

STRAINS, PSYCHOLOGICAL STRAINS, AND SEXUAL ASSAULT PERPETRATION:
INVESTIGATING (PSYCHOLOGICALLY-INFORMED) GENERAL STRAIN THEORY

by

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by

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Although backed up by a plethora of research evidencing its good predictive ability when it comes to crime commission, General Strain Theory (GST) has never really been applied to sex crimes. Although GST traditionally emphasizes ecological strains, previous research has evidenced the saliency of various personality traits in sex offenders, including those related to sex offenders' psyche and decision-making (e.g., Petruccelli et al., 2017). Furthermore, it has previously been demonstrated that multidisciplinary theoretical integration, through the incorporation of dispositional factors, can be beneficial to GST (Stogner, 2011, 2014). Using cross-sectional data from the ACHA-NCHA for the Fall 2015 through 2018 academic semesters, this dissertation investigates the adequacy of GST for the study of sexual crimes and compares its fitness to that of a revised, psychologically-informed version of GST. Results from this research support GST and echo previous literature in that several strains emerged significantly associated with the odds of sexual assault commission and the latter associations were significantly mediated by anger. Incorporating measures of "psychological strains" (promiscuity, irresponsibility, and sexual sensation-seeking) drastically increased the fitness of the model for sexual assault perpetration,

and one strain (i.e., promiscuity) emerged as significantly related to increased odds of sexual assault perpetration. Implications for future research are discussed.

TABLE OF CONTENTS

ACKNOWLEDGMENTS	iv
ABSTRACT.....	vi
LIST OF TABLES	xii
LIST OF FIGURES	xiii
CHAPTER 1 INTRODUCTION	1
Statement of Purpose and Analytical Approach	2
Dissertation Significance and Contribution	3
Structure of Dissertation.....	4
CHAPTER 2 REVIEW OF THE LITERATURE ON SEXUAL ASSAULT.....	6
Figures and Measurement	6
Characteristics of Sexual Crimes	9
Characteristics of the Victims of Sexual Crimes	10
Characteristics of Sexual Assaulters	12
Sexual Assault: Theoretical Frameworks.....	15
Nonsexual Motivational Theories: the Feminist Perspective	16
Routine Activities.....	17
Evolutionary Psychology Perspective	19
CHAPTER 3 GENERAL STRAIN THEORY.....	22
History and Presentation of GST	22
Strains.....	23
Stress.....	24

Social Isolation	25
Physical and Sexual Victimization.....	26
Aesthetic Dissatisfaction	27
Financial Difficulties.....	28
Personal Health Difficulties	29
Academic/Work Difficulties	30
Family/Peers/Romantic Partners Difficulties	33
Negative Emotions	33
Anger.....	34
Non-Anger Negative Emotions	34
GST and Sexual Assault.....	37
CHAPTER 4 TOWARDS A PSYCHOLOGICALLY-INFORMED GST FOR SEXUAL ASSAULT.....	41
Personality Types and Borderline Criminal Sexuality	41
The Dark Triad (or Tetrad).....	42
Psychopathy.....	44
Personality Traits as Psychological Stressors	46
Promiscuity.....	46
Irresponsibility.....	48
Sexual Sensation-Seeking	51
Summary	52
CHAPTER 5 METHODOLOGY	54
Dissertation Design and Hypotheses.....	54

ACHA-NCHA IIc Population and Sampling	56
Procedures	59
ACHA-NCHA IIc Data Collection	60
Preliminary Data Management.....	60
Secondary Data Management and Preliminary Analyses	61
Data Analyses.....	69
Measures.....	71
Dependent Variable	71
Independent Variables (Study One)	72
Independent Variables (Study Two).....	77
CHAPTER 6 RESULTS	80
Preliminary Analyses	80
Final Sample Characteristics	80
Majority and Minority Classes	82
Primary Analyses	84
Study One	84
Study Two	90
CHAPTER 7 DISCUSSION.....	94
Summary of Dissertation Background, Rationale, and Purposes.....	94
Dissertation Background	94
Dissertation Rationale, Purposes, and Hypotheses.....	95
Summary of Key Findings	98

Preliminary Analyses.....	98
Primary Analyses.....	99
Discussion and Implications.....	101
Strains.....	102
Negative Emotions.....	112
Psychological Stressors.....	114
Limitations.....	116
Dissertation Conclusions and Future Research.....	121
REFERENCES.....	125
BIOGRAPHICAL SKETCH.....	154
CURRICULUM VITAE.....	155

LIST OF TABLES

Table 5.1. Missing values (full dataset – $N= 111,017$).....	58
Table 5.2. Frequencies ($N = 68,989$).....	62
Table 5.3. Frequencies after random under-sampling ($N = 1,382$) and multicollinearity statistic	66
Table 6.1. Results of binary logistic regression (study one – $N = 1,382$).....	87
Table 6.2. Results of mediation analyses (study one – $N = 1,382$).....	89
Table 6.3. Results of binary logistic regression (study two – $N = 1,382$).....	91
Table 6.4. Results of mediation analyses (study two – $N = 1,382$)	93

LIST OF FIGURES

Figure 6.1. Direct and indirect effects of strains on sexual assault perpetration88

CHAPTER 1

INTRODUCTION

Undoubtedly, sexual assault (i.e., “any nonconsensual sexual act proscribed by Federal, tribal, or State law, including when the victim lacks capacity to consent”; The United States Department of Justice, n.d.a, para. 2) is a particularly difficult social issue to understand, predict, and combat. Looking at the available statistics on sexual assault, there are two obvious observations to make: the vast majority of the victims of sexual assault are women and the vast majority of sexual assaulters are men. For the victims, sexual assault is often associated with psychological distress, emotional turmoil, and physical traumas. In developed societies, the prevalence of sexual assault can greatly vary depending on various factors but unfortunately, astonishingly high rates of unreported sexual crimes are a worldwide problem (Jaitman & Anauati, 2020).

In the criminology literature, numerous explanations have been adduced to explain the phenomenon of sexual assault. Although backed up by a plethora of research evidencing its good predictive ability when it comes to crime commission, General Strain Theory (GST; Agnew, 1992, 2001, 2006, 2013, 2017) surprisingly has never really been applied to sex crimes (see Ackerman & Sacks, 2012). This lack of application of GST to sexual crimes is even more shocking given the fact that numerous strains have, independently, been put in relation to both negative emotionality (e.g., Jouriles et al., 2014; Maniglio, 2010; Briere & Runtz, 1988) and sexual crimes (e.g., Jennings et al., 2014; Seto, 2008).

Although GST traditionally emphasizes ecological strains, it has previously been demonstrated that multidisciplinary theoretical integration can be beneficial to GST when the incorporation of dispositional factors is coherent with the initial objectives of the theory and its central concepts (see Stogner, 2011, 2014). Because of their potential impact on one's daily functioning and negative emotionality (e.g., LeBreton et al., 2013; Langevin & Curnoe, 2011; Merdian, Wilson & Boer, 2009; Sheldon & Howitt, 2007), as well as their characteristics which, for many of them, match the description made by Agnew (2017) of strains most likely to lead to crime, many personality traits can be considered life stressors. This view of personality traits as psychological strains appears particularly justified given past research identifying sex offenders' psyche and decision-making as intrinsically related to a variety of personality traits (e.g., Petruccelli et al., 2017). Amongst the personality traits of interest, research has evidenced the saliency of promiscuity, irresponsibility, and sexual sensation-seeking in sex offenders (e.g., Petruccelli et al., 2017; Seto, 2005). Consequently, incorporating relevant psychological strains in a GST-based model of sexual assault perpetration could enhance the model's fitness and predictive ability.

Statement of Purpose and Analytical Approach

The purpose of this dissertation is twofold. First, it tests whether GST provides an adequate theoretical explanation for sexual assault perpetration by testing the associations between strains, negative emotions, and sexual assault commission.

Second, it compares the model fit of GST to that of a revised version of GST that incorporates measures of personality traits, both with a focus on sexual assault commission.

Associations between “psychological strains”, negative emotions, and sexual assault have also been examined.

Two studies corresponding to the dual purposes just outlined were conducted. Study one aimed to answer the question of whether GST provides an adequate theoretical framework for sexual assault. Independent variables for this part were an ensemble of three measures of negative emotions (anger, depression, and anxiety), nine measures of strains (stress, social isolation, victimization: physical, victimization: sexual, aesthetic dissatisfaction, financial difficulties, personal health difficulties, academic/work difficulties, and family/peers/romantic partners difficulties), and four controls (age, sex, race, and alcohol consumption).

Study two aimed to test whether the fitness of GST as applied to sexual assault could be enhanced through the incorporation of personality traits referred to as “psychological strains”. The goal of this second study was to check if and to what extent the inclusion of three psychological strains (promiscuity, irresponsibility, and sexual sensation-seeking) in addition to all the independent variables and controls present in the first study improved the model fit.

Dissertation Significance and Contribution

In line with its research objectives, this dissertation advances knowledge of (psychological) strains, negative emotions, sexual assault, as well as the associations between them. As with all empirical tests of a theory, this dissertation ultimately aims to improve society's understanding of crime commission and allow for the implementation of appropriate strategies that can reduce criminality. More specifically, this test of GST focuses on a particularly difficult to deal with social issue: sexual crimes. The findings reported here, as well as the broader discussions embedded in

this dissertation, will help in combating and preventing the occurrence of sexual crimes.

By testing a revised version of GST, it is also one of the aims of this dissertation to inform criminologists from around the world of the possibility of reforming GST in ways that are coherent with the initial objectives of the theory and its central concepts. Despite having been advocated for decades (e.g., Elliott, 1985), multidisciplinary theoretical integration is a recent endeavour that already prove beneficial to many frameworks in that it increased their overall comprehensiveness and their predictive ability (e.g., McKenna, Golladay & Holtfreter, 2020). Here, integration that would go as far as to fully integrate psychological concepts, disorders, or groups of personality types (e.g., the dark tetrad) is not what is advocated for. Instead, it is suggested that the inclusion of meticulously selected personality traits (perhaps the selection process should be made systematic and selected traits should be specifically chosen because of their relationship with the studied criminal outcome) can improve model fitness. The psychologically-informed GST described in this dissertation is just that: a suggestion that, hopefully, will appeal to many scholars in the field.

Structure of Dissertation

This dissertation is divided into seven chapters. Chapter 1 provides an overview of this dissertation by explaining the rationale for its conduction and its underlying analytical approach and covering the significance and contribution of this dissertation for the field of criminology. Chapter 2 provides an overview of the prominent literature in the field of sexual assault, including a brief discussion of the theories most adduced to explain this phenomenon. Chapter 3 solely focuses on General Strain Theory, its history and strengths, and its relevance for the study of sexual

crimes. Chapter 4 discusses psychological stressors and provides a rationale for a psychologically-informed General Strain Theory. Chapter 5 presents the methodology used in this dissertation. Chapter 6 presents the results of the findings as they relate to the research aims. Chapter 7 summarizes the discussion, future implications, limitations, and conclusions of this dissertation. Finally, references and appendices conclude this dissertation.

CHAPTER 2

REVIEW OF THE LITERATURE ON SEXUAL ASSAULT

Acknowledging that definitions of sexual assault vary by country/state laws and by researchers' operationalization, when used in this dissertation, this term will align with the definition used by the United States' Department of Justice (DOJ). According to the DOJ's most up-to-date definition, sexual assault refers to “any nonconsensual sexual act proscribed by Federal, tribal, or State law, including when the victim lacks capacity to consent” (The United States Department of Justice, n.d.a, para. 2). For the purposes of this dissertation, relevant literature reviewed and discussed will thus pertain to criminal acts such as rape and sexual harassment (i.e., sexual assaults).

Figures and Measurement

Historically, acts of sexual assault have always been envisioned as phenomena committed by men on women. For example, the DOJ's 2012 update of the definition of forcible rape replaced the historical (and legal between 1927 and 2012 in the US) definition of the act as “the carnal knowledge of a female, forcibly and against her will” (The United States Department of Justice, n.d.b, para. 2).

When looking at the available statistics on sexual assault, there are two obvious observations to make: the vast majority of the victims of sexual assault are women and the vast majority of sexual assaulters are men. Indeed, according to the United States' largest anti-sexual violence organization (Rape, Abuse & Incest National Network; RAINN), one in every six American women has been the victim of an attempted or completed rape in her lifetime (more than

five times the prevalence in men [1 in 33]) and nine out of ten adult rape victims are female (Rape, Abuse & Incest National Network, n.d.a). In a 2003 study, Ménard and colleagues reported that men in their college students sample were more likely to be sexually harassing (2 times) and sexually coercive (3 times) than women. Although such statistics tend to legitimate the historical definition of forcible rape (and more generally of sexual assault), it is also possible that those statistics simply exist because of the legal definitions in place and societal pre-conceived ideas (i.e., rape and sexual assault scripts) about sexual assault and thus do not reflect the reality of the phenomenon.

On one hand, data derived from official sources (e.g., Uniform Crime Report, National Incident-Based Reporting System) only encompass incidents that match the legal definition in use and that are known to law enforcement agencies. Depending on estimates of the dark figure of sexual crime, sexual incidents that are known to the police or equivalent international agencies may not even be the majority of such incidents. In 2020, Jaitman and Anauati estimated that, in Latin America and the Caribbean, the dark figure for sexual crimes and domestic violence against women (15+ years of age) was greater than 70 percent for the 2008-2014 period. Jaitman and Anauati (2020) also estimated that the dark figure of sexual crimes in Latin America and the Caribbean was on average 30 percent higher than that of developed countries (62.7% in the USA, 79.8% in the United Kingdom) hence evidencing that astonishingly high rates of unreported sexual crimes are a worldwide problem. The estimations of the dark figure in Chile (and to a lesser extent Mexico and Trinidad and Tobago) were particularly stunning, with the dark figure for sexual crime being 98.4 percent, meaning that less than 2 out of 100 sexual crimes were known to the Chilean police.

On the other hand, in addition to formal policing practices, it is also important to consider informal societal definitions (i.e., rape and sexual assault scripts; the set ideas, beliefs, or myths a society/population has about who can be a perpetrator or a victim) of sexual assault and the associated label, stigma, and trauma. Those societal definitions and expectations regarding deviant or criminal sexual acts can greatly influence a victim's likelihood to report such a crime to the police. In a 2022 study by Brahim and colleagues, the vast majority of the all-female Arab victim sample (n=216) were single (84.3%) and unmarried (90.7%). In the Arab region as in other parts of the world, it is hard to believe that sexual crimes are mostly experienced by single and unmarried individuals. What appears more plausible, and in fact more worrisome, is that the omerta (the code of silence) that dictates that whatever happens in a couple or in a household must remain behind closed doors is extremely enforced in the Arab region. Similarly, in some Eastern-Asian cultures (e.g., Japanese, South Korean), an omerta on sexual crimes has been discussed and linked to stigma, blame, and shame attribution onto the victim as a result of societal norms (see Miura, 2021; Shin et al., 2014; Uji et al., 2007), hence directly contributing to the dark figure of sexual crime.

Overall, despite the DOJ's new definition of rape and the legal recognition that any individual can be a victim or a perpetrator of sexual assault, overcoming some of the misconceptions about sexual crimes will surely prove a hard task. In the literature, the idea that adult sexual crimes are men-on-women phenomena is extremely present. For instance, the Feminist's motivational theory of rape revolves around the idea that rape is about power and control of men over women, not sex (see McPhail, 2016). The sexual script theory (Simon & Gagnon, 1986; see also O'Sullivan & Byers, 1993), which asserts that culture-shaped scripts influence sexual encounters and encourage sexual behaviours in line with traditional gender roles, is a

purposeful attempt to explain sexual crimes as men-on-women phenomena.

It must be noted, however, that in the last few decades, many scholars conducted research and commented on incidents involving same-sex individuals and women as perpetrators (e.g., Gannon & Alleyne, 2013; Turton, 2010; Sivakumaran, 2005). In a 1999 study, Anderson and Sorenson reported that to the question “Has a woman attempted to have sexual contact with you *while you were drunk*”, 58.5 percent of their male sample responded positively. Because respondents identified themselves as incapacitated by alcohol in this scenario, such events qualify for the label of sexual assault. In other words, what Anderson and Sorenson (1999) reported is evidence that prevalence rates of woman-on-man sexual assault can be as high as 58.5 percent.

Characteristics of Sexual Crimes

More often than not, initiation of sexual assault occurs in contexts where victims are more vulnerable than they would usually be. On that note, both women and men reported having been (sexually) taken advantage of, sometimes through the means of verbal or psychological coercion, when they were intoxicated (e.g., Krahe, Waizenhöfer & Möller, 2003; Krahe, Scheinberger-Olwig & Bieneck, 2003; Larimer et al., 1999; Anderson & Sorenson, 1999). Although sexual assault initiation patterns and pressuring strategies do not appear to vary much depending on the victims' sex (use of guilt and/or intoxication; see Hartwick, Desmarais & Hennig, 2007), women in the sample studied by Larimer and colleagues (1999) reported more instances of unwanted sexual activity that was initiated through physical force.

When it comes to the degree of acquaintanceship between the victim and the sexual assaulter, it appears that for both male and female victims, sexual assaulters are more often than

not (close) acquaintances, most likely friends or intimate/dating partners (Gross et al., 2006; Lannutti & Monahan, 2004; Krahe, Waizenhöfer & Möller, 2003). In fact, all those studies identified sexual aggressions committed by strangers as relatively unlikely, hence challenging again the rape myth that identifies strangers as the category of people one should be the most wary of. Related to the sexual script theory (Simon & Gagnon, 1986), there also exist rape scripts according to which rapes are extremely violent acts commonly committed by strangers or groups of strangers in public places. In 1991, Soothill reported the media's tendency to focus on rape cases whose characteristics matched the above rape scripts, hence contributing to spreading the rape myth about rapes by strangers. Rape scripts also dictate how sexual contact is initiated in cases of “typical” rape or seduction (Peterson & Muehlenhard, 2004). In 1988, Ryan asked her participants to describe “typical” rape or seduction enterprises. Whilst rape was mostly described as a sudden violent outdoor attack by a stranger, seduction was an indoor enterprise and the initiation of (presumably not unwanted) sexual contact involved persuasion through conversation or alcohol.

In terms of forced sexual practices during heterosexual events of sexual assault (either man-on-woman or woman-on-man), Hartwick Desmarais and Hennig (2007) reported that women from their sample had significantly more experiences of forced kissing or fondling (34% vs 23.3%). No significant differences between victims depending on their sex could be reported for forced oral sex (4.2% for women vs 5.8%) or forced intercourse (21.2% for women vs 18.3%).

Characteristics of the Victims of Sexual Crimes

As previously stated, the vast majority of the victims of adult sexual crimes are women. In fact, nine out of ten victims are female (Rape, Abuse & Incest National Network, n.d.a). Because

sexual assaulters are also much more likely to be men (at least in official datasets), much of the existing research focuses on female victims of sexual crimes committed by men.

Typically, male sexual assaulters elect young women as their victims of choice (Felson & Cundiff, 2014). This tendency has mostly been explained in the literature because of men's preference for sexually attractive women (e.g., Felson, 2002), with attractiveness being frequently depicted as a function of age as younger women have been found out to be rated as more physically attractive than older women (e.g., Harris, 1994; Henss, 1991). Previous research also rooted men's preference for younger female victims in the routine activities of these women (e.g., Felson & Boba, 2010; Kimmel, 2003). Younger individuals in general frequently engage in (night time) activities that drastically increase the risk of (sexual) victimization. Past research also evidenced that experiences of sexual assault during childhood were predictors of similar experiences during adulthood (see Messman & Long, 1996) in women. Some researchers also investigated women's assertiveness and self-esteem as related to experiences of sexual assault, but empirical evidence is mixed (see Hartwick, Desmarais & Hennig, 2007).

In terms of age, male victims of sexual assault are typically in their twenties (e.g., Stermac, Del Bove & Addison, 2004; Emst et al., 2000) which is similar to the age range of female victims (e.g., McLean, Balding & White, 2005). Although there is great variability (presumably due to participants' recruitment location [general practice surgery vs sexual health clinic]; see McLean, 2013) between the reported figures, it is of interest to note that between 3.1 percent (Coxell et al., 1999) and 22 percent (Coxell et al., 2000) of male victims identified themselves as either homosexual or bisexual. In the United Kingdom, McLean, Balding and White (2005) reported that

the three most common locations for males to be victims of sexual assault were in public places, followed by their assailants' residence and their own residence.

In 2007, Hartwick, Desmarais, and Hennig examined whether male and female victims of sexual assault shared similar characteristics. In that study, the authors reported that, similar to results from studies with female victims only (e.g., Van Bruggen, Runtz & Kadlec, 2006), the numbers of sexual partners and of romantic relationships as well as the length of the longest romantic relationship were the best predictors of experiences of sexual assault for both men and women in their sample.

Characteristics of Sexual Assaulters

It is important, when discussing the characteristics of sexual assaulters, to highlight the prevalence of recidivism rates amongst (detected, convicted, sometimes treated, and released) former prisoners found guilty of a sex crime. In a 2002 meta-analysis of 43 studies evaluating the effectiveness of sex offender treatment programs, Hanson and colleagues reported the following average recidivism rates: 12.3 percent (treated groups) vs 16.8 percent (control groups) sexual recidivism rates and 27.9 percent (treated groups) vs 39.2 percent (control groups) overall recidivism rates during an average follow-up period of 46 months. Despite significant reductions in recidivism thanks to various treatment programs (e.g., Cognitive Behavioural Therapies programs that have been particularly singled out because of their effectiveness [37% less sexual recidivism for the treated offenders relative to the controls in the meta-analysis by Lösel & Schmucker, 2005]), the results by Hanson et al. (2002) reveal that a significant portion of sexual offenders reoffend, with or without treatment. In a 9-year follow-up (2005-2014) for the U.S.

Bureau of Justice Statistics, Alper and Durose (2019) reported that sex offenders released during that period were more likely than any other type of former prisoners to be arrested for a new incident of rape or sexual assault (7.7% vs 2.3%). Sixty-seven percent of all the released sex offenders released in 2005 ended up being rearrested within 9 years for any type of crime and roughly 50 percent ended up being convicted once more. Results from Dickey and colleagues' (2002) study suggest that age (over 40) may be a mitigator of the incidence of recidivism in rapists. Naturally, the above results only discuss detected or reported rates of sexual reoffending and are an underestimation of the actual sexual recidivism rate (see Abbott, 2020).

Highly undocumented, cases of sexual assault committed by women seem to be rare. Despite some high-profile cases commonly reported in the media (typically cases of young, attractive female high school teachers having engaged in sexual practices with their students or of famous female serial killers/rapists), research on female sex offenders is a scarcity and is still subjected to the traditional female gender stereotype (Enes, 2022). However, it has been previously evidenced that characteristics of female assaulters are similar to those of female victims of sexual assault (e.g., Ménard et al., 2003).

Interestingly, past research endeavours investigating the characteristics of male assaulters identified those characteristics to be akin to those of female assaulters. Briefly, victims and perpetrators of sexual assault are generally individuals who have had numerous sexual partners (Christopher, Owens & Stecker, 1993) and a history of childhood victimization (see Loh & Gidycz, 2006). One important difference between male and female assaulters though, is the endorsement or rejection of traditional gender roles. Whilst male assaulters seem to embrace more the

masculinity aspect of the traditional male gender role (Loh et al., 2005), female assaulters tend to reject the traditional female role (O'Sullivan & Byers, 1993).

Surprisingly, although men are the primary initiators of forced sexual acts, their characteristics have not been profusely documented either. According to RAINN, 57 percent of male sex offenders are White whereas 27 percent are Black (Rape, Abuse & Incest National Network, n.d.b). In an early paper, Thornhill and Thornhill (1983) reported findings suggesting that men would be more likely to rape women at ages before the first marriage, as a function of the fierce competition for female partners at that time. In that same study, the authors also reported that age distribution for sexual crimes are in line with the age-crime curve; younger individuals are more likely to commit sexual crimes. Age-related differences in sexual offending would, according to Thornhill and Palmer (2000), be a function of age differences in the male sex drive. In other words, since younger people have more desires for sexual activity (and perhaps more opportunities too), they are more likely to commit sex crimes. According to RAINN, however, half of male sex offenders are 30 and older, whereas 34 percent are aged 18-29 (Rape, Abuse & Incest National Network, n.d.b).

In a 2012 paper, Felson, Cundiff and Painter-Davis argued that sexual crimes may be the exception to the age-crime curve. More specifically, they would be the exception to the age-desistance curve. By rooting their argument in Merton's (1938) blocked opportunity theory, which states that the inability to achieve a desirable goal through legitimate means is motivation for crime commission, Felson and colleagues (2012) identified less attractive, older men as more likely to have recourse to illegitimate means (i.e., sexual assault). The authors tested their theory in a sample

of prison and jails inmates and reported that older inmates were almost as likely as younger inmates to sexually assault other (young) inmates.

Sexual Assault: Theoretical Frameworks

Because the primary aim of this dissertation is to test a general theory of crime (General Strain Theory) within the context of sexual assault perpetration, it appears relevant to first very briefly discuss the theoretical frameworks most commonly used to explain the occurrence of sexual crimes so as to better understand this phenomena. This section provides information pertaining to: a) nonsexual motivational theories: the feminist's perspective, b) routine activities theory, and c) the evolutionary psychology perspective. Since the purpose of this dissertation is not to test the latter theories, information provided in this section will only be a brief overview of relevant literature pertaining to the application of these frameworks to sexual crimes.

Historically, sexual crimes have more often than not been associated with the following motives: power (e.g., Prentky & Knight, 1991), anger (e.g., Holmstrom & Burgess, 1980), and sex (e.g., Bryden & Grier, 2011). In the early years of the study of sexual crimes, it was frequent for power (control, dominance, humiliation) and anger to be the dominant themes (e.g., Prentky & Knight, 1991; Darke, 1990; Holmstrom & Burgess, 1980; Clark & Lewis, 1977; Amir, 1965), with sex and aggression being only recently considered dominant themes (e.g., Bryden & Grier, 2011). This, however, does not mean that sex was never envisioned as an important part of sexual crimes even though scholars like Palmer (1988) extensively criticised the idea of rape resulting from a sexual motive. In fact, some scholars suggested that factors pertaining to power and sex are one

and the same, and that anger and (sadistic) sexual factors significantly overlap or act in concert (Davis et al., 2022; Barbaree & Marshall, 1991; Prentky & Knight, 1991).

Nonsexual Motivational Theories: the Feminist Perspective

Despite slight variations in the content of the messages and their delivery from one feminist scholar to another, it is generally admitted that unlike the non-feminist literature, which puts the emphasis on the sexual motive of sexual crimes, the feminist literature roots sexual crimes in the assaulters' will to dominate, control, and humiliate their victims and most specifically women in general (Muehlenhard, Danoff-Burg & Powch, 1996). In other words, sexual assault would be about power and control, not sex (see McPhail, 2016). Furthermore, it is interesting to note that besides power, control, and domination, humiliation and proving masculinity are the most popular (i.e., most debated, argued for or against) nonsexual motivational theories (see Bryden & Grier, 2011). Depending on which feminist scholar discusses them, these motives can be seen as either the only motives for sexual assault (radical feminist perspective) or as blended with, but nonetheless prevailing over sexual needs/desire (moderate feminist perspective).

Overall and over the years, many scholars debated over and tested the feminist's perspective on sexual crimes. Some provided evidence in support of the view that sexual crimes are all about nonsexual motives (e.g., Williams, Gruenfeld, & Guillory, 2017; Zurbriggen, 2000; Palmer, 1988) whilst others theoretically or empirically rejected this assumption (e.g., Felson & Cundiff, 2014; Abbey et al., 2006; Eccles, Marshall, & Barbaree, 1994).

Interestingly, in 2014, Felson and Cundiff reported that homosexual men were as likely as heterosexual men to commit sexual assaults. What the latter finding suggests is that the occurrence

of sexual assaults may be more a function of men's sexuality than the consequence of men's negative attitudes towards women or their desire to control/dominate them. Felson and Cundiff's (2014) study thus failed to support the argument that sexual crimes are motivated by power, not sex.

A controversial argument to make would thus be that societal expectations regarding masculinity and how a man should act in various situations shape male sexuality in a way that increases chances of sexual crime commission. Such argument also opens the way for the study of strains (societal expectations, economic hardships, etc), a theoretical argument that has very rarely been explored within the realm of sexual crimes. This argument will be developed later, in the “General Strain Theory” chapter of this dissertation.

Routine Activities

Although it has been reported that some rapists sometimes select victims based on perceived vulnerability, this selection criterion is more likely an attempt to boost chances of success and/or decrease the chances of being caught rather than a way of punishing the victim for being imprudent or violating traditional norms of prudence (e.g., drinking too much, walking alone at night in high-crime areas) as the feminist perspective would suggest (Bryden & Lengnick, 1997). What this observation introduces here is the notion of opportunism. A sexual assaulter is relatively unlikely to fall on a “prey” based on the fact that (s)he was objectively or subjectively vulnerable three years ago whilst drunk at party, but if the assaulter and the potential victim are together at the time when the potential victim is drunk, this could be a decisive factor in the assaulter's decision to offend.

Introduced in 1979 by Cohen and Felson, routine activities theory (RAT) identifies individuals' daily routine as directly related to crime rates and stipulates that for crime to occur, three conditions must be met: a) a (motivated; see Schwartz et al., 2001; Mustaine & Tewksbury, 2000) offender, b) a suitable (vulnerable) target, and c) the absence or ineffectiveness of a capable guardian. Over the years, many scholars demonstrated the virtues of RAT for a large variety of criminal outcomes and offending populations (e.g., Olaghere & Lum, 2018; Spano & Nagy, 2005; Arnold, Keane & Baron, 2005; Schwartz et al., 2001; Cohen & Felson, 1979). In the context of sexual crimes more specifically, RAT has for instance been used to examine the temporal rhythms of sexual crimes commission (Hewitt et al., 2022), sex offenders' target selection scripts (Deslauriers-Varin & Beauregard, 2010), and more generally rates of sexual offences (e.g., Tewksbury, Mustaine & Stengel, 2008).

In their 2010 study, Clodfelter and colleagues reported and commented on the role of measures of RAT as related to sexual harassment amongst a sample of college students. More specifically, the authors reported that two measures of RAT (i.e., proximity and capable guardianship; respectively referring to geographical closeness to offenders and the carrying of self-protection such as pepper spray and/or presence of other person) emerged significant in their multivariate models. In other words, important dimensions of RAT were predictors of experiences of sexual crimes (i.e., sexual harassment). Clodfelter and colleagues' results were in line with a vast bulk of empirical research on that topic (e.g., Beauregard & Martineau, 2015; Pedneault & Beauregard, 2014; Cass, 2007; Jackson, Gilliland & Veneziano, 2006; Sasse, 2005; Schwartz & Pitts, 1995).

Evolutionary Psychology Perspective

Related to the main argument behind motivational (sexual or nonsexual) theories; that is, that sexual assaulters' psyche and cognitive abilities/processes are related to his/her decision to offend, the evolutionary psychology (EP) perspective identifies sexual crimes as an attempt to contribute to reproductive success in the human race. Naturally, EP as applied to sexual crimes only proposes an explanation for heterosexual acts. Followers of the EP perspective, however, warn that such an attempt in theorizing sexual assault aims by no means to “normalize” or identify sexual crimes as “natural” or “evolutionary inevitable”.

Building upon animal models, several scholars detailed how nonhuman species can frequently engage in sexual assault to achieve reproductive purposes. Some authors (Buss, 2016; Wrangham & Peterson, 1996) even described how some nonhuman individuals can become experts in sexual assault and develop very advanced tactics and mechanisms to achieve their reproductive goals. The presence of morphological adaptations (i.e., organs) that seemingly serve no other function than that of facilitating coercive mating in various species (e.g., Thornhill & Sauer, 1991; Arnqvist, 1989) suggests that sexual assault in nonhuman species could be a natural reproductive mechanism. It must also be noted that “across all nonhuman species, forced copulation is always perpetrated by males on female victims” (Malamuth, Huppin & Bryant, 2005, p. 395).

When applied to sexual assault in humans, EP appears a bit limited, starting with its capacity to only explain heterosexual sexual crimes. In fact, it appears more tailored to explain man-on-woman than woman-on-man sexual crimes, which is consistent with the fact that in nonhuman species only male-on-female acts of sexual assault have been reported. However, the

framework has some value. Importantly, for a behaviour to be considered under EP, the said behaviour must be frequently observed in the studied species. In humans, many authors reported on the prevalence of sexual assault in many human societies, from millennia ago to the current days (e.g., Monson & Langhinrichsen-Rohling, 2002; Basile, 2002; Chagnon, 1994). In fact, at times where the consequences for sexually assaulting someone are lowered (e.g., war), male humans do engage in such behaviours (Allen, 1996), hence suggesting that perhaps sexual assault is related to men's sexuality (an argument similar to that developed by Felson & Cundiff, 2014).

As to whether sexual assault in humans can be considered an adaptive feature of the species and an attempt to enhance the reproductive success, Gottschall and Gottschall (2003) attempted to answer that question. In their study, Gottschall and Gottschall (2003) used U.S. government data on pregnancy rates following man-on-woman rape incidents and birth control usage to compare per-incident rape-pregnancy rates and per-incident consensual pregnancy rates. Results from their analyses indicated that rape-pregnancy rates exceeded consensual pregnancy rates by a sizable margin (6.4% to 3.1%). Even after age had been controlled for, consensual pregnancy rates per incident remained two percent lower than rape rates. Such results are in line with what would be expected if sexual assault is indeed a primitive mechanism aiming to increase reproductive chances, but they are particularly interesting when linked with findings evidencing that naturally cycling (i.e., no contraception) women in their ovulatory phase take part in significantly less risky behaviours and significantly more non-risky behaviours whereas women using hormonal contraception did not show either effect (Bröder & Hohmann, 2003). In summary, it would seem that women who are not experiencing hormonal suppression due to contraceptives “instinctively” engage in counteradaptation strategies in response to the adaptive mechanism (i.e., rape)

developed by men, hence decreasing the risk of sexual victimization near ovulation.

CHAPTER 3

GENERAL STRAIN THEORY

Although General Strain Theory (GST) is not one of the most commonly used theory to provide a causal explanation for sexual crimes, the framework does have some predictive capacity for general crime commission. Since the purpose of this dissertation is to test GST as applied to sexual assault perpetration, it is first relevant to discuss the emergence of GST as a leading general theory of crime, as well as the various components (i.e., strains and negative emotions) discussed by Agnew (1992, 2001, 2006, 2013, 2017) in the strain-crime relationship.

History and Presentation of GST

Building upon Durkheim's work on anomie, Merton's (1957) classic strain theory posits that crime is a function of the experience of being blocked from achieving socially desirable goals and more specifically monetary success. With the aim of overcoming the various shortcomings of classic strain theory, as well as those of subsequent revisions expanding the notion of socially desirable goals to non-monetary goals (e.g., pain-avoidance; Agnew, 1985), Agnew (1992) built the foundations of General Strain Theory (GST). In his 1992 paper, Agnew argues that strains, simply referring to events or situations that most people would dislike, increase the likelihood of crime commission. Three major types of strain, all of them being causes of anger and frustration (i.e., negative emotions), are discussed in Agnew's (1992) paper: the actual or anticipated 1) failure to achieve positively valued goals, 2) removal of positively valued goals, and 3) presentation of negatively valued stimuli.

In one of the earliest empirical tests of GST, Mazerolle and Piquero (1998) tested the

mediating role of anger in the strain-crime association. By means of a convenient sample (i.e., undergraduates), an offence scenario methodology, and measures of various indicators of strain (failure to achieve positively valued goals; presentation of noxious stimuli; removal of positive stimuli), the authors identified some types of strain as positively related to anger. Mixed findings regarding the direct effect of the three types of strains on intentions to misbehave, as well as regarding the mediating effect of anger, were reported. Because other empirical tests of GST produced similarly mixed findings, Agnew (2001, 2006) later on revised GST, ultimately leading to the creation of a list of 13 sources of strain, all of them being strictly ecological.

Strains

In the various iterations of GST (Agnew, 1992, 2001, 2006), strains are key factors in the causal process leading to law-breaking. In addition to having a theorized direct effect on crime commission, strains are also theorized to lead to the experience of a variety of negative emotions, themselves impacting involvement in criminal activities. The mediating role of negative emotions will be discussed further in this chapter.

In a 2017 article specifying the types of strain most likely to lead to crime, Agnew aimed to further detail the characteristics of strains, as well as the conditions under which such events increase chances of crime commission. In brief, strains a) perceived as unjust, b) perceived as high in magnitude, c) associated with low social control, and d) that generate pressure or incentives to have recourse to criminal coping, are those most likely to lead to law breaking.

Stress

Understandably, when discussing negative life experiences and overall stressors in one's life, psychological stress or simply stress (i.e., the mental, emotional, and/or physical tension that follows one's perception that environmental circumstances exceed one's adaptive capacity; see Cohen, Janicki-Deverts & Miller, 2007; Cohen, Kessler & Gordon, 1995) readily comes to mind. Amongst other effects, stress impacts the functioning of the human brain and body in that it is associated with some types of personality disorders (e.g., depression; see for instance Hammen, 2005) and negatively alters the immune system by favouring immunosuppression (for a review see Khansari, Murgu, & Faith, 1990), hence promoting the occurrence of at least some types of cancer and cardiovascular and sexually transmissible diseases (for a review, see Cohen, Janicki-Deverts & Miller, 2007).

In GST, Agnew (2006) posits that stress induces crime, which in turn leads to more crime as a result of crime-induced stress. In that sense, stress-related psychological conditions (e.g., acute stress disorder, post-traumatic stress disorder) would be experienced by a criminal subsequently to crime commission (Artello & Williams, 2014). In the literature, psychological stress has, for instance, been positively associated with marital rape and aggravated assault (Riggs, Kilpatrick, & Resnick, 1992). The phenomenon of military veterans returning to the civil life with symptoms (or diagnostics) of post-traumatic stress disorder and displaying violent criminal behaviours has also been studied and commented on by a variety of scholars (e.g., Elbogen et al., 2012; Daniel, 2008; Aprilakis, 2005).

Social Isolation

Commonly used to induce stress in experimental research with non-human subjects (e.g., Matsumoto et al., 2007), social isolation has the capacity to generate great emotional (e.g., depression; see Taylor et al., 2018) and physiological (e.g., cardiovascular disease risk; see Grant, Hamer & Steptoe, 2009) turmoil in humans and non-humans alike. For the above reasons, social isolation and more generally the lack of presence of and interactions with other human beings is arguably one of the greatest strains that an individual can experience in his or her lifetime.

Studies on loneliness in carceral populations (Rokach, 2001; Linn, Fabricant & Linn, 1988) also revealed that being imprisoned promotes loneliness through a general lack of trust towards others. Social isolation, operationalized as the duration and frequency of prison visitation, also has the capacity to influence inmate behaviours within the correctional facilities (Cochran & Mears, 2013). Upon release, social isolation of former inmates appears to remain and sometimes increase due to the hardship of being released into society after being deprived of personal freedom and of social contact for an extended period of time (e.g., Western et al., 2015). As a matter of fact, social isolation and its consequences can easily be perceived as one of the leading causes of recidivism. Indeed, in the literature, several scholars have reported findings identifying social isolation or loneliness as related to involvement in criminal activities, with specific attention being paid to sexual offenders and the maintenance of sexually offending behaviours (e.g., Bumby & Hansen, 1997; Seidman et al., 1994).

In 1995, Sampson and Laub commented on the positive association between social isolation and crime commission. In their own words: “those subject to weak systems of interdependence and informal social controls as adults are freer to engage in deviant behavior”

(Braithwaite, 1989, p. 141). Closely related to social control, in the sense that the absence of socialization due to social isolation is synonymous with weak social control, isolation from peers is a key component in Hirschi's (1969) social control theory. When envisioned under the scope of GST, social isolation undoubtedly represents one of the greatest strains one can possibly face.

Physical and Sexual Victimization

Under GST, physical and sexual victimization are both theorized to be leading causes of crime commission because of their capacity to negatively impact one's emotionality. Indeed, the direct causal link between experiences of victimization and negative emotions such as anger (e.g., Jouriles et al., 2014), depression (for a review, see Maniglio, 2010), and anxiety (e.g., Briere & Runtz, 1988) no longer needs to be demonstrated.

In the literature, previous experiences of victimization are a trait common to many types of offenders (for a review, see Jennings, Piquero & Reingle, 2012; see also Barbieri et al., 2019). When it comes to sexual crimes specifically, several scholars have reported on sex offenders' histories of sexual abuse in their youth (e.g., Seto, 2008), leading to the phenomenon known as the “victim-offender overlap” (Jennings et al., 2014). As explained in the review by Jennings, Piquero, and Reingle (2012) on the subject, the victim-offender overlap is not limited to sexual crimes but rather appears to be an attribute common to many crime types. A 2019 systematic review of peer-reviewed articles conducted by Barbieri and colleagues led to similar conclusions.

Importantly, victimization history during childhood or adulthood has also been identified as a robust predictor of new experiences of victimization (e.g., Waldron et al., 2015; Gidycz et al., 1993), making historical victims of sexual and/or physical abuse more likely to experience again

a collection of negative emotions. In line with the predictions of GST, such at-risk individuals also have increased chances for involvement in criminal activities. All in all, it appears that both physical and sexual victimization histories are major risk factors for future crime commission.

Aesthetic Dissatisfaction

As with all the strains discussed in this section, aesthetic dissatisfaction (the term coined here for one's unhappiness with his or her personal appearance, to the point that not only discomfort but also distress is felt) has the capacity to lead to the experience of negative emotions. In particular, anger, anxiety, and depression appear particularly related to aesthetic dissatisfaction (e.g., Carrard et al., 2021; Vencill, Tebbe & Garos, 2015; Koronczai et al., 2013; Nortvedt, Riise & Sanne, 2006). Closely related to body appearance, satisfaction, and acceptance, eating disorders such as anorexia and bulimia nervosa and binge eating disorder are also connected to the above negative emotions (e.g., Turel et al., 2018; Gitimu et al., 2016).

In the literature, no study has investigated the relationship between appearance dissatisfaction and crime commission. Aesthetic dissatisfaction, however, has long been theorized as an important component in sexual offenders' lives as unhappiness with one's bodily appearance would understandably lead to low self-esteem and an under-average capacity to socialize with potential sexual partners, hence decreasing opportunities for sexual acts. This is the argument advanced by most theorists whose ideas align with the sex-related motivational theories. In other words, it is the argument that sex deprivation (potentially caused by low self-esteem and an objectively average physical appearance) is one of the main drivers behind sexual crimes (e.g., Felson, Cundiff & Painter-Davis, 2012; Fleisher & Krienert, 2009; Wyatt, 2005; Wortley, 2002).

It bears mentioning, however, that empirical research on the link between sexual deprivation and sexual crimes is ambiguous (for a review see Felson, 2002). Regardless of whether aesthetic dissatisfaction is indeed a cause of sex deprivation, one certain thing is that the feelings of distress and discomfort caused by one's uneasiness with their physical appearance are undoubtedly a great source of strain in one's life. So much so that, through the experience of negative emotions, they have the capacity to facilitate crime commission.

Financial Difficulties

Central to Merton's (1957) classic strain theory and also to Agnew's (1992) GST, monetary success as a socially desirable goal failed to be taken into consideration in many tests of GST (Baron, 2004). Indeed, according to Baron (2004), financial difficulties or dissatisfaction has been excluded from virtually all of the empirical studies testing GST. Since Baron's (2004) statement, several tests of GST included measures of financial difficulties as strains, with results being in line with the predictions of GST: economic difficulties are positively associated with delinquency and crime commission (e.g., Liu, Visher & O'Connell, 2021; Shover, 2018; Felson et al., 2012; Baron, 2007).

Interestingly, the relationship between economic difficulties and negative emotions (problematic anger more specifically) has been investigated from a two-ways perspective. Whilst it is understandable for financial difficulties to lead to the experience of a multitude of negative emotions (e.g., Liu, Visher & O'Connell; Smith et al., 2021; Ou & Hall, 2018; Bøe et al., 2017; Bridges & Disney, 2010; Andrews & Wilding, 2004), a potential effect of problematic anger on financially distressing events (e.g., homelessness) appears less intuitive. In 2015, Tsai and

Rosenheck commented on the contribution of anger to the decline in U.S. veterans quality of life, typically starting with minor financial crises that potentially evolved into homelessness. In 2022, Adler and colleagues conducted a study on anger and financial difficulties in U.S. service members and veterans. Their results were unequivocal: problematic anger was positively associated with a) financial difficulties and involuntary job loss in military personnel, and b) unemployment and homelessness in veterans. All in all, it appears that negative emotions, and anger more specifically, and financial difficulties are intrinsically related, hence highlighting the importance of financial difficulties in GST.

Personal Health Difficulties

At first glance, the relationship between personal health difficulties and crime commission may seem counterintuitive. It may for instance seem preposterous to imagine individuals with heavy health issues being involved in crime, primarily because they may not have the physical capacity to engage in criminal activities. Although that may be the case for crimes such as burglaries that require a certain level of physical aptitudes, other activities such as embezzlement and other white-collar crimes can be committed regardless of one's physical condition. In the same way some drug addicts may engage in income-generating crimes to afford their addiction (see for instance DeBeck et al., 2007), individuals with poor health may have recourse to illegitimate means to afford the medical attention they need. This scenario appears particularly plausible in the U.S. society, where medical bills and the overall cost of medical attention and treatment can be crushing.

More realistically though, personal health (leaving aside mental health) difficulties may be

related to crime commission through the experience of negative emotions. Under GST, personal health difficulties can legitimately be seen as a seriously handicapping strain in one's life and it is undeniable that being in poor physical condition, may it be as a result of malnutrition because of financial difficulties or simply because one's health is very fragile, is associated with general stress and anxiety. Should the situation worsen or remain handicapping over an extended period of time, it is likely that depression and anger will be experienced. Because of their negative impact on one's life, as well as their capacity to negatively affect one's emotionality, personal health difficulties can legitimately be conceptualized as potential risk factors for crime commission. No empirical endeavour has investigated such a relationship.

Academic/Work Difficulties

Closely related to financial difficulties through for instance unemployment or part-time work, it is common for work-related difficulties to negatively impact one's emotionality. On that note, Bensimon (1997) stated that “workplace issues have caused anger for as long as humans have been working for other humans. Workers have always had cause to be angry, but perhaps never before have there been as much workplace anger and aggression as now” (p. 30). Similarly, a connection between depression and the workplace has long been established, to the point that depression in the working-age population has been acknowledged as a substantial public health issue and that the workplace is now seen as a reasonable location for the delivery of interventions aiming to combat depression in the general population (for a review see Tan et al., 2014).

In 2013, Lageson and Uggen provided a review on how work and crime impact one another from a life-course perspective. Overall, it appears that many work-related dimensions need to be

taken into consideration when investigating the work-crime relationship. Not only do different theoretical frameworks highlight different aspects of one's work persona (e.g., investment in work in Hirschi's [1969] social control theory, structural impact of employment in daily routines in Cohen and Felson's [1979] routine activities theory), but the impact of those aspects also appears to differ based on an individual's life stage. For instance, whilst being buried in work (through self-employment for instance) helps adults staying away from crime (e.g., Cooney, 2012; Fletcher, 2004), presumably due to physical tiredness and a better social control, the same factor has the opposite effect in youngsters, with higher delinquency rates being reported (e.g., Bachman et al., 2011; Paternoster et al., 2003).

On the relationship between work difficulties and crime, it has already been robustly demonstrated that unemployment and the sudden loss of one's job/income are strong predictors of involvement in illegal activities (e.g., Uggen & Thompson, 2003; Allan & Steffensmeier, 1989). Understandably, the view of crime as a means of quickly generating an income for unemployed individuals has been extensively discussed by scholars in the field (e.g., Adolphe et al., 2019; Gottfredson, Kearley & Bushway, 2008; DeBeck et al., 2007). It is frequent for empirical tests of GST that consider financial difficulties as a strain to operationalize economic difficulties with a measure of employment (e.g., Barn & Tan, 2012; Baron, 2008).

As per individuals who are holding an income-generating job but are facing work-related difficulties (e.g., stress, overwhelming responsibilities, pressure from coworkers and/or superiors), it appears that their involvement or their absence of involvement in crime is complex and not simply limited to the presence of legal employment (Lageson & Uggen, 2013). Job quality has been found out to be a crucial factor, with low-quality jobs without a “decent income” being

associated with higher chances of reoffending in former prisoners (e.g., Shover, 2018; Uggen, 1999). Such a link could be the result of the experience of frustration, resentment, and/or anger on the workers' end. Besides job quality, the opportunity to build professional networks through legal means as well as the development of prosocial work attitudes go along with increased chances of staying away from crime (Uggen, Manza & Behrens, 2004). In conclusion, although the financial aspect of legal employment is undoubtedly related to one's likelihood of engaging in crime, so are the satisfaction with one's job and the chances for personal and professional development offered by said job.

When it comes to academic difficulties such as educational deficits and lower educational aspirations that may result from intensive work on the side and thus a lack of time to fully immerse in the learning process (for a discussion see Paternoster et al., 2003; see also Mihalic & Elliott, 1997; Steinberg & Cauffman, 1995), research has demonstrated that they can lead to similar outcomes as those of work difficulties. This appears to be the case for the generation of negative emotions (e.g., Lahtinen et al., 2020; Kumaraswamy, 2013; Bandura et al., 1999) as well as the facilitation of crime commission (e.g., Sullivan, 2004; Maguin & Loeber, 1996), especially in the case of school leaving (e.g., Moore & McArthur, 2014; Hemphill et al., 2012). Interestingly, an effect of nearby (neighbourhood) crime on students' academic performances has also been reported (Boxer, Drawve & Caplan, 2020), but an effect of parental incarceration on students' academic performances could not be evidenced (Murray, Loeber & Pardini, 2012), hence making the relationship between academic difficulties and involvement in criminal activities complex on a multitude of levels.

Family/Peers/Romantic Partners Difficulties

Undoubtedly, life difficulties experienced by close and loved ones can be daunting and hard to overcome for oneself. For the most empathetic and emotionally mature individuals, witnessing the suffering and hardships of people who really matter in one's life can be felt as if those life events happened to the self. In other words, the consequences of the difficulties experienced by others can be akin to those of difficulties experienced directly. Such consequences can for instance be the experience of depression, anxiety, and anger (e.g., Gambin & Sharp, 2018; Schreiter, Pijnenborg & Aan Het Rot, 2013; Day et al., 2012; O'Connor et al., 2007; Vitaglione & Barnett, 2003; but for a meta-analysis on empathy and depression see Yan et al., 2021), which under GST would greatly put individuals at risk for law-breaking. From a strictly strain-focused perspective, difficulties experienced by others have the capacity to make oneself cross the line and engage in criminal activities, perhaps as a way of coping with the experienced helplessness or simply as an attempt to relieve some stress. For the latter purpose, the use of illegal substances appears particularly plausible.

Negative Emotions

As mentioned previously, under GST, negative emotions and the way they are experienced are crucial components when it comes to understanding the relationship between strains and crime. Indeed, negative emotions are thought to have a mediating role in the above relationship.

In the literature, the vast majority of studies testing GST focused on anger as the primary experienced negative emotion; sometimes with depression being investigated jointly. The mediating role of anxiety has also been investigated under GST.

Anger

Using a Canadian sample of homeless street youngsters (n=400), Baron (2004) tested Agnew's (2001) revisited theory. Self-reported measures of crime commission, substance use, and ten different strains were tested in relation to anger. In line with GST, anger was positively associated with six strains: emotional abuse, physical abuse, sexual abuse, violent victimization, relative deprivation and monetary dissatisfaction. As also predicted by GST, anger emerged as a significant predictor of total crime. In a more recent study, Bishopp and colleagues (2020), using a sample of police officers from three of the largest urban areas in Texas and data collected via the Police Work Experience Survey, were able to evidence a partial mediation of anger on the effect of strain on verbal abuse.

Importantly, the mediating role of anger in the strain-crime relationship appears to not be a phenomenon only present in Western cultures and societies (e.g., Isom Scott & Stevens Andersen, 2020; Connolly & Beaver, 2015; Rebellon et al., 2012; Hollist, Hughes & Schaible, 2009; Sigfusdottir, Farkas & Silver, 2004; Baron, 2004; Aseltine, Gore & Gordon, 2000) as similar findings have been found out in studies with non-Western samples (e.g., Oh & Connolly, 2019; Botchkovar, Tittle & Antonaccio, 2009; Pérez, Jennings & Gover, 2008; Bao, Haas & Pi, 2004). It bears mentioning, however, that unlike other scholars (e.g., Hollist, Hughes & Schaible, 2009; Bao, Haas & Pi, 2004), Baron (2004) did not check for the impact of non-anger negative emotions on crime commission in his study.

Non-Anger Negative Emotions

Overall, it appears that results from empirical work investigating the mediating effects of

depression and anxiety (i.e., non-anger negative emotions) are not as consistent as those on the mediating role of anger. In brief, whilst some authors failed to report mediating effects of anxiety (e.g., Constantin & Boyett, 2021; Bao, Haas & Pi, 2004; Aseltine, Gore & Gordon, 2000) and depression (e.g., Constantin & Boyett, 2021; Sigfusdottir, Farkas & Silver, 2004; Piquero & Sealock, 2000), others such as Broidy (2001) reported non-anger negative emotions to decrease the risk of crime commission (see also Ackerman & Sacks, 2012; Jang, 2007), others again reported depressed and anxious individuals to be relatively more likely to break the law (e.g., Liu, Visser & O'Connell, 2021; Watts & McNulty, 2013; Hollist, Hughes & Schaible, 2009; Jang & Lyons, 2006; Jang & Johnson, 2003) and/or to engage in maladaptive outcomes (intense alcohol consumption amongst police officers; see Yun & Lee, 2015; Swatt, Gibson & Piquero, 2007). For the purposes of further detailing the complex association between non-anger negative emotions and daily strains and crime, it is of interest to review the methodology and purposes of some of the aforementioned studies.

In 2001, Broidy tested GST using measures of strain (indicators of blocked goals, fairness of the outcomes, and stressful life events), negative emotions (indicators of anger and other negative emotions), illegitimate/deviant outcomes (involvement in a variety of deviant behaviours over the past five years), and control variables. Ultimately, Broidy (2001) validated GST's core proposition that strains do impact delinquency, but in a way that varies depending on the type of strain and the experienced negative emotion, with a clear distinction between anger and other types of negative emotions. Briefly, anger increased the likelihood of crime commission whereas other negative emotions decreased it (see also Ganem, 2010). Anger was positively associated with stress

and unfair outcomes but negatively associated with blocked goals. Other negative emotions were simply positively associated with stress.

Additionally, Broidy's (2001) work also evidenced that the experience of non-anger negative emotions was also a function of sex. Indeed, when controlling for levels of strain, emotional responses to strain were conditioned by sex in Broidy's (2001) study. There was no sex-related difference in the propensity to respond to strains with anger, but females were much more likely to experience other types of negative emotions. Unsurprisingly then, males from this study were much more likely to engage in illegitimate coping strategies (i.e., deviance), which is consistent with the trends observed in the criminal justice system. The disproportionate involvement of men in criminal activities, as well as their overrepresentation in correctional settings, is undoubtedly one of the most robust findings within the field of criminology (e.g., Choy et al., 2017; Zimmerman & Messner, 2010).

In a 2009 study, Hollist and colleagues used data from a U.S. sample of youths ($N = 1,423$) to test GST. From that study, it emerged that all the tested negative emotions (i.e., anger, anxiety, and depression) were associated with increases in general delinquency ($\beta_{\text{anger}} = .13$, $\beta_{\text{anxiety}} = .15$, $\beta_{\text{depression}} = .08$). Regardless of the experienced level of the tested strain (i.e., maltreatment), the latter findings thus suggest that youngsters who are angry, anxious, or depressed are at greater risks of engaging in delinquency. It bears mentioning, though, that when the respective effects of anger and anxiety were accounted for, depression no longer significantly impacted general delinquency.

Consistent with other findings from the literature (e.g., Bao, Haas & Pi, 2004), anger directly impacted serious delinquency ($\beta_{\text{anger}} = .10$) and so did anxiety ($\beta_{\text{anxiety}} = .14$) in Hollist

and colleagues' (2009) study. Depression, however, did not have such a direct effect ($\beta_{\text{depression}} = .05$). In the same study, anger ($\beta_{\text{anger}} = .08$), anxiety ($\beta_{\text{anxiety}} = .08$), and depression ($\beta_{\text{depression}} = .06$) had significant direct effects on substance use.

Consistent with GST, Hollist and colleagues (2009) reported that the negative emotions they tested influenced the magnitude of the direct effects of strain on criminal behaviours. More specifically, anger, anxiety, and depression acted as mediators in all the models tested even though the authors commented that the “negative emotions [tested in their study] were best viewed as attenuating, rather than fully mediating, the effect of maltreatment on delinquency in these data” (p. 384). In all the tested models, anger (reductions ranging from 9% to 14.1% across models), followed by anxiety (reductions ranging from 5.1% to 7.6% across models) and depression (reductions ranging from 2.8% to 4.3% across models), was the negative emotion that attenuated the most the direct effects of maltreatment on delinquency. Together, the latter three negative emotions attenuated the impact of maltreatment on general delinquency by 16 percent and on serious delinquency by 11 percent. As per substance use, no significant direct effects of negative emotions could be reported when all three sources were accounted for at the same time.

GST and Sexual Assault

Overall, GST makes for a highly plausible general theory of crime. Amongst other things, GST corrected for many of the flaws of Merton's (1957) classic strain theory. Agnew's first formulation (1992) and the later revisions (2001, 2006, 2013, 2017) of GST expanded the scope of the sources of strain and also increased the overall comprehensiveness of the theoretical framework by incorporating emotional and motivational psychological processes (Wareham et al.,

2005). By thoroughly explaining the factors that condition the strain-crime relationship, Agnew also greatly increased the overall precision and depth of GST compared to classic strain theory (Wareham et al., 2005). With GST representing a solid theoretical framework for the study of crime commission, its lack of empirical application to the study of sexual crimes is surprising.

Recalling that GST has been developed to be a general theory of crime, it is expected for specific deviant acts to have been investigated under the lens of GST (e.g., white collar crime [Langton & Piquero, 2007], workplace violence [Hinduja, 2007], bullying [Patchin & Hinduja, 2011], prison violence and misconduct [Blevins et al., 2010]). However, application of GST to sex crimes is virtually non-existent (see Ackerman & Sacks, 2012).

In an argument rooted in Merton's (1938) blocked opportunity theory, Felson, Cundiff, and Painter-Davis (2012) discussed how age could be a strain for (in this case) men when it comes to achieving their sexual goals. Since many scholars evidenced a clear negative association between age and attractiveness in both men and women (see Felson & Cundiff, 2014), which is also why the vast majority of sexual crimes victims are young individuals (e.g., Stermac, Del Bove & Addison, 2004; Emst et al., 2000), Felson and colleagues' (2012) argument was that older and presumably less attractive men had reduced access to consensual sexual partners and were thus more likely to have recourse to illegal means (i.e., sexual assault). This view proved right in a prison population, with Felson and colleagues (2012) reporting that older inmates were almost as likely as younger inmates to sexually assault other (young) inmates. The argument could also apply in the non-correctional world as, in general, sexual attraction is always directed towards younger individuals. Regardless of age, men seem to always be more attracted to younger women (relative to older women; see for instance Felson, 2002; Harris, 1994; Henss, 1991). However, this is also

the case for women. As a result, the sexual attraction between older men and younger women is very likely to not be reciprocal hence leaving older men with relatively little consensual sexual opportunities with their preferred sexual partners. As noted by Felson and Cundiff (2014) though, older men's power and status are characteristics that can increase their sexual attractiveness, thus weakening the strength of the pattern described previously.

The results reported by Broidy (2001), as well as the greater discussion on anger and non-anger negative emotions in her paper, could be of interest in order to provide a strain-based explanation for the commission of sexual crimes specifically. As a reminder, Broidy (2001) reported that in her test of GST, anger increased the likelihood of crime commission whereas other negative emotions decreased it. There was no sex-related difference in the propensity to respond to strains with anger, but females were much more likely to experience other types of negative emotions. Unsurprisingly then, males from Broidy's (2001) study were much more likely to engage in illegitimate coping strategies (i.e., deviance). Because the vast majority of sex crimes are also committed by men, perhaps Broidy's work touched on a key point to understand how strains could impact sex crime commission: through the experience of anger. Naturally, the argument is not new as the Feminist's nonsexual motivational theory already discussed it. However, an anger-sex crime relationship where anger would simply be a catalyst and strains the main causes of sexual crimes would make sense from GST's standpoint.

Most importantly, in the first application of GST to sexual crimes (i.e., Ackerman & Sacks' [2012] study on sexual and non-sexual recidivism with a sample of registered sex offenders), the tested negative emotions (anger and depression) did not significantly impact sex crimes. Their inclusion in the model even led the overall measure of strain ("a 25 item additive strain variable

[alpha = .89], which consisted of the potential collateral consequences of RCNLs [Registration and Community Notification Laws for sex offenders]”, p. 189) to become insignificant, which was not the case in a prior model predictive of sex crime perpetration. This non-significance of anger and depression appears particularly interesting in light of Ackerman and Sacks' (2012) other findings on different types of crime: whilst anger was significantly positively associated with general, drug, property, and violent recidivisms, depression was not significantly associated with any of these criminal outcomes.

Interestingly, it would appear here that sexual crimes are one of a kind when it comes to the mediating (or direct) effects of negative emotionality. The effect of strain on sexual recidivism as reported by Ackerman and Sacks (2012) was significant but small in size and then became insignificant once anger and depression were included in the model. Anger and depression were not significantly associated with sexual recidivism. Naturally, such results contradict GST and could suggest that GST is not the most adequate theoretical framework for the study of sexual crimes, but those findings may also be the consequence of methodological limitations. In 2012, Ackerman and Sacks stated that sexual offending oftentimes is the consequence of the experience of various life stressors that had not been measured in their study. Again, the composite measure of strain they used was an ensemble of 25 potential collateral consequences of RCNLs, which could explain the little support for GST they reported. As will be later discussed in Chapter 5, differentiation between measures of strains is one of the strengths of the analytical approach in this dissertation. Additionally, whilst Ackerman and Sacks (2012) only considered two types of negative emotions (anger and depression), this dissertation also includes a third negative emotion: anxiety.

CHAPTER 4

TOWARDS A PSYCHOLOGICALLY-INFORMED GST FOR SEXUAL CRIMES

As previously mentioned, following mixed empirical findings, GST has been further refined on multiple occasions, ultimately leading to the creation of a list of 13 sources of strain, all of them being strictly ecological (Agnew, 2006). Although GST also accounts for emotional and motivational processes, by for instance emphasizing the crucial mediating role of the experience of negative emotions, dispositional factors easily perceivable as strains such as personality traits and disorders fail to be taken into consideration. This appears to be the case in both theoretical and empirical endeavours.

This omission, although understandable given the sociological roots of criminology and thus the traditional emphasis put on ecological factors, appears rather surprising given the accumulation of research evidencing the importance of one's mental health and personality for daily life functioning (e.g., Laird et al., 2017; Dewa & Hoch, 2015; Woo et al., 2011; Bonnewyn et al., 2005) and decision-making (e.g., Sterzer et al., 2019; Bishop & Gagne, 2018; Pushkarskaya et al., 2015; Dittrich & Johansen, 2013). Naturally, crime is no exception as the link between psychological stressors and various criminal activities, may it be direct or indirect, no longer needs to be demonstrated (e.g., Cardona et al., 2020; Longpré et al., 2018; Wright et al., 2017; Robertson & Knight, 2014; Moore, 2009).

Personality Types and Borderline Criminal Sexuality

Prior to delving more specifically in the view of some personality traits (i.e., promiscuity, irresponsibility, and sexual sensation-seeking) as psychological strains potentially related to sexual

offences, it appears of relevance to first discuss certain non-pathological personality types that are marked by peculiar sexual practices and lives. The purpose of this section is simply to highlight how psychological concepts, from specific traits to ensembles of traits (i.e., constructs such as psychopathy and sadism), are directly related to sex-related offences and to sexual lives more generally.

The Dark Triad (or Tetrad)

When it comes to “abnormal” sexual lives in the sense of an above-average sexual activity and a liking for atypic sexual practices that can be borderline criminal, the dark triad (i.e., the grouping of three non-pathological personality types: narcissism, psychopathy, and Machiavellianism) has been particularly examined since Paulhus and Williams (2002) came up with this theory of personality. Together, these three personality types overlap significantly on domains such as lack of empathy, manipulativeness, callousness, and remorselessness. They, however, differ enough to be considered different personality types and be examined individually or as part of the dark triad.

In a more recent conceptualization of this grouping of personality types, some scholars proposed to include a fourth dark trait: sadism (for a review, see Johnson, Plouffe & Saklofske, 2019). The reason for the inclusion of that fourth trait in the dark tetrad is that, even though sadism is highly correlated with other components of the dark triad (for a review, see Johnson, Plouffe & Saklofske, 2019), it predicts antisocial behaviours beyond predictions of the dark triad (Buckels, Jones & Paulhus, 2013; Chabrol et al., 2009). When put in relation to sexual crimes specifically, sadism appears to be an important concept to investigate, as evidenced by the plethora of work on

the subject (e.g., Moore, 2009; Fedoroff, 2008; Berner, Berger & Hill, 2003) and more specifically research on sadistic sexual crimes and criminals (e.g., Longpré et al., 2018). Research on the dark tetrad, however, is limited due to the recency of the addition of this fourth dark trait to the grouping. The following section will thus deal only with the dark triad.

As a whole, the dark triad is positively correlated with a greater number of sex partners, an unrestrained sociosexuality (i.e., individuals who do not require love and/or attachment in their relationships prior to having sexual intercourse; see Foster, Shrira & Campbell, 2006), and a propensity to engage in short-term mating strategies (Jonason et al., 2009). Individually, elements of the dark triad have been positively associated with intimate partner physical abuse (Harris, Hilton & Rice, 2011), multiple short-term marital relationships (Lynam & Derefinko, 2005), infidelity (Brewer et al., 2015), uncommitted sex (Jonason & Kavanagh, 2010), sexual promiscuity (Ali & Chamorro-Premuzic, 2010), and early sexual activity (Harris et al., 2007). Interestingly, the above trends do not seem to differ between men and women (Visser et al., 2010).

When it comes to sexual coercion more specifically, Lyons and colleagues (2022) recently reported sex-based differences in sexual coercion and sexual assertiveness (i.e., “strategies for achieving sexual autonomy”, p. 1) as related to the dark triad. Unlike in men, where all three components of the dark triad were significantly positively associated with sexual coercion, sexual coercion in women was only positively associated with their narcissism level. Whilst sexual assertiveness had two predictors in men (narcissism and Machiavellianism), it had none in women. Importantly, when the authors controlled for the shared variance between all predictor variables, only narcissism significantly positively predicted sexual coercion in women whilst low sexual

assertiveness and high secondary psychopathy (i.e., psychopathy that is caused by social disadvantages) predicted the same outcome in men.

On that last note, many authors have put in relation sexual crimes and psychopathy (e.g., Cardona et al., 2020; Robertson & Knight, 2014; Petrosino & Petrosino, 1999; Karpman, 1951). In fact, not only are psychopathic romantic partners extraordinarily emotionally abusive, through repeated infidelity for instance, but they can also be incredibly physically abusive, especially when it comes to sexual practices as sexual coercion has been found out to be an important component of their sexual lives (e.g., Knight & Guay, 2018).

Psychopathy

Despite the existence of many debates and controversies regarding the clinical construct of psychopathy, its defining characteristics and its association with (sexual) crimes (e.g., Blair & Lee, 2013; Wygant & Sellbom, 2012) for instance, it is commonly accepted that psychopathic individuals are exceptionally callous persons who stand out because of their striking absence of empathy (e.g., Frick & Ray, 2015) and their image of narcissistic pathological liars with a disproportionate sense of self-worth (DeLisi, 2009).

In 1965, Quay attempted to explain the antisocial –and by extension criminal– behaviours of psychopathic individuals through a model centred on motivation. According to Quay (1965), the attainment of thrills (or excitement) as well as the relief of boredom act as powerful reinforcements for most, if not all, of psychopaths' antisocial behaviours. This view of psychopaths as sensation-seekers thus implies that an abnormal, unreasonable need for increases or variations in the stimulation patterns is a defining feature of the condition.

Typically, and in line with Quay's (1965) model, psychopaths are referred to as (chronic) sensation-seekers (Zuckerman, Buchsbaum & Murphy, 1980; Quay, 1965) and, rather than being limited to a specific life domain, that trait is likely to be a general cognitive driver behind psychopaths' everyday acts. Indeed, there is an impressive body of research at the intersection of psychopathy and activities that are commonly conceptualized as intrinsically related to thrill-seeking. Amongst others, these activities include gambling (e.g., Kramer et al., 2021), risk-taking (e.g., Swogger et al., 2010), and law-breaking (e.g., Blair & Lee, 2013).

Naturally, sexual activities are no exception (e.g., Cardona et al., 2020; Myers et al., 2010). Specific psychopathic traits have, for instance, been put in relation to involvement in unusual sexual activities that, again, can legitimately be seen as thrill-driven. According to Edwards and Verona (2016), impulsive and antisocial tendencies of psychopathic individuals significantly predicted sex work (i.e., prostitution) in women and sex exchange (i.e., trading sex for necessities) in men. These same features of psychopathy also significantly predicted involvement in risky sexual practices that are commonly associated with negative health (e.g., STDs and unplanned pregnancies) and social consequences (e.g., rejection and isolation) in both men and women (Fulton et al., 2010).

As per sexual assault, many scholars reported findings evidencing positive associations between psychopathic features and sexual crimes or identifying psychopathic personalities and traits as robust predictors of sex-related offence commission or recidivism (e.g., Lyons et al., 2022; Brown et al., 2015; Woodworth et al., 2013; Hawes, Boccaccini & Murrie, 2013; Mouilso & Calhoun, 2012; Porter et al., 2000). In a sample of 199 sex offenders, Skovran and colleagues (2010) evidenced a link between psychopathy, overall sexual fantasies, and sexual sensation-

seeking. Whether sexual assault is a consequence of sexual sensation-seeking or a means of putting an end to that drive, however, remains an unanswered question. Nevertheless, what appears clear is that specific psychopathic traits that may be sexual by nature can play a crucial role in the decision-making process that leads to sexual assault commission.

Personality Traits as Psychological Stressors

Intrinsically related to the construct of psychopathy, promiscuity, irresponsibility, and sexual sensation-seeking all are personality traits that can be hypothesized to be main drivers behind the involvement in sex-related offences of people high on psychopathy. In addition to being defining characteristics of the condition, all three personality traits also have high capability when it comes to influencing one's decision-making and governing one's course of actions (e.g., Gillingario et al., 2016; Norris et al., 2009; Bancroft et al., 2003). By nature, those characteristics are also closely related to involvement in singular sexual practices (e.g., Javaid, 2018; Skovran, Huss & Scalora, 2010). Their ability to generate the experience of negative emotions in a variety of contexts as well as the overall power they can have over one's life undoubtedly qualify them to be considered and studied as psychological stressors even though they can also legitimately be conceptualized as behavioural consequences of negative emotionality (e.g., Timms & Connors, 1992).

Promiscuity

In the theoretical literature, a potential effect of promiscuity (in the sexual context referring to “the engagement in noncommittal sexual activities, with non-monogamous partners, and with

multiple partners”); Poppi, 2020, p. 925; see also Jones & Paulhus, 2012; Schmitt, 2004) on sexual assault commission could be discussed within the greater debate of whether access to consensual sexual partners and sexual deprivation are linked to sexual crimes. The argument that sexual deprivation can lead to frustration and then to sexual assault is key in motivational theories that focus on sexual gratification. Supposedly, for individuals who have an above-average sexual drive and are used to living a promiscuous life, the loss of access to consensual sexual partners would lead to greater frustration and anger, relative to individuals with a lesser sexual drive. Promiscuity thus could be a moderator of the relationship between sexual deprivation and sexual crime commission, should there be any.

As a whole, evidence supporting the sexual gratification motive primarily relies on sexual assaulters' alleged obsession with sex which would not necessarily be related to frustration due to the impossibility to find consensual sexual partners or to sexual deprivation in general. In fact, it appears that sexual assaulters are far from being sexually deprived as they are more likely to hire prostitutes, engage in onanism, and use pornography (Lussier et al., 2007; Kanin, 1984). They also do not lack consensual sexual partners as they are more likely to have had many sexual partners (Lalumière et al., 2005) and to actively seek and engage in casual sex (Abbey et al., 2006). A “deviant” sexual lifestyle of sexual assaulters that also likely started at a young age (Lussier et al., 2007), involve frequent visits to strip clubs (Lussier et al., 2007) and sexual intercourses (Gebhard et al., 1965), and paraphilias (e.g., exhibitionism [Lussier et al., 2007], raptophilia [Seto et al., 2012]).

In sum, it appears that sexual assaulters' sexual lives are far from being monotonous, which can indeed indicate a certain obsession with sex. Although evidence in line with the latter statement

also suffers from some caveats (e.g., the absence of empirical findings evidencing a hormonal cause of sexual assault, starting with high testosterone levels that are typically associated with all of the above characteristics of highly active sexual lives and heightened sexual drive), it is substantial and seems impossible to overlook in the context of motivational theories.

An obsession with sex as a common trait in most sexual offenders would also render credible the idea of an association between promiscuity and sexual assault commission and would explain the research linking this particular trait and sexual crimes, oftentimes investigated from the perspective of psychopathic offenders (e.g., LeBreton et al., 2013; Langevin & Curnoe, 2011; Merdian, Wilson & Boer, 2009; Sheldon & Howitt, 2007; Hudson & Ward, 2000). Under GST, it would make sense for promiscuity to be a considerable stressor in one's life as it typically goes along with an insatiable sex drive. The implications of a promiscuous life are also numerous and complex, with for instance the needs to manage social interactions with various potential sexual partners at the same time and to selectively take part in events and activities that maximize chances of achieving sexual gratification. All of the above can understandably put a lot of pressure on one's mind, eventually leading to the experience of frustration, anger, anxiety, and/or depression even though the relationship can also work the other way around (e.g., Lankford, 2021; Bryden & Grier, 2011).

Irresponsibility

As part of the concept of psychopathy, irresponsibility (sometimes in association with impulsivity) is commonly identified as a characteristic that is salient in various offending populations (e.g., Edwards & Verona, 2016; Schimmenti et al., 2014; Andershed et al., 2008). In a

sample of 88 Italian adult males incarcerated for sexual offending, Somma and colleagues (2021) identified irresponsibility (measured by means of the Personality Inventory for DSM-5 [PID-5] irresponsibility scale) as a risk factor for general violence commission. It also bears mentioning that the latter association remained significant after the effect of psychopathy as a whole was controlled for, hence dissociating the respective effects of irresponsibility and the construct it is associated with.

In 2021, Ferretti and colleagues aimed to compare DSM-5 personality traits facets amongst three different types of offenders who either committed: a) sex crimes against children (see the conceptualization of Myers, Marrero & Herkov, 2005), b) property crimes (i.e., fraud, robbery), or c) crimes against the person (i.e., homicide, assault, or violence that was not sex-related). Results from this study indicated that sex offenders from this sample of Italian prisoners reported higher irresponsibility traits, relative to those who were imprisoned for property crimes. Additionally, higher irresponsibility traits were more likely to be a characteristic of child molesters than a characteristic of individuals who committed crimes against the person. Ultimately, the authors concluded that “the Irresponsibility facet might be specific to child molesters and can differentiate this group from offenders who have committed other crime types” (p. 1).

In light of the above results, irresponsibility could be envisioned as a trait facilitator of sexual offences targeting children, as theorized by Ferretti and colleagues (2021). According to Seto's (2019) Motivation-Facilitation model of sexual offending, personality traits and states (e.g., intoxications) can facilitate acting on the primary motivations for sexual offences (e.g., high sex drive, paedophilic traits, a general obsession with sex) when situational opportunities exist (see Ferretti et al., 2021). As a result, it can legitimately be hypothesized that irresponsibility is a feature

common to many sexual assaulters and not only those who target children.

In terms of the potential for irresponsibility to generate negative emotions, it appears that very little research has been conducted on this personality trait specifically. However, within the greater realm of research on psychopathy (for which irresponsibility is one of the most salient defining characteristics) and negative emotionality, irresponsibility and for instance angry hostility have been associated (Widiger, 1998). In an empirical test with a nonclinical sample (N = 419) of the triarchic model of psychopathy (see Patrick & Drislane, 2015; Patrick, Fowles & Krueger, 2009), Fanti and colleagues (2016) identified the dimension of *disinhibition* (i.e., “the behavioral deficits associated with psychopathy, including tendencies toward impulsivity, weak restraint, focus on immediate gratification, and impaired regulation of affect or behavior”; Fanti et al., 2016, p. 1) as characterized by anxiety and irresponsible tendencies.

Research on substance use and psychopathic features also revealed that the impulsive-irresponsible facet of psychopathy significantly gradually predicts anxiety symptoms and alcohol and marijuana use-related problems (Gillen, Barry & Bater, 2016). The latter findings thus suggest that individuals scoring high in the impulsive-irresponsible domain of psychopathy may be subject to heightened anxiety which they possibly try to combat through (illegal?) substance use. This view is consistent with GST when irresponsibility is envisioned as a psychological stressor.

Under GST, it thus appears plausible for irresponsibility to be a significant psychological strain in one's life. By for instance increasing the risk of putting the self or others at risk, irresponsibility can generate anxiety which in turn can facilitate engagement in criminal activities. Such a pathway leading to crime commission would explain the now growing research linking irresponsibility to the psyche of sexual (e.g., Petruccelli et al., 2017; Seto, 2005) and non-sexual

offenders (e.g., Adhiatma & Halim, 2016). Research on conscientiousness, a psychological construct opposite to that of irresponsibility, also revealed that sexual assaulters report low levels of conscientiousness (Dennison, Stough & Birgden, 2001), hence providing cross-construct support to the idea that irresponsibility is, one way or another (strain?), related to individuals' decision to engage in sex crimes.

Sexual Sensation-Seeking

Directly related to psychopathy in the sense that psychopathic individuals are frequently referred to as pathological sensation-seekers (Zuckerman, Buchsbaum & Murphy, 1980; Quay, 1965), sensation-seeking appears to be at the core of the course of actions of people high in psychopathy. This characteristic applies to many life domains and naturally applies to these individuals' sexual lives as well (e.g., Cardona et al., 2020; Myers et al., 2010).

In the literature, numerous scholars associated sexual sensation-seeking and risky sexual behaviours, to the points that sexual sensation-seeking and sexual compulsivity scales have been developed to investigate HIV risk behaviours (Kalichman & Rompa, 1995; Kalichman et al., 1994). Various scholars identified the above scales as valid, reliable, consistent, time-stable, and useful for the prediction of involvement in behaviours at-risk for HIV transmission (e.g., Santos-Iglesias et al., 2018; Hammelstein, 2005; Gaither & Sellbom, 2003), hence also indicating that measures of the experience of STD/I can be related to one's sexual sensation-seeking tendencies.

Overall, sexual sensation-seeking amongst psychopathic individuals could have the same causes and effects as promiscuity in one's life. Sexual sensation-seeking could very well be the result of a pathological obsession with sex or a consequence of the experience of sexual

deprivation. Arguably, the pathological obsession with sex argument may seem more likely given prior research evidencing a salient proneness of sensation-seeking in sexaholics (i.e., non-paraphilic sex addicts) and of compulsive sexual behaviour disorder in sex offenders, relative to non-sexual offenders (Efrati, Shukron & Epstein, 2019). In both instances, however, sexual sensation-seeking has the potential to generate intense frustration and anger and deeply impact one's decision-making. In cases of extreme deprivation or failure to meet one's sexual goals, individuals could be forced to select activities that offer higher chances of satisfying those needs, potentially causing severe disruptions in social interactions patterns and facilitating sexual assault commission.

Summary

Sexual assault is a particularly difficult social issue to understand, predict, and combat. Looking at the available statistics on sexual assault, there are two obvious observations to make: the vast majority of the victims of sexual assault are women and the vast majority of sexual assaulters are men. For the victims, sexual assault is often associated with psychological distress, emotional turmoil, and physical traumas. In developed societies, the prevalence of sexual assault can greatly vary depending on various factors but unfortunately, astonishingly high rates of unreported sexual crimes are a worldwide problem (Jaitman & Anauati, 2020).

In the criminology literature, numerous explanations have been adduced to explain the phenomenon of sexual assault. Although backed up by a plethora of research evidencing its good predictive ability when it comes to crime commission, General Strain Theory (GST; Agnew, 1992, 2001, 2006, 2013, 2017) surprisingly has never really been applied to sex crimes (see Ackerman

& Sacks, 2012). This lack of application of GST to sexual crimes is even more shocking given the fact that numerous strains have, independently, been put in relation to both negative emotionality (e.g., Jouriles et al., 2014; Maniglio, 2010; Briere & Runtz, 1988) and sexual crimes (e.g., Jennings et al., 2014; Seto, 2008).

Although GST traditionally emphasizes ecological strains, it has previously been demonstrated that multidisciplinary theoretical integration can be beneficial to GST when the incorporation of dispositional factors is coherent with the initial objectives of the theory and its central concepts (see Stogner, 2011, 2014). Because of their potential impact on one's daily functioning and negative emotionality (e.g., LeBreton et al., 2013; Langevin & Curnoe, 2011; Merdian, Wilson & Boer, 2009; Sheldon & Howitt, 2007), as well as their characteristics which, for many of them, match the description made by Agnew (2017) of strains most likely to lead to crime, many personality traits can be considered life stressors. This view of personality traits as psychological strains appears particularly justified given past research identifying sex offenders' psyche and decision-making as intrinsically related to a variety of personality traits (e.g., Petruccelli et al., 2017). Amongst the personality traits of interest, research has evidenced the saliency of promiscuity, irresponsibility, and sexual sensation-seeking in sex offenders (e.g., Petruccelli et al., 2017; Seto, 2005). Consequently, incorporating relevant psychological strains in a GST-based model of sexual assault perpetration could enhance the model's fitness and predictive ability.

CHAPTER 5

METHODOLOGY

This chapter presents the methodology used in this dissertation. It includes the following sections: a) Dissertation Design, b) ACHA-NCHA IIc Population and Sampling, c) Procedures, d) Data Analyses, and e) Measures.

Dissertation Design and Hypotheses

This dissertation involved a secondary analysis of American College Health Association – National College Health Assessment (ACHA-NCHA) IIc datasets and did not include new data collection on any human subjects. ACHA-NCHA IIc datasets for the Fall 2015, Fall 2016, Fall 2017, and Fall 2018 academic semesters have been used. Data access was granted in October of 2022 by ACHA's chief research officer and The University of Texas at Dallas' Institutional Review Board approved this dissertation in November of 2022. There was no contact made between the researcher and participants and the datasets used were cross-sectional and had no personal identifiers.

In using datasets provided by the American College Health Association, it is assumed that: a) all participants responded honestly and to the best of their knowledge notwithstanding recall biases can be associated with self-report surveys, and b) data were recorded accurately by the ACHA-NCHA representatives.

The purpose of this dissertation is twofold. First, it tests whether GST provides an adequate theoretical explanation for sexual assault perpetration by testing the associations between strains, negative emotions, and sexual assault commission.

Second, it compares the model fit of GST to that of a revised version of GST that incorporates measures of personality traits, both with a focus on sexual assault commission. Associations between “psychological strains”, negative emotions, and sexual assault have also been examined.

Two studies corresponding to the dual purposes just outlined were conducted. Study one aimed to answer the question of whether GST provides an adequate theoretical framework for sexual assault. Independent variables for this part were an ensemble of three measures of negative emotions (anger, depression, and anxiety), nine measures of strains (stress, social isolation, victimization: physical, victimization: sexual, aesthetic dissatisfaction, financial difficulties, personal health difficulties, academic/work difficulties, and family/peers/romantic partners difficulties), and four controls (age, sex, race, and alcohol consumption).

Study two aimed to test whether the fitness of GST as applied to sexual assault could be enhanced through the incorporation of personality traits referred to as “psychological strains”. The goal of this second study was to check if and to what extent the inclusion of three psychological strains (promiscuity, irresponsibility, and sexual sensation-seeking) in addition to all the independent variables and controls present in the first study improved the model fit. Specifically, hypotheses (H) regarding both dissertation objective are listed below.

H₁: Strains will be significantly associated with sexual assault perpetration (studies one and two).

H₂: Negative emotions will be significantly associated with sexual assault perpetration (studies one and two).

H₃: Negative emotions will mediate the relationship between significant strains and sexual assault perpetration (studies one and two).

H₄: The GST-based model will provide a good fit for data on sexual assault perpetration (study one).

H₅: Psychological strains will be significantly associated with sexual assault perpetration (study two).

H₆: The psychologically-informed GST model will provide a better fit for data on sexual assault perpetration than the GST-based model (study two).

ACHA-NCHA IIc Population and Sampling

The ACHA-NCHA II is a national research survey organized by the American College Health Association (ACHA). ACHA first introduced the original survey in 2000 and following its nationwide use through the spring 2008 data collection period, the survey was revised in 2008 (American College Health Association-National College Health Assessment II, 2019). Survey reliability and validity have been demonstrated using various statistical procedures, approaches, and nationally representative databases (American College Health Association-National College Health Assessment, 2014).

More recently, a third version which is not a mere revision of the instrument has been

released and is used by partnered colleges since Fall 2019. Importantly, trend comparisons between items from different versions is not appropriate (American College Health Association-National College Health Assessment II, 2019). In other words, answers to items can only be compared within ACHA-NCHA versions.

Version IIc of the ACHA-NCHA asks respondents to self-report and answer a total of 66 questions on the habits, behaviours, and perceptions of prevalent health topics (American College Health Association-National College Health Assessment II, 2016, 2017, 2018, 2019). Response categories are as follow: 1) Health, Health Education, and Safety, 2) Alcohol, Tobacco, and Drugs, 3) Sex Behavior and Contraception, 4) Weight, Nutrition, and Exercise, 5) Mental Health, 6) Physical Health, 7) Impediments to Academic Performance, and 8) Demographic Characteristics.

Since this dissertation involved secondary analyses and thus did not require new participants recruitment, the maximum number of participants has already been established. There were 19,861 undergraduate and graduate respondents in Fall 2015, 33,512 in Fall 2016, 31,463 in Fall 2017, and 26,181 in Fall 2018. The maximum number of participants prior to listwise deletion of cases (see Table 5.1) was thus $N = 111,017$.

At the time of data collection, participants were all at least 18 years of age and were informed that they had the option to not participate in the survey. Students who chose to participate in the original study were informed they could choose not to answer a specific question(s) and could skip any question. Data were collected through online ($n = 107,878$) and paper ($n = 3,139$) surveys.

Table 5.1. Missing values (full dataset – $N = 111,017$)

	Missing cases (%)	N/A ¹ (Cases - %)	N/A cases decision
<i>Dependent Variable</i>			
Sexual assault	1,834 (2%) ²	Don't drink (31,148 - 28%)	Deletion
<i>Independent variables (study one)</i>			
Anger	2,277 (2%)	-	-
Depression	3,062 (3%)	-	-
Anxiety	2,121 (2%)	-	-
Stress	1,751 (2%)	-	-
Social isolation	2,145 (2%)	-	-
Victimization: physical	3,134 (3%)	-	-
Victimization: sexual	2,927 (3%)	-	-
Aesthetic dissatisfaction	2,210 (2%)	-	-
Financial difficulties	2,439 (2%)	-	-
Personal health difficulties	2,244 (2%)	-	-
Academic/Work difficulties (composite measure)			
Academics	2,190 (2%)	-	-
Career-related issue	2,256 (2%)	-	-
Family/Peers/Romantic partners difficulties (composite)			
Death of family member or friend	2,203 (2%)	-	-
Family problem	2,383 (2%)	-	-
Intimate relationship	2,144 (2%)	-	-
Other social relationship	2,263 (2%)	-	-
Health problem of a family member or partner	2,416 (2%)	-	-

Controls

Age	2,870 (3%)	-	-
Biological sex	1,839 (2%)	-	-
Race	0 (0%)	-	-
Alcohol consumption	1,819 (2%)	Don't drink (28,027 – 25%)	Deletion ³
<i>Independent variables (study two)</i>			
Promiscuity	3,521 (3%)	-	-
Irresponsibility	1,765 (2%)	Don't drink (25,059 – 23%) Don't drive (19,708 – 18%)	Deletion of “don't drink” cases ³ No deletion of “don't drive” cases ⁴
Sexual sensation-seeking	2,845 (3%)	-	-

Notes.

¹ N/A cases refer to cases with answers that are not of interest for the purposes of this dissertation. For instance, the variable “sexual assault” refers to acts committed whilst intoxicated with alcohol. Cases where respondents answered “N/A, don't drink” to that question have been excluded.

² Many missing values for this item were accompanied by missing values for other items of interest. The deletion of these cases was inconsequential for a potential loss of information or statistical power (see Dong & Peng, 2013, Bennett, 2001 for the consequences of deleting cases for variables with less than 5% of missing values). Listwise deletion has been applied to all cases with missing values because those represented less than 5 % of the overall sample.

³ Most N/A cases for this item matched the N/A cases of the “sexual assault” item.

⁴ Deleting these cases would have greatly reduced the statistical power of the analyses presented in this dissertation. To avoid losing too much information for these cases, the “don't drive” answers have been kept for the analyses.

Procedures

For the purposes of this dissertation, the following steps have been performed to conduct secondary analyses on ACHA-NCHA's Fall 2015, Fall 2016, Fall 2017, and Fall 2018 IIc datasets.

ACHA-NCHA IIc Data Collection

Per ACHA regulations, in order to access ACHA-NCHA IIc datasets for the selected time periods, investigators must have ACHA membership and submit a formal data request form. Following membership obtention, the data request form was completed, submitted, and approved. Consequently, ACHA provided the requested datasets that were completely anonymous and already cleaned and organized for each survey question to the researcher.

Preliminary Data Management

First, datasets have been further cleaned through listwise deletion of missing cases for the items of interest. Missing cases for all those items respectively represented less than five percent of the sample so the deletion of these cases was inconsequential for a potential loss of information or statistical power (see Dong & Peng, 2013, Bennett, 2001). Table 5.1 includes the number of missing values for each item of interest, as well as the number of N/A cases (e.g., answer “don't drink” to the question “Within the last 12 months, have you experienced any of the following when drinking alcohol: Had sex with someone without their consent?”) and the decision that has been made regarding the best way to treat those cases. As a result of this series of listwise deletion of cases, the number of participants for this dissertation dropped to $N = 68,989$ (62% of the initial sample).

Second, frequencies and descriptive analyses have been conducted on all measures of interest and decisions have been made regarding how to treat such variables. In particular, the methodological decision to dichotomize some scaled items (“depression”, “victimization: physical”, “victimization: sexual”, “promiscuity”, and “sexual sensation-seeking”) has been made

because of the skewness of the distribution of these items. Additionally, composite measures (Family/Peers/Romantic Partner difficulties and Academic/Work difficulties) have been created based off several measured items.

Secondary Data Management and Preliminary Analyses

Following the computation of new variables, new frequencies and descriptive analyses have been conducted to look at the distribution of the variables of interest. Table 5.2 summarizes the later analyses. Importantly, it emerged from those analyses that the distribution of the dependent variable “sexual assault” was extremely imbalanced. More specifically, the majority group (the “No sex offender” group, $n = 68,807$) represented 99.7 percent of the studied sample whereas the minority group (the “sex offender” group, $n = 182$) was severely under-represented.

In light of the imbalanced distribution of the dependent variable “sexual assault”, comparisons between the majority ($n = 68,807$) and minority ($n = 182$) groups have been conducted. Results from independent t-test analyses evidenced that the majority and minority groups significantly differed on the majority of the independent variables and controls tested. It also bears mentioning that in many instances, Levene’s tests indicated unequal variances so degrees of freedom have been adjusted accordingly. Results from those independent t-test analyses are further detailed in Chapter 6 under the “preliminary analyses” section.

Table 5.2. Frequencies ($N = 68,989$)

	% ^{1,2}	N	Min – Max
<i>Dependent Variable</i>			
Sexual assault	.3%	182	0 – 1
<i>Independent variables (study one)</i>			
Anger			1 – 5
“1” - No, never	34.7%	23,968	
“2” - No, not in the last 12 months	22.7%	15,665	
“3” - Yes, in the last 12 months	19.1%	13,146	
“4” - Yes, in the last 30 days	9.6%	6,655	
“5” - Yes, in the last 2 weeks	13.9%	9,555	
Depression	32.6%	22,471	0 – 1
Anxiety			1 – 5
“1” - No, never	24.5%	16,880	
“2” - No, not in the last 12 months	12.2%	8,396	
“3” - Yes, in the last 12 months	19.8%	13,646	
“4” - Yes, in the last 30 days	14.1%	9,708	
“5” - Yes, in the last 2 weeks	29.5%	20,359	
Stress			1 – 5
“1” - No stress	.9%	610	
“2” - Less than average stress	5.8%	3,969	
“3” - Average stress	33.6%	23,187	
“4” - More than average stress	46.9%	32,350	
“5” - Tremendous stress	12.9%	8,873	
Social isolation (loneliness)			1 – 5
“1” - No, never	18.8%	12,950	
“2” - No, not in the last 12 months	17.8%	12,291	
“3” - Yes, in the last 12 months	21.0%	14,471	
“4” - Yes, in the last 30 days	13.6%	9,386	
“5” - Yes, in the last 2 weeks	28.8%	19,891	
Victimization: physical	3.2%	2,213	0 – 1
Victimization: sexual	5.5%	3,806	0 – 1
Aesthetic dissatisfaction	30.0%	20,692	0 – 1
Financial difficulties	35.8%	24,683	0 – 1
Personal health difficulties	22.4%	15,423	0 – 1
Academic/Work difficulties (composite)			2 – 4

“2” - No A/W difficulties	45.8%	31,566	
“3” - Average A/W difficulties	31.8%	21,914	
“4” - Tremendous A/W difficulties	22.5%	15,509	
Family/Peers/Romantic partners difficulties (composite)			5 – 10
“5” - No F/P/RP difficulties	39.4%	27,213	
“6” - Minor F/P/RP difficulties	23.0%	15,874	
“7” - Moderate F/P/RP difficulties	18.0%	12,427	
“8” - Serious F/P/RP difficulties	11.3%	7,764	
“9” - Major F/P/RP difficulties	5.8%	4,035	
“10” - Tremendous F/P/RP difficulties	2.4%	1,676	
<i>Controls</i>			
Age (categories)			1 – 3
“1” - 18 & 19 y.o	30.2%	20,813	
“2” - 20 & 21 y.o	32.9%	22,664	
“3” - 22+ y.o	37.0%	25,505	
Biological sex ³	68.9%	47,541	0 – 1
Race ⁴			
White	75.3%	51,928	0 – 1
Black	6.0%	4,168	0 – 1
Hispanic or Latino/a	10.8%	7,424	0 – 1
Asian	9.5%	6,526	0 – 1
Native American	2.0%	1,373	0 – 1
Multiracial	3.9%	2,715	0 – 1
Other	2.0%	1,354	0 – 1
Alcohol consumption (choose not to drink)			2 – 6
“2” Never	13.0%	8,957	
“3” Rarely	24.7%	17,023	
“4” Sometimes	42.4%	29,281	
“5” Most of the time	18.4%	12,697	
“6” Always	1.5%	1,031	
<i>Independent variables (study two)</i>			
Promiscuity (categories)			0 – 3
“0” - 0 sex partner	22.7%	15,686	
“1” - 1 sex partner	47.3%	32,617	
“2” - 2 sex partners	11.4%	7,881	
“3” - 3+ sex partners	18.6%	12,804	

Irresponsibility (drive after drinking)			0 – 2
“1” - Don't drive	16.7%	11,546	
“2” - No	81.9%	56,522	
“3” - Yes	1.3%	921	
Sexual sensation-seeking	2.3%	1,612	0 – 1

Notes.

¹ Percentage, number of cases, minimum and maximum.

² Reported percentages for dichotomized variables refer to the portion of “YES” or “1” cases/answers.

³ Percentage and number of cases presented are for the referent biological sex: females (coded as “0”).

⁴ Participants had the possibility to check all answers that applied (e.g., Asian + Native American + Multiracial).

Importantly, several methodological options have been considered by the researcher to account for the imbalance between the majority ($n = 68,807$) and minority ($n = 182$) groups. Indeed, not accounting for the imbalance in the dependent variable's distribution is generally synonymous of poor statistical model performance (see Fernández et al., 2018; Yu et al., 2018). The possibility of using sampling strategies (random under-sampling, random over-sampling) at the data level or statistical analyses taking into account such imbalance in the dependent variable's distribution (zero-inflated negative binomial regression) have been considered.

Ultimately, the researcher decided to opt for a random under-sampling strategy. In statistics, random under-sampling is a strategy used to reduce imbalance in a dataset. It involves the preservation of data from the minority class/group and the random deletion of cases from the majority group. As a result, the size of the majority class is reduced whereas the size of the minority class is preserved, hence correcting the imbalance in the distribution. The adoption of a class balance ratio is important as it has multiple consequences for the model performance as well as the loss/preservation of information. In many instances, attaining a 50:50 class ratio provides

adequate model performance (see for instance Hasanin & Khoshgoftaar, 2018), but sometimes it is most appropriate to not discard too much of the majority group and not perfectly balanced class ratios are thus used (see for instance Prusa et al., 2015).

The rationale for using a random under-sampling strategy over random over-sampling strategy is twofold. First, it appeared more appropriate to randomly select a lower number of cases from the majority group rather than artificially increasing the number of cases from the minority group by duplicating these cases until reaching a more appropriate group balance. This is particularly important since the purpose of this paper is to test a theory as applied to rare events (0.3% of all cases here) and duplicating these events as part of a random over-sampling strategy may undermine the rarity and unicity of these events. Second, in the field of criminology and criminal justice, some scholars have compared statistical performances of the two approaches. In 2022, Trinhammer and colleagues compared random under- and over-sampling in the context of risk-assessments conduction and future forensic psychiatric patients identification. In the latter study, the desired (and achieved) class balance for random under- and over-sampling respectively were 50:50 and 95:5. Ultimately, the authors concluded that random under-sampling was the best performing sampling strategy for all the models they tested.

In their 2022 study, Trinhammer and colleagues worked with a sample of 45,720 patients where the majority group ($n = 45,246$, 99%) and the minority group ($n = 474$, 1%) were very imbalanced. They were able to achieve a ratio of 50:50 as part of their random under-sampling strategy that enhanced model performance without losing too much information from excluded cases from the majority group (1% of the cases from the majority group have been kept). However, their minority group was roughly thrice that of the minority group used for the purposes of this

dissertation ($n = 182$) and their majority group was also 34 percent smaller than the one used in this dissertation ($n = 68,807$). Consequently, achieving a 50:50 ratio for this dissertation was deemed very unlikely to enhance model performance in this case as only 0.3 percent of the majority group's cases would have been included. The loss of information from the majority group would have also been too important.

For all those reasons, the methodological choice has been made to not have a perfectly balanced ratio of cases (which is not uncommon in other fields; see for instance Prusa et al., 2015) for the purposes of this dissertation and a ratio of 87:13 has been adopted. As a result, 1,200 cases from the majority group (i.e., 1.8%) have been randomly selected, leading the final sample for this dissertation to be $N = 1,382$. Following the conduction of independent t-test analyses, it could be stated that there was no statistically significant difference between the full majority group and the randomly selected under-sample for any of the independent variables and controls tested. Descriptive and multicollinearity statistics of the random under-sample are available in Table 5.3. From the multicollinearity tests and the resulting VIF values that are presented in Figure 5.3, it can be said that multicollinearity was not a concern in this dissertation.

Table 5.3. Frequencies after random under-sampling ($N = 1,382$) and multicollinearity statistics

	% ^{1,2}	N	Min – Max	VIF
<i>Dependent Variable</i>				
Sexual assault	13.2%	182	0 – 1	-
<i>Independent variables (study 1)</i>				
Anger			1 – 5	1.73
“1” - No, never	31.7%	438		
“2” - No, not in the last 12 months	23.2%	321		
“3” - Yes, in the last 12 months	19.0%	262		

“4” - Yes, in the last 30 days	9.3%	129		
“5” - Yes, in the last 2 weeks	16.8%	232		
Depression	34.4%	476	0 – 1	1.52
Anxiety			1 – 5	2.10
“1” - No, never	23.2%	320		
“2” - No, not in the last 12 months	12.7%	176		
“3” - Yes, in the last 12 months	19.5%	270		
“4” - Yes, in the last 30 days	13.3%	184		
“5” - Yes, in the last 2 weeks	31.3%	432		
Stress			1 – 5	1.50
“1” - No stress	1.3%	18		
“2” - Less than average stress	5.6%	78		
“3” - Average stress	32.9%	455		
“4” - More than average stress	45.9%	635		
“5” - Tremendous stress	14.2%	196		
Social isolation (loneliness)			1 – 5	1.66
“1” - No, never	17.9%	247		
“2” - No, not in the last 12 months	19.1%	264		
“3” - Yes, in the last 12 months	19.0%	262		
“4” - Yes, in the last 30 days	12.5%	173		
“5” - Yes, in the last 2 weeks	31.5%	436		
Victimization: physical	5.6%	77	0 – 1	1.81
Victimization: sexual	9.2%	127	0 – 1	1.77
Aesthetic dissatisfaction	31.3%	432	0 – 1	1.44
Financial difficulties	39.0%	539	0 – 1	1.39
Personal health difficulties	25.3%	350	0 – 1	1.45
Academic/Work difficulties (composite)			2 – 4	1.61
“2” - No A/W difficulties	42.6%	589		
“3” - Average A/W difficulties	32.8%	453		
“4” - Tremendous A/W difficulties	24.6%	340		
Family/Peers/Romantic partners difficulties (composite)			5 – 10	1.71
“5” - No F/P/RP difficulties	36.5%	505		
“6” - Minor F/P/RP difficulties	23.4%	324		
“7” - Moderate F/P/RP difficulties	18.7%	258		
“8” - Serious F/P/RP difficulties	11.7%	162		
“9” - Major F/P/RP difficulties	5.6%	77		
“10” - Tremendous F/P/RP difficulties	4.1%	56		

Controls

Age (categories)			1 – 3	1.09
“1” - 18 & 19 y.o	29.1%	402		
“2” - 20 & 21 y.o	32.9%	454		
“3” - 22+ y.o	38.1%	526		
Biological sex ³	68.4%	945	0 – 1	1.12
Race ⁴				
White	74.4%	1,028	0 – 1	2.21
Black	8.2%	114	0 – 1	1.55
Hispanic or Latino/a	10.1%	140	0 – 1	1.28
Asian	10.6%	147	0 – 1	1.61
Native American	2.4%	33	0 – 1	1.07
Multiracial	4.3%	60	0 – 1	1.10
Other	1.8%	25	0 – 1	1.07
Alcohol consumption (choose not to drink)			2 – 6	1.09
“2” Never	13.0%	179		
“3” Rarely	27.3%	377		
“4” Sometimes	42.0%	580		
“5” Most of the time	15.2%	210		
“6” Always	2.6%	36		

Independent variables (study 2)

Promiscuity (categories)			0 – 3	1.19
“0” - 0 sex partner	19.3%	267		
“1” - 1 sex partner	47.2%	652		
“2” - 2 sex partners	11.5%	159		
“3” - 3+ sex partners	22.0%	304		
Irresponsibility (drive after drinking)			0 – 2	1.10
“1” - Don't drive	15.9%	220		
“2” - No	81.0%	1,120		
“3” - Yes	3.0%	42		
Sexual sensation-seeking	5.6%	78	0 – 1	1.45

Notes.

¹ Percentage, Number of cases, Minimum and Maximum.

² Reported percentages for dichotomized variables refer to the portion of “YES” or “1” cases/answers.

³ Percentage and number of cases presented are for the referent sex: females (coded as “0”).

⁴ Participants had the possibility to check all answers that applied (e.g., Asian + Native American + Multiracial).

Data Analyses

In addition to the preliminary analyses described earlier and in line with the objectives of this dissertation, two distinct studies have been conducted. The first one (referred to as study one) aimed to answer the question of whether General Strain Theory provides an adequate theoretical framework for sexual assault. Independent variables for this part were an ensemble of three measures of negative emotions (anger, depression, and anxiety), nine measures of strains (stress, social isolation, victimization: physical, victimization: sexual, aesthetic dissatisfaction, financial difficulties, personal health difficulties, academic/work difficulties, and family/peers/romantic partners difficulties), and four controls (age, sex, race, and alcohol consumption). The operationalization of these measures as well as the rationale for their management have been described in the “measures” section of this chapter.

As per the second study (referred to as study two), it aimed to test whether the fitness of GST could be enhanced through the incorporation of personality traits referred to as “psychological strains”. The goal of this second study was to check if and to what extent the inclusion of three psychological strains (promiscuity, irresponsibility, and sexual sensation-seeking) in addition to all the independent variables and controls present in the first study increased the model fit.

Naturally, both studies are driven by differing research aims but they also look at the same outcome: sexual assault commission. Because this outcome is dichotomized, binary logistic regressions have been conducted to investigate the associations between sexual assault commission and the various independent variables included in the models for studies one and two. It bears mentioning that random under-sampling (sampling strategy to account for the imbalanced

distribution of the dependent variable) coupled with binary logistic regressions was the option preferred to a statistical analysis that would have also accounted for such imbalance: zero-inflated negative binomial regression. It is precisely because of the dichotomized nature of the dependent variable sexual assault that the option of using zero-inflated negative binomial regressions, which is a type of statistical analysis more suited for the investigation of count data, has not been kept.

Given the nature of the data at hand, as well as the choice to compute binary logistic regressions, the decision has been made to rely on Hosmer-Lemeshow tests to compare the goodness of fit of the two models (purpose of study two). Such tests frequently appear in risk prediction models (e.g., Karres et al., 2015). In essence, the Hosmer-Lemeshow goodness-of-fit compares event rates (observed versus expected) for subgroups of the data. Calibration is the measure of the “match” between observed and expected rates. The greater the similarity between observed and expected event rates, the greater the calibration. Put simply, a significant outcome for the Hosmer-Lemeshow test (i.e., large Chi-squared value and small/significant p-value < .05) indicates a lack of fit. Inversely, low Chi-squared values and high p-values indicate greater fit. Accordingly, prediction performances of models can be directly tested and model comparisons can easily be conducted (see Karres et al., 2015).

In Agnew's (1992, 2001, 2006, 2013, 2017) conceptualization of GST, the effect of strains on criminal behaviours are theoretically mediated by the experience of negative emotions. It is because being subjected to some strains in life lead individuals to feel in a certain way (i.e., the experience of negative emotions) that these individuals engage in various coping mechanisms, including law-breaking behaviours. To account for this theoretical tri-partite model, mediation

analyses (see Baron & Kenny, 1986; Preacher & Hayes, 2004) investigating direct (strain/control → sexual assault) and indirect (strain/control → negative emotion; negative emotion → sexual assault) effects have been performed for all investigated strains, psychological strains, negative emotions, and control variables. Importantly though, for mediation analyses to be conducted with binary outcomes, several precautions must be taken as the nature of categorical dependent variables can impact estimations of direct and indirect effects (for a successful implementation and a greater discussion, see Feingold, MacKinnon & Capaldi, 2019). Mediation analyses have thus been performed in line with the recommendations of Hayes and Preacher (2014) and Preacher and Hayes (2008).

Measures

This section provides information regarding the variables used and the way they have been treated, as well as the rationale for the creation of composite variables, in this paper. This section is divided into three parts: the dependent variable, independent variables, and controls for study one, and independent variables for study two where all the independent variables and controls from the first study are reused. Frequencies for all these variables are available in Table 5.2.

Dependent Variable

Sexual assault perpetration was measured as the answer to the question “Within the last 12 months, have you experienced any of the following when drinking alcohol: Had sex with someone without their consent?”.

Independent Variables (Study One)

Several independent variables were included in the analyses. In total, there were three measures of negative emotions, nine measures of strains, and four controls.

Anger. Anger was measured through the question “Have you ever: felt overwhelming anger?”. Respondents provided answers on the following Likert scale: “1” No, never; “2” No, not in the last 12 months; “3” Yes, in the last 12 months; “4” Yes, in the last 30 days; “5” Yes, in the last 2 weeks. The skewness of the distribution for anger was found to be .51, indicating that the distribution was right-skewed but did not exceed the acceptable range $[-1; 1]$ as identified by Hair et al., 1998, 2017) so no further manipulation (i.e., dichotomization) of the measure was needed.

Anxiety. Anxiety was measured in the same way as anger, with a similar Likert scale and a question this time asking about overwhelming anxiety. The skewness of the distribution was .03.

Depression. Depression was measured by means of the question “Within the last 12 months, have any of the following affected your academic performance: depression?”. Answers were provided on the following scale: “1” This did not happen to me/not applicable; “2” I have experienced this issue but my academics have not been affected; “3” Received a lower grade on an exam or important project; “4” Received a lower grade in the course; “5” Received an incomplete or dropped the course; “6” Significant disruption in thesis, dissertation, research, or practicum work. An analysis of the skewness of the distribution revealed that the distribution was very right-skewed (Skew = 1.96). This measure has thus been dichotomized into two groups: no

depression (“1” responses on the initial Likert scale) and depression (responses “2”, “3”, “4”, “5”, and “6”).

Stress. Stress was measured through the question “Within the last 12 months, how would you rate the overall level of stress you have experienced?”. Answers were provided on the following scale: “1” No stress; “2” Less than average stress; “3” Average stress; “4” More than average stress; “5” Tremendous stress. The skewness of the distribution was -.34.

Social isolation. Social isolation was a measure of loneliness and was the answer provided to the question “Have you ever: Felt very lonely?”. Possible answers were: “1” No, never; “2” No, not in the last 12 months; “3” Yes, in the last 12 months; “4” Yes, in the last 30 days; “5” Yes, in the last 2 weeks. The skewness of the distribution was .05.

Victimization: physical. Physical victimization was measured through the question “Within the last 12 months, have any of the following affected your academic performance: assault (physical)?”. Answers were provided on the following scale: “1” This did not happen to me/not applicable; “2” I have experienced this issue but my academics have not been affected; “3” Received a lower grade on an exam or important project; “4” Received a lower grade in the course; “5” Received an incomplete or dropped the course; “6” Significant disruption in thesis, dissertation, research, or practicum work. An analysis of the skewness of the distribution revealed that the distribution was extremely right-skewed (Skew = 9.65). This measure has thus been dichotomized into two groups: no physical victimization (“1” responses on the initial Likert scale) and physical victimization (responses “2”, “3”, “4”, “5”, and “6”).

Victimization: sexual. Sexual victimization was measured through the question “Within the last 12 months, have any of the following affected your academic performance: assault (sexual)?”. Answers were provided on the following scale: “1” This did not happen to me/not applicable; “2” I have experienced this issue but my academics have not been affected; “3” Received a lower grade on an exam or important project; “4” Received a lower grade in the course; “5” Received an incomplete or dropped the course; “6” Significant disruption in thesis, dissertation, research, or practicum work. An analysis of the skewness of the distribution revealed that the distribution was extremely right-skewed (Skew = 6.90). This measure has thus been dichotomized into two groups: no sexual victimization (“1” responses on the initial Likert scale) and sexual victimization (responses “2”, “3”, “4”, “5”, and “6”).

Aesthetic dissatisfaction. Aesthetic dissatisfaction was measured by means of the question “Within the last 12 months, have any of the following been traumatic or very difficult for you to handle: personal appearance?”. Participants answered “yes” or “no” to that question.

Financial difficulties. The measure of financial difficulties was measured through the question “Within the last 12 months, have any of the following been traumatic or very difficult for you to handle: finances?”. Participants answered “yes” or “no” to that question.

Personal health difficulties. The measure of personal health difficulties was measured through the question “Within the last 12 months, have any of the following been traumatic or very difficult for you to handle: finances?”. Participants answered “yes” or “no” to that question.

Academic/Work difficulties. A/W difficulties was a composite measure based off NO/YES answers (respectively coded as “1” and “2” in the original datasets) to the two following questions: “Within the last 12 months, have any of the following been traumatic or very difficult for you to handle: academics?” and “Within the last 12 months, have any of the following been traumatic or very difficult for you to handle: career-related issue?”. The decision to combine these two questions into a single measure has been made because emotional and psychological consequences of such difficulties are likely to be the same as they revolve around the notions of troubled present and uncertain past. Furthermore, school- and work-related stress are commonly investigated under the same lens in empirical research (see for instance Jogaratnam & Buchanan, 2004). Values for this composite variable were the sum of answers to the two above items. There were thus three possible values (ranging from “2” to “4”) for this newly created measure: “2” No A/W difficulties; “3” Average A/W difficulties; “4” Tremendous A/W difficulties. The skewness of the distribution was .44.

Family/Peers/Romantic Partners difficulties. F/P/RP difficulties was a composite measure based off NO/YES answers (respectively coded as “1” and “2” in the original datasets) to the five following questions: “Within the last 12 months, have any of the following been traumatic or very difficult for you to handle: death of a family member or friend?”, “Within the last 12 months, have any of the following been traumatic or very difficult for you to handle: family problems?”, “Within the last 12 months, have any of the following been traumatic or very difficult for you to handle: intimate relationships?”, “Within the last 12 months, have any of the following been traumatic or very difficult for you to handle: other social relationships?”, and “Within the last 12 months, have any of the following been traumatic or very difficult for you to handle: health

problem of a family member of partner?”. The decision to combine these five questions into a single measure has been made because some items already combine those different constructs in their initial formulation (death of a family member or friend, health problem of a family member or partner). Values for this composite variable were the sum of answers to the five above items. There were thus six possible values (ranging from “5” to “10”) for this newly created measure: “5” No F/P/RP difficulties; “6” Minor F/P/RP difficulties; “7” Moderate F/P/RP difficulties; “8” Serious F/P/RP difficulties; “9” Major F/P/RP difficulties; and “10” Tremendous F/P/RP difficulties. The skewness of the distribution was .87.

Age. Age as reported by respondents varied from 18 to 98 years old, with the mean age being 22.5 ($SD = 5.8$). In light of the dispersion of the age distribution, the decision has been made to group respondents into three age categories with a roughly equivalent number of respondents: “1” 18 & 19 years old; “2” 20 & 21 years old; and “3” 22+ years old. Frequencies and number of cases for each category are available in Table 5.2.

Biological Sex. Biological sex was coded as “0” for female and “1” for male.

Race. Data on race were collected by means of the question “How do you usually describe yourself?”. Respondents could select any of the following categories: a) White, b) Black, c) Hispanic or Latino/a, d) Asian or Pacific Islander, e) American Indian, Alaskan Native, or Native Hawaiian, f) Biracial or Multiracial, and g) Other. Respondents were also instructed to mark all the answers that applied, leading some respondents to check multiple responses (e.g., Asian +

Native American + Multiracial). In the datasets provided by ACHA, checked answers were coded as “1” whereas answers not selected were coded as “0”. Frequencies and number of cases for each category are available in Table 5.2.

Alcohol consumption. Alcohol consumption was measured through the question “During the last 12 months, when you "partied"/socialized, how often did you: choose not to drink?”. Controlling for alcohol consumption is relevant for the purpose of this dissertation because the dependent variable “sexual assault” asks about acts committed whilst intoxicated. Here, the “alcohol consumption” measure was coded inversely, with lowest scores meaning greater propensity to drink during socializing events. Answers to the above question were provided on the following Likert scale: “2” Never; “3” Rarely; “4” Sometimes; “5” Most of the time; and “6” always. Respondents also had the possibility to answer “1” Don't drink but those cases have been excluded from analyses as part of the process of listwise deletion of missing cases for the items of interest. The skewness of the distribution was -.164.

Independent Variables (Study Two)

In addition to all the above variables (negative emotions, strains, and controls), three additional “psychological strains” have been included in the analysis as part of study two. Those psychological strains are the following:

Promiscuity. Promiscuity was measured as the number of sexual partners within the last 12 months. Sexual partners referred to individuals with whom respondents engaged in oral sex, vaginal intercourse, or anal intercourse. The number of sexual partners as reported by respondents

varied from 0 to 90, with the mean being 1.7 ($SD = 2.9$). In light of the dispersion of the distribution as well as its skewness ($Skew = 10.05$), the decision has been made to group respondents into four categories: “0” 0 sex partners; “1” 1 sex partner; “2” 2 sex partners; and “3” 3+ sex partners. It also bears mentioning that the greater the category, the greater the promiscuity. Frequencies and number of cases for each category are available in Table 5.2.

Irresponsibility. Irresponsibility was measured with the question “Within the last 30 days, did you: Drive after drinking five or more drinks of alcohol?”. Respondents answered on the following Likert scale: “1” N/A, don't drive; “2” N/A, don't drink; “3” No; and “4” Yes. As part of the listwise deletion process, cases with “2” answers to this item have been deleted. However, since deleting the 11,546 cases with “1” (don't drive) answers would have been associated with great losses of information and statistical power for the dissertation, the methodological decision has been made to keep the “don't drive” cases for the analyses. Answers have however been recoded into the following categories: “0” Don't drive; “1” No; and “2” Yes. Frequencies and number of cases for each category are available in Table 5.2.

Sexual sensation-seeking. Sexual sensation-seeking was measured by means of the question “Within the last 12 months, have any of the following affected your academic performance: sexually transmitted disease/infection (STD/I)?”. The rationale for electing this measure as a reliable proxy for sexual sensation-seeking is based off prior research evidencing lower chances for (sexual) sensation-seekers to use contraceptive devices (e.g., Spitalnick et al., 2007; Gullette & Lyons, 2006; Arnold, Fletcher & Farrow, 2002) and thus greater chances of

experiencing STDs or STIs (see for instance Teva, Bermúdez & Buéla-Casal, 2010; Spitalnick et al., 2007). Answers for this item were provided on the following Likert scale: “1” This did not happen to me/not applicable; “2” I have experienced this issue but my academics have not been affected; “3” Received a lower grade on an exam or important project; “4” Received a lower grade in the course; “5” Received an incomplete or dropped the course; “6” Significant disruption in thesis, dissertation, research, or practicum work. An analysis of the skewness of the distribution revealed that the distribution was extremely right-skewed (Skew = 11.47). This measure has thus been dichotomized into two groups: non-sexual sensation-seekers (“1” responses on the initial Likert scale) and sexual sensation-seekers (responses “2”, “3”, “4”, “5”, and “6”).

CHAPTER 6

RESULTS

In this chapter, the quantitative results of the ACHA-NCHA IIc surveys for the Fall 2015, Fall 2016, Fall 2017, and Fall 2018 academic semesters will be presented, including how the use of the above datasets contributed to achieving the following research aims: 1) testing whether GST provides an adequate theoretical explanation for sexual assault perpetration by testing the associations between strains, negative emotions, and sexual assault commission, and 2) comparing the model fit of GST to that of a revised version of GST that incorporates measures of personality traits, both with a focus on sexual assault commission. This chapter is divided into the following sections: a) Preliminary Analyses and b) Primary Analyses.

Preliminary Analyses

The sample for this dissertation (after listwise deletion but prior to random under-sampling) consisted of 68,989 undergraduate and graduate respondents who attended higher education in various U.S. colleges. Respondents took the ACHA-NCHA IIc surveys during the Fall 2015, Fall 2016, Fall 2017, or Fall 2018 academic semesters.

Final Sample Characteristics

Frequencies, percentages, and range for categorical dependent, demographic, and independent variables for the final sample ($N = 1,382$ after the random under-sampling procedure) are outlined in Table 5.3.

The final sample included 945 biological women (68.4%) and 437 biological men (31.6%). The majority of participants (74.4%) self-reported as White and their age varied from 18 to 69 years old, with the mean age being 22.4 ($SD = 5.6$). To the question “During the last 12 months, when you "partied"/socialized, how often did you: choose not to drink?”, controlling for respondents' alcohol consumption for the purpose of this dissertation, the largest proportion of participants (42.0%) responded “sometimes” (the third possible response of a five points Likert scale).

Respondents from the final sample mostly self-reported no experience of depression (65.6%), physical (94.4%) and sexual (90.8%) victimization, aesthetic dissatisfaction (68.7%), and financial (61.0%) and personal health (74.7%) difficulties. The largest proportions of participants from the sample also self-reported never having experience overwhelming anger (31.7%), having experienced overwhelming anxiety in the last two weeks (31.3%), having experienced more than average stress in the last 12 months (45.9%), having felt very lonely in the last two weeks (31.5%), and having experienced no academic/work (42.6%) and no family/peers/romantic partners difficulties in the last 12 months (36.5%).

As per the identified psychological strains (independent variables incorporated to the model for study two), most respondents (94.4%) self-reported not having had sexually transmitted disease or infection, the item used as a proxy for sexual sensation-seeking. In other words, only 5.6 percent of the respondents in this dissertation were considered as sexual sensation-seekers. The largest proportions of participants from the final sample also self-reported having had only one sexual partner over the last 12 months (the proxy item for measuring promiscuity, 47.2%) and not driving after drinking five or more drinks of alcohol within the last 30 days (the proxy item for

irresponsibility, 81.0%). In other words, most participants in this dissertation were considered non-promiscuous and responsible.

Majority and Minority Classes

In light of the imbalanced distribution of the dependent variable “sexual assault”, comparisons between the majority ($n = 68,807$, 99.7%) and minority ($n = 182$, .3%) groups have been made. Results from independent t-test analyses evidenced that the majority and minority groups significantly differed on most of the independent variables and controls tested. All tests of significance reported below are two-sided. It also bears mentioning that in many instances, Levene’s tests indicated unequal variances so degrees of freedom have been adjusted accordingly.

Respondents from the minority group scored significantly differently on the following independent variables: anger ($M = 3.02$, $SD = 1.36$ versus $M = 2.55$, $SD = 1.51$ for the majority group; $t(182) = 4.59$, $p < .001$, $d = .31$), depression ($M = .53$, $SD = .50$ versus $M = .33$, $SD = .47$ for the majority group; $t(182) = 5.60$, $p < .001$, $d = .44$), physical victimization ($M = .23$, $SD = .42$ versus $M = .03$, $SD = .18$ for the majority group; $t(181) = 6.24$, $p < .001$, $d = 1.10$), sexual victimization ($M = .34$, $SD = .48$ versus $M = .05$, $SD = .23$ for the majority group; $t(181) = 8.12$, $p < .001$, $d = 1.26$), aesthetic dissatisfaction ($M = .47$, $SD = .50$ versus $M = .30$, $SD = .46$ for the majority group; $t(182) = 4.66$, $p < .001$, $d = .38$), financial difficulties ($M = .47$, $SD = .50$ versus $M = .36$, $SD = .48$ for the majority group; $t(182) = 3.10$, $p < .005$, $d = .24$), personal health difficulties ($M = .38$, $SD = .49$ versus $M = .22$, $SD = .42$ for the majority group; $t(182) = 4.47$, $p < .001$, $d = .39$), academic/work difficulties ($M = 3.04$, $SD = .81$ versus $M = 2.77$, $SD = .79$ for the majority group; $t(68,989) = 4.72$, $p < .001$, $d = .35$), and family/peers/romantic partners difficulties

($M = 7.18$, $SD = 1.74$ versus $M = 6.28$, $SD = 1.36$ for the majority group; $t(182) = 6.97$, $p < .001$, $d = .66$). No statistically significant difference could be evidenced between members of the majority and minority groups for the following independent variables: anxiety ($t(182) = 1.70$, $p = .09$), stress ($t(182) = .18$, $p = .86$), and social isolation ($t(182) = 1.33$, $p = .19$).

As per the controls, respondents from the minority group scored significantly differently on the following items: sex ($M = .38$, $SD = .49$ versus $M = .31$, $SD = .47$ for the majority group; $t(182) = 2.04$, $p = .04$, $d = .16$), race White ($M = .67$, $SD = .47$ versus $M = .75$, $SD = .43$ for the majority group; $t(182) = -2.36$, $p = .02$, $d = -.19$), race Black ($M = .14$, $SD = .35$ versus $M = .06$, $SD = .24$ for the majority group; $t(182) = 3.01$, $p < .01$, $d = .32$), race Native American ($M = .07$, $SD = .25$ versus $M = .02$, $SD = .14$ for the majority group; $t(181) = 2.50$, $p = .01$, $d = .33$), and alcohol consumption ($M = 3.34$, $SD = 1.06$ versus $M = 3.71$, $SD = .96$ for the majority group; $t(182) = -4.66$, $p < .001$, $d = -.38$). They, however, did not differ from their majority counterparts on age ($t(68,980) = -1.49$, $p = .14$), race Hispanic or Latino/a ($t(68,987) = .82$, $p = .41$), race Asian ($t(68,987) = .96$, $p = .34$), race Multiracial ($t(182) = .92$, $p = .36$), and race Other ($t(182) = 1.01$, $p = .32$).

Finally, members of the minority group were significantly different from their majority counterparts on all three identified psychological strains: promiscuity ($M = 2.14$, $SD = .98$ versus $M = 1.26$, $SD = 1.01$ for the majority group; $t(68,986) = 11.86$, $p < .001$, $d = .88$), irresponsibility ($M = .96$, $SD = .58$ versus $M = .85$, $SD = .40$ for the majority group; $t(181) = 2.55$, $p = .01$, $d = .28$), and sexual sensation-seeking ($M = .22$, $SD = .42$ versus $M = .02$, $SD = .15$ for the majority group; $t(181) = 6.40$, $p < .001$, $d = 1.31$).

Overall, relative to non-sexual offenders, sex offenders from the sample were more likely

to be angrier, more depressed, more dissatisfied with their personal appearance, and to have experienced physical and sexual victimization, financial and personal health difficulties, academic- and/or work-related difficulties, and family/peer/romantic partner difficulties. They were also more likely to be non-White (Black and/or Native American) males and to drink more during “parties” or when they socialize. When it comes to the three psychological strains investigated, sex offenders from the sample emerged as likely to be more promiscuous (have a greater number of sex partners over the last 12 months) and irresponsible, and sexual sensation-seekers.

Primary Analyses

As a result of the methodological decision to perform a random under-sampling on the majority group to reduce the imbalance between the majority and minority classes to enhance model performance, research aims (i.e., studies) one and two have been investigated with a sample of 1,382 participants. Of these respondents, 1,200 belonged to the majority group and 182 were part of the minority group, meaning that a class ratio of 87:13 has been adopted.

Study One

This section focuses on the first research aim of this dissertation: testing whether GST provides an adequate theoretical explanation for sexual assault perpetration by testing the associations between strains, negative emotions, and sexual assault commission.

Binary logistic regression was used to analyse the relationship between anger, depression, anxiety, stress, social isolation, physical and sexual victimization, aesthetic dissatisfaction,

financial, personal health, academic/work, and family/peers/romantic partners difficulties, age, biological sex, race, and alcohol consumption and sexual assault commission. Results from the latter binary logistic regression are showcased in Table 6.1.

It was found that, holding all other predictor variables constant, anger ($b = .19, p = .017, OR = 1.21$ [95% CI: 1.03 – 1.41]), experience of sexual victimization ($b = 1.61, p < .001, OR = 4.99$ [95% CI: 2.82 – 8.82]), and family/peers/romantic partners difficulties ($b = .21, p = .005, OR = 1.24$ [95% CI: 1.07 – 1.43]) were significantly associated with a rise in the odds of committing sexual assault. Similarly, choosing to drink ($b = -.39, p < .001, OR = .68$ [95% CI: .57 – .82]; the “alcohol consumption” measure was coded inversely, with lowest scores meaning greater propensity to drink during socializing events) was associated with a rise in the odds of committing sexual assault. Contrary to what could be expected, the experience of stress ($b = -.34, p = .006, OR = .71$ [95% CI: .55 – .91]) was associated with a decline in the odds of committing sexual assault.

The remaining independent variables (depression, anxiety, social isolation, physical victimization, financial, personal health, and academic/work difficulties, and race [White, Black, Hispanic or Latino/a, Asian, Multiracial, Other]) did not emerge significant at the .05 threshold. It bears mentioning, however, that some controls (age, biological sex, and race: Native American) and one strain (aesthetic dissatisfaction) reached marginal significance. The marginal significance of age ($b = -.19, p = .091, OR = .83$ [95% CI: .66 – 1.03]) suggests that the older the participants the less likely the odds of them committing a sexual assault. The marginal significance of biological sex ($b = .36, p = .073, OR = 1.43$ [95% CI: .97 – 2.11]) suggests that the condition of being a male is associated with a rise in the odds of committing sexual assault. The marginal significance of race: Native American ($b = .91, p = .059, OR = 2.49$ [95% CI: .97 – 6.42])

suggests that self-reporting being Native American is associated with a rise in the odds of committing a sexual assault. Finally, the marginal significance of aesthetic dissatisfaction ($b = .40$, $p = .065$, $OR = 1.50$ [95% CI: .98 – 2.30]) suggests that being dissatisfied with one's own physical appearance is associated with a rise in the odds of committing a sexual assault.

Results from omnibus tests of model coefficients ($X^2(22) = 197.71$, $p < .001$) revealed that the above model outperformed the null model. An Hosmer and Lemeshow test ($X^2(8) = 9.87$, $p = .27$) revealed that the above model provided a good fit for the data.

In line with the analytical plan discussed in Chapter 5, mediation analyses have also been conducted. Figure 6.1 provides an overview of the direct and indirect effects of strains on sexual assault perpetration.

In light of the significance of only one (anger) of the three (anger, depression, and anxiety) negative emotions identified and operationalized by the researcher, mediation analyses only looked at a potential mediation of anger in the relationship between (significant and marginally significant) strains/controls and sexual assault perpetration. Table 6.2 provides the results of these analyses. Briefly, in line with GST, anger mediated the relationship between significant (stress, victimization: sexual, and Family/Peers/Romantic Partners difficulties) and marginally significant (aesthetic dissatisfaction, sex, and race: Native American) strains and sexual assault perpetration.

Table 6.1. Results of binary logistic regression (study one – $N = 1,382$)

	b	OR ¹	95% CI
<i>Independent variables (study one)</i>			
Anger	.19 *	1.21	1.03 – 1.41
Depression	.20	1.22	.79 – 1.87
Anxiety	-.06	.95	.80 – 1.12
Stress	-.34 **	.71	.55 – .91
Social isolation (loneliness)	.05	1.05	.90 – 1.23
Victimization: physical	.47	1.60	.79 – 3.24
Victimization: sexual	1.61 ***	4.99	2.82 – 8.82
Aesthetic dissatisfaction	.40 †	1.50	.98 – 2.30
Financial difficulties	-.16	.86	.56 – 1.30
Personal health difficulties	-.19	.83	.52 – 1.31
Academic/Work difficulties	.16	1.17	.90 – 1.54
Family/Peers/Romantic partners difficulties	.21 **	1.24	1.07 – 1.43
<i>Controls</i>			
Age (categories)	-.19 †	.83	.66 – 1.03
Biological sex	.36 †	1.43	.97 – 2.11
Race			
White	-.34	.71	.41 – 1.23
Black	.43	1.54	.77 – 3.07
Hispanic or Latino/a	.07	1.08	.59 – 1.98
Asian	-.18	.83	.43 – 1.62
Native American	.91 †	2.49	.97 – 6.42
Multiracial	-.66	.52	.21 – 1.28
Other	-.18	.84	.25 – 2.86
Alcohol consumption (choose not to drink)	-.39 ***	.68	.57 – .82

Notes. Dependent variable = sexual assault. Omnibus tests of model coefficients [$X^2(22) = 197.71, p < .001$], Hosmer and Lemeshow test [$X^2(8) = 9.87, p = .27$].

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

¹ Odds ratio.

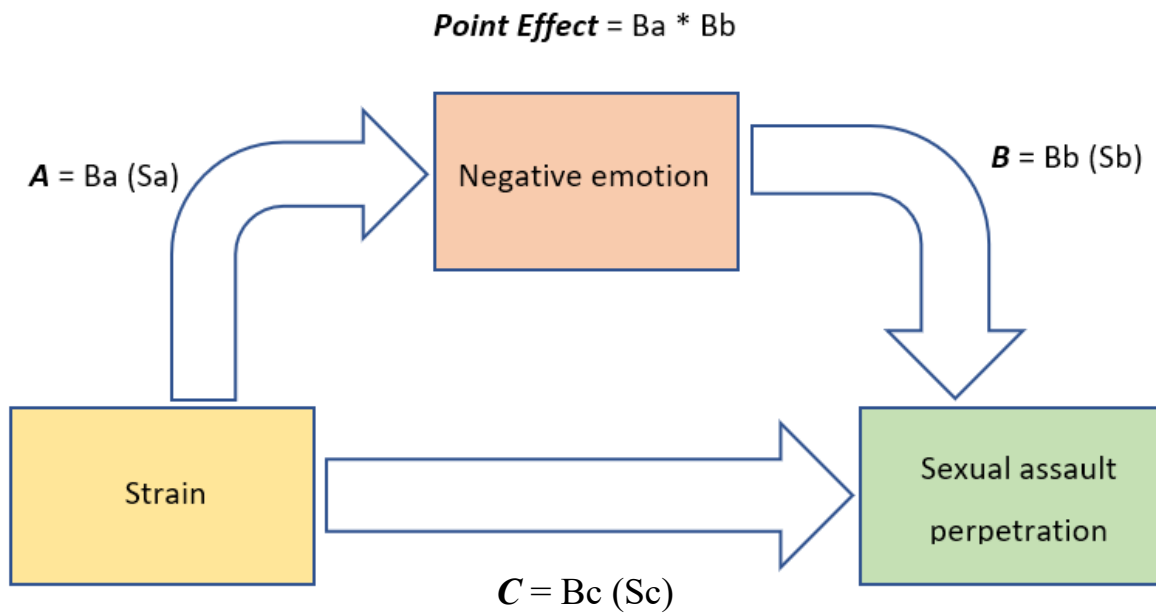


Figure 6.1. Direct and indirect effects of strains on sexual assault perpetration

Stress, a variable initially conceptualized as a strain and not as a negative emotion in this dissertation, has also been subjected to mediation analyses, this time to check on its potential mediation role. The decision to do so was subsequent to the emergence of stress as negatively significantly related to the odds of committing sexual assault. Furthermore, the idea of envisioning stress as a negative emotion rather than as a strain that can lead to the experience of negative emotions (for a discussion, see Du et al., 2018) is not new. Whilst stress can understandably lead to the experience of traditional negative emotions (anger, depression, anxiety), the causal link can also operate in the opposing direction and depression has even been identified as a form of stress response (Kiecolt-Glaser et al., 2002; Sternberg et al., 1992), hence making stress the (negative) emotional response to the experience of anger, depression, or anxiety. Naturally, the capacity of stress to be a negative emotional response also applies to strains in general, hence justifying its reclassification as a negative emotion for the purposes of this dissertation.

Table 6.2. Results of mediation analyses (study one – $N = 1,382$)

Mediation	Ba ¹ (Sa) ²	Bb (Sb)	Bc (Sc)	Point Effect
IV → Anger → Sexual assault				
Stress	.609 *** (.043)	.043 *** (.007)	-.027 * (.011)	.026 ***
Victimization (sexual)	1.002 *** (.131)	.026 *** (.006)	.367 *** (.030)	.026 ***
Aesthetic dissatisfaction	.952 *** (.080)	.034 *** (.007)	.065 ** (.020)	.032 ***
F/P/RP difficulties	.445 *** (.024)	.023 ** (.007)	.042 *** (.007)	.010 **
Age (categories)	-.004 (.048)	.041 *** (.006)	-.022 * (.011)	-.000
Sex	-.214 ** (.083)	.042 *** (.006)	.051 ** (.019)	-.009 *
Race (Native American)	.758 ** (.253)	.039 *** (.006)	.208 *** (.059)	.030 **
Alcohol consumption	-.053 (.040)	.040 *** (.006)	-.044 *** (.009)	-.002

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

¹ Ba = Unstandardized Coefficient Beta for pathway A

² Ba = standard Error for pathway A

Results from the mediation analyses of stress conducted in line with the recommendations of Hayes and Preacher (2014) and Preacher and Hayes (2008) were not significant and have thus not been reported in Table 6.2. In this study, stress did not mediate the relationship between any of the significant or marginally significant strains/controls and sexual assault perpetration.

Study Two

This section focuses on the second research aim of this dissertation: comparing the model fit of GST to that of a revised version of GST that incorporates measures of personality traits, both with a focus on sexual assault commission. Associations between “psychological strains”, negative emotions, and sexual assault have also been examined.

Binary logistic regression was used to analyse the relationship between promiscuity, irresponsibility, and sexual sensation-seeking, in addition to the strains, negative emotions, and controls already present in study one, and sexual assault commission. Results from the latter binary logistic regression are showcased in Table 6.3.

It was found that, holding all other predictor variables constant, experience of sexual victimization ($b = 1.33, p < .001, OR = 3.78$ [95% CI: 2.10 – 6.83]) and promiscuity (i.e., the number of sexual partners over the 12 months prior to the survey taking; $b = .56, p < .001, OR = 1.75$ [95% CI: 1.46 – 2.09]) were significantly associated with a rise in the odds of committing sexual assault. Similarly, self-reporting choosing to drink ($b = -.31, p = .002, OR = .73$ [95% CI: .61 – .89]); the “alcohol consumption” measure was coded inversely, with lowest scores meaning greater propensity to drink during socializing events) was associated with a rise in the odds of committing sexual assault. Contrary to what could be expected, but similarly to what has been reported for study one, the experience of stress ($b = -.32, p = .015, OR = .73$ [95% CI: .56 – .94]) was associated with a decline in the odds of committing sexual assault. Unlike in study one, anger ($b = .16, p = .052, OR = 1.17$ [95% CI: .99 – 1.38]) and family/peers/romantic partners difficulties ($b = .15, p = .052, OR = 1.16$ [95% CI: .99 – 1.35]) only reached marginal significance in study

two. Both variables were associated with a rise in the odds of sexual assault perpetration. As in study one, aesthetic dissatisfaction reached marginal significance ($b = .38, p = .093, OR = 1.46$ [95% CI: .94 – 2.26]) in study two. The marginal significance of aesthetic dissatisfaction suggests that the greater the dissatisfaction over one's personal appearance the greater the odds of one committing a sexual assault.

Table 6.3. Results of binary logistic regression (study two – $N = 1,382$)

	b	OR ¹	95% CI
<i>Independent variables (study two)</i>			
Anger	.16 †	1.17	.99 – 1.38
Depression	.08	1.09	.69 – 1.71
Anxiety	-.02	.98	.83 – 1.17
Stress	-.32 **	.73	.56 – .94
Social isolation (loneliness)	.04	1.04	.89 – 1.22
Victimization: physical	.28	1.32	.62 – 2.84
Victimization: sexual	1.33 ***	3.78	2.10 – 6.83
Aesthetic dissatisfaction	.38 †	1.46	.94 – 2.26
Financial difficulties	-.20	.82	.53 – 1.27
Personal health difficulties	-.11	.90	.56 – 1.44
Academic/Work difficulties	.15	1.16	.87 – 1.54
Family/Peers/Romantic partners difficulties	.15 †	1.16	.99 – 1.35
Promiscuity (categories)	.56 ***	1.75	1.46 – 2.09
Irresponsibility (drive after drinking)	.23	1.26	.83 – 1.92
Sexual sensation-seeking	.51	1.67	.85 – 3.29
<i>Controls</i>			
Age (categories)	-.09	.91	.72 – 1.15
Biological sex	.26	1.29	.87 – 1.93

Race			
White	-.43	.65	.37 – 1.16
Black	.32	1.38	.67 – 2.83
Hispanic or Latino/a	.09	1.10	.58 – 2.08
Asian	-.14	.87	.43 – 1.74
Native American	.73	2.08	.77 – 5.61
Multiracial	-.66	.52	.20 – 1.34
Other	-.26	.77	.20 – 3.03
Alcohol consumption (choose not to drink)	-.31 **	.73	.61 - .89

Notes. Dependent variable = sexual assault. Omnibus tests of model coefficients [$X^2(25) = 245.42, p < .001$], Hosmer and Lemeshow test [$X^2(8) = 4.90, p = .77$].
† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$
¹ Odds ratio.

The remaining independent variables (depression, anxiety, social isolation, physical victimization, financial, personal health, and academic/work difficulties, irresponsibility, and sexual sensation-seeking), as well as three of the four controls (age, biological sex, and race [White, Black, Hispanic or Latino/a, Asian, Native American, Multiracial, Other]), did not emerge significant at the .05 threshold.

Results from omnibus tests of model coefficients ($X^2(25) = 245.42, p < .001$) revealed that the above model outperformed the null model. An Hosmer and Lemeshow test ($X^2(8) = 4.90, p = .77$) revealed that the above model provided a very good fit for the data; a fitness nearly thrice that provided by the GST model tested in study one.

Unlike in study one, anger only emerged marginally significant ($p = .052$) in study two. Given how close the variable was to reach significance though, the decision has been made by the researcher to go on with the plan of conducting mediation analyses. Consequently, one additional mediation analysis has been conducted in line with the recommendations of Hayes and Preacher (2014) and Preacher and Hayes (2008) as part of study two. Results from the analysis testing the

mediation of anger in the promiscuity-sexual assault perpetration relationship are shown in Table 6.4. Briefly, in line with GST, anger mediated the relationship between promiscuity and sexual assault commission.

Table 6.4. Results of mediation analyses (study two – $N = 1,382$)

Mediation	Ba ¹ (Sa) ²	Bb (Sb)	Bc (Sc)	Point Effect
IV → Anger → Sexual assault				
Promiscuity	.203 *** (.037)	.031 *** (.006)	.091 *** (.008)	.006 ***

Notes. *** $p < .001$
¹ Ba = Unstandardized Coefficient Beta for pathway A
² Ba = standard Error for pathway A

A potential mediation effect of stress has also been tested following a rationale similar to that presented in study one but, once again, results of the mediation analysis were not significant. In this study, stress did not mediate the relationship between promiscuity and sexual assault perpetration.

CHAPTER 7

DISCUSSION

This chapter summarizes the discussion, future implications, limitations, and conclusions of this dissertation. It is organized into the following sections: a) Summary of dissertation Background, Rationale, and Purposes, b) Summary of Key Findings, c) Discussion and Implications, d) Limitations, and e) Dissertation Conclusions and Future Research.

Summary of Dissertation Background, Rationale, and Purposes

This section provides brief summaries of the previous chapters of this dissertation. In particular, key information pertaining to this dissertation's background, rationale, and purposes will be recalled.

Dissertation Background

In the criminology literature, numerous explanations have been adduced to explain the phenomenon of sexual assault. Although backed up by a plethora of research evidencing its good predictive ability when it comes to crime commission, General Strain Theory (GST; Agnew, 1992, 2001, 2006, 2013, 2017) surprisingly has never really been applied to sex crimes (see Ackerman & Sacks, 2012). This lack of application of GST to sexual crimes is even more shocking given the fact that numerous strains have, independently, been put in relation to both negative emotionality (e.g., Jouriles et al., 2014; Maniglio, 2010; Briere & Runtz, 1988) and sexual crimes (e.g., Jennings et al., 2014; Seto, 2008).

Although GST traditionally emphasizes ecological strains, it has previously been

demonstrated that multidisciplinary theoretical integration can be beneficial to GST when the incorporation of dispositional factors is coherent with the initial objectives of the theory and its central concepts (see Stogner, 2011, 2014). Because of their potential impact on one's daily functioning and negative emotionality (e.g., LeBreton et al., 2013; Langevin & Curnoe, 2011; Merdian, Wilson & Boer, 2009; Sheldon & Howitt, 2007), as well as their characteristics which, for many of them, match the description made by Agnew (2017) of strains most likely to lead to crime, many personality traits can be considered life stressors. This view of personality traits as psychological strains appears particularly justified given past research identifying sex offenders' psyche and decision-making as intrinsically related to a variety of personality traits (e.g., Petruccelli et al., 2017). Amongst the personality traits of interest, research has evidenced the saliency of promiscuity, irresponsibility, and sexual sensation-seeking in sex offenders (e.g., Petruccelli et al., 2017; Seto, 2005). Consequently, incorporating relevant psychological strains in a GST-based model of sexual assault perpetration could enhance the model's fitness and predictive ability.

Dissertation Rationale, Purposes, and Hypotheses

The rationale for this dissertation originates from the author's understanding of the literature in the relevant fields (i.e., criminology, sociology, and psychology). In line with results from past research that have been briefly recalled above but more fully detailed in Chapters 2, 3, and 4, the purpose of this dissertation is twofold. First, it tests whether GST provides an adequate theoretical explanation for sexual assault perpetration by testing the associations between strains, negative emotions, and sexual assault commission.

Second, it compares the model fit of GST to that of a revised version of GST that incorporates measures of personality traits, both with a focus on sexual assault commission. Associations between “psychological strains”, negative emotions, and sexual assault have also been examined.

Two studies corresponding to the dual purposes just outlined were conducted. Study one aimed to answer the question of whether GST provides an adequate theoretical framework for sexual assault. Independent variables for this part were an ensemble of three measures of negative emotions (anger, depression, and anxiety), nine measures of strains (stress, social isolation, victimization: physical, victimization: sexual, aesthetic dissatisfaction, financial difficulties, personal health difficulties, academic/work difficulties, and family/peers/romantic partners difficulties), and four controls (age, sex, race, and alcohol consumption).

Study two aimed to test whether the fitness of GST as applied to sexual assault could be enhanced through the incorporation of personality traits referred to as “psychological strains”. The goal of this second study was to check if and to what extent the inclusion of three psychological strains (promiscuity, irresponsibility, and sexual sensation-seeking) in addition to all the independent variables and controls present in the first study improved the model fit. Specifically, hypotheses (H) regarding both dissertation objective are listed below.

H₁: Strains will be significantly associated with sexual assault perpetration (studies one and two).

H₂: Negative emotions will be significantly associated with sexual assault perpetration (studies one and two).

H₃: Negative emotions will mediate the relationship between significant strains and sexual assault perpetration (studies one and two).

H₄: The GST-based model will provide a good fit for data on sexual assault perpetration (study one).

H₅: Psychological strains will be significantly associated with sexual assault perpetration (study two).

H₆: The psychologically-informed GST model will provide a better fit for data on sexual assault perpetration than the GST-based model (study two).

The above studies have been conducted using secondary data from the American College Health Association – National College Health Assessment (ACHA-NCHA) IIc datasets and did not include new data collection on any human subjects. Data access was granted in October of 2022 by ACHA's chief research officer and The University of Texas at Dallas' Institutional Review Board approved this dissertation in November of 2022.

Summary of Key Findings

This section provides a brief summary of Chapter 6 of this dissertation and will be organized in line with the organization of Chapter 6: preliminary analyses and primary analyses (research aims one and two) at the heart of studies one and two presented in this dissertation.

Preliminary Analyses

Majority and Minority Classes

In light of the imbalanced distribution of the dependent variable “sexual assault”, comparisons between the majority ($n = 68,807$, 99.7%) and minority ($n = 182$, .3%) groups have been made prior to performing a random under-sampling on the majority group. A class ratio of 87:13 has later been adopted, resulting in a sample of 1,382 participants (1,200 belonged to the majority group and 182 were part of the minority group) to investigate research aims one and two.

Overall, relative to non-sexual offenders, sex offenders from the sample were more likely to be angrier, more depressed, more dissatisfied with their personal appearance, and to have experienced physical and sexual victimization, financial and personal health difficulties, academic- and/or work-related difficulties, and family/peer/romantic partner difficulties. They were also more likely to be non-White (Black and/or Native American) males and to drink more during “parties” or when they socialize. When it comes to the three psychological strains investigated, sex offenders from the sample emerged as likely to be more promiscuous (have a greater number of sex partners over the last 12 months) and irresponsible, and sexual sensation-seekers.

Final Sample Characteristics

The final sample ($N = 1,382$) included 945 biological women (68.4%) and 437 biological men (31.6%). The majority of participants (74.4%) self-reported as White and their age varied from 18 to 69 years old, with the mean age being 22.4 ($SD = 5.6$). To the question “During the last 12 months, when you "partied"/socialized, how often did you: choose not to drink?”, controlling for respondents' alcohol consumption for the purpose of this dissertation, the largest proportion of participants (42.0%) responded “sometimes” (the third possible response of a five points Likert scale).

Respondents from the random under-sample mostly self-reported no experience of depression (65.6%), physical (94.4%) and sexual (90.8%) victimization, aesthetic dissatisfaction (68.7%), and financial (61.0%) and personal health (74.7%) difficulties. The largest proportions of participants from the sample also self-reported never having experience overwhelming anger (31.7%), having experienced overwhelming anxiety in the last two weeks (31.3%), having experienced more than average stress in the last 12 months (45.9%), having felt very lonely in the last two weeks (31.5%), and having experienced no academic/work (42.6%) and no family/peers/romantic partners difficulties in the last 12 months (36.5%). Only 5.6 percent of the respondents in this dissertation were considered as sexual sensation-seekers and most participants were considered non-promiscuous and responsible.

Primary Analyses

Study One

Binary logistic regression was used to analyse the relationship between anger, depression,

anxiety, stress, social isolation, physical and sexual victimization, aesthetic dissatisfaction, financial, personal health, academic/work, and family/peers/romantic partners difficulties, age, biological sex, race, and alcohol consumption and sexual assault commission.

Holding all other predictor variables constant, anger, experience of sexual victimization, and family/peers/romantic partners difficulties were significantly associated with a rise in the odds of committing sexual assault. Similarly, choosing to drink was associated with a rise in the odds of committing sexual assault. Contrary to what could be expected, the experience of stress was associated with a decline in the odds of committing sexual assault. Some controls (age, biological sex, and race: Native American) and one strain (aesthetic dissatisfaction) reached marginal significance, suggesting that: 1) the older the participants the less likely the odds of them committing a sexual assault, 2) the condition of being a male is associated with a rise in the odds of committing sexual assault, 3) self-reporting being Native American is associated with a rise in the odds of committing a sexual assault, and 4) being dissatisfied with one's own physical appearance is associated with a rise in the odds of committing a sexual assault.

All in all, GST was supported as several strains emerged significantly associated with sexual assault perpetration (H₁) and one negative emotion (anger) was also significant and mediated some of the above associations (H₂ & H₃). Furthermore, an Hosmer and Lemeshow test ($X^2(8) = 9.87, p = .27$) revealed that the model provided a good fit for the data (H₄).

Study Two

Binary logistic regression was used to analyse the relationship between promiscuity, irresponsibility, and sexual sensation-seeking, in addition to the strains, negative emotions, and controls already present in study one, and sexual assault commission.

Holding all other predictor variables constant, experience of sexual victimization and promiscuity were significantly associated with a rise in the odds of committing sexual assault. Similarly, self-reporting choosing to drink was associated with a rise in the odds of committing sexual assault. Contrary to what could be expected, but similarly to what has been reported for study one, the experience of stress was associated with a decline in the odds of committing sexual assault. Unlike in study one, anger ($p = .052$) and family/peers/romantic partners difficulties ($p = .052$) only reached marginal significance in study two. Both variables were associated with a rise in the odds of sexual assault perpetration, and so was aesthetic dissatisfaction ($p = .093$).

The remaining independent variables (depression, anxiety, social isolation, physical victimization, financial, personal health, and academic/work difficulties, irresponsibility, and sexual sensation-seeking), as well as three of the four controls (age, biological sex, and race [White, Black, Hispanic or Latino/a, Asian, Native American, Multiracial, Other]), did not emerge significant at the .05 threshold.

All in all, psychologically-informed GST was supported as several strains emerged significantly associated with sexual assault perpetration (H_1), one psychological strain (promiscuity) was positively associated with sexual assault (H_5), and anger was also significant and mediated some of the above associations (H_2 & H_3). Furthermore, an Hosmer and Lemeshow test ($X^2(8) = 4.90, p = .77$) revealed that the above model provided a very good fit for the data; a fitness nearly thrice that provided by the GST-based model tested in study one (H_6).

Discussion and Implications

In his 2017 specification of the types of strain most likely to lead to crime, Agnew

extensively discussed the properties of strains as well as the situational factors that condition their association with crime. To some extent, all the strains identified and tested in this dissertation match Agnew's (2017) view and the non-significance of many of them in studies one and two can thus appear surprising. Nevertheless, GST is ultimately supported as several strains emerged significantly associated with the odds of sexual assault commission and the latter associations were significantly mediated by anger. In this section, key findings will be discussed and put in relation with past research.

Strains

In study one, nine measures of strains (stress, social isolation, victimization: physical, victimization: sexual, aesthetic dissatisfaction, financial difficulties, personal health difficulties, academic/work difficulties, and family/peers/romantic partners difficulties) and four controls (age, sex, race, and alcohol consumption) have been tested. Of all these measures, only stress, experience of sexual victimization, family/peers/romantic partners difficulties, and alcohol consumption emerged significant in the analyses whereas aesthetic dissatisfaction, age, biological sex, and race (Native-American) only reached marginal significance. The discussion will thus only focus on these types of strain/controls.

First, it is not surprising to see sexual victimization emerging as significantly associated with increased odds of sexual crime commission given the extensive amount of empirical research describing the victim-offender overlap in sexual crimes (e.g., Jennings et al., 2014; Seto, 2008). In that regard, the non-significance of physical victimization is surprising and hard to explain, even more so since the two measures derive from a similar item. The distribution of both measures was

extremely right skewed, so the two variables have been dichotomized into two groups: no physical (or sexual) victimization and physical (or sexual) victimization. With similar questions and treatments, if the statistical difference does not lie in the slightly higher number of sexual victimization cases in the sample, there seem to be no reason as to why only one measure emerged significant from the analysis.

Second, aesthetic dissatisfaction being marginally associated with increased odds of sexual assault perpetration is interesting in that these are the first results linking these two phenomena. Although acknowledging that aesthetic dissatisfaction has great capability to generate negative emotions in and of itself (see for instance Carrard et al., 2021; Vencill, Tebbe & Garos, 2015; Koronczai et al., 2013), its potential effect on sex crime commission can also be discussed from the perspective of sexual deprivation. Since unhappiness with one's bodily appearance can understandably lead to low self-esteem and an under-average capacity to socialize with potential sexual partners, hence decreasing opportunities for sexual acts (i.e., the argument of sex-related motivational theories of sexual assault), aesthetic dissatisfaction has long been theorized to be an important component in sexual offenders' lives (e.g., Felson, Cundiff & Painter-Davis, 2012; Fleisher & Krienert, 2009; Wyatt, 2005; Wortley, 2002). Overall, research on sexual deprivation and sexual crimes is ambiguous (for a review see Felson, 2002), but the reported findings indicate that some elements that can indirectly promote sexual deprivation are related to sexual assault perpetration. Following that line of reasoning, it would be possible for sexual deprivation to mediate the relationship between bodily appearance and sexual offending in that, without the experience of sexual deprivation, there would be no such relationship. It is also possible for sexual deprivation to moderate the above relationship by for instance increasing the strength of the

positive association. In other words, an individual who is dissatisfied with one's bodily appearance may experience increased frustration and anger because of additional sexual deprivation, ultimately reinforcing the likelihood of sexual assault perpetration.

Naturally, the operationalization of aesthetic dissatisfaction in this dissertation can also be the source of the marginal significance that has been reported. Aesthetic dissatisfaction was measured as a yes or no answer to the question “*Within the last 12 months, have any of the following been traumatic or very difficult for you to handle: personal appearance?*”. Here, it is acknowledged that there is great variability in terms of how respondents could understand the question, with “very difficult to handle” possibly being seen as, from one extreme to another, a long-lasting pimple on the nose to the loss of an arm. If indeed there is great variability in terms of how the question could be understood, only 31 percent of the sample indicated that they had difficulty handling their personal appearance. In the literature, many authors commented on the prevalence of body dissatisfaction in the general population as related to factors of weight, age, sex/gender, specific body parts, clothing ownership, masculinity/femininity (e.g., Frederick et al., 2012; Esnaola, Rodríguez & Goñi, 2010; Tiggemann & Lacey, 2009; Keel et al., 2007; Neumark-Sztainer et al., 2006; Deeks & McCabe, 2001; for a review see Quittkat et al., 2019). In 2012, Frederick and colleagues estimated that 20 to 40 percent of women are dissatisfied with their bodies whereas the prevalence of body dissatisfaction in men would be between 10 and 30 percent. In a sample with a female to male ratio of 2:1, having 31 percent of the respondents reporting having experienced aesthetic dissatisfaction during the last 12 months thus was within expectations and is unlikely to have impacted the results reported here.

It is also possible for personal appearance difficulties to be related to clothing, jewellery,

and/or accessories shortage/ownership in respondents' mind (see for instance Tiggemann & Lacey, 2009). If so, aesthetic dissatisfaction could in fact reflect financial difficulties and the impossibility to acquire or retain new personal belongings. Thirty nine percent of the respondents reported having had financial difficulties within the last 12 months. Although proportions are roughly the same, unlike aesthetic dissatisfaction, financial difficulties did not emerge significant from the analyses. This statistical difference suggests that aesthetic dissatisfaction touched on elements other than those covered by financial difficulties; elements that may be of higher relevance when it comes to sexual assault perpetration. Additionally, the recalling period (12 months) for the aesthetic dissatisfaction item is also very broad, but it matches the recalling periods of the dependent variable and many other studied variables (e.g., financial difficulties). It is thus believed that the recalling period did not influence the reported results. All in all, it is believed that the operationalization of the aesthetic dissatisfaction variable is relatively unlikely to be related to the reported findings. In any case, more research is needed to fully address aesthetic dissatisfaction, sexual deprivation, and sexual offending.

Third, the composite measure of family/peers/romantic partners (F/P/RP) difficulties emerging strongly significantly associated with increased odds of sexual assault commission ($p = .005$ in study one and $p = .052$ in study two) is also an interesting finding and an exciting avenue for future research. In life, the potential for social bonds to impact one's emotionality and developmental life-course no longer needs to be demonstrated (e.g., Doré & Harris, 2023), but it is also exciting to see that they can influence one's criminality. In this dissertation, F/P/RP difficulties was a composite measure based off NO/YES answers to five questions pertaining to the experience of traumatic or very difficult to handle events (death of a family member or friend,

family problems, intimate relationships, other social relationships, and health problem of a family member of partner) within the last 12 months. Participants' answers were coded on a scale from “5” (no F/P/RP difficulties) to “10” (tremendous F/P/RP difficulties) and, in this sample, every unit increase in F/P/RP difficulties was associated with a .21 unit increase in sexual assault perpetration.

Although interesting, the latter finding raises more questions than it answers. What are the respective weights of these events in the significant association? Are there dimensions that are more important than others? Does each of these dimensions appeal to different negative emotions? Is the impact of others' difficulties on one's criminal behaviour only limited to those closest to us? What about individuals who are only acquaintances (e.g., community members, religious community members)? As of now, there is no way to answer these questions based off this dissertation. Nonetheless, the report of a positive association between F/P/RP difficulties and sexual assault commission undoubtedly offers many perspectives for future research.

The marginal significances of age and biological sex, respectively negatively and positively (for males) associated with sexual assault perpetration, are also worth discussing as such findings are consistent with previous findings from the literature. First, the argument of age being negatively associated with sexual crimes has already been discussed and supported by research (e.g., Dickey et al., 2002; Thornhill and Thornhill, 1983). Although Felson, Cundiff, and Painter-Davis (2012) argued that sexual crimes may be the exception to the age-desistance curve, there overall appears to be a consensus that the older an individual, the less likely he/she will perpetrate sexual assault. Results from this dissertation align with the latter consensus. Second, the marginal significance of sex, identifying the condition of being a male as positively associated with the odds

of sexual assault perpetration, also aligns with available statistics on sexual assault and the recognition that the vast majority of sexual assaulters are men. From an empirical perspective, men have also been identified as more likely to be sexually harassing (2 times) and sexually coercive (3 times; Ménard et al., 2003).

The marginal significance of race, more specifically the Native American measure, is interesting but unfortunately hardly interpretable. In the ACHA-NCHA IIc, the measure of race/ethnicity is uniquely coded. As part of the questionnaire, participants responded to the question “*How do you usually describe yourself?*” by selecting any of the following categories: a) White, b) Black, c) Hispanic or Latino/a, d) Asian or Pacific Islander, e) American Indian, Alaskan Native, or Native Hawaiian, f) Biracial or Multiracial, and g) Other. The framing of this question is problematic because it touches on elements of both race and ethnicity, two concepts that overlap but are nonetheless distinct (Suzuki, 2017; Brunsma, Embrick & Nanney, 2015). Additionally, the coding of this item is also problematic because respondents were also instructed to mark all the answers that applied, leading some respondents to check multiple responses (e.g., Asian + Native American + Multiracial). Commenting on the significance of one of these categories from the reported analyses thus is a complicated endeavour because it is impossible to know whether participants who described themselves as Native American actually are of Native American ascendance or consider themselves so because they have been impregnated with the Native American culture. Although hardly interpretable, the significance of the race (Native American) measure conflicts with recent findings from a national sample of youth (aged 13 -25) identifying non-White youth as less likely than their White counterparts to perpetrate multiple sexual violence, but more likely to engage in sexual harassment (Ybarra & Petras, 2021).

Alcohol consumption being strongly significantly associated with a rise in the odds of committing sexual assault is also within expectations. This control variable has been included in the analyses because of the operationalization of the dependent variable “sexual assault”, measured through the question “*Within the last 12 months, have you experienced any of the following when drinking alcohol: Had sex with someone without their consent?*”. Given the explicitness of the sexual assault scenario when it comes to alcohol consumption, it is no surprise to have this variable strongly positively associated with the odds of sexual assault commission.

Interestingly, and contrary to what could be expected, the experience of stress was associated with a decline in the odds of committing sexual assault. In this dissertation, stress has been measured through the question “*Within the last 12 months, how would you rate the overall level of stress you have experienced?*”, leaving respondents the freedom to understand the concept of stress as situational life events or physiological discomfort (muscle tension or pain, restlessness, fatigue, sleep problems, psychological burden, etc). Stress has initially been conceptualized as a life stressor in this dissertation but can also legitimately be seen as a negative emotion (Kiecolt-Glaser et al., 2002; Sternberg et al., 1992; for a discussion see Du et al., 2018). It bears mentioning that, even when considered as such, stress did not have any mediating effect on the relationship between the significant strains discussed above and sexual offence perpetration.

All in all, the impact of stress on the odds of sex crime commission in this dissertation can be put in relation to the work of Ganem (2010). In 2010, Ganem investigated the idea that different types of strain affect emotionality differently, leading to the experience of different negative emotions (not only anger) and that these different emotions produce different criminal outcomes. Her work, although focusing only on anger, frustration, and fear, evidenced that different negative

emotions arise from different situations and can have opposite effects on criminality. Whilst “some negative emotions precipitate criminal involvement, others inhibit criminal tendencies” (Ganem, 2010, p. 167; see also Broidy, 2001). Theoretically speaking, it would make sense to envision stress as a negative emotion rather than a strain because of its characteristics (see Du et al., 2018) and from that perspective, it would also make sense for it to decrease the odds of (sexual) crime perpetration like other negative emotions (depression, see Broidy, 2001; fear, see Ganem, 2010).

In study two, three measures of psychological strains (promiscuity, irresponsibility, and sexual sensation-seeking) have been added to the list of independent variables and controls already presented in study one as predictors of sexual assault perpetration. As in study one, stress, experience of sexual victimization, and alcohol consumption were significantly associated with the odds of sexual crime commission whereas aesthetic dissatisfaction also only reached marginal significance. Unlike study one, F/P/RP difficulties ($p = .052$) was only marginally significant. Of the three newly included types of strain, only promiscuity ($p < .001$) was strongly significantly associated with a rise in the odds of committing sexual assault. Every unit increase in promiscuity was associated with a .56 unit increase in sexual assault perpetration.

In this dissertation, promiscuity was measured as the number of sexual partners within the last 12 months, with values ranging from 0 to 90 ($M = 2.4$; $SD = 5.6$). In light of the dispersion of the distribution, the choice has been made to categorize participants into four groups, with the fourth and most promiscuous group having had “3+ sexual partners”. Naturally, it is acknowledged that having had three sexual partners in 12 months does not make someone promiscuous and in fact tells relatively little about the degree of promiscuity of that individual. The rationale for using the term “promiscuous” for these persons simply derives from the observation that, in this sample,

individuals who reported having had three or more sexual partners within that time window appeared to be on the extreme right end of the distribution (only 22% of the sample) and thus seemed to differ from the vast majority of the sample on that item.

Importantly, it is of interest to recall that only measuring the number of sexual partners for a concept as complex as that of promiscuity limits the interpretation of the results. Since two-thirds of this sample reported having had zero or only one sexual partner during the last 12 months (partner who very likely was respondents' girlfriend/boyfriend), it is entirely possible that in respondents' minds, all sexual acts with an intimate partner are by definition consensual. After all, intimate partner rape myths, starting with that of whether it is even possible to rape a marital/intimate partner, in the population remain incredibly common (for a discussion, see Lilley et al., 2023). Consequently, it is possible that respondents only envisioned acts with strangers or less well-known acquaintances as sexual acts “with someone without their consent” (i.e., sexual assault measure). In that case, results evidencing an association between having more sexual partners and self-reported incidents of unwanted sexual intercourse perpetration should not come as a surprise.

Nonetheless, as a concept, promiscuity can be a considerable stressor in one's life as it typically goes along with an insatiable sex drive. From GST's perspective, an association between an unsatisfied sex drive and negative emotionality (anger, frustration, depression) may seem evident and of all potential subsequent criminal outcomes, sexual offences readily come to mind. That being said, perhaps promiscuity as related to sexual offences would be more relevantly considered within the greater discussion of the role of sexual deprivation for sexual crime commission. Supposedly, for individuals who have an above-average sexual drive and are used to

living a promiscuous life, the loss of access to consensual sexual partners would lead to greater frustration and anger, relative to individuals with a lesser sexual drive. Promiscuity thus could be a moderator of the relationship between sexual deprivation and sexual crime commission, should there be any. Again, the literature on sexual deprivation and sexual crimes is ambiguous (for a review see Felson, 2002), but with aesthetic dissatisfaction, the number of sexual partners (and more generally promiscuity) is the second variable closely related to sexual deprivation that is positively associated with sexual assault in this dissertation.

Finally, it is possible for promiscuity and aesthetic dissatisfaction to have a synergistic effect. Such an effect could, for instance, be present in a scenario where an individual possesses an insatiable sex drive and is also extremely dissatisfied with his/her personal appearance, leading to decreased self-esteem and capacity to socialize with potential sexual partners and ultimately reduced opportunities for sexual acts. Although this is an example of synergistic effect with sexual deprivation as a mediator, it is also possible to investigate such an effect from GST's perspective with only negative emotions as mediators. Should the negative emotions independently produced by these two strains be the same (anger? frustration?), it would be possible to observe higher levels of negative emotionality as a result of a synergistic effect. It bears mentioning, however, that in 2020, Pirani and Matera reported that in their sample of young men (but not women), a “positive view of one's body (i.e., body satisfaction) was associated with a higher probability of adopting risky (and promiscuous) sexual behaviours” (Pirani & Matera, 2020, p. 16). A scenario where an individual presents both the aesthetically dissatisfied and highly promiscuous characteristics at the same time thus appears less plausible, but not impossible. In any case, the investigation of a

possible synergistic effect of promiscuity and aesthetic dissatisfaction on sexual assault perpetration is a question future research should address.

Negative Emotions

Aligning with GST, anger was significantly and marginally significantly ($p = .052$) associated with sexual assault perpetration in studies one and two. In both studies, anger also mediated the relationships between various significant (stress, victimization: sexual, F/P/RP difficulties, and promiscuity) and marginally significant (aesthetic dissatisfaction, sex, and race: Native American) strains/controls and sexual assault commission; further supporting GST. The non-significance of depression and anxiety (surprising but not unprecedented in the literature) will also be discussed in this section. Finally, it bears recalling that, when stress was envisioned as a negative emotion rather than a strain, as initially conceptualized in this dissertation, a mediating effect of stress could not be evidenced.

As mentioned earlier in this dissertation, the vast majority of studies testing GST focused on anger as the primary experienced negative emotion. Overall, reported findings appear consistent in that they evidenced a mediating effect of anger (e.g., Isom Scott & Stevens Andersen, 2020; Oh & Connolly, 2019; Connolly & Beaver, 2015; Rebellon et al., 2012) and results from this dissertation are no exception. Interestingly, results from this dissertation conflict with those reported by Ackerman and Sacks (2012), at least in terms of the mediating effect of anger.

Not as studied as that of anger in empirical tests of GST, the mediating effects of depression and anxiety in the strain-crime relationship could not be consistently demonstrated in the literature. Whilst some authors failed to report mediating effects of anxiety (e.g., Constantin & Boyett, 2021;

Bao, Haas & Pi, 2004; Aseltine, Gore & Gordon, 2000) and depression (e.g., Constantin & Boyett, 2021; Sigfusdottir, Farkas & Silver, 2004; Piquero & Sealock, 2000), others such as Broidy (2001) reported non-anger negative emotions to decrease the risk of crime commission (see also Ackerman & Sacks, 2012; Jang, 2007), others again reported depressed and anxious individuals to be relatively more likely to break the law (e.g., Liu, Visher & O'Connell, 2021; Watts & McNulty, 2013; Hollist, Hughes & Schaible, 2009; Jang & Lyons, 2006; Jang & Johnson, 2003).

In the first application of GST to sexual crimes (i.e., Ackerman & Sacks' [2012] study on sexual and non-sexual recidivism with a sample of registered sex offenders), the tested negative emotions (anger and depression) did not significantly impact sex crimes. Their inclusion in the model even led the measure of strain (“a 25 item additive strain variable [$\alpha = .89$], which consisted of the potential collateral consequences of RCNLs [Registration and Community Notification Laws for sex offenders]”, p. 189) to become insignificant, which was not the case in a prior model predictive of sex crime perpetration. The non-significance of anger and depression appears particularly interesting in light of Ackerman and Sacks' (2012) other findings on different types of crime as anger was significantly positively associated with general, drug, property, and violent recidivism. Depression was not significantly associated with any of the latter criminal outcomes.

An interesting explanation to the absence of mediation of negative emotions (here depression and anxiety), discussed amongst others by Moon and colleagues (2012), would be that measures of trait-based negative emotions (the type of measurement of negative emotions traditionally used in tests of GST) fail to reflect the action of strains on the mind, more likely to be reflected in situational-based negative emotions. This appears credible given that several

studies, for instance, identified trait-based and situational-based anger as operating differently on the strain-crime relationship (Moon et al., 2009; Mazerolle, Piquero & Capowich, 2003).

Although methodologically limited (see the limitations section), findings from study one of this dissertation are in line with others from the literature in that they provide support for the utilization of GST to explain offending and more specifically here sexual offending. Although many tested strains did not emerge significantly associated with the odds of sexual assault perpetration, some did and one negative emotion (anger) mediated the majority of the significant strain-sexual assault perpetration associations.

Psychological Stressors

Following the argument more fully fleshed out in Chapter 5, it was explained that dispositional factors such as personality traits can be envisioned as significant life stressors. Here, these factors have been envisioned as life stressors because of their potential impact on one's daily functioning and negative emotionality, as well as their characteristics which, for many of them, matched the description made by Agnew (2017) of strains most likely to lead to crime. Given the amount of empirical research linking personality traits/types/disorders and criminal sexual activity (e.g., Cardona et al., 2020; Longpré et al., 2018; Robertson & Knight, 2014; Moore, 2009), it was anticipated that including measures of certain personality traits in the initial GST-based model of sexual assault commission would enhance the fitness of this model only relying on ecological factors.

Consequently, in addition to checking whether psychological traits (promiscuity, irresponsibility, and sexual sensation-seeking) could also be significant predictors of sexual crime

perpetration when envisioned as life stressors (i.e., psychological strains), study two also served the purpose of investigating whether the fitness of GST for sexual assault perpetration could be enhanced. To do so, the three above psychological strains have been incorporated into the model tested in study one, leading to the results described previously (promiscuity was the only significant psychological strain).

Overall, the fitness of the second model was considerably better than that of model one due to the inclusion of the three psychological strains, even though Hosmer and Lemeshow tests (study one: $X^2(8) = 9.87, p = .27$; study two: $X^2(8) = 4.90, p = .77$) identified both models as providing good fits for the data.

From a historical perspective, it is understandable for GST to traditionally only emphasize ecological factors given the sociological roots of criminology. That being said, multidisciplinary theoretical integration (i.e., combining explanations from different fields) is a recent endeavour (but scholars have been advocating for it for decades; e.g., Muftić, 2009; Wellford, 1989; Elliott, 1985) that already prove beneficial to many frameworks in that it increased their overall comprehensiveness and their predictive ability (e.g., McKenna, Golladay & Holtfreter, 2020; Fontaine, 2019; Louderback & Sen Roy, 2018; Cho & Lee, 2018; Chan, Heide & Beauregard, 2011; Smith, Frazee & Davison, 2000).

In 2011, Stogner proposed and successfully implemented and tested a biosocially informed general strain theory (BIGST). Without revising any of the concepts central to GST as Agnew's theory was integrated in whole in BIGST, Stogner developed the idea that genetics play a critical role in the strain-crime association. More specifically, he proposed that genetic makeup influences individuals' exposure to strains as well as the way they emotionally and behaviourally respond to

them. The initial tests of Stogner's BIGST (2011) yielded interesting and encouraging positive results regarding the above propositions, hence evidencing that enhancements of GST through multidisciplinary integration are within reach.

Without going as far as to fully integrate psychological concepts, disorders, or groups of personality types (e.g., the dark tetrad), it is believed that it is possible to improve GST in a way that is coherent with the initial objectives of the theory and its central concepts. Ideally, such a psychology-oriented revisitation of GST would lead to a parsimonious, coherent, and falsifiable framework. At the very least, the results from study two indicate that the inclusion of meticulously selected personality traits (perhaps the selection process should be made systematic and the selected traits should be specifically chosen because of their relationship with the studied criminal outcome) can improve model fitness. Whether such findings can be replicated in other settings (more/different psychological traits, criminal outcomes, personality disorders as a whole, different operationalizations of strains, etc) is question future research should address.

Limitations

Although results from this dissertation are very informative, support the utilization of GST for the study of sexual crimes, and open the way for more research to be conducted, they are accompanied by various limitations. Some are directly related to the choice of dataset whereas others are related to methodological choices. In this section, it will be discussed how some of the characteristics of this dissertation may limit analyses and interpretations of its results.

First, it is important to recall that version IIc of the American College Health Association – National College Health Assessment (ACHA-NCHA IIc) primarily aims to gather information

on college students' habits, behaviours, and perceptions of prevalent health topics (e.g., sex behaviour and contraception, physical health, nutrition and exercise). At its core, the ACHA-NCHA has not been created to measure sexual assault or any other crime type specifically. This dataset has been chosen because of the presence of various items in the self-reported questionnaire related to strains of interest, including psychological strains, for the purposes of this dissertation. The item measuring the dependent variable sexual assault (*Within the last 12 months, have you experienced any of the following when drinking alcohol: Had sex with someone without their consent?*) in this dataset is slightly problematic because it involves a scenario of alcohol intoxication, but its use remains nonetheless informative, especially given the results reported. Given the prevalence of sexual assault on college campuses and the overall prevalence of sexual crimes in the youth population (for a systematic review see Fedina, Holmes & Backes, 2018), the use of data garnered from college students appeared totally indicated. Overall, it appears unlikely that a better dataset with a decent measure of sexual assault would have been found to test a psychologically-informed GST. On that note, it also bears recalling that this dissertation has been conducted with multiple cross-sectional datasets. Accordingly, interpretation of the significant results is limited to the associations between certain predictors and the odds of sexual assault commission. Because of the limitations of the datasets used, no strain can be firmly identified as a predictor of sexual assault.

Second, certain characteristics of the sample may render the generalizability of the results somewhat difficult. Besides the uniqueness of the coding of the race variable which renders any interpretation of race/ethnicity-related findings virtually impossible, the female to male ratio of 2:1 in the sample is rather unique. Given that most sexual assault perpetrators are males (e.g.,

Ménard et al., 2003), the sample may not be the most adequate to study sexual crimes. Finally, this was expected with a sample of college students, but the sample was relatively young and there were roughly as many participants in the “22+” as in the “18-19” and “20-21” age categories. Again, given the prevalence of sexual assault on college campuses, respondents' age appears relatively inconsequential.

Third, as evidenced by the trait- versus situational-based anger argument developed earlier in this chapter, the operationalization of some variables is far from being optimal. Because of skewed distributions, the dichotomization of certain variables of interest was forced and it is entirely possible that this manipulation impacted the significance of these variables. Amongst others, depression and sexual sensation-seeking have been dichotomized because of the skewness of their distribution and this forced choice may have impacted the significance of these variables. Additionally, the choice of item to represent variables, such as the experience of an STD/I for sexual sensation-seeking, can be questioned, but the rationale for doing so lies in previous research on sexual sensation-seeking scales and HIV/AIDS risk behaviours (e.g., Kalichman & Rompa, 1995). Although it is acknowledged that many selected items do not fully grasp the essence of the concepts that have been tested and commented on, it is believed that they sufficiently represented the concepts to be included in the analyses. In the same way a simple count of the number of sexual partners provides a general but nonetheless limited idea of one's level of promiscuity, the experience of an STD/I informs on whether the respondent engaged in (risky?) sexual acts without protection and thus provides a very simplistic idea of his/her level of sexual sensation-seeking.

Fourth, the non-significance of important strains for the literature is not a limitation in and of itself, but it may be related to the operationalization of their variables. For instance, scaling

down financial/economic difficulties to the question “*Within the last 12 months, have any of the following been traumatic or very difficult for you to handle: finances?*” may be the reason why a significant relationship could not be reported. Economic difficulties, as a concept, is hard to grasp. Even more so for young college students. The absence of a scale with a graduation of the level of strain experienced to report answers may be problematic in this case. There are many implications associated with the word “finances” and it is entirely possible that respondents failed to consider them all whilst providing an answer to that question. For instance, finances are not limited to paying housing bills but also encompass all the activities related to health, nutrition, and movement (car insurance, oil expenses, reparations). In the absence of a scale for respondents to answer, maybe with detailed descriptions of the levels of financial burden, it is possible respondents could not provide adequate information regarding their financial difficulties.

Fifth, the reasons as to why the inclusion of some personality traits could enhance the model of GST has extensively been discussed in Chapter 5. That discussion primarily covered traits such as promiscuity, irresponsibility, and sexual sensation-seeking, but also briefly touched on others (sometimes as part of the construct of psychopathy) that would be perfectly indicated to be included in this dissertation. For instance, both impulsivity (frequently coupled with irresponsibility in research on psychopathy) and antisocial tendencies have been associated with sex work (i.e., prostitution), sex exchange (i.e., trading sex for necessities), and involvement in risky sexual practices (Edwards & Verona, 2016; Fulton et al., 2010). By extension, it would have been interesting to include measures of impulsivity and antisocial tendencies in a research project on sex offending. However, no satisfying item from the ACHA-NCHA IIc could be identified and such measures thus could not be included in the analyses. To some extent, the item measuring

social isolation in this dissertation (*Have you ever: Felt very lonely?*) could be informative of respondents' antisocial tendencies, but loneliness can also be the product of external factors such as social rejection and it was believed that it was in that sense that this item was intended when it got created.

Arguably though, the greatest limitation of this dissertation is the methodological choice to implement a random under-sampling. The rationale for this choice is detailed at length in Chapter 5 so it will not be reiterated in this section. Naturally, it is acknowledged that this choice can be associated with losses of information. Indeed, dropping the sample from 68,989 to 1,382 respondents can understandably raise information loss concerns. However, independent t-test analyses have been conducted to ensure that there was no statistically significant difference between the full majority group and the randomly selected under-sample for any of the independent variables and controls tested. Of course, these analyses provide no guarantee that no information was lost because of the random under-sampling process, but they should help alleviate readers' concerns regarding the significant associations that have been reported and commented on.

Finally, the last limitation perhaps is more related to the philosophy of GST testing. In 2010, Ganem reported on the role of negative emotions in GST (with a clear distinction between anger and other negative emotions; see also Broidy, 2001) as well as the situational factors that will lead to their experience. First, Ganem (2010) investigated frustration and fear in addition to anger in her study. Although the inclusion of fear and frustration in the models tested in this dissertation would have been ideal, no satisfying item to operationalize these negative emotions could be identified in the ACHA-NCHA IIc. More importantly, Ganem (2010) evidenced that the experience of different negative emotions arises from different contexts. Traditionally, in empirical

tests of GST, the same strains and negative emotions are included in the models, but with slight variations in terms of operationalization or context. Typically, anger and victimization (physical or sexual) are always included in models testing GST. However, what Ganem's (2010) work evidenced is that, since different negative emotions arise from different situations, perhaps the measures of strain included in the tested models were more related to other negative emotions than those tested here. This could for instance explain why, of all three negative emotions (anger, depression, and anxiety) tested, only anger emerged significant from the analyses. Particularly relevant emotions, such as hopelessness, shame, guilt, resentment, and jealousy, but also frustration and fear, could not be part of this dissertation because of the lack of corresponding items in the ACHA-NCHA IIc. More generally, the concern of a mismatch between the studied strains and negative emotions could be extended to virtually all tests of GST and it could reshape the way GST testing is envisioned in the future.

Dissertation Conclusions and Future Research

Overall, results from this research support GST and echo previous literature in that several strains emerged significantly associated with the odds of sexual assault commission and the latter associations were significantly mediated by anger. In line with previous research (e.g., Jennings et al., 2014), the experience of sexual victimization was strongly positively associated with the odds of sexual assault perpetration in the two models tested. In the GST literature, results identifying aesthetic dissatisfaction (i.e., dissatisfaction with one's personal appearance; marginally significant in models one and two) and family/peers/romantic partners difficulties (significant only in model one and marginally significant in model two) as associated with increased odds of sexual

assault commission are unprecedented. Stress, which was conceptualized here as a strain, also was significant in both models and associated with reduced odds of sexual assault perpetration, which could indicate that stress may be best envisioned as a negative emotion. Of the three tested negative emotions (anger, depression, and anxiety), only anger emerged significantly associated with the odds of sexual assault perpetration. Anger also mediated the relationship between various significant (stress, sexual victimization, Family/Peers/Romantic Partners difficulties, and promiscuity) and marginally significant (aesthetic dissatisfaction, sex, and race: Native American) strains and controls and sexual assault perpetration in studies one and two.

When it comes to the absence of mediation of depression and anxiety, it is interesting to ask whether these negative emotions (and their operationalization): a) adequately reflected the actions of strains (trait- versus situational-based emotion argument; see for instance Moon, Morash & McCluskey, 2012) and b) matched the strains that were jointly investigated (role of negative emotions in GST and situational factors that lead to their experience argument; see Ganem, 2010).

Ultimately, even though GST's causal chain could be fully supported in this dissertation, some of the strains and negative emotions investigated were not significantly associated with sexual assault perpetration, which highlights that improvements could be necessary to better predict sexual offending. This was the purpose of study two.

From study two, it can be learned that the inclusion of meticulously selected psychological traits (promiscuity, irresponsibility, and sexual sensation-seeking) as strains drastically increased the fitness of the model for sexual assault. Although only promiscuity emerged positively significantly associated with the odds of sexual assault commission, such results indicate that, through the incorporation of dispositional factors, it is possible to improve GST in a way that is

coherent with the initial objectives of the theory and its central concepts. In this case, personality traits have been envisioned as life stressors because of their potential impact on one's daily functioning and negative emotionality, as well as their characteristics which, for many of them, matched the description made by Agnew (2017) of strains most likely to lead to crime. The result was a psychologically-informed GST that provided a better fit for data on sexual assault perpetration than a GST-based model.

Finally, this dissertation opened the way for more research to be conducted on GST and on psychological strains and negative emotions. Promising axes of research could for instance be related to the possibility of integrating psychological strains to GST-based models predicting nonsexual criminal outcomes. It would also be interesting to look at more psychological strains (impulsivity, antisociality) as related to more negative emotions (shame, guilt, resentment, jealousy) under the lens of GST.

As per the strains that emerged significant in this dissertation, future research will need to investigate more the associations between life events experienced by (close or less-well known) others and one's odds of (sexual) offending. Similarly, the link between aesthetic dissatisfaction and sexual assault perpetration appears really promising. Is this association only present for sexual offending? Can the reported results be replicated with more comprehensive measures of aesthetic dissatisfaction that differentiate between body appearance and personal appearance (clothes, accessories)? Under GST, should stress be conceptualized as a negative emotion rather than a strain? Is there such a thing as a synergistic effect of promiscuity and aesthetic dissatisfaction on sexual assault commission (either through a mediation of sexual deprivation or of negative

emotions)? All these questions are interesting and promising research avenues for the future of criminology.

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BIOGRAPHICAL SKETCH

Gaëtan Doré is a PhD candidate in the criminology program at The University of Texas at Dallas. He earned his Bachelor of Arts in Psychology from the Université Rennes 2 (Rennes, France) and his Master of Science in Forensic Psychology from Bournemouth University (Bournemouth, United Kingdom). His research focuses on psychopathy, antisocial personality disorder, sexual crimes, interpersonal violence, offender decision-making, and mental illnesses as related to violent and sexual crimes.

CURRICULUM VITAE

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Education

2020 – Present	<i>Doctor of Philosophy in Criminology</i> (Graduation expected May 2023) The University of Texas at Dallas (Dallas, TX, USA) Dissertation: <i>Strains, Psychological Strains, and Sexual Assault Perpetration: Investigating (Psychologically-Informed) General Strain Theory</i> (Chair: John L. Worrall)
2018 – 2019	<i>Master of Science in Investigative and Forensic Psychology</i> Bournemouth University (Bournemouth, United Kingdom)
2015 – 2018	<i>Bachelor of Arts in Psychology</i> Université Rennes 2 (Rennes, France) & Marshall University (Huntington, WV, USA)

Research Interests

Psychopathy, antisocial personality disorder, sexual crimes, interpersonal violence, offender decision-making, and mental illnesses as related to violent and sexual crimes

Publications and Research

Manuscripts Under Review

Doré, Gaëtan & Harris, Michelle - “An Environmentalist Perspective: Social Connections and the Etiology of Psychopathy”

Doré, Gaëtan & Vieraitis, Lynne - “Mental Illnesses and Risk Assessments: How Deinstitutionalization Failed to Impact Parole Decision-Making”

Doré, Gaëtan & Worrall, John - “Psychopathic Homicide Offenders: Why Research Must Go On”

Manuscripts in Progress

Doré, Gaëtan - “The Sexuality of Psychopaths: A Systematic Review”

Skaggs, Sheryl; Vieraitis, Lynne & **Doré, Gaëtan** - “The Not So Friendly Skies: Airline Passenger Misconduct, 1999 – 2020”

Research in Progress

Doré, Gaëtan; Harris, Michelle & Krajewski, Andrew - “Social Bonds and Developmental Trajectories of Psychopathy”

Doré, Gaëtan - “Lone versus multiple offending: Differences in victim-sustained injuries”

Presentations & Invited Talks

(Inter)National Conference Presentations

Spring 2023 “The Impact of Families, Peers, and Social Bonds on Development and Delinquency: Social Bonds and Developmental Trajectories of Psychopathy”

Doré, Gaëtan; Harris, Michelle & Krajewski, Andrew

Academy of Criminal Justice Sciences (60th annual meeting – National Harbor, MD)

Fall 2022 “The Etiology of Psychopathic Traits: Focus on Social Connectedness”

Doré, Gaëtan & Harris, Michelle

European Society of Criminology (22nd annual meeting – Malaga, Spain)

Spring 2022 “An Environmentalist Perspective: Social Connections and the Etiology of Psychopathy”

Doré, Gaëtan & Harris, Michelle

Academy of Criminal Justice Sciences (59th annual meeting – Las Vegas, NV)

“Psychopathic Homicide Offenders: Why Research Must Go On”,

Doré, Gaëtan & Worrall, John

Academy of Criminal Justice Sciences (59th annual meeting – Las Vegas, NV)

Invited Talks

Oct. 2022 “Deviance and Crime”

Scholars' Day – the University of Texas at Dallas

Teaching Interests

Biology of aggression, sexuality and crime, mental health and crime, violent crime, drugs and crime, introduction to crime and criminology

Teaching Activity and Development*Teaching Experience*

<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i># of Students</i>
Spring 2023 (UT Dallas)	CRIM 3319	Comparative Justice Systems	39
Fall 2022 (UT Dallas)	CRIM 4396	Selected Topics: Biology of Aggression	19
Summer 2022 (UT Dallas)	SOC 2320	Contemporary Social Issues	20

Guest Lectures

<i>Semester</i>	<i>Course Title</i>	<i>Lecture Title</i>
Fall 2022 (UT Dallas)	Critical Issues in the Social Sciences	Societies and Crime
Fall 2022 (Kentucky Wesleyan College)	Offender Rehabilitation	Risk, Needs, and Responsivity Model
Summer 2022 (UT Dallas)	Field Research Methods	Research designs
	Field Research Methods	Qualitative research, interviews, and focus groups
Fall 2021 (UT Dallas)	Introduction to Crime and Criminology	Biopsychosocial theories of crime
	Social Justice	Legal struggles for social justice
	Advanced Criminal Justice	Police response to domestic violence

*Original Courses**Course Title**Course Overview & Goals*

Biology of Aggression In this course we examined the underlying causes of aggressive

behaviour. Our approach included the use of animal models to describe the basic components of aggressive interactions. We also explored genetic, pharmacological, and physiological influences on aggression.

Teaching Assistantships

<i>Semester</i>	<i>Course #</i>	<i>Course Title</i>	<i># of Students</i>
Summer 2022 (UT Dallas)	SOC 3381	Field Research Methods	20
Spring 2022 (UT Dallas)	CRIM 1301	Introduction to Criminal Justice (online)	58
	CRIM 3312	Drugs and Crime	59
Fall 2021 (UT Dallas)	CRIM 3326	Victimless Crimes	38
	CRIM 1307	Introduction to Crime and Criminology	47
Spring 2021 (UT Dallas)	CRIM 2308	Juvenile Law (online)	61
Spring 2018 (Marshall University)	CRIM 3312	Drugs and Crime	24
	PSY 302	Social Psychology	31

Teaching Initiatives

Jul. – Aug. 2022

Faculty-led Study Abroad Program (French Society:
Sociological Perspectives // UT Dallas)

While in Paris, students will explore major contemporary social issues in France including problems related to immigration, crime and social control, the rise of the far right, work and the economy, youth and aging, and urban life. The course will also examine areas where the French are known to excel such as health care, the environment, and education. In both cases, we will use a sociological perspective to analyse these social issues and discuss how the problems are rooted in society rather than within individuals. We will begin the course by examining the French roots of sociology and the revolutionary transformation of society that gave rise to this new discipline in the 19th century. Specifically, we will delve into the lives of the European intellectuals whose ideas gave rise to this academic field including August Comte, Emile Durkheim and Karl Marx, all of whom resided in Paris. Through their work and

contemporary thinkers, we will examine the social structures and conditions that give rise to the issues we will be studying. Finally, we will consider social policies that have been proposed or implemented to effectively deal with social problems in France today.

May – Aug. 2022

Virtual Exchange Project (UT Dallas – ESIEE/Université Gustave Eiffel)

This project was a collaboration between UT Dallas and ESIEE/UGE (Paris, France) and was based on the Collaborative Online International Learning (COIL) model. Learning objectives for students from both institutions were as follow: a) Understand the major elements of immigration policy in the United States and France, b) Discuss respectfully the implications of these policies on human rights, c) Develop professional skills and competencies in a cross-cultural setting, and d) Demonstrate respect for diversity by discussing multiple perspectives on complex issues.

Teaching Formations

May. 2022

Understanding the principles of course design
Office of Graduate Education, UT Dallas

Developing your teaching
Office of Graduate Education, UT Dallas

Lecturing (2/2)
Office of Graduate Education, UT Dallas

Feb. 2022

Standards of conduct
Office of Graduate Education, UT Dallas

Student accessibility
Office of Graduate Education, UT Dallas

Dec. 2021

Equity and diversity
Office of Graduate Education, UT Dallas

Students' well-being
Office of Graduate Education, UT Dallas

Assessment
Office of Graduate Education, UT Dallas

Nov. 2021

Marking and giving feedback
Office of Graduate Education, UT Dallas

Jul. 2021

Making the most of discussion
Office of Graduate Education, UT Dallas

Lecturing (1/2)
Office of Graduate Education, UT Dallas

Dec. 2020	Avoiding plagiarism Office of Graduate Education, UT Dallas
<i>Teaching Workshops</i>	
Oct. 2022	Teaching as a transferable skill Office of Graduate Education, UT Dallas
Oct. 2022	Inclusive Teaching: Showing students they matter, they belong, and we care Office of Graduate Education, UT Dallas
Aug. 2022	Supporting students in need Office of Graduate Education, UT Dallas
Feb. 2022	Evidence-based strategies for effectively managing student group work Office of Graduate Education, UT Dallas Beyond <i>Meets Expectations</i> : Strategies for delivering effective feedback as an academic professional Office of Graduate Education, UT Dallas
Nov. 2021	Understanding Student Procrastination Office of Graduate Education, UT Dallas
Oct. 2021	Understanding Implicit Bias in the Classroom: How Implicit Bias Impacts Teaching, Student Learning, and the Sense of Belonging Office of Graduate Education, UT Dallas
Mar. 2021	Preparing students to be global citizens Office of Graduate Education, UT Dallas
Dec. 2020	SOS: helping students in distress Office of Graduate Education, UT Dallas
Oct. 2020	Assessment 101 Office of Graduate Education, UT Dallas Alternatives to academic careers Office of Graduate Education, UT Dallas
Sep. 2020	Is higher education (really) ready to talk about race Office of Graduate Education, UT Dallas Keeping personal touch with students remotely Office of Graduate Education, UT Dallas

Professional Development

Professional Certification

Apr. 2023	Graduate Reflective Teaching Seminar Center for Teaching and Learning, UT Dallas
Sep. 2022	Advanced Graduate Teaching Certificate Office of Graduate Education, UT Dallas
Nov. 2021	Graduate Teaching Certificate Office of Graduate Education, UT Dallas
Jul. 2021	General Certification of Completion: Human Subjects Protection Training UT Dallas
May. 2021	Graduate Teaching Seminar Center for Teaching and Learning, UT Dallas
Jun. 2019	Postgraduate Global Talent Programme The Careers Centre, Bournemouth University

Professional Service

2021 –	Committee Member, American Society of Criminology (ASC) – Division of International Criminology
2021 – 2022	Treasurer, Criminology Graduate Student Association (CGSA, UT Dallas)
2019	Support Agent (Volunteer) at Call 4 Backup (Dorset, UK)
2019	Volunteer, Independent Custody Visiting Association (Dorset, UK)
2018 – 2019	Member, Review Panel for Programmes (Bournemouth University)
2018 – 2019	International Student Ambassador (Bournemouth University)
2017 – 2018	Research Assistant (Marshall University)

Professional Membership

Jan. 2022 – Jan. 2023	Member, American Psychological Association (APA)
Jan. 2022 –	Member, Academy of Criminal Justice Society (ACJS) Member, ACJS' International Section

Aug. 2021 – Member, American Society of criminology (ASC)
Committee Member, ASC's Division of International
Criminology (DIC)

Awards, Honours, and Grant Activity

Awards & Distinctions

Mar. 2023 Doctoral Summit participant
Academy of Criminal Justice Sciences (60th annual meeting –
National Harbor, MD)

Grants

2022 “*International Travel Award*” (\$3,000)
Department of Criminology and Criminal Justice (UT Dallas)

2020 – Present “*UTD graduate studies*” scholarship
Department of Criminology and Criminal Justice (UT Dallas)

Jun. 2019 Postgraduate Global Talent Award
The Careers Centre (Bournemouth University)

2018 “*Postgraduate*” scholarship (£2,000)
Bournemouth University

2017 “*Gloria Brothers*” scholarship (\$5,000)
Marshall University

2017 “*Jeunes à l'International*” scholarship (€1,800)
Région Bretagne