n=262$) while 48% of offenders had a dominant negative affect ($n=245$).

Chapter 6. Analytic Strategy

While a binary logistic regression is used to examine the influence of victim, pre-crime and situational variables on an offender's excessive use of force, an ordinal regression analysis is used to assess higher levels of victim injury to capitalize on the hierarchal nature of the response categories.

6.1. Binary logistic regression

A binary logistic regression is used to examine if the victim, pre-crime and situational variables can significantly predict whether or not an offender is more likely to utilize excessive levels of physical force during an assault event. Due to the dichotomous nature of the DV (0=*no force or just what was needed to commit the offense*, 1=*more force than what was needed to commit the offense*), it would be inappropriate to run a linear regression and interpret the data with OLS. Because the measurement of excessive force has a range of 0-1, the predicted probability of the variables must fall within in these bounds. Accordingly, a regression line would likely intersect and exceed the lower (0) or upper (1) limit. Consequently, a binary logistic regression is best suited for analyzing whether or not an offender utilizes excessive physical force.

6.2. Ordinal regression

To assess the level of victim injury, an ordinal regression is used. As an extension of a binary logistic regression, an ordinal regression allows for the examination of a DV with more than 2 response categories. Due to the ordered and hierarchal nature of the DV for this analysis (0=*no injury*, 1=*light injury*, 2=*serious injury*), it is appropriate to employ an ordinal regression rather than a multinomial regression. An ordinal regression modifies binary logistic modeling by defining DV probabilities differently. Instead of examining the probability of an individual event, an ordinal regression considers the probability of that event and all events that are ordered before it (Garson, 2013). Moreover, ordinal regressions use a logit link function; therefore, providing the natural log of the odds ratio.

However, prior to conducting the main analysis, it is necessary to achieve statistical insignificance on the test of parallel lines.

This test insures that the effect of the IVs on the DV is the same across different logit functions. Failure to meet this assumption means that the effect of the victim, pre-crime and situational variables on the likelihood of higher levels of victim injury vary depending on the response categories (Garson, 2013). As such, it would be inappropriate to conduct and interpret the results of an ordinal regression. Rather, a multinomial logistic regression would be more appropriate for pre-analysis models that achieve significance on the test of parallel lines. However, due to achieving insignificance on the test of parallel lines, this analysis satisfied the proportional odds model assumption. Accordingly, the slope coefficients are assumed to be the same across all response categories (Garson, 2013). Thus, an ordinal regression can be used to analysis levels of victim injury. As with standard modeling practices, the lowest response category (0=*no injury*) is designated as the reference category (Tabachnick, Fidell, & Osterlind, 2001). This will also allow for a better examination of whether the analysis variables influence the likelihood of higher levels of victim injury or no injury at all. Consequently, the statistical results of the ordinal regression are in reference to the absence of victim injury.

Chapter 7. Results

7.1. Logistic Regression Analysis

The results for the binary logistic regression analysis are displayed in **Table 4**. This analysis examines the effects of control, victim, pre-crime and situational factors on an offender's use of excessive physical force during the sexual assault. The control lambda measuring criminal propensity is statistically insignificant ($\text{Exp}(B)=-0.07$, $p=0.42$). This analysis found that offenders that assault older victims and male victims are more likely to use excessive physical force than offender's targeting younger and/or female victims ($\text{Exp}(B)=0.02$, $p<.05$; $\text{Exp}(B)=0.94$, $p<.05$, respectively). The relationship between the offender and the victim is statistically insignificant ($\text{Exp}(B)=-0.26$, $p=0.42$). Similarly, both pre-crime measurements, dominant affect prior to the crime and alcohol consumption prior to the crime, are statistically insignificant predictors of an offender's use of excessive physical force ($\text{Exp}(B)=-0.24$, $p=0.43$; $\text{Exp}(B)=0.52$, $p=0.06$).

Furthermore, the results indicate that victim humiliation, the approach used to commit the crime, an offender's reaction to victim resistance and the length of the crime are positively associated with coerced victim participation ($\text{Exp}(B)=1.13$, $p<0.01$; $\text{Exp}(B)=1.59$; $p<0.001$, $\text{Exp}(B)=1.66$, $p<0.001$; $\text{Exp}(B)=0.66$; $p<0.05$, respectively). Accordingly, offenders who utilize blitz attack tactics and respond to victim resistance with coercive force are more likely to employ excessive physical force during the assault. Similarly, offenders are more likely to use excessive force if they actively humiliate the victim and the length of the assault exceeds 30 minutes. Though the use of weapon is positively associated with excessive physical force, this relationship does not achieve statistical significance ($\text{Exp}(B)=0.59$, $p=0.07$). Moreover, coerced victim participation and the offender's dominant affect during the crime are found to have a negative relationship with the level of force used by the offender ($\text{Exp}(B)=-1.33$, $p<0.001$; $\text{Exp}(B)=-0.88$; $p<0.001$, respectively). Offenders who coerce the victim into performing sexual acts are more likely to use no or minimal force rather than excessive levels. Further, offenders who have a primarily negative affect during the crime are more likely to use excessive physical force than offenders with a positive affect. Whether or not the offender had structured

premeditation was negatively associated with excessive physical force, though this relationship is statistically insignificant ($Exp(B)=-0.02$, $p=0.99$).

Table 4. Binary logistic regression; Ordinal regression

	Dependent Variable	
	Excessive Force	Degree of Victim Injury
	Exp(B)	Exp(B)
<i>Control Variables</i>		
Lambda of Sexual Crimes	-0.07	1.05
<i>Victim Characteristics</i>		
Victim age	0.02*	0.98*
Sex of victim (1 = Male)	0.94*	2.77**
Offender known to victim (1 = Yes)	-0.26	0.42***
<i>Pre-Crime Characteristics</i>		
Dominant affect prior to crime (1 = Positive)	-0.24	0.98
Alcohol prior to crime (1 = Yes)	0.52+	1.76*
<i>Crime Characteristics</i>		
Structured Premeditation (1 = Yes)	-0.02	0.72
Weapon used during the crime (1 = Yes)	0.59	2.53***
Victim forced to perform sex acts (1 = Yes)	-1.33***	0.38***
Offender humiliated victim (1 = Yes)	1.13**	1.03
Approach used to commit crime (1 = Blitz)	1.59***	4.82***
Reaction to victim resistance (1 = Coercive)	1.66***	2.51**
Crime Length (1 = Longer than 30 minutes)	0.66*	2.98***
Dominant affect during the crime (1 = Positive)	-0.88***	0.56*
Pseudo R ² (Nagelkerke)	.681	.573
Chi Square	350.43	331.70
-2 Log Likelihood	318.18	590.45
*** $p \leq 0.001$; ** $p \leq 0.01$; * $p \leq 0.05$; + $p < 0.1$		

7.2. Ordinal Regression Analysis

The results for the ordinal logistic regression analysis are displayed in Table 4. This analysis examines whether the victim, pre-crime and situational variables in the research model account for higher levels of victim injury. The control lambda measuring criminal propensity is statistically insignificant ($Exp(B)=1.05$, $p=0.51$). This analysis found that offenders selecting male victims are more likely to inflict higher levels of victim injury than offender's targeting female victims ($Exp(B)=2.27$, $p<0.01$). Similarly, offenders that target older victims are more likely to inflict more grievous physical wounds than offenders selecting younger victims ($Exp(B)=2.27$, $p=0.05$). Moreover, offenders who assault victims known to them are more likely to inflict greater levels of victim injury than unknown/stranger offenders ($Exp(B)=-0.26$, $p<0.001$).

In regard to pre-crime factors, offenders who consume alcohol prior to the crime are more likely to inflict higher levels of victim injury than offenders who do not ($Exp(B)=1.76$, $p<0.05$). Conversely, an offender's dominant affect prior to the crime is not a significant predictor of victim injury. While offenders who have a dominant negative affect prior to the crime are more likely to inflict greater levels of victim injury than offenders that have a positive affect, this relationship is statistically insignificant ($Exp(B)=0.98$; $p=0.93$).

Furthermore, the results indicate that offenders who use a weapon, utilize blitz attack tactics, and /or respond to victim resistance coercively are more likely to inflict higher levels of victim injury ($Exp(B)=2.53$, $p<0.001$; $Exp(B)=4.82$, $p<0.001$; $Exp(B)=2.51$; $p<0.01$, respectively). Similarly, offenders are more likely to inflict greater victim injury if the crime length exceeds 30 minutes ($Exp(B)=2.98$; $p<0.001$). Though victim humiliation is positively associated with victim injury, this relationship is statistically insignificant ($Exp(B)=1.03$, $p=0.90$). Moreover, coerced victim participation and the offender's dominant affect during the crime are found to have a negative relationship with higher levels of victim injury ($Exp(B)=0.38$, $p<0.001$; $Exp(B)=0.568$; $p<0.05$, respectively). Offenders who coerce the victim into performing sexual acts are more likely to inflict minimal, if any, physical injuries on the victim. Further, offenders who have a primarily negative affect during the crime are more likely to inflict greater levels of victim injury than offenders with a positive affect. Whether or not the offender had structured premeditation

was negatively associated with victim injury, though this relationship is statistically insignificant ($Exp(B)=0.72$, $p=0.20$).

Chapter 8. Discussion

The link between emotional affective states and sexual coercion, as well as sexual violence, has been consistently documented in literature (Berkowitz, 2000; Hall & Hirschman, 1991; Howells et. al., 2004; Marshall & Marshall, 2000). Building upon past studies, the current findings provide empirical support for this association using a sample of known sexual offenders. Moreover, rather than relying on hypothetical scenarios that predict sexual aggression, the findings reflect actual offending behaviours and substantiated assault outcomes. Accordingly, this study demonstrates how emotional affect can influence the decisions made by an offender during a sexual assault (Beauregard & Leclerc, 2007; Hewitt & Beauregard 2014). Offenders who have a dominant negative affect during the criminal event are more likely to engage in violent sexual assaults characterized by the use of excessive force and higher levels of victim injury. Conversely, offenders who have a dominant positive affect during the assault are more likely to utilize utilitarian or no physical force and inflict lower levels of victim injury, if any.

This study also finds that the use of a weapon, employing coercive tactics to commit the assault, and responding coercively to victim resistance increase the likelihood of an offender using excessive force. This affirms Balemba and Beauregard's (2012) assertion that offenders who approach the assault with violence are more likely to continue or escalate violence throughout the assault event, especially if the victim actively resists. Offenders who employ blitz approach tactics are more likely to rely on physical violence to facilitate the assault (Balemba & Beauregard, 2012). In tandem with a negative affective state during the crime, these situational factors influence offenders to act upon aggressive cognitions and select tactics that immediately conform to, and satisfy, the negative state itself (Marshall & Marshall, 2000). Consequently, the findings suggest that offenders using coercive tactics may be directed to utilize excessive force rather than minimal utilitarian force, thereby increasing the likelihood of higher levels of victim injury.

Interestingly, this study also finds that structured premeditation – or the lack thereof – is insignificantly associated with both an offender's use of excessive violence as well as higher levels of victim injury. In both analyses, whether or not the offender engaged in

some form of premeditation prior to the assault had a negative relationship with the two DVs. Accordingly, though the lack of structured premeditation is associated with excessive physical force and a greater degree of victim injury, it does not meaningfully increase the likelihood of violent behaviour or injurious assault outcomes. With the exception of the statistical insignificance, this is somewhat consistent with literature discussing an empirical link between a lack of premeditation and sexual aggression. For example, Mouilso, Calhoun, and Rosenbloom (2013) found that participants who reported perpetration of sexual assault had higher levels of impulsivity in the presence of intense emotions. Moreover, the authors found that perpetrators of sexual assault behaviours have a lack of forethought as well as structured planning. Consequently, the authors suggest that a lack of premeditation may predispose individuals to perpetrate a diverse array of antisocial acts, including higher levels of aggression and violence.

While prior literature has noted a link between a lack of premeditation and sexual assault, Hewitt and Beauregard (2014) found that structured planning of a sexual assault may increase the likelihood of physical force. In a study of serial sexual offenders, the authors found that serial offenders are more likely to escalate the level of physical force against their second victim as opposed to their first. Accordingly, the authors suggest that with more structured planning, offenders are willing to use the same level of force, or more, to obtain victim compliance (Hewitt & Beauregard, 2014). While it would be beneficial to explore the divergent opinions concerning premeditation and violent sexual assaults, this study can offer little, if any, insight to this phenomena due to the statistical insignificance of the premeditation measurement on excessive physical force and higher levels of victim injury.

8.1. Alcohol and Violence

In contrast, the findings of this study are consistent with literature examining the influence of alcohol on violent sexual assaults. As expected, alcohol consumption prior to the crime is found to increase the likelihood of the offender severely injuring the victim. Although alcohol consumption is not found to be a statistically significant predictor of the likelihood of an offender using excessive physical force ($p=0.06$), consumption is positively associated with physical force that goes beyond utilitarian purposes. Moreover, the

proximity of the Pearson's coefficient to the threshold of statistical significance ($p=0.05$) allows for discussion as it is highly suggestive and within an acceptable range of statistical interest ($p<0.1$).

The findings affirm previous research that has linked alcohol consumption to physical aggression and violence (Brecklin & Ullman, 2010; Scott & Beaman, 2004). Alcohol has been found to disrupt cognitive and emotional regulatory systems that would normally inhibit violent behaviour (Wells & Graham, 2003). Moreover, the consumption of alcohol can exacerbate the aggressive impulses produced by a negative affect and hinder cognitive inhibitions that preclude violent recourse (Howells et al., 2004; Wells & Graham, 2003). As alcohol consumption prior to the crime increases the likelihood of higher levels of victim injury, the results of this study lend credence to prior academic literature discussing alcohol and violent assault outcomes.

Furthermore, this study also offers nominal support for the notion that alcohol consumption may direct an offender's deliberation process towards short-term decisions that provide immediate gratification (Carmichael & Piquero 2004). As alcohol impedes cognitive functions that allow for the regulation of emotions and aggressive behaviours, an offender with a dominant negative affect during the crime may unduly inflate the appeal of physical violence. By engaging in injurious offending behaviours, offenders may be responding to the immediate needs of resolving their negative affective state. However, this suggestion must be interpreted cautiously and the notion is discussed further in the paper. Nevertheless, the inclusion of alcohol consumption prior to the crime allows for a more realistic understanding of sexual offending due to the pervasive influence that alcohol can have on an offender's emotional state and decision making-process.

8.2. Affect Prior vs. Affect During

While it is beyond the scope of this study to examine the offender's decision to engage in a sexual assault, it is nonetheless important to discuss the affective state of the offender before the criminal event. As previously stated, there is consensus in sexual offending literature that negative affect can significantly influence an offender's decision to offend (Frijda, 1987; Howells, et al., 2004; Marshall & Marshall 2000; Wakeling et al.,

2007). Negative affective states often precede cognitive sequences that lead to sexually aggressive behaviour (Hall & Hirschman, 1991; Pithers, 1990). Moreover, hostile affective states, such as anger or frustration, are more likely to facilitate violent sexual aggression, especially against adult victims (Hall & Hirschman, 1991; Nobre & Pinto-Gouveia, 2006). Accordingly, it is evident that dominant affect before the crime is a suitable indicator of the offender's decision to engage in a sexual assault. However, studies have often extended the use of affect prior to a crime to account for decisions that would be made during the criminal event itself; namely the amount of force used by the offender as well as the degree to which the offender physically wounds the victim. Despite ample research indicating that emotional affect prior to the crime can be used to predict the level of violence and injurious outcome of an assault, the results of this study do not support such claim.

As demonstrated, dominant affect before the crime is insignificantly associated with the offender's use of excessive physical force as well as higher levels of victim injury. Accordingly, the findings suggest that an offender's emotional affect prior to the crime cannot effectively account for offending decisions made during an assault event. Rather, the offender's dominant affect during the crime is much more pertinent in determining the amount of violence and victim injury occurs. Due to the dynamic nature of sexual offending, offenders make immediate decisions that shape the facilitation of the assault. As offenders are bounded by temporal constraints, they tend to make simplified judgments that quickly settle on an immediate course of action in line with their dominant visceral state (Carroll, 1982; Loewenstein et al., 1997). Accordingly, pertinent decisions, such as how to respond to victim resistance and how much force should be utilized, increasingly rely on the offender's immediate emotional state when the decisions arise. In contrast, an offender's prior emotional state cannot be used to sufficiently predict how they will respond to their immediate situational stimuli as well as unforeseen elements, such as active victim resistance. Thus, while emotional affect before the crime is imperative to the offender's decision to offend, the findings indicate dominant affect during the assault is more appropriate for assessing the decisions made during a sexual assault event.

8.3. Affective States and Offender Decision-Making

The findings also lend credence to Lowenstein's (1996) assertion that individuals in a particular visceral state will seek out behaviours that resolve the state itself. As affective states are a form of visceral factors, emotions can direct an offender's deliberation process towards behaviours that reflect and/or address their immediate affective needs. For example, negative affect influences an offender's ability to process information by activating cognitive nodes associated with discrete autonomic reactions and expressive behaviours (Berkowitz, 1993; Parrott, Zeichner, & Hoover, 2006). Accordingly, negative emotions such as anger and frustration direct cognitive appraisals towards the external attribution of blame and the incitement to inflict physical harm (Howells, et al., 2004). As a result, offenders in a negative affective state are directed towards the use of physical aggression and violence in response to the emotional state itself.

Furthermore, the findings also suggest, though not conclusively, that emotional states may explain why offenders engage in behaviours that work against their self-interest, particularly offending behaviours that are contrary to successful offending tactics. Going beyond what is necessary to facilitate the assault, the use of excessive physical force during an attack works against the long-term self-interest of an offender as it increases the likelihood of victim reporting and the risk of apprehension (Lussier et al., 2011). Similarly, the presence of physical wounds and higher levels of victim injury also increase the likelihood of victim reporting behaviours, thereby increasing the risk of apprehension. Although there are multiple factors associated with an offender's decision to engage in offending behaviours that work against their long-term self-interest, one possible explanation may be that emotional affect significantly impedes an offender's ability to engage in balanced, rational deliberation that factors in long-term considerations.

As found throughout literature, visceral states can distort an offender's perception of the potential costs and benefits of engaging in criminal activity (Ariely & Lowenstein, 2006; Bouffard 2011; 2002a; Lowenstein, 1996). Specifically, visceral states can lead an offender to overemphasize the short-term benefit of satisfying an immediate visceral need while ignoring behaviours that would limit/minimize the negative consequences

(Loewenstein et al., 1997). Accordingly, it is quite possible that negative affect unduly inflates the perceived outcomes of using excessive physical force and injurious violence while simultaneously overlooking and/or ignoring the potential consequences of their actions. However, it is imperative to note that this notion is merely inferred from the results and that the analyses of this study cannot accurately ascertain the veracity of such a claim.

To effectively test whether or not affective states actually reduce the perceived risks while simultaneously increasing the perception of rewards, this study would need to have proper measurements of an offender's perception of the benefits and risks of engaging in certain offending behaviours. As this study lacks those necessary measurements, it is difficult to state with certainty that affective states are the reason for engaging in behaviours that increase the likelihood of victim reporting. Moreover, there are alternative explanations for offending behaviours that work against an offender's long-term interests. To suggest that affective states directly cause an offender to overlook the risks of engaging in certain offending behaviours associated with victim reporting implies that the offender was fully aware and conscious of the risks of those behaviours prior to the criminal event. However, as mentioned by Gottfredson and Hirschi (1990), criminals, regardless of offence type, are typically unaware of, or completely ignorant of, the long-term consequences of their criminal actions. Consequently, while negative affective states may narrow an offender's decision-making process towards immediate short-term goals and away from long-term considerations, it is beyond the scope of this study to empirically validate such an assertion.

Chapter 9. Conclusion

Through the use of a criminal population, as well as substantiated assault behaviours and outcomes, this study provides empirical support for the notion that affective states influence offender decision-making during a sexual assault event. In addition to demonstrating the influence of emotional affect on sexual assault offending behaviours and outcomes, this study has several implications as the findings contribute to and expand literature examining criminal decision-making. Specifically, the incorporation of emotional affect into the examination of an offender's deliberation process provides a more realistic understanding of the decisions made during a sexual assault event. Moreover, this study suggests that accounting for the influence of emotional states is not incompatible with established decision-making models. Rather, the incorporation of emotional affect into decision-making models is necessary to help elucidate how an offender's dominant affective state during the crime leads to violent assault outcomes.

As stated by Nagin (2007), improved knowledge regarding an offender's decision-making process might help explain certain assault outcomes, particularly those that work against the offender's long-term self-interest. As excessive physical force and higher levels of victim injury increase the likelihood of victim reporting and offender apprehension, it is important to examine and understand that various factors that influence an offender's decision to engage in these behaviours. While certain authors assert that offenders are often unaware or completely ignorant of formal sanctions (Gottfredson & Hirschi, 1990; Marshall & Marshall 2000), there is a considerable amount of literature that supports assessing an offender's decision-making process in relation to the perceived costs/rewards of engaging in criminal activity (Bouffard, 2011; 2002a; Shively, 2001; Van Gelder, 2013). Moreover, due to the emphasis that the criminal justice system places on denunciation and deterrence, there is substantial focus on an offender's free will, choice and rational decision-making throughout the justice process (Brooker, 1972; Morse, 2011). Accordingly, it is still beneficial to examine and assess how affective states influence offending behaviours that superficially appear to be – in an objective sense – irrational as they work against the offender's long-term self-interest.

Furthermore, understanding an offender's contemplation of criminal behaviour and decision-making process during the criminal event can help inform criminal sanctioning and treatment policy. Although this study did not specifically examine methods of prevention, the findings offer little support for prevention and treatment strategies premised upon the theory of traditional deterrence. Prevention strategies highlighting the adverse consequences of committing a sexual assault are unlikely to impact an offender's decision-making during an assault event. Due to the influence affect has on an offender during the crime itself, the consideration of non-immediate criminal sanctions is unlikely to deter the offender from facilitating or desisting from the assault (Bouffard & Miller, 2014). As stated by Bouffard (2011), policy attempts to increase sanction certainty and severity are unlikely to have any meaningful impact on deterrence when an offender is in a 'hot' emotional state. Rather, he suggests that one potentially effective intervention strategy should focus on cognitive development that prepares individuals to anticipate their emotional state and appropriate responses. Similar to the process of Pithers' (1990) relapse prevention model, treatment would be designed to help offenders maintain behavioural changes by anticipating and coping with emotional states. By helping offenders recognize the influence that emotions have on their decisions, treatment can help them discern between decisions they make while in a 'hot' state as opposed to the decision they would normally make in a 'cool' emotional state (Bouffard, 2011; Van Gelder, 2013).

Although this study indicates current criminal justice approaches emphasizing severe criminal sanctions for the purpose of general deterrence may not have a meaningful impact on an offender's deliberation process, prevention may be achieved through the heightening of the immediate costs of crimes. Rather than emphasize non-immediate, long-term sanctions, it would be beneficial to enhance specific situational deterrence in order to make committing crime less attractive as a course of action to secure the desired goal (Cohen & Felson, 1979). This notion is further supported by Cornish and Clarke (1987) who suggest that deterrence will be more effective if the potential costs and risks are made more salient to potential offenders through specific situational crime prevention approaches rather than increased criminal sanctions. In the context of sexual offending, such situational crime prevention approaches might be more effective in overcoming the desensitizing impacts of intense emotional states on the perception of costs and rewards. Pedneault (2015) suggests that the adoption of a public health approach

to sexual offenders, which has the potential to significantly increase the immediate costs of sexual crimes for offenders by increasing “crime controllers” (see Hollis, Felson, & Welsh, 2013), could effectively influence an offender’s deliberation process and prevent the facilitation or escalation of a sexual assault.

While the current study suggests various theoretical and prevention implications, it is important to note that this study did not specifically examine recidivism and relapse prevention. Moreover, the analyses did not include a measure of positive outcomes nor did it differentiate between repeat or single-event offenders. Pedneault (2015) asserts that experiencing positive assault outcomes is a meaningful predictor of an offender’s continuation or cessation of involvement in sexual crimes. Accordingly, offenders that experience a successful assault – one in which they obtain sexual gratification – are more likely to overemphasize the benefits of sexual assault while simultaneously diminishing the associated costs of engaging in non-benefit maximizing behaviours. Without controlling for the number of sexual crimes committed by the study participants, it is possible that repeat offenders unduly influenced the findings pertaining to the over perception of immediate sexual rewards. Nevertheless, such a result is unlikely as the vast majority of study participants (72%) were single-event offenders.

Furthermore, although this study controls for variations in criminal propensity, the sample is comprised of a vast array of sexual offenders with variations in victim preference and modus operandi strategies. Though selected for practical purposes, the heterogenic sample fails to comply with Clarke and Cornish’s (1985) recommendation that the examination of subtypes of sexual crimes might yield more detailed insight. Moreover, the retroactive nature of the data offers suboptimal measurement of some concepts. In particular, an offender’s dominant affect before/during the crime relied on self-reported information. Due to issues with memory recall it may be difficult for offenders to remember the precise emotional state they were feeling before and during the assault event. However, despite concerns regarding memory recall, studies have demonstrated that offenders can often provide strong recall of their emotional states during sexual offenses. For example, Wakeling et al. (2007) conducted in-depth interviews with 9 intrafamilial child molesters of daughters and stepdaughter. In this study, questions focused on the evaluation of immediate and life circumstances surrounding the offence as well as

questions pertaining to how participants were feeling at the time leading up to the opportunity to offend. Each offender was able to recall and articulate how he felt prior to the assault, some with very particular detail. Though the authors caution that their findings need to be replicated with a larger sample, the richness and scope of the responses provide a valuable example of offenders being able to recall dominant affect prior/during the criminal event.

Further, though this study attempted to reconstruct the criminal event as a logical sequence it is uncertain if this represents the actual sequence of events. Due to the dynamic nature of sexual assaults, offense scripts may not necessarily follow an objectively logical sequence. Accordingly, it can be difficult to discern the exact moment an offender utilized excessive physical force and/or injured the victim. Moreover, although this study took into account a variety of victim, pre-crime and situational variables, it would be beneficial for future studies to incorporate measurements examining cognitive distortions concerning sexual assault.

Cognitive distortions - views that reinforce negative or exploitative views of potential victims (Gray, 2006) - could potentially bolster the link between an offender's affective state and offending behaviours that are not beneficial in the long-term by enhancing the over-perception of immediate gratification. Moreover, hostile sexual beliefs may also influence an offender's perception of sexual-interest messages. Offenders that ascribe to hostile sexual beliefs are more likely to selectively attend to messages that entourage their sexual advances while minimizing or misinterpreting messages that discourage their behaviour (Lopez, George, & Davis, 2007). Accordingly, offenders may perceive a victim's sexual interest where none may actually exist. This notion is evident in sexual offenders that target adult victims as well as sexual offenders that victimize children. As noted by Wakeling et al. (2007), intrafamilial child molesters often use cognitive distortions to justify their sexual assault, particularly emphasizing that their victim wanted and/or enjoyed the sexual contact. Consequently, it would be beneficial for future research to examine the interplay of affective states and cognitive distortions in relation to violent sexual offending. The examination of hostile sexual beliefs could provide valuable information regarding an offender's assessment of the costs/benefits of engaging in certain offending behaviours.

Nevertheless, though further research is needed to build a more comprehensive understanding of offender decision-making, this study contributes to existing literature examining the influence of affective states on sexual offending. Although subsequent analyses are necessary to affirm the current study's findings, the inclusion of emotional affect allows for a more complete understanding of sexual offending behaviours and decisions made during an assault event. Additional research is necessary to help build upon our understanding of criminal decision-making, with particular emphasis on how an offender's immediate emotional state influences their deliberation process and offending decisions.

References

- Alempijevic D., Savic, S., Pavlekic, S. and Jecmenica D. (2007). Severity of injuries among sexual assault victims. *Journal of Forensic and Legal Medicine*, 14, 266–269.
- Ariely, D., and Loewenstein, G. (2006). The heat of the moment: The effect of sexual arousal on sexual decision making. *Journal of Behavioral Decision Making*, 19, 87-98.
- Bachman, R., Paternoster, R., and Ward, S. (1992). The rationality of sexual offending: testing a deterrence/rational choice conception of sexual assault. *Law Society Review*, 26, 343-372
- Balemba, S., and Beauregard, E. (2012). Reactions to Resistance: The Role of Contextual Factors in Sex Offending. *Violence and Victims*, 27(2), 148-165.
- Baron, R. M., and Kenny, D. A. (1986). The moderator-mediator variable distinction in socialpsychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173–1182.
- Baumeister, R.F., Zell, A.L., and Tice, D.M. (2007). How emotions facilitate and impair self-regulation. In J.J. Gross (Ed.), *Handbook of emotion regulation* (pp. 408–426). New York: Guilford Press
- Beauregard E. and Busina, I. (2013) Journey “During” Crime: Predicting Criminal Mobility Patterns in Sexual Assaults. *Journal of Interpersonal Violence*, 28(10), 2052-2067.
- Beauregard, E., Deslauriers-Varin, N., and St-Yves, M. (2010). Interactions Between Factors Related to the Decision of Sex Offenders to Confess During Police Interrogation: A Classification-Tree Approach. *Sex Abuse*, 22(3), 343-367.
- Beauregard E. and Leclerc, B. (2007). An Application of the Rational Choice Approach to the Offending Process of Sex Offenders: A Closer Look at the Decision-making. *Sex Abuse* 19, 115-133.
- Berkowitz, L. (2000). *Causes and Consequences of Feelings*. Cambridge: Cambridge University Press.
- Berkowitz, L. (1993). *Aggression: Its Causes, Consequences, And Control*. New York, McGraw-Hill.

- Bouffard, J.A. (2011). 'In the heat of the moment': mediating versus moderating relationships between sexual arousal and perceived sanctions. *Journal of Crime and Justice*, 34(1), 24-44.
- Bouffard, J.A. (2002a). The influence of emotion on rational decision making in sexual aggression. *Journal of Criminal Justice*, 30, 121-134.
- Bouffard, J.A. (2002b). Methodological and theoretical implications of using subject-generated consequences in tests of rational choice theory, *Justice Quarterly*, 19(4), 747-771.
- Bouffard, J.A., Bry, J., Smith, S., and Bry, R. (2007). Beyond the "Science of Sophomores" Does the Rational Choice Explanation of Crime Generalize From University Students to an Actual Offender Sample? *International Journal of Offender Therapy and Comparative Criminology*, 52(6), 698-721.
- Bouffard, J.A. and Exum, L.M. (2013). Rational choice beyond the classroom: Decision making in offenders versus college students. *Journal of Criminal Justice* 41, 438–447.
- Bouffard J.A. and Kunzi, T. (2012). Sexual arousal and self-control: Results from a preliminary experimental test of the stability of self-control. *Crime and Delinquency*, 58, 514-538.
- Bouffard, J.A. and Miller H.A. (2014). The Role of Sexual Arousal and Overperception of Sexual Intent Within the Decision to Engage in Sexual Coercion. *Journal of Interpersonal Violence*, 29(11), 1967-1986.
- Brecklin, L. R., and Ullman, S. E. (2010). The roles of victim and offender substance use in sexual assault outcomes. *Journal of Interpersonal Violence*, 25, 1503–1522.
- Brooker, F. (1972). The deterrent effect of punishment. *Criminology*, 9(4), 469-490.
- Bushman, B. J., Baumeister, R. F., & Phillips, C. M. (2001). Do people aggress to improve their mood? Catharsis beliefs, affect regulation opportunity, and aggressive responding. *Journal of personality and social psychology*, 81(1), 17.
- Carmichael, S. and Piquero, A.R. (2004). Sanctions, Perceived Anger, and Criminal Offending. *Journal of Quantitative Criminology*, 20(4), 371-393.
- Carroll, J.S., 1987. Compliance with the law: a decision-making approach to taxpaying. *Law and Human Behavior*, 11, 319–355.
- Carroll, J.S., (1982). Committing a crime: the offender's decision. In: V.J. Konecni and E.B. Ebbesen, eds. *The criminal justice system: a social-psychological analysis*. San Francisco: W.H. Freeman, 49–67.

- Cornish, D.B., & Clarke, R. (1987). Understanding crime displacement: An application of rational choice theory. *Criminology*, 25(4), 933–947.
- Cornish, D. B., & Clarke, R. V. (1986). Introduction. In D. B. Cornish & R. V. Clarke (Eds.), *The reasoning criminal: Rational choice perspectives on offending* (pp. 1–16). New York, NY: Springer-Verlag.
- Clarke, R.V. and Cornish, D.B. (1985). Modeling offenders' decisions: A framework for research policy. *Crime and Justice*, 6, 147-185.
- Clay-Warner, J., and McMahon-Howard, J. (2009). Rape Reporting: "Classic Rape" and the Behavior of Law. *Violence and Victims*, 24(6), 723-743.
- Cohen, L. E., & Felson, M. (1979). Social Change and Crime Rate Trends: A Routine Activity Approach. *American Sociological Review*, 44(4), 588–608
- Cohn, A. M., Zinzow, H.M., Resnick, H.S., and Kilpatrick, D.G. (2013). Correlates of Reasons for Not Reporting Rape to Police: Results From a National Telephone Household Probability Sample of Women With Forcible or Drug-or-Alcohol Facilitated/Incapacitated Rape. *Journal of Interpersonal Violence*, 28(3), 455-473.
- Cummings, C., Gordon, J. R., & Marlatt, G. A. (1980). Relapse: Prevention and prediction. *The addictive behaviors*, 291-321.
- Damasio, A.R., (1994). *Descartes' error: emotion, reason, and the human brain*. New York: Putnam.
- De Haan, W., and Vos, J. (2003). A crying shame: The over-rationalized conception of man in the rational choice perspective. *Theoretical Criminology*, 7, 29-54.
- Decker, S., Wright, R., & Logie, R. (1993). Perceptual Deterrence Among Active Residential Burglars: A Research Note. *Criminology*, 31(1), 135-147.
- Exum, M. (2002). The Application and Robustness of the Rational Choice Perspective in the Study of Intoxicated and Angry Intentions to Aggress. *Criminology*, 40(4), 933-966.
- Ellsworth, P. C. & Scherer, K. R. (2003). Appraisal processes in emotion. In R. J. Davidson, K. R. Scherer and H. H. Goldsmith (Eds.) *Handbook of Affective Sciences*. New York: Oxford University Press.
- Frijda, N. H. (2007). *The Laws of Emotions*. New Jersey: Lawrence Erlbaum.
- Frijda, N. H. (1987). Emotion, cognitive structure and action tendency. *Cognition and Emotion*, 1, 115-143.

- Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin*, 117, 39-66.
- Garson, D. (e.d) (2013). *Statistical Associates Blue Book Series*. Asheboro, NC: Statistical Associates Publishing.
- Geen, R. G., & Quanty, M. B. (1977). The catharsis of aggression: An evaluation of a hypothesis. *Advances in experimental social psychology*, 10, 1-37.
- Gottfredson, M. R., and Hirschi, T. (1990). *A general theory of crime*. Stanford, CA: Stanford University Press.
- Gratz, K. L., & Tull, M. T. (2010). Emotion regulation as a mechanism of change in acceptance-and mindfulness-based treatments. *Assessing mindfulness and acceptance processes in clients: Illuminating the theory and practice of change*, 107-133.
- Gray, J. M. (2006). Rape myth beliefs and prejudiced instructions: Effects on decisions of guilt in a case of date rape. *Legal and Criminological Psychology*, 11(1), 75-80.
- Gross, A. M., Winslett, A., Roberts, M., & Gohm, C. L. (2006). An examination of sexual violence against college women. *Violence Against Women*, 12, 288- 300.
- Gross, J.J. (2008). Emotion regulation. In M. Lewis, J.M. Haviland-Jones, & L. Feldman Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 497–512). New York: Guilford Press.
- Gudjonsson, G.H., & Sigurdsson, J.F. (2007). Motivation for offending and personality. A study among young offenders on probation. *Personality and Individual Differences*, 42, 1243–1253.
- Hall, G. C., and Hirschman, R. (1991). Toward a theory of sexual aggression: A quadripartite model. *Journal of Consulting and Clinical Psychology*, 59(5), 662–669.
- Hall, G. C., and Hirschman, R. (1992). Sexual Aggression Against Children: A Conceptual Perspective of Etiology. *Criminal Justice and Behaviour*, 19(1), 8-23.
- Hazelwood, R. R., & Burgess, A. W. (2009). False rape allegations. *Practical aspects of rape investigations: A multidisciplinary approach*, 181-198.
- Hazelwood, R. R., and Warren, J. L. (1990). The criminal behavior of the serial rapist. *FBI Law Enforcement Bulletin*, 59, 11–16.

- Heiman, J.R. and Hatch, J.P. (1980). Affective and Physiological Dimensions of Male sexual response to Erotica and Fantasy. *Basic and Applied Social Psychology*, 1, 315-327.
- Hewitt, A., and Beauregard, E. (2014). Offending Patterns of Serial Sex Offenders: Escalation, De-escalation, and Consistency of Sexually Intrusive and Violent Behaviours. *Journal Of Investigative Psychology and Offender Profiling*, 11(1), 57-80.
- Hollis, M. E., Felson, M., & Welsh, B. C. (2013). The capable guardian in routine activities theory: A theoretical and conceptual reappraisal. *Crime Prev Community Safety*, 15(1), 65–79.
- Howard, R. C. (2011). The quest for excitement: a missing link between personality disorder and violence?. *Journal Of Forensic Psychiatry & Psychology*, 22(5), 692-705.
- Howard, R.C. (2009). The neurobiology of affective dyscontrol: Implications for understanding 'dangerous and severe personality disorder'. In M. McMurran & R. Howard (Eds.). *Personality, personality disorder and violence* (pp. 157–174). Chichester: Wiley-Blackwell.
- Howard, R., Howells, K., Jinks, M., & McMurran, M. (2009). A quadripartite typology of violence (QTV): Relationships with functions of aggression in violent youths. In I. Needham, P. Callaghan, T. Palmstierna, H. Nijman, N. & Oud (Eds.), *Violence in clinical psychiatry* (pp. 342–345). The Netherlands: Kavanah
- Howells K., Day, A., and Wright, S. (2004) Affect, Emotions and Sex offending. *Psychology, Crime and Law*, 10(2), 179-195.
- Jaccard, J. (2001). *Interaction effects in logistic regression*. Sage Publishing.
- Keltner, D., & Haidt, J. (1999). Social functions of emotions at four levels of analysis. *Cognition & Emotion*, 13(5), 505-521.
- Koss, M. P., Gidycz, C. A., & Wisniewski, N. (1987). The scope of rape: incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *Journal of consulting and clinical psychology*, 55(2), 162.
- Korcha, R.A., Cherpitel, C.J., Witbrodt, J., Borges, G., Hejazi-Bazaragn, S., Bond, J.C., and Gmel, G. (2014). Violence-related injury and gender: The role of alcohol and alcohol combined with illicit drugs. *Drugs & Alcohol Review*, 33(1), 43-50.
- Lopez, P.A., George, C.W. and Davis, K.C. (2007). Do Hostile Sexual Beliefs Affect Men's Perceptions of Sexual-Interest Messages? *Violence and Victims*, 22(2), 226-242.

- Loewenstein, G. (1996). Out of control: visceral influences on behavior. *Organizational and human decision processes*, 65, 272-292.
- Loewenstein, G., Nagin, D., and Paternoster, R. (1997). The Effect of Sexual Arousal on Expectations of Sexual Forcefulness. *Journal of Research in Crime and Delinquency*, 34(4), 443-473.
- Loewenstein, G., Weber, E., Hsee, C.K., and Welch, N. (2001). Risk as feelings. *Psychological Bulletin* 127, 267–86.
- Lussier, P., Bouchard, M., and Beauregard, E. (2011). Patterns of criminal achievement in sexual offending: Unraveling the “successful” sex offender. *Journal of Criminal Justice*, 39,433-444.
- Lussier, P., Proulx, J., and McKibben, A. (2001). Personality Characteristics and Adaptive Strategies to Cope With Negative Emotional States and Deviant Sexual Fantasies in Sexual Aggressors. *International Journal of Offender Therapy and Comparative Criminology*, 45(2), 159-170.
- Maguire W, Goodall E, Moore T. (2009). Injury in adult female sexual assault complainants and related factors. *Eur J Obstet Gynecol Reprod Biol*, 142(2), 149-153.
- Marshall, W. L. and Marshall, L. E. (2000). The origins of sexual offending. *Trauma, Violence and Abuse*, 1, 250-263.
- Martin, L.N., and Delgado, M.R. (2011). The Influence Of Emotion Regulation On Decision-Making Under Risk. *Journal of Cognitive Neuroscience*, 23(9), 2569-2581.
- Mauss, I. B., Cook, C. L., & Gross, J. J. (2007). Automatic emotion regulation during an anger provocation. *Journal of Experimental Social Psychology*, 43, 698–711.
- McMurrin, M., Jinks, M., Howells, K., and Howard, R.C. (2010). Alcohol-related violence defined by ultimate goals: A qualitative analysis of the features of three different types of violence by intoxicated young male offenders. *Aggressive Behavior*, 36, 67–79.
- Mieczkowski, T. and Beauregard, E. (2010). Lethal Outcome in Sexual Assault Events: A Conjunctive Analysis. *Justice Quarterly*, 27(3), 332-361.
- Metcalfe, Janet, and Walter Mischel. (1999.) A hot/cool system analysis of delay of gratification: Dynamics of willpower. *Psychological Review* 106, 3–19.
- Mopas, M., & Moore, D. (2012). Talking heads and bleeding hearts: Newsmaking, emotion and public criminology in the wake of a sexual assault. *Critical criminology*, 20(2), 183-196.

- Morse, S.J. (2011). Mental disorder and criminal law. *Journal Of Criminal Law and Criminology*, 101(3), 885-968.
- Mouilso, E. R., Calhoun, K. S., and Rosenbloom, T. G. (2013). Impulsivity and Sexual Assault in College Men. *Violence and Victims*, 28(3), 429-442.
- Nagin, D. S. (2007). Moving choice to center stage in criminological research and theory: The American Society of Criminology 2006 Sutherland Address. *Criminology*, 45, 259-272.
- Nobre P.J. and Pinto-Gouveia J.P. (2006). Emotions During Sexual Activity: Differences Between Sexually Functional and Dysfunctional Men and Women. *Archives of Sexual Behavior*, 35, 491-499.
- Nordgren, L.F., van der Plight, J., van Harreveld, F. (2007). Evaluating Eve: Visceral States Influence the Evaluation of Impulsive Behavior. *Journal of Personality and Social Psychology*, 93(1), 75– 84.
- Novaco, R.W. (2011). Anger dysregulation: driver of violent offending. *The journal of forensic psychiatry and psychology*, 22(5), 650-668.
- Parrott, D., Zeichner, A., and Hoover, R. (2006). Sexual prejudice and anger network activation: mediating role of negative affect. *Aggressive Behavior*, 32(1), 7-16.
- Post, L. A., Biroscak, B. J., and Barboza, G. (2011). Prevalence of sexual violence. In J. W. White, M. P. Koss, and A. E. Kazdin (Eds.), *Violence against women and children, Vol. 1: Mapping the terrain* (pp. 101-123). Washington, DC: American Psychological Association
- Paul, L.A., Zinzow, H.M., McCauley, J.L., Kilpatrick, D.G., and Resnick, H.S. (2014). Does encouragement by Others Increase Rape Reporting? Findings From a National Sample of Women. *Psychology of Women Quarterly*, 38(2), 222-232.
- Pedneault, A. (2015). *An analysis of decision making and criminal outcomes in sexual offenders* (Unpublished doctoral dissertation). Simon Fraser University, Burnaby B.C.
- Pithers, W. D. (1990). Relapse prevention with sexual aggressors: a method for maintaining therapeutic gain and enhancing external supervision. In W. L. Marshall, D. R. Laws and H. E. Barbaree (Eds.), *Handbook of Sexual Assault: Issues, Theories and Treatment of the Offender* (343-361). New York: Plenum.
- Roberton, T., Daffern, M., Bucks, R.S. (2012). Emotion regulation and aggression. *Aggression and Violent Behavior* 17, 72–82.
- Roberton, T., Daffern, M., Bucks, R.S. (2014) Maladaptive emotion regulation and aggression in adult offenders, *Psychology, Crime & Law*, 20(10), 933-954.

- Scott, H.S. and Beaman, R. (2004). Demographic and Situational Factors Affecting Injury Resistance, Completion, and Charges Brought in Sexual Assault Cases: What Is Best for Arrest? *Violence and Victims*, 19(4), 479-494.
- Shively, M. (2001). Male self-control and sexual aggression. *Deviant Behavior: An Interdisciplinary Journal*, 22, 295–321.
- Shover, N. (1991). Burglary. In Michael Tonry (Ed.), *Crime and Justice: A Review of Research*. Chicago: University of Chicago Press.
- Slovic, P. (1987). The perception of risk. *Science*, 236, 280-285.
- Spargo, R. C., and Ream, A. K. (2012). How the Media Shapes Attitudes About Rape. *Family and Intimate Partner Violence Quarterly*, 4(4), 317-324.
- Stevens, D. J. (1998). *Inside the mind of a serial rapist*. Bethesda, MD: Austin and Winfield Publishers.
- Tabachnick, B. G., Fidell, L. S., & Osterlind, S. J. (2001). *Using multivariate statistics*. Pearson Publishing.
- Tragesser, S.L., Trull, T.J., Sher, K.J., and Park, A. (2008). Drinking motives as mediators in the relation between personality disorder symptoms and alcohol use disorder. *Journal of Personality Disorders*, 22, 525–537.
- Van Gelder, J.L. (2013). Beyond Rational Choice: the Hot/Cool Perspective of Criminal Decision Making Psychology. *Crime and Law*, 19(9), 745-763.
- Van Gelder, J., & De Vries, R. E. (2012). Traits And States: Integrating Personality And Affect Into A Model Of Criminal Decision Making Traits And States: Integrating Personality And Affect Into A Model Of Criminal Decision Making. *Criminology*, 50(3), 637-671.
- Van Gelder, J., de Vries, R.E. and van der Pligt, J. (2009). Evaluating a dual-process model of risk: Affect and cognition as determinants of risky choice. *Journal of Behavioral Decision Making* 22, 45–61.
- Wakeling, H.C., Webster, S., Moulden, H.M. and Marshall, W.L.. (2007). Decisions to offend in men who sexually abuse their daughters. *Journal of Sexual Aggression*, 13(2), 81-99.
- Ward, T. (2000) Relapse prevention: Critique and reformulation, *Journal of Sexual Aggression*, 5(2), 118-133
- Ward, T., and Beech, A. (2005). An integrated theory of sexual offending. *Aggression and Violent Behavior*, 11, 44–63.

- Watson, D., and Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin*, 96(3), 465-490.
- Wells, S. and Graham, K. (2003). Aggression involving alcohol: relationship to drinking patterns and social context. *Addiction*, 98, 33–42.
- White, C. and McLean, I. (2006). Adolescent complainants of sexual assault; injury patterns in virgin and non-virgin groups. *Journal of Clinical Forensic Medicine*, 13,(4), 172-180.
- Yates, E., Barbaree, H. E. and Marshall, W. L. (1983). Anger and deviant sexual arousal. *Behavior Therapy*, 15(3), 287-294.
- Zajonc, R. B. (1980). Feeling and thinking: Preferences need no inferences. *American psychologist*, 35(2), 151-175.