Contextual Contributors to Reporting of Sexual and Other Violent Crime to Police and the Role of Reporting in Victim Distress

by Emilie Jain Coen

B.S. in Psychology, May 2010, Tufts University
M.S. in Counseling Psychology, May 2012, Northeastern University

A Dissertation submitted to

The Faculty of
The Milken Institute School of Public Health
of The George Washington University
in partial fulfillment of the requirements
for the degree of Doctor on Public Health

August 31, 2022

Dissertation directed by

Karen A. McDonnell
Associate Professor of Prevention and Community Health

The Milken Institute School of Public Health of The George Washington University certifies that Emilie Jain Coen has passed the Final Examination for the degree of Doctor of Public Health as of May 20, 2022. This is the final and approved form of the dissertation.

Contextual Contributors to Reporting of Sexual and Other Violent Crime to Police and the Role of Reporting in Victim Distress

Emilie Jain Coen

Dissertation Research Committee:

Karen A. McDonnell, Associate Professor of Prevention and Community Health, Dissertation Director

Yan Wang, Associate Professor of Prevention and Community Health, Committee Member

Joan S. Meier, Professor of Clinical Law, Director of the National Family Violence Law Center, Committee Member

© Copyright 2022 by Emilie Jain Coen
All rights reserved

Dedication

This work is dedicated to all survivors of sexual and violent crime who are forced to grapple with the decision of whether to report the crime. I hope that you receive the support you need to make the safest decision for yourself both in that moment and after the fact.

Acknowledgments

There are innumerable people I would like to thank for their guidance, support, and encouragement before, during, and inevitably after this emotional undertaking. First and foremost, I am eternally grateful to my dissertation committee for unwavering understanding and unique perspectives. To my chair, Dr. Karen McDonnell, thank you for your flexibility, perseverance, and ability to keep me on track. And to my readers, the time you took to participate in this process will contribute greatly to my growth as a researcher and practitioner.

To my 2018 doctoral cohort, I would not be here without you. You have helped me when things felt unmanageable, sat through vent sessions when needed, lent me your technical expertise, and most importantly, your friendship. It means the world to me.

Thank you to my parents and my brother. The faith you have in me, even at my lowest, has brought me to where I am. You instilled in me the importance of education and self-improvement while always prioritizing my passions. I will forever cherish this.

Last, but most certainly not least, Ian. My partner, my friend. As you said when I insisted I couldn't have, I "*could* have done it without you" but I never would have wanted to. You have never doubted my ability to succeed, uprooting your life in Columbus to become my biggest cheerleader. Every day, I wake up grateful to have you in my life. You are the best 'Pop-pop' to Olive, and the only one who might love her more than I do. Olive, my three-legged wonder cat, you have my whole heart.

Thank you.

Abstract of Dissertation

Contextual Contributors to the Police Reporting of Sexual and Other Violent Crime and the Role of Reporting in Victim Distress

Sexual crime is a pervasive, world-wide crisis with consistently low police reporting rates. Literature has identified a variety of predictors which influence a victim's decision to report the victimization. These include, but are not limited to, the type of crime experienced, the victim's relationship to the perpetrator, and a victim' resistance response during the crime. In addition to comparatively low reporting rates, sexual victimization is also associated with more negative health outcomes. A crucial concern is that police reporting is linked to exacerbated levels of distress.

This study sought to explore two areas surrounding crime, police reporting, and distress. In manuscript one, analyses investigated the role of the three previously mentioned crime-related predictors and whether their interaction demonstrated an impact a victim's decision to report. In manuscript two, the role of police reporting on the relationship between crime and victim distress was examined and then compared across victim resistance responses.

These aims were achieved through a secondary analysis of unweighted 2015-2019 National Crime Victimization Survey data. Manuscript one used multiple logistic regressions with interaction terms to explore the synergistic moderating relationships of crime, relationship to the perpetrator and victim resistance response across all violent crimes (n=9,763) and exclusively within sexual crimes (n=827). Manuscript two utilized mediation path analyses to examine if police reporting mediated the relationship between the type of violent (n=10,128) or sexual (n=856) crime experienced and victim distress.

Multiple group path analysis was used to determine if these pathways varied by victim resistance response.

Results of manuscript one found that the predictor's main effects were all significantly associated with differential police reporting. Across all violent crimes, a moderating effect of victim resistance response on the type of crime's impact on police reporting was found. Victim 'fight' responses increased the likelihood of reporting compared to both 'flight' and 'freeze' responses. However, among victims of sexual crime, resistance response did not impact odds of reporting.

The mediation path analysis conducted in manuscript two found that experiencing sexual crime compared to non-sexual crimes, both decreased the likelihood of police reporting and increased victim distress. Overall, police reporting was associated with higher distress and significantly mediated the relationship between the type of violent crime and levels of distress. Victim resistance response moderated the direct effect of type of violent crime on police reporting. In the second analysis, sexual assault victimization, compared to rape and attempted rape, decreased reporting to police. Type of crime and police reporting remained associated with higher distress. The relationship between type of sexual crime and distress was mediated by police reporting. No moderation effects were found.

This dissertation has important implications for research and practice. Results indicate that while sexual crime reporting was not influenced by victim resistance response, victim response is an instrumental determinant for non-sexual crime. This contribution is vital in explaining variance in violent crime reporting and opens opportunities for further application in the field. In addition, results support growing

evidence that police reporting increases victim distress, but not just in sexual crime. Improving victim interactions with police and strategies for distress reduction are critical needs in public health. The findings present opportunities for intervention in order to do so. However, further research is needed to determine what victims identify as contributors to their decision to report crime to police, and what about the police reporting process contributes to or mitigates distress.

Table of Contents

Dedication ..... **iv**
Acknowledgments ..... **v**
Abstract of Dissertation ..... **vi**
List of Figures ..... **xi**
List of Tables ..... **xii**
Chapter 1: Introduction and Background 1
Sexual Crime Definitions 2
Incidence and Prevalence of Sexual Victimization in the United States 3
Disparities in Sexual Victimization 4
Health Implications of Sexual Victimization 6
Disclosure of Sexual Victimization 7
Reporting Sexual Victimization to the Police 9
Identified Contributors (Non-)Reporting Victimization to Police 11
Health Implications of Reporting to Police 15
Chapter 2: Dissertation Overview, Framework, and Dataset Methodology 17
Dissertation Overview 17
Manuscript one: Moderation effects of contextual contributors to sexual and other violent crime police reporting 17
Manuscript two: Exploratory analysis of the role of police reporting and victim resistance responses on distress among victims of sexual and other violent crime 18
Theoretical Framework 19
National Crime Victimization Survey Methodology 22
Dissertation Measures 27
Dataset Strengths and Limitations 35
Human Subjects Research Approval 36
Chapter 3: Manuscript One 37
Abstract 37
Introduction 38
Methods 45
Participants and Procedure 45
Measures 45
Statistical Analysis 48

Results 49
Model One – Non-Sexual Violent Crime Compared to Sexual Crime 49
Model Two – Rape Compared to Attempted Rape and Other Sexual Assaults 54
Discussion 58
Chapter 4: Manuscript Two 64
Abstract 64
Introduction 65
Methods 68
Participants and Procedure 68
Measures 69
Study Conceptual Model 71
Statistical Analysis 75
Results 76
Model One – Sexual Crime Compared to Non-Sexual Violent Crime 76
Model Two – Sexual Assault Compared to Rape and Attempted Rape 83
Discussion 89
Chapter 5: Discussion 95
Key Findings 95
Contextual contributors to police reporting *95*
Mediation effect of police reporting on the relationship between crime and distress *96*
Individual and household characteristics' impact on outcomes *98*
Dissertation Limitations and Strengths 101
Limitations 101
Strengths 103
Dissertation Implications 104
Implications for research 105
Implications for practice 108
Conclusion 110
References 111
Appendix A – Additional Manuscript One Tables 126
Appendix B – Additional Manuscript Two Tables 132

List of Figures

Figure 2.1. Campbell et al. (2009) Ecological model of the impact of sexual assault on women's mental health 21

Figure 2.2. Proposed theoretical model for dissertation 22

Figure 3.1. Conceptualization of models one and two..... 43

Figure 3.2. Non-sexual crime compared to sexual crime model moderation visualizations..... 54

Figure 3.3. Rape compared to attempted rape and other sexual assaults model moderation visualizations 57

Figure 4.1. Conceptualization of models one and two..... 71

Figure 4.2. Model one – Violent crime multiple group analysis and final path analysis . 79

Figure 4.3. Model two – Sexual crime multiple group analysis and final path analysis .. 85

List of Tables

Table 2.1. Interview questions and coding for analysis variables 29

Table 3.1. Hypotheses tested for model one (type of crime: non-sexual crime/sexual crime) and model two (type of crime: rape/attempted rape/other sexual assault) 44

Table 3.2. Respondent sociodemographic characteristics 49

Table 3.3. Conceptual model descriptive statistics 50

Table 3.4. Non-sexual crime compared to sexual crime model results 52

Table 3.5. Model one hypothesis 1(e) stratification table for victim resistance response and type of crime predicting police reporting 53

Table 3.6. Rape compared to attempted rape and other sexual assaults model results 56

Table 4.1. Hypotheses tested for models one (non-sexual crime/sexual crime) and two (rape & attempted rape/other sexual assault) 74

Table 4.2. Respondent sociodemographic characteristics 77

Table 4.3. Conceptual model descriptive statistics 78

Table 4.4. Model one – Violent crime multiple group analysis with test of differences .. 81

Table 4.5. Model one – Violent crime path coefficients with bias corrected bootstrap ... 83

Table 4.6. Model two – Sexual crime multiple group analysis with test of differences ... 87

Table 4.7. Model two – Sexual crime path coefficients with bias corrected bootstrap 88

Table A1. Non-sexual crime compared to sexual crime model results including covariates 126

Table A2. Non-sexual crime compared to sexual crime exploratory analysis of three-way interaction predicting police reporting 128

Table A3. Rape compared to attempted rape and other sexual assaults model results including covariates 129

Table A4. Rape compared to attempted rape and other sexual assaults exploratory analysis of three-way interaction predicting police reporting..... 131

Table B1. Model one multiple group path analysis with bias corrected bootstrap – Group Non-Resistance..... 132

Table B2. Model one multiple group path analysis with bias corrected bootstrap – Group Other Resistance Response..... 133

Table B3. Final model one path analysis with bias corrected bootstrap – groups collapsed together..... 134

Table B4. Model two multiple group path analysis with bias corrected bootstrap – Group Non-Resistance..... 135

Table B5. Model two multiple group path analysis with bias corrected bootstrap – Group Other Resistance Response..... 136

Table B6. Final model two path analysis with bias corrected bootstrap – groups collapsed together..... 137

Chapter 1: Introduction and Background[1]

Sexual violence is a world-wide public health pandemic with wide reaching mental, physical, and economic impacts (Davies et al., 2015; Langton & Truman, 2014). All forms of sexual crime disproportionately affect certain populations with documented lower police reporting rates (Morgan & Truman, 2020) and poorer health outcomes compared to other types of crime (Basile et al., 2014; Black et al., 2011). As a result, sexual crime is typically examined and addressed separate from other types of crime.

Partially due to the traumatic nature of sexual crime and significant underreporting to police (Basile et al., 2014), a substantial amount of work has retroactively examined risk and protective factors and victim health outcomes (Breiding et al., 2014). Research has also been devoted to exploring potential explanations for the limited reporting of the crime to the police (Patterson et al., 2009), including characteristics of the crime itself (Muniz & Powers, 2021). Some, but more limited, work has been done into the effects of police reporting on victim health (Campbell et al., 2009; Kaukinen & DeMaris, 2009; Lippy et al, 2020).

This prior work reveals an opportunity to examine the interactive influence of crime-related characteristics on a victim of sexual crime's decision to report, both exclusive to sexual crimes and compared to victims of other violent crime. It also opens an analytical need for objective exploration of the role of police reporting in victim distress across all crimes, and what might affect those relationships.

[1] Chapter One is a concatenation and expansion of the introduction and background sections presented in manuscripts one and two. Thus, some repetition will be found across all three.

Sexual Crime Definitions

Sexual crime is a form of violent crime that occurs when a perpetrator does not obtain consent for any sexual act including, but not limited to forced or attempted sexual penetration, non-penetrative unwanted sexual contact, and verbal threats of such acts (Basile et al., 2014). While the terms rape and sexual assault are often used interchangeably, they have different legal and measurement implications. The National Crime Victimization Survey (NCVS) defines rape as forced vaginal, anal, or oral penetration that is coerced or forced, including attempted and threatened rape (United States Bureau of Justice Statistics [BJS], 2017). This includes incidents of penetration with a foreign object. Within NCVS, attempted rape also includes the threat of rape. This is reflective of the Federal Bureau of Investigation's significantly expanded federal definition of rape that went into effect in 2012 (United States Department of Justice [USDOJ], 2012). Sexual assault encompasses a wider range of incidences, exclusive of those previously defined, such as completed, attempted, or threatened unwanted sexual contact, regardless of force, including harassment or fondling (Morgan & Truman, 2020).

For clarity in discussion, within this dissertation, the terms 'sexual crime,' 'sexual victimization,' and 'sexual violence' will be used interchangeably to encompass all sexually oriented crimes unless the discussion is specific to differentiating between rape, attempted rape, and other sexual assaults. Compared to other types of violent crime, the experience of sexual violence has demonstrated lower rates of police reporting and differentiated health ramifications (Langton & Truman, 2014). Therefore, in this dissertation, sexual crime will be examined in comparison to other violent crime (robbery, aggravated assault, and simple assault). As sexual crime is of greatest interest,

with other types of crime included for comparative analysis, the information presented in the background section will focus primarily on sexual crime.

Incidence and Prevalence of Sexual Victimization in the United States

Incidence and prevalence statistics for sexual crime have vary greatly across studies and sources, even when similar measures are utilized (Rennison et al., 2013). There continue to be methodological difficulties such as vast underreporting, most data being reliant on victim self-report, inconsistencies in how broadly or narrowly sexual violence is defined, sampling differences, recall bias and telescoping, the framing of the study, question order, and directness of the questions (Basile et al., 2014; BJS, 2017; Koss et al., 2007; Schwartz, 2000).

While the Centers for Disease Control and Prevention has tried for uniformed definitions and data collection elements (see Basile et al., 2014), issues of specificity and source strongly influence differences in reported rates. As this dissertation uses NCVS data, nationally representative data will be emphasized when available. While rates of sexual victimization have dropped by approximately 60% since 1995 (Planty et al., 2013), the crimes remain an instrumental area for investigation. Within the US, the NCVS estimates that in 2019, rape and sexual assault occurred at rate of 1.7 per 1,000 persons ages 12 or older with an estimated 212,230 unique victimizations (Morgan & Truman, 2020). Lifetime prevalence surveys estimate that approximately 20% of women and 2% of men have been raped while 44% of women and 23% of men report experiencing some other form of sexual crime (Breiding et al., 2014).

To look at sexual crime incidence comparatively, sexual crime occurs at a lower rate than other violent crimes. NCVS estimates that in 2019, 1.10% of the US population

experienced a violent crime with 0.08% experiencing rape/sexual assault, 0.12% experiencing robbery (1.9/1000 persons with est. 337,720 unique victimizations), 0.25% experiencing aggravated assault (3.7/1000 persons with est. 697,190 victimizations), and 0.71% experiencing simple assault (13.7/1000 persons with est. 1.96M unique victimizations; Morgan & Truman, 2020). Despite the lower rate, the devastating effects of sexual crime make it a critical area for intervention.

Disparities in Sexual Victimization

While sexual crime occurs at a lower rate than other types of violent crime, it effects populations incongruently. Again, this data is highly reliant on self-report, thus further complicating distinguishment of disparities. Victimology has been found to differ from the census. For example, Howard et al. (2019) found that respondents who were female, under the age of 26, not heterosexual, and a race/ethnicity other than white, reported the highest rates of sexual crime.

Women experience disproportionately higher rates of sexual crime than men (Caldwell et al., 2012). Planty et al. (2013) note that between 1995-2010 approximately 9% of sexual crime victims were men. However, this difference is not reflected in violent crimes in general, where men and women experience approximately the same rates of victimization (Morgan & Truman, 2020). Within women, those ages 18 through 24 have the highest rates of sexual victimization – around three times higher than that for all women (Sinozich & Langton, 2014).

Rates of victimization also vary by race/ethnicity with multiracial and American Indian women experiencing a higher burden of assault than their peers (Planty et al., 2013). Representative sample studies have shown comparable rates of sexual crime

amongst Black and white women (Breiding et al., 2014) but non-representative samples have shown higher rates of sexual crime among Black women (see Abbey et al., 2010 for a review; Sigurvinsdottir & Ullman, 2016). Sigurvinsdottir and Ullman (2016) posit this may be due to Black women being more likely to experience sexual intimate partner violence, which may be less reported but more prevalent (West, 2013) and that income inequalities impact Black women's risk of sexual crime. Temple et al. (2007) found that 67% percent of Black women living in poverty experienced some form of sexual crime.

As mentioned, those living in poverty are also at increased risk of sexual victimization. All women, regardless of race or ethnicity, are at heightened risk of sexual crime if their income is below the poverty level (Byrne et al., 1999). Similarly, Breiding et al. (2017) found that food and housing insecurity was strongly associated with experiencing intimate partner violence and sexual crime.

Finally, household location has been found to contribute to both victimization rates and reporting. Rennison et al. (2013) determined that within victims of violent crime, 45% lived in suburban areas, 38% in urban areas, and 16% in rural areas. Within rape and sexual assault, 35% occur in suburban locations, 55% in urban locations, and 10% in rural locations (National Center for Victims of Crime, 2017). These both vary from NCVS's estimation that 69% of U.S. citizens live in suburban areas, 12% in core urban areas, and 19% in rural areas (Anderson, 2020). In addition, contextual factors that contributed to police reporting differed significantly across the three areas. These differences have been tied to variance in barriers to accessing services, including the police (Logan et al., 2005).

Health Implications of Sexual Victimization

Sexual crime has both acute and chronic impacts on a victim's health, including detrimental physical health impacts (Campbell et al., 2009; Coker et al., 2000) and increases in or development of psychological symptomology (Dworkin et al., 2017, 2020). These negative consequences of experiencing sexual crime have demonstrated long-lasting sexual and behavioral (Turchik & Hassija, 2014; Campbell et al., 2004), social (Langton & Truman, 2014), and economic impacts (McCollister et al., 2011) for both victims and society as a whole. It is key to note that young victims have high rates of re-victimization over their lifespan which results in a cumulative effect of sexual crime on poor health outcomes (Davies et al., 2015).

Caldwell et al. (2012) found that female victims of crime, who already suffer higher rates of intimate partner and sexual violence than their male counterparts, are more likely to experience physical and emotional consequences because of the crime. In addition, sexual victimization has been found to lead to increased fear, generalized anxiety, posttraumatic stress, and the development or increased use of drugs and alcohol (Campbell et al., 2009). Victims also report the manifestation of obsessive-compulsive disorder, elevated levels of depression and self-blame, low self-esteem, and suicidality (Black et al., 2011; Kaukinen & DeMaris, 2009). In a recent meta-analysis, Dworkin et al. (2017) found that across studies, victims of sexual crime consistently exhibited significantly higher, clinically diagnosable symptomatology in trauma- and stressor-related disorders, depression, anxiety, disordered eating, and substance abuse when compared to samples with no sexual victimization history.

This increased trauma-based psychological distress has also been shown to develop into somatic symptoms such as gastrointestinal complaints, headaches and insomnia (Duncan et al., 2019; Kugler et al., 2012). Casanovas et al. (2021) found that sexual victimization led to significant increases in long-lasting somatic symptoms with those individuals exhibiting higher rates of anxiety, panic and depressive disorders, and lower psychosocial functioning than those without somatic symptoms.

Sexual crime also impacts functioning in various facets of a victim's life. Langton and Truman (2014) found that of different types of crime, victims of sexual crime report the highest levels of moderate and severe socio-emotional distress. Further, the victims of sexual crime with elevated levels of distress reported more significant negative impacts on relationships at work, at school, and within their friends and families. This disruption of daily functioning has long-reaching educational impacts and subsequent ability to realize a person's full economic potential (Cantor et al., 2019; Fisher et al., 2000). With so many harmful consequences, a stronger understanding of how sexual crime and its contextual characteristics contribute (positively or negatively) to the severity of victim distress in needed.

Disclosure of Sexual Victimization

Despite the literature demonstrating the negative ramifications of sexual victimization, rates of sexual crime disclosure, especially formalized reporting remain low (Kaukinen & DeMaris, 2009). Disclosure of sexual victimization is typically distinguished between informal and formal disclosure[2]. Informal disclosure often entails seeking social support from friends and family, or simply speaking to another person

[2] Also often referred to as 'reporting.'

about the violence perpetrated upon them. Formal disclosure includes the accessing of structural resources such as medical care, counseling, the police, Title IX, etc., typically for a specific purpose and to gain access to services and support a victim may not otherwise have (McCart et al., 2010).

Kaukinen (2002) found that victims of sexual crime were significantly more likely to speak to friends and family, and less likely to report to police than victims of non-sexual crime. Female victims were more likely to disclose informally and to mental health or social services than men, but men were more likely to report to law enforcement than confide in friends or family. Approximately 85% of women who experienced penetrative sexual assaults reported telling another person about the assault, but just under one-third contacted any type of formal program or resource (Cantor et al., 2019). The study found that of college sexual violence victims who had contacted an outside resource, approximately half (47%) reached out to counseling services, while only around one tenth contacted campus police (11%) or local police (9%).

Kaukinen (2004) determined that informal disclosure and formal reporting are distinct strategies and may be driven by different motivations. As a result, this dissertation will focus exclusively on initial police notification as police reporting has the lowest rates of use compared to both informal sources and other formal reporting sources (Cantor et al., 2019; Morgan & Truman, 2020).

Reporting Sexual Victimization to the Police[3]

When victims of sexual violence report the crime to police it presents an opportunity for tertiary crime prevention through the potential rehabilitation of offenders of sexual violence, thereby preventing recidivism. Unfortunately, the legal definition and penalty systems for sexual crime are not consistent. Criminal law is handled predominantly at the state and local level, leading to differences in criminal definition and possible punishments. These inconsistencies in sexual criminal law may play a role in low police reporting, because the first step in reporting sexual violence is acknowledging that the experience was indeed, a crime (Fisher et al., 2000; Spohn & Tellis, 2012). If a victim receives contradictory messages from legal or societal sources, the conceptualization of what constitutes a sexual crime may vary by person.

Wyatt (1992) argues that the effects of sexual crime are shaped by the victim's perception of the experience as well as the anticipated reactions and judgment of those to whom they may disclose. This perception may result in varied self- or culturally-defined interpretations of what sexual crime is, especially when the experience deviates from the 'prototypical rape scenario.[4]' As reflected in the variances in types of disclosure or reporting utilized, this perception could influence victim decisions of whether to disclose, and to whom (Wyatt, 1992). Patterson et al. (2009) found that victims identified concerns that formal reporting would be unhelpful due to their perception of what the system's

[3] The terms 'reporting to the police,' 'police reporting,' and 'police notification' will be used interchangeably. The singular use of 'reporting' and 'notification' will also be attributed to reporting to police, as will the term 'law enforcement.'

[4] DuMont et al. (2003) describe the 'prototypical rape scenario, or the 'true rape victim' as a woman injured due to resisting an armed, violent, stranger rape in a deserted public location (DuMont et al., 2003).

reaction to the contextual characteristics of their experience would be, thus conceptualizing what types of experiences constitute being 'worthy of services.'

Non-belief that the experience was a crime negates the necessity of police intervention (Bondurant, 2001; Fisher et al., 2000) especially if there are fears about facing judgment, blame, or disbelief (Patterson et al., 2019). As such, distrust in the police and concerns about reaffirmation that the experience is either 'not a crime' or 'not a big deal' (Fisher et al., 2000; Kaukinen, 2004; Kaukinen et al., 2009) lead to decisions not to report. Non-reporting has even been identified as a self-protective measure to prevent causing further emotional harm or intensification of unmanageable feelings of trauma that victims reasonably fear police notification might cause (Patterson et al., 2009).

Estimates of police reporting vary greatly, for reasons similar to those contributing to varying incidence and prevalence rates. Regardless of data source, reporting rates represents an extremely conservative estimate of the true prevalence of sexual crime. Both using the National Women's Study data, Tjaden and Thoennes (2006) found an approximately 20% police reporting rate while Wolitzy-Taylor (2011) found an approximately 15% police reporting rate amongst rape victims. A recent NCVS *Criminal Victimization* report (Morgan &Truman, 2020) estimates that about 41% of all violent crime is reported to police. However, within violent crimes, only 34% of sexual victimizations are reported to police. This is compared 47% for robbery, 52% for aggravated assault, and 38% for simple assault (Morgan & Truman, 2020).

Clearly, further investigation is needed to build an understanding of the nuance involved in identifying sexual violence as a crime and police reporting decision-making.

This will be explored through examination of three characteristics – type of crime, relationship to the perpetrator, and victim resistance responses[5] – and their interactive role with a victim's decision to engage with law enforcement regarding their victimization.

Identified Contributors (Non-)Reporting Victimization to Police

A multitude of reasons have been identified as contributing to a victim's decision not to report their experience of sexual victimization. Common themes among predictors of reporting have been found to be peripherally related to those who deviate in some way from the societally accepted 'prototypical rape scenario' (DuMont et al., 2003). This trend has been explained by the notion that those who fall outside of that prototypical experience feel others are less likely to believe that what occurred to them was a crime (Wolitzky-Taylor et al., 2011).

Type of crime experienced

As previously mentioned, across types of violence, sexual violence is reported to police at a much lower rate than physical assaults (Felson & Paré, 2005) and other crimes. Recent NCVS data shows approx. 34% of sexual violence is reported compared to 47% for robbery or 52% for aggravated assault (Morgan & Truman, 2020). Specific to sexual crime, the type of violence experienced matters as well. Completed penetration (Spencer et al., 2017) and forceful attacks (DuMont et al., 2003) have been positively associated with police reporting compared to other forms of sexual assault. In addition,

[5] This dissertation will utilize the term "non-resistance," to denote victims who reported keeping still or taking no action during the crime. It is crucial to note that keeping still is an instrumental self-protective, resistance response as it is often one of the safer actions to take. This author is placing no value judgment on the type of resistance response exhibited.

completed violent crimes are reported at higher rates attempted or threatened crimes (Morgan & Truman, 2020).

Relationship to the perpetrator

Kang and Lynch (2014) found that in general, interpersonal crimes committed by a known perpetrator are experienced differently that those victimized by a stranger. As result, conceptualization of whether a crime has been committed and subsequent police reporting decision-making are impacted. Some argue that victim- offender relationship no longer impacts police reporting of rape, in part due to rape reform laws (Bachman, 1993), however, a preponderance of evidence shows otherwise (Felson & Paré, 2006; Spencer et al., 2017; Wolitzky-Taylor et al., 2011).

Despite the fact that a high percentage of sexual crime is perpetrated by non-strangers, knowing the perpetrator in some way is associated with lower rates of police reporting (Spencer et al., 2017). Wolitzky-Taylor et al. (2011) found that approximately 88% of respondents knew their rapist, with 26% of them being an intimate partner. Of their sample, only 16% disclosed the violence to the police and those raped by a stranger had 2.58 times greater odds of reporting the crime. A possible interpretation, when it was found that those who were raped by strangers expressed less concern about being blamed, was that concern about victim-blaming mediates the pathway between the relationship to the perpetrator and police reporting (Wolitzky-Taylor et al., 2011).

This is tied heavily to the societal concept of who has to perpetrate the sexual violence in order for the experience to be considered a crime. Supporting that notion, Felson and Paré (2006) found that victims of acquaintance rape report at lower rates as they were more likely to feel the crime was ‘too minor’ and that, most importantly, due to

the pre-existing relationship, what occurred to them was not a crime. A pre-existing relationship has also been reported to make the experience a 'private matter' (Kaukinen & DeMaris, 2009; Planty et al., 2013). This negates the victim's perceived inclination to contact law enforcement.

Finally, fear of reprisal from the perpetrator (Bachman, 1998; Planty et al., 2013), which could be at increased odds if the perpetrator knows personal information about the victim, is cited to contribute to non-reporting to police. Lippy et al. (2020) also note that within intimate partner violence, reporting may be lower because police involvement could result in unknown ramifications within the home. Participants reported fears of partner arrest, child protective services involvement, homelessness, and deportation. In fact, when the participants did not want to report, but someone reported on their behalf, over 50% stated it made their situation "much worse" (Lippy et al., 2020).

Victim resistance responses

The third facet to be explored is immediate victim response during the victimization, which can be framed theoretically as a 'fight-flight-freeze response.' The terms 'fight-flight-freeze' are used to describe biologically based behavioral responses to threat (Schmidt et al., 2008). Conceptually, these can be described as forceful resistance or 'fight' (e.g. physical attack on the perpetrator, kicking, pushing, threatening), non-forceful resistance or 'flight' (e.g. running, hiding, begging the perpetrator), and non-resistance or 'freeze' (e.g. no physical or verbal action). Overall use of resistance strategies, especially 'fight' responses, has been significantly associated with higher levels of police reporting (DuMont et al, 2003; Gunn & Minch, 1988).

Pinciotti and Seligowski (2019) found that victims of sexual crime who 'froze' during an attack were less likely to disclose the experience to law enforcement than those who exhibited any other response. Those who 'fought' were significantly more likely to report than those who 'fled' or 'froze.' The authors posit these results fall back on prior research that victims who 'fight' have a higher likelihood of labeling their victimization as rape (Bondurant, 2001). They may thus be more likely to feel firm in their belief that what happened to them was a crime, increasing likelihood of police reporting compared to 'flight' or 'freeze' responses (Pinciotti & Seligowski, 2019). This could be replicative of Wolitzky-Talyor et al. (2011)'s argument that concerns about blame weigh heavily in decision making. Identifying as a victim of a crime that involved forceful resistance on the victim's part may also contribute to that self-identification of the experience being a 'big enough deal.'

However, the inverse of the previously discussed findings also exists. Within certain groups, such as Black women, increased victim resistance is paired with decreased reporting (Joseph, 1997). Some victims of crime, especially domestic or intimate partner violence, who fight back are either arrested themselves (Dichter, 2013) or threatened with arrest (American Civil Liberties Union [ACLU], 2015). Awareness about, or fear of, this possibility leads to a decreased desire to report the crime (Lippy et al., 2020). Regardless of directionality, victim resistance clearly plays an important role in the decision to report crime to police.

Due to the variety of crime-level contributors to the high level of non-reporting, further research is warranted to explore how these factors interact as a part of the police reporting decision-making process.

Health Implications of Reporting to Police

In addition to the health impacts of sexual victimization, those who report to police have described re-traumatization at the hands of the reporting process, leading to coined phrases such as "the second assault" (Williams & Holmes, 1981; Campbell & Raja, 1999; Campbell et al., 2001). Victims are subjected to extensive questioning and recounting of the crime, leaving them open to 'victim-blaming' questions and contributing to increased opportunities for self-blame (ACLU, 2015; Campbell, 2005, 2006).

As a direct result of their experience with the police, rape victims have overwhelmingly reported feeling guilty, self-blaming, depressed and violated, as well as less likely to seek any further formalized help (Campbell, 2005; Campbell & Raja, 2005). This re-traumatization was seen to lead to decreased mental health and increased longevity of symptoms. The process may alienate victims from friends and family or worsen their situation should the perpetrator be a partner (Kaukinen & DeMaris, 2009; Lippy et al., 2020). Police reporting has also contributed to feelings of institutional betrayal and anger (Lorenz et al., 2019) while police biases in the reporting process impacts victims' ability to recover from the trauma (ACLU, 2015).

Kaukinen and DeMaris (2009) found that both informal disclosure and police reporting strengthened the association between penetrative victimization and increased depressive symptomology. The authors discussed that the context of the crime experienced likely impacts the sympathetic responses received by the victim which impacts their mental health. Further, Campbell (2005) found that police officers substantially misjudge their direct impact on the level of distress experienced by rape

victims. As such, while interaction with victim's services such as rape crisis centers may mitigate some distress resulting in lower mental health symptomology, engagement with law enforcement is related to secondary victimization and predictive of increased mental health symptomatology (Campbell et al., 2009). Further exploration into both the delineation of health outcomes attributed to the reporting compared to the experience of violence and into the physical or somatic impact of police reporting is needed.

Chapter 2: Dissertation Overview, Framework, and Dataset Methodology[6]

Dissertation Overview

This dissertation sought to address gaps in the literature in two ways and is presented in two manuscripts found in the following chapters. The papers are built upon previous efforts that have investigated sexual crime police reporting and subsequent victim distress. Examination of the interrelationship between the characteristics of interest allowed for the determination of the unique and shared contributions of factors that impact victimization reporting and distress levels. Comparative analysis of sexual crime and other non-sexual violent crime expands greatly on an area of literature that is often siloed within sexual crime, providing a broader context for the role of police reporting in crime victim distress.

Manuscript one: Moderation effects of contextual contributors to sexual and other violent crime police reporting

The first manuscript presented (see Chapter Three) focused upon three common characteristics of sexual crime that have a demonstrated relationship with police reporting – the type of crime experienced, the victim's relationship to the perpetrator, and a victim's resistance response. The paper aimed to examine the interactive nature of these contextual factors and their role in police reporting not just within types of sexual crime, but across both sexual and non-sexual violent crimes.

Prior efforts have examined these crime related characteristics in more singular pathways. Exploring the interactions of all three contextual variables created a nuanced

[6] As in Chapter One, Chapter Two is a concatenation and expansion on the methodology sections of both manuscripts. Repetition will be found between the three.

of contributors to police reporting. In addition, the theoretical conceptualization of victim resistance into "fight-flight-freeze" is relatively nascent in the literature (Pinciotti & Seligowski, 2021), so this variable's inclusion, especially in combination with other contextual characteristics contributes greatly to the literature.

In addition, these three contextual variables are most attributed to being potential deviations of the, atypical, but societally recognized 'prototypical rape' scenario commonly attached to images of sexual crime. Muniz and Powers (2021) have argued that most research into these characteristics have been within sexual crime and there is a need to know if these situational characteristics are equally predictive for other forms of violent crime. Similarly, Rennison et al. (2013) note that most studies analyze sexual and non-sexual crime, as well as intimate partner and stranger crimes, separately. This analysis allowed comparison across types of crime and across relationships to the perpetrator.

Manuscript two: Exploratory analysis of the role of police reporting and victim resistance responses on distress among victims of sexual and other violent crime

The second manuscript presented (see Chapter Four) expanded on contextual contributors to police reporting and investigated the role reporting the crime had on the relationship between experiencing different types of crime and victim distress. It also examined whether those relationships differed by victim resistance responses during the crime. As in the first manuscript, each exploration looked across types of violent crime (sexual and non-sexual violent) as well as exclusively within types of sexual crime (rape/attempted rape and other sexual assaults).

Research into the effect of police reporting on victims is most often conducted within sexual crime (Kaukinen & DeMaris, 2009). In addition, much of said work is completed qualitatively (Campell, 2005; Campbell et al., 2001). This manuscript sought to quantitatively examine not just the relationship between crime and distress, or that between police reporting and distress, but to see if whether if the crime was reported to police helped explain the level of distress experienced by different crime victims.

An additional novel dimension of this analysis is the examination into whether the relationships previously mentioned vary by the victim's resistance response – non-resistance compared to any other self-identified resistance response. While victim resistance responses have been tied to each relationship independently, no literature found explored the role of resistance when the relationships are looked at in totality.

Theoretical Framework

Experiences of violence do not occur in a vacuum. Therefore, explorations into a victim's decision to interact with police, and any manifestation of health consequences cannot be viewed solely from an individual level lens. Investigating individual decision making without taking into consideration the ecological setting yields an incomplete picture (Kelly et al., 2000). Ecological model approaches are a holistic manner of observing the experiences of victims (McLeroy et al., 1988; Campbell et al., 2009). These theories posit that a person's environment is comprised of layers that interact with each other and with the individual in a reciprocal manner, contributing to that person's development (Bronfenbrenner, 1995).

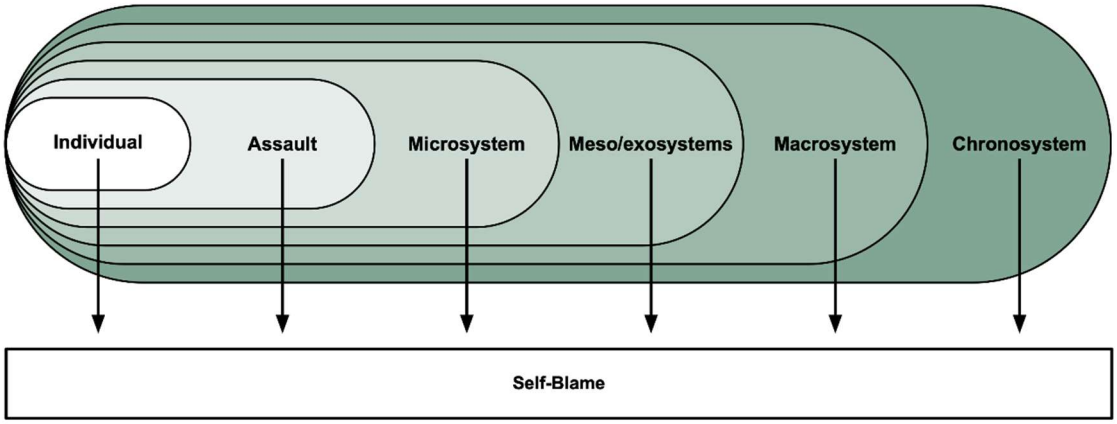
Bronfenbrenner (1995) posited these levels included the individual, the microsystem (closest system, such as friends and family), mesosystem (the interactions

between microsystem members), exosystem (formalized supports), macrosystem (societal beliefs, norms, and policies), and the chronosystem (time's influence on the ecosystem). One common reframing of the systems includes layers of intrapersonal, interpersonal, organizational, community, and policy (McLeroy et al., 1998). This has been further adapted for victims of sexual crime (Campbell et al., 2009; Kelly et al., 2000; Neville & Heppner, 1999).

Kelly et al. (2000) note that in addition to individual characteristics, environmental characteristics, and community attitudes, the ecological setting also includes *events*. This refers to specific problems or occurrences that would cause someone to require or seek assistance. Similarly, Neville and Heppner (1999) developed a culturally inclusive ecological model for sexual assault recovery which argues that neither pre-existing individual characteristics nor the experience of sexual crime itself can predict a victim's future wellbeing or recovery. The authors explain that victims must continue to interact with their social environment. As such, every disclosure and every interaction result in implicit and explicit messages regarding victimization and blame, thus influencing health outcomes. This influences a person's perception of how further interactions may go, and shaping future individual behaviors

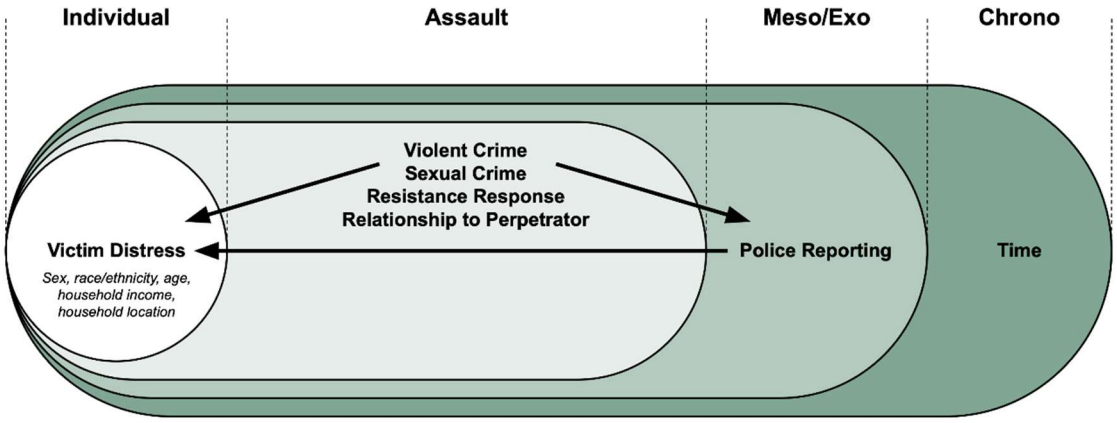
When conducting an empirical review, Campbell et al. (2009) adapted these concepts, incorporating the characteristics of the assault within the levels that impact victim's subsequent functioning. In this review, they found that factors at all levels (e.g. relationship to the perpetrator at the assault level, or contact with the legal, medical, or mental health systems at the meso/exosystem levels) affect subsequent mental health outcomes. Please see Figure 2.1 for Campbell et al. (2009; p.229)'s visual representation.

Figure 2.1. Adapted from Campbell et al. (2009)'s ecological model of the impact of sexual assault on women's mental health



This dissertation seeks to examine how an individual's perception of assault level characteristics interact to influence their personal decision to engage with the meso/exosystem levels. It also looks at how the decision to engage with police impacts individual distress. It is important to note that while being examined from a socio-ecological lens, all actions will be analyzed at the individual level, not with the use of multi-level modeling. The emphasis was placed on the individual assessing the assault level characteristics to guide their decision to notify police. Then, it is the victim's decision to report, guided by their perception of the reporting experience, that potentially influenced distress – not an assumption of any further engagement with the legal system. Please see Figure 2.2 for dissertation theoretical model.

Figure 2.2. Proposed theoretical model for dissertation



National Crime Victimization Survey Methodology

This dissertation consists of a secondary data analysis of the National Crime Victimization Survey. As this is a pre-established survey, overall methodology discussion, including survey design, sampling design, data collection, the survey instrument, and measures collected are descriptors of BJS methodology. See BJS (2017) for extensive explanation of sampling and data collection.

The NCVS is a nationally representative survey funded by BJS and conducted by the Census Bureau on a yearly basis. It serves as the U.S.'s foremost source on criminal victimization characteristics, estimates, and consequences covering both those victimizations reported to the police and those that are not. The survey includes both violent and non-violent crimes against the person as well as property crimes while not measuring crimes such as homicide, kidnapping, drug possession or sales, vandalism, prostitution and sex trafficking, arson, driving under the influence, and more.

The survey was created with four objectives: to obtain detailed data about victimization and consequences of crime; to estimate incidence and prevalence of crimes not reported to the police; to develop uniform measures of crimes; and to allow for

comparisons over yearly iterations of the survey. This enables estimation of U.S. victimization levels both for the population and for subsets of the population.

Survey design

The NCVS is a self-report survey administered at the household level. It has a rotating panel design which permits analysis of yearly changes and a reduction in response errors. Should a household consent, the interviews occur biyearly over three-years for a total of seven interviews. Once the final interview occurs the household exits the panel with a new household rotating into the sample.

Compared to a purely cross-sectional design, panel surveys have smaller variance for year-to- year change estimates. It also allows for greater accuracy in incidence time frames by bounding subsequent interviews to prevent the inclusion of incidents outside of the reference period. When selected, each member of the household is interviewed about the number and characteristics of any criminal victimization in the past six months.

Sampling design

The NCVS utilizes a stratified, multi-stage cluster sample of housing units and group quarters (i.e., dormitories, boarding houses, or religious group housing) within 542 sample areas. The sample sizes are designed to ensure the ability to produce national crime estimates with a coefficient of variance of less than five percent and state-level estimates with a coefficient of variance under ten percent. Based on the number of self-representing (SR) and non-self-representing (NSR) primary sampling units (PSUs), a target for completed person-level interviews within each state is created. The second-stage sample size is based on this target number of completed interviews and adjusted for response rates, occupied housing unit rates, average number of people per housing unit,

and within-household response rates. This results in an expected sample size of approximately 240,000 housing units per year.

First-stage sampling. The first stage of NCVS sampling is the stratification and selection of PSUs which are comprised of a large metropolitan area, a county, or a group of adjacent counties. PSUs are defined by census data characteristics including total land area, natural barriers (rivers, mountain), or current and projective population counts. The PSU must have a population of at least 7,500 persons with a preferred cap of 3,000 square miles land area. These are identified every 10 years.

These PSUs are then divided into sampling strata. PSUs with large Core Based Statistical Areas are known as SR PSUs and make up their own strata. The remaining PSUs are categorized as NSR. They are randomly grouped based on census demographic data with similar NSR PSUs within their states to minimize between-PSU variance within those strata. Currently there are 339 SR PSUs and 203 NSR PSUs.

Second-stage sampling. The second-stage selection includes a sampling of select housing units and group quarters in sufficient quantity to meet the target sample size of completed person-level interviews. A systematic sample is derived from an ordered list of addresses within the group quarters and housing unit frames. This selection occurs annually for the housing units and triennially for group quarters. Once the sample is selected, they are divided into the appropriate rotating panels.

Survey inclusion and exclusion criteria. Within these second-stage sampling, the target population are US residents ages 12 and older who reside in a housing unit or group quarter. The survey excludes: those under the age of 12; maritime vessel crew;

personnel living in military barracks; the homeless; institutionalized persons; citizens living outside of the US; and foreign visitors.

Data collection

The first interview with a household typically occurs face-to-face and begins with the member of the household most familiar with potential property crimes. The self-respondent method requires directly interviewing each member of the household ages 12 years and older. Proxy interviewing may occur in three instances: a knowledgeable household member refuses for a 12- or 13-year-old resident be interviewed directly; a household member is mentally or physically incapacitated; and when a household member is temporarily absent for the whole field-interview time. Subsequent interviews are completed either face-to-face, by telephone, or with Computer-Assisted Telephone Interviewing.

Survey instrument

The interviews then utilize a two-stage process to identify and quantify criminal victimizations. First, interviewers use the NCVS-500 control card, which stands as the base record for each sample unit across all interview time points. It allows interviewers to locate and ensure they are in contact with the correct household. Next, the NCVS-1 Basic Screen Questionnaire is administered to each member of the household ages 12 and older. This instrument is written in short cue format to determine whether any crimes have been committed against the household or a household member within the past six months (reference period). This includes both the household respondent's and other household member's interviews. Any victimization identified during screening is then followed up with a detailed crime incident report (CIR) about the crime experienced.

NCVS-2 CIR. The NCVS-2 CIR collects comprehensive information regarding crime identified in the NCVS-1. One incident report is completed for each individual crime reported during screening. The only exception is if a crime has occurred more than five times in the past six months and the respondent does not remembers details specific to each incident. This is recorded as a series crime and documented on one CIR. Information compiled in the CIR includes characteristics such as location of the incident, injuries sustained, perpetrator characteristics, and more.

Rape and sexual assault estimates. Within the NCVS-1 and NCVS-2, a specific two- stage measurement is applied to target sexual crime. First, in the NCVS-1, the respondent is presented with two short-cue questions tailored to prompt recall of sexual violence incidents. Second, if there is an affirmative response, the NCVS-2 key attributes of sexual violence including type of attack and physical injury suffered are utilized to classify the incident as sexual violence.

Crime classification

CIRs are assigned a type of crime code based on response on the report. Each incident is only counted once and classified based on the most serious crime that occurred during the incident. Seriousness of the crime is determined through the Federal Bureau of Investigation's seriousness classification system. From most serious to least, crimes against the person are ranked as rape, sexual assault, robbery, aggravated assault, simple assault, and purse snatching/pocket picking (BJS, 2017). If multiple crimes occur at once, the incident is coded as the more serious crime.

Crimes can be further delineated as personal crimes and property crimes. Crimes against persons (personal crimes) can be both violent or non-violent with violent crimes

including direct contact between offender(s) and the victim. This includes physical, attempted, and threatened attacks. Crimes against a household (property crime), including both completed and attempted crimes, so not require direct contact between household member and the offender(s).

Survey weights

In order for NCVS data to be used for population estimates, survey weights can be used to populate universe estimates of the event being measured. The weights are used to indicate how many times each sample record is to be counted to make the sample representative. NCVS data are adjusted at the household, person, and incident level to provide annual and bi-annual crime estimates.

This analysis did not use survey weights. While weighting takes into account the complex survey design to create nationally representative estimates, the use of unweighted data for predictive regression has been deemed preferable (Avery et al., 2019), even in recommendations specific to NCVS (Lohr & Liu, 1994; BJS, 2020). This is partially due to the fact that when used for predictive analyses, the weights result in sample sizes representative of the estimated number of nationwide victimizations (e.g. approximately 22 million violent crime victimizations rather than the 10,000 incidents reported in the sample).

Dissertation Measures

The measures used in the studies will be discussed thoroughly in each manuscript. The main conceptual variables of use include: the type of crime experienced, classified in two ways, sexual and non-sexual violent crime as well as rape, attempted rape, and other sexual assaults; reporting to the police; victim distress as a result of the crime; victim

resistance response; and victim relationship to the perpetrator. The analyses will also include covariates of survey year, victim self-identified sex, race/ethnicity, age, household location, and household income. Please see Table 2.1 for interview questions and variable coding.

Table 2.1. Interview questions and coding for analysis variables

Variable	Variable Number	Interview Questions Used and Response Options	Analysis Coding
Conceptual Model Measures			
Type of Violent Crime	V4529		
Sexual[7]		*Any of:*	**Exclusively Sexual Crime:**
Rape		____ Completed rape ____ Verbal threat of rape	0 = Rape 1 = Attempted rape
Attempted Rape		____ Attempted rape	3 = Other sexual assaults
Sexual Assault		____ Sexual attack with serious assault ____ Sexual attack with minor assault ____ Sexual assault without injury ____ Unwanted sexual contact without force ____ Verbal threat of sexual assault	
Non-Sexual		*Any of:* ____ Completed robbery with injury from serious assault ____ Completed robbery with injury from minor assault ____ Completed robbery without injury from minor assault ____ Attempted robbery with injury from serious assault ____ Attempted robbery with injury from minor assault ____ Attempted robbery without injury ____ Completed aggravated assault with injury ____ Attempted aggravated assault with weapon ____ Threatened assault with weapon ____ Simple assault completed with injury ____ Assault without weapon without injury	**All Violent Crime:** 0 = Non-Sexual Crime 1 = Sexual Crime

[7] Questions and response options obtained from the NCVS Codebook, available at: https://doi.org/10.3886/ICPSR37689.v1

		____ Verbal threat of assault	
Reporting to Police	V4399	Were the police informed or did they find out about this incident in any way? ____ Yes ____ No ____ Don't Know	0 = No/Don't Know 1 = Yes
Victim Distress	V4140B3	How distressing was being a victim of this crime to you? Was it not at all distressing, mildly distressing, moderately distressing, or severely distressing? ____ Not at all distressing ____ Mildly distressing ____ Moderately distressing ____ Severely distressing	0-3 Ordinal Scale run continuously
Victim Resistance Response **Freeze** **Flight**	V4141 V4150 V4153	Did you do anything with the idea of protecting YOURSELF or your PROPERTY while the incident was going on? ____ Yes ____ No/took no action/kept still Was there anything you did or tried to do about the incident while it was going on? ____ Yes ____ No/took no action/kept still *If yes:* ____ Resisted or captured offender: Defended self or property (struggled, ducked, blocked blows, held on to property) ____ Persuaded or appeased offender: Cooperated, or pretended to (stalled, did what they asked)	**Manuscript Two:** 0 = Non-resistance/kept still 1 = Any other resistance strategy **Manuscript One:** 0 = Freeze 1 = Flight 2 = Fight

Fight	V4154 V4155 V4158 V4144 V4145 V4146 V4147 V4148 V4149 V4151 V4152 V4156 V4157	____ Persuaded or appeased offender: Argued, reasoned, pleaded, bargained, etc. ____ Escaped or got away: Ran or drove away, or tried; hid, locked door ____ Reacted to pain or emotion: Screamed from pain or fear ____ Used physical force toward offender: Attacked offender with gun; fired gun ____ Used physical force toward offender: Attacked with other weapon ____ Used physical force toward offender: Attacked without weapon (hit, kicked, etc.) ____ Used physical force toward offender: Threatened offender with gun ____ Used physical force toward offender: Threatened offender with other weapon ____ Used physical force toward offender: Threatened to injure, no weapon ____ Resisted or captured offender: Chased, tried to catch or hold offender ____ Scared or warned off offender: Yelled at offender, turned on lights, threatened to call police, etc. ____ Got help or gave alarm: Called police or guard ____ Got help or gave alarm: Tried to attract attention or help, warn others (cried out for help, called children inside)	
Relationship to the Perpetrator	V4241	Was the offender someone you knew or a stranger you had never seen before? ____ Knew or had seen before ____ Stranger ____ Don't know	0 = Unknown to the victim 1 = Known to the victim

	V4256	Were any of the offenders known to you or were they all strangers you had never seen before? ____ All known ____ Some known ____ All strangers ____ Don't know	
Model Covariates			
Survey Year	V3082	____ 2015 ____ 2016 ____ 2017 ____ 2018 ____2019	**Manuscript One:** 2015 = 2015 2016 = 2016 2017 = 2017 2018 = 2018 2019 = 2019 **Manuscript Two:** 2015-2019 Ordinal Variable run continuously
Sex[8]	V3018	____ Male ____ Female	0 = Male 1 = Female
Race/Ethnicity	V3023A	____ White only ____ Black only ____ American Indian, Alaska native only ____ Asian only ____ Hawaiian/Pacific Islander only	0 = White, non-Hispanic 1 = Black, non-Hispanic 2 = Hispanic 3 = Other race, non-Hispanic

[8] Gender identity (both sex at birth and current gender identity) and sexual orientation were not included in the survey until 2017 thus they were not able to be used in this analysis. This variable represents sex assigned at birth.

		____ White-Black ____ White-American Indian ____ White-Asian ____ White-Hawaiian ____ Black-American Indian ____ Black-Asian ____ Black-Hawaiian/Pacific Islander ____ American Indian-Asian ____ Asian-Hawaiian/Pacific Islander ____ White-Black-American Indian ____ White-Black-Asian ____ White-American Indian-Asian ____ White-Asian-Hawaiian ____ 2 or 3 races ____ 4 or 5 races	4 = Multi-racial, non-Hispanic
	V3024	Hispanic Origin ____ Yes ____ No	
Age	V3014	Age last birthday (range 12-90)	**Manuscript One:** 0 = 18-24 1 = 12-17 2 = 25-34 3 = 35-49 4 = 50-64 5 = 65 and up **Manuscript Two:** 12-90 continous variable

Household Location	V2129	Metropolitan Statistical Area (MSA) ____ Central city of an (S)MSA ____ In S(MSA) but not in central city ____ Not S(MSA)	0 = Urban 1 = Suburban 2 = Rural
Household Income	SC214A	____ Less than $5,000 ____ $5,000 to $7,499 ____ $7,500 to $9,999 ____ $10,000 to $12,499 ____ $12,500 to $14,999 ____ $15,000 to $17,499 ____ $17,500 to $19,999 ____ $20,000 to $24,999 ____ $25,000 to $29,999 ____ $30,000 to $34,999 ____ $35,000 to $39,999 ____ $40,000 to $49,999 ____ $50,000 to $74,999 ____ $75,000 and over	**Manuscript One:** 0 = Under $12,500 1 = $12,500-$24,999 2 = $25,000-$49,999 3 = $50,000-$74,999 4 = $75,000 and over **Manuscript Two:** Ordinal variable from 0 = under $12,000 to 4 = $75,000 and over run continuously

Dataset Strengths and Limitations

The NCVS uses strong sampling approaches allowing for nationally representative examination across many years. The large sample size permits complex analysis into subgroups of victims and crime characteristics. The immense data captured in the CIR makes the survey especially apt for capturing myriad characteristics of crime and its outcome. Instrumental to this dissertation, data collected includes crimes both reported and not reported to police allowing for a more accurate picture of national police reporting behaviors. This is key, considering the vast under-reporting of sexual victimization.

The data set includes quantitative measures with multiple levels of the variables of interest (e.g. multiple types of victim resistance responses, differentiation between rape, attempted rape, and other sexual assault). This allows for a more nuanced exploration of the crime experience, not wholly reliant on dichotomous responses. Finally, findings are well-suited for comparison to the multitude of studies utilizing the NCVS because of similarities in measures and methodology while still allowing for updated variable use, theoretical conceptualization, and interpretation.

There do, however, remain criticisms of crime surveys continuing to underestimate violence against women and sexual crime (DeKeseredy & Schwartz, 2011), though NCVS' large probability sampling attempts to mitigate that concern. Since the survey is self-report, it only includes information from victims who are both willing to be interviewed and to self-disclose. Despite also allowing for collection of information about crimes not reported to the police, the overall trend of sexual victimization underreporting may be reflected within the data collected.

As the survey was not created for use in public health, nor this dissertation, not all measures are tailored precisely to the research questions. This is especially salient for discussion and analysis of distress due to being a victim of crime, as the measures captured by the NCVS are not as thorough as could be desired.

Finally, while the survey is a rotating panel design, responses are analyzed as cross-sectional data. The questions are framed to only capture new crimes committed within the six-months since the prior interview and do not follow up on ramifications of past crimes identified in the survey. This introduces concerns with temporal precedence of variables for predictive analysis. The framing and addition of the questions (e.g. differentiating between victim resistance *during* the attack v. *after* the attack or designating that health outcomes had to have lasted for *more than one month post* crime) attempts to use language to minimize the concern but it remains a limiting factor.

Human Subjects Research Approval

Information regarding the study protocol was submitted to the George Washington University Office of Human Research, Institutional Review Board (IRB). Based on factors including being a secondary analysis of a de-identified, publicly available dataset, the dissertation was found to be non-human subjects research that did not require IRB approval.

Chapter 3: Manuscript One

Moderation Effects of Contextual Contributors to Sexual and Other Violent Crime Police Reporting

This article was prepared in anticipation of submission to the Journal of Interpersonal Violence

Abstract

Sexual crime is a pervasive public health crisis with notoriously low police reporting rates. Research has shown a variety of predictors contribute to non-reporting, including the type of crime experienced, the victim's relationship to the perpetrator, and victim resistance responses during the crime. This study aimed to explore the interactions of these characteristics and their predictive relationship to police reporting. Multiple logistic regressions using data from the 2015-2019 National Crime Victimization Survey examined the moderating relationships across all violent crimes (n=9,763) and exclusively within sexual crimes (n=827). Results showed that main effects of the predictors were all significantly associated with differential police reporting. Among those who experience non-sexual crime, likelihood of reporting varied significantly based on victim resistance response. 'Fight' responses increased odds of reporting compared to 'flight' or 'freeze' responses. However, among victims of sexual crime, resistance response did not impact likelihood of reporting. Despite sexual crime reporting not being influenced by a victim's resistance response, resistance responses are an instrumental predictor for non-sexual violent crime. These findings are key for explaining variance in reasons why victims of violent crimes elect to report to police, which opens avenues for further investigation and application in the field.

Keywords: sexual crime; violent crime; police reporting; fight-flight-freeze; victim resistance; perpetrator

Introduction

Sexual crime is a pressing, preventable worldwide crisis. In the United States alone, one in five women and one in fifty men experience rape, while about 44% and 23% respectively, experience some other form of sexual crime in their lifetimes (Breiding et al., 2014). In addition, victims of sexual crime are more likely to disclose the crime to informal sources, such as friends and family than formal sources such as the police (Kaukinen, 2002). The crimes remain vastly underreported to police compared to other forms of violent crime (Wolitzy-Taylor et al., 2011). Understanding the contributors to why a victim of crime decides to involve the police or not is pivotal to making changes in violence policy, police training, crisis service provision, and to changing public perceptions of what crimes are 'worthy' of reporting to police.

Reporting of Sexual Crime to Police

Despite the literature demonstrating the negative health ramifications of sexual crime, rates of disclosure, especially formalized reporting, remain low (Kaukinen & DeMaris, 2009). Nationally representative estimates of formal reporting, specifically to police, vary greatly from as low as 11-15% of crimes (Tjaden & Thoennes, 2006; Wolitzy-Taylor et al., 2011) to as high as 34% (Morgan & Truman, 2020). This 34% was in comparison to reporting rates of approximately 47% of robberies and 52% of aggravated assaults. Increasing reporting is crucial as contact with law enforcement is often the gateway to both medical care and victim services that a survivor might not otherwise know of or use (Resnick et al., 2000; Zaykowski, 2014). This lack of reporting

potentially impedes positive help victims may receive to begin the recovery process (McCart et al., 2010).

A multitude of reasons have been identified as contributing to victims' decisions not to report sexual crime to police. Victims have reported beliefs that their experience was not a 'big enough deal' to warrant legal action, that they feared scrutiny by the police, and that they possess a general distrust in the legal process, police, or resources available (McCart et al., 2010; Mennicke et al., 2019; Planty et al., 2013; Spencer et al., 2017). The majority of themes among predictors of reporting have been found to be peripherally related to those who deviate in some way from the societally accepted stereotypical 'true rape victim' – a single woman injured due to resisting an armed, violent, stranger rape in a deserted public location (DuMont et al., 2003). Although this stereotype is actually atypical, many victims who do not match that prototypical experience worry that others are less likely to believe that what occurred to them was a crime (Wolitzky-Taylor et al., 2011). Those who experience a crime that matches this stereotype have been found to be more likely to see themselves as crime victims, leading to increased reporting (Williams, 1984).

The federal definition of rape was expanded in 2012, for the first time since 1927, to more accurately capture incidence of rape (United States Department of Justice, 2012). Changes in the definition represent deviations from DuMont et al. (2003)'s presented rape scenario and are characteristics of crime that have been consistently identified as contributors to non-reporting. This is an opportune time to examine select characteristics to see how they interact to influence the decision to report the crime to police.

Identified Contributors to (Non-)Reporting

Type of crime

Across types of violence, sexual crime is reported to police at a much lower rate than physical assaults (Felson & Paré, 2005) and other crimes. But even within sexual violence, the type of violence experienced matters as well. Within the definition of rape, penetration (Spencer et al., 2017) and use of force (Du Mont et al., 2003) have been positively associated with reporting compared to other forms of sexual assault. In addition, the National Crime Victimization Survey (NCVS) reveals reporting rates decrease when comparing completed violent crimes to those attempted or threatened (Morgan & Truman, 2020).

Relationship to the perpetrator

There have been critiques of the role of a victim's relationship to the perpetrator which argue that victim-offender relationship no longer impacts police reporting of rape, in part due to rape reform laws (Bachman, 1993). However, a preponderance of evidence shows otherwise (Felson & Paré, 2006; Spencer et al., 2017; Wolitzky-Taylor et al., 2011). Even though a high percentage of sexual crime is perpetrated by non-strangers, knowing the perpetrator is associated with lower rates of police reporting (Spencer et al., 2017). Wolitzky-Taylor et al. (2011) found that approximately 88% of respondents knew their rapist. Of their sample, 16% reported the crime the police and those raped by a stranger had 2.58 times greater odds of reporting the crime.

This lower rate of reporting is tied heavily to the societal (and legal) concept of who must perpetrate the sexual crime for the experience to be considered a crime. Supporting that notion, Felson and Paré (2006) found that survivors of acquaintance rape

report at lower rates as they were more likely to feel the crime was 'too minor' and that, most importantly, they did not consider what occurred to be a crime due to the pre-existing relationship. This negates the survivor's perceived inclination to contact law enforcement. Decreased reporting by those who knew the perpetrator has also been attributed to believing that since a relationship exists, it makes sexual aggression a private matter (Kaukinen & DeMaris, 2009). There is also often strong fear of reprisal from the perpetrator should the police be contacted (Bachman, 1998; Planty et al., 2013).

Victim resistance response

The victim's victim resistance response, which can be framed conceptually as a 'fight-flight-freeze' response, has also been shown to contribute greatly towards the decision to report the crime. The terms 'fight,' 'flight,' and 'freeze' can be used to describe biologically based behavioral responses to threat (Schmidt et al., 2008). 'Fight' responses include actions such as a physical attack on the perpetrator such as kicking, pushing, threatening, 'flight' may be running, hiding, or begging the perpetrator, and 'freeze' responses include no physical or verbal action. Overall, use of resistance strategies, especially forceful resistance, has been significantly associated with higher levels of police reporting (DuMont et al, 2003; Gunn & Minch, 1988).

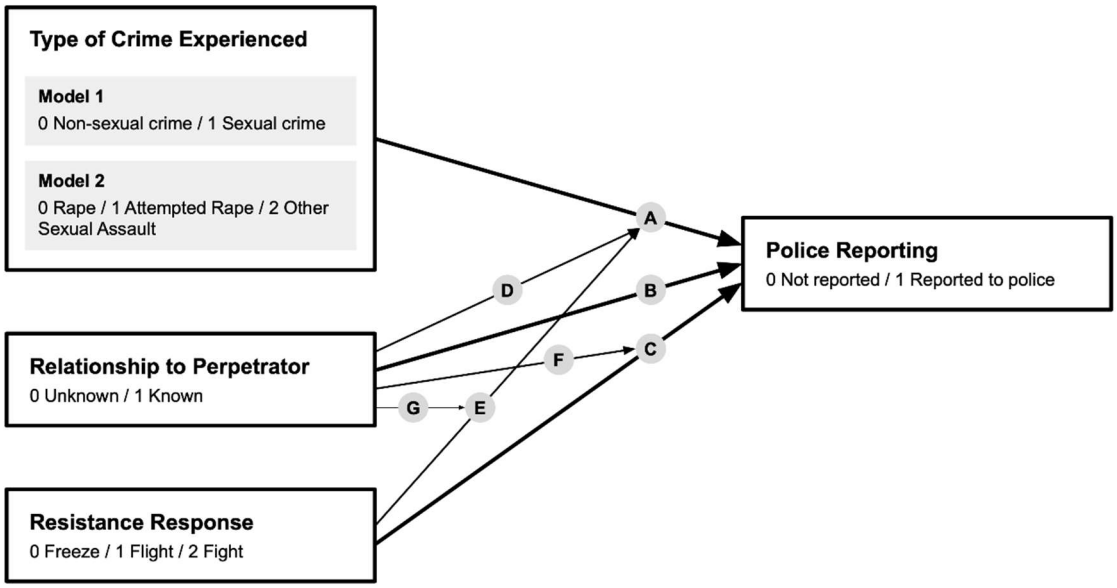
Pinciotti and Seligowski (2021) found that those who 'froze' during an attack were significantly less likely to report the crime to law enforcement than those who resisted. Those who utilized 'fight' responses were significantly more likely to disclose than those who reported 'flight' or 'freeze' responses. The authors posit these results fall back on prior research that victims who 'fight' have a higher likelihood of labeling the violence as rape (Bondurant, 2001). They may thus feel firmer in their belief that what

occurred was a crime, increasing likelihood of reporting compared to non-forceful or non-resistance (Pinciotti & Seligowski, 2019). Self-identifying as a victim of a crime that involved forceful resistance on the survivor's part may also contribute to that self-identification of the experience being a 'big enough deal' (Mennicke et al., 2019).

Current Study

This study aims to explore the interactions of the three crime characteristics described above – the type of crime experienced, victim relationship to the perpetrator, and the victim's resistance response during the crime – on the likelihood of police reporting. Each of these contextual crime attributes are seen as deviations from the atypical but societally recognized, 'prototypical rape' scenario. They have been acknowledged in recent rape law reform and are identified as strong contributors to non-reporting. The analysis will examine how the characteristics' interactions influence whether violent crimes are reported to police. The model posits that not only are these factors independent predictors of whether a crime is reported, but that they each interact, changing those relationships. This conceptual model is visualized in Figure 3.1.

Figure 3.1. Conceptualization of models one and two



Muniz and Powers (2021) argued that most research into these characteristics has been exclusively within sexual crime reporting and there is a need to know if these situational characteristics are equally predictive for other forms of violent crime (see Muniz & Powers (2021) for application of prototypical rape scenario to both rape and robbery). Similarly, Rennison et al. (2013) note that most studies analyze subsets of sexual and non-sexual crime or intimate partner and stranger crimes separately, demonstrating a need for cross comparative examination. Finally, the conceptualization of victim resistance responses from nationally representative surveys into 'fight-flight-freeze' responses is relatively nascent in the literature (Pinciotti & Seligowski, 2019) and can benefit from being examined outside of just sexual crime. This analysis will allow comparison across types of crime, relationships to the perpetrator, and resistance responses. Exploring the interaction of these vital contextual variables will provide a more nuanced and holistic view of contributors to police reporting.

Application of this conceptual model resulted in seven hypotheses replicated in two models. Model one compares non-sexual violent crime to sexual crime while model two looks at rape compared to both attempted rape and other sexual assault. These models hypothesize that there are significant relationships between (a) type of crime, (b) victim relationship to perpetrator, and (c) resistance responses, and police reporting. In addition, the relationship between the type of crime and police reporting will be moderated by (d) relationship to the perpetrator and (e) resistance responses, while the (f) relationship between resistance responses and police reporting differs by relationship to the perpetrator. Further, the moderating effect (g) of the relationship to the perpetrator on the association between type of crime experienced and police reporting differs by categories of resistance responses. A list of hypotheses for each model and their ties to the conceptual model is reflected in Table 3.1.

Table 3.1. Hypotheses tested for model one (type of crime: non-sexual crime/sexual crime) and model two (type of crime: rape/attempted rape/other sexual assault)

Hypothesis number	Relevant Pathway	Hypothesis
1a/2a	A	There is a significant relationship between the *type of crime* experienced and *police reporting*.
1b/2b	B	There is a significant relationship between the *relationship to the perpetrator* and *police reporting*.
1c/2c	C	There is a significant relationship between the *victim resistance responses* and *police reporting*.
1d/2d	D	The relationship between the *type of crime* experienced and *police reporting* differs by the *relationship to the perpetrator* (moderator).
1e/2e	E	The relationship between the *type of crime* experienced and *police reporting* differs by *victim resistance responses* (moderator).
1f/2f	F	The relationship between *victim resistance responses* and *police reporting* differs by the *relationship to the perpetrator* (moderator).
1g/2g	G	**Exploratory:** The moderating effect of the *relationship to the perpetrator* on the *type of crime* experienced and *police reporting* differs by *victim resistance responses.*

Methods

Participants and Procedure

Study data came from the NCVS, a yearly survey funded by U.S. Department of Justice, Bureau of Justice Statistics (BJS, 2017). The survey was created to obtain more accurate rates of national criminal victimization by including both crimes reported and not reported to the police. NCVS uses stratified, multi-stage cluster samples to obtain a nationally representative sample of the general population. Households which consent to participate remain in the panel for 3.5 years and are interviewed every six months. At each interview time point, every member of the household age 12 and older is interviewed about their personal characteristics as well as any victimizations which occurred in the previous six months. Should a crime have occurred, an extensive incident report is completed. NCVS data collection procedure and methodology are discussed comprehensively elsewhere (BJS, 2017). The study sample was comprised exclusively of incidents of violent crime available in the public use dataset in survey years 2015 to 2019 (BJS, 2020). The concatenated data file allowed for connections between household, personal, and incident level characteristics.

Measures

Police reporting

Police reporting (i.e., "Were the police informed or did they find out about this incident in any way?") was coded dichotomously. Response options were combined to create a dichotomous measure of 0 = *not reported (no and don't know)* and 1 = *reported.* This affirmative answer approach is based in assessing a known or direct interaction and

if the response is “don’t know,” there can be no assumption of any interaction with police.

Type(s) of crime

Violent crime. Violent crimes were coded dichotomously with simple assault, aggravated assault, and robbery coded as 0 = *non-sexual violent crime* and rape, attempted rape, and other sexual assaults as 1 = *sexual crime*.

Sexual crime. Sexual crimes were coded categorially as 0 = *rape*, 1 = *attempted rape*, and 2 = *other sexual assault*.

Victim resistance response

Respondents are asked one to two screener questions (i.e., “Did you do anything with the idea of protecting yourself or your property while the incident was going on?” with follow up screener “Was there anything you did or tried to do about the incident while it was going on?” if the first response was no). If respondents answered no to both questions, they were coded as 0 = *freeze response (no/took no action/kept still).* Those who answered yes to either screener questions were then asked about types of victim resistance action taken. In line with previous literature (see Pinciotti & Seligowski, 2021), those who reported non-forceful resistance (i.e. “Ran or drove away, or tried; hid, locked door”) but no forceful action (i.e. “Attacked without weapon [hit, kicked, etc.]”) were coded as 1 = *flight response*. Those who reported any forceful resistance, even if other non-forceful resistance occurred, were coded as 2 = *fight response*. Responses of “other measures taken” were unable to be categorized as *flight* or *freeze* since the text answers are not available in the public use dataset. As a result, those who had only a response of “other measures taken” and no other responses (n=347) or the type of action

taken was coded as containing one or more out-of-range entries (n=18) were removed from the analysis.

Relationship to the perpetrator

Victim relationship to the perpetrator was coded dichotomously using an affirmative response approach and likely resulting in a conservative estimate. The relationship was coded 0 = *unknown* if single perpetrator responses (i.e. "Was the offender someone you knew or a stranger you had never seen before?") included "stranger," "don't know" or if values were unclear or missing. For crimes with multiple perpetrators (i.e. "Were any of the offenders known to you or were they all strangers you had never seen before?") respondents were coded 0 if responses include "all strangers," "don't know," were unclear or missing. Responses of "knew of seen before" for a single perpetrator and "all known" or "some known" for multiple perpetrators were coded as 1 = *known*.

Covariates

Covariates were selected based on previous literature demonstrating differnces in sexual victimization and reporting, most specifically individuals in underrepresented and marginalized populations. These covariates included the victim's race/ethnicity (0 = *white, non-Hispanic,* 1 = *Black non-Hispanic,* 2 = *Hispanic,* 3 = *Other race, non-Hispanic,* and 4 = *Multi-racial, non-Hispanic*), gender identity (0 = *male*, 1 = *female*), and age (0 = *18*-24, 1 = *12-17*, 2 = *25-34*, 3 = *35-49*, 4 = *50-64*, 5 = *65 and older*), as well as the survey year (categorial variable from *2015* to *2019*), household location (0 = *urban*, 1 = *suburban*, and 2 = *rural*), and household income (0 = *Under $12,500,* 1 = *$12,500-$24,999*, 2 = *$25,000-$49,999*, 3 = *$50,000-$74,999*, 4 = *$75,000 and over*).

Statistical Analysis

All data management and analyses were completed using Stata/IC 15.1 (Stata Corp, 2017). Significance levels were set at an alpha of 0.05. First, logistic regression models examined type of violent crime, relationship to the perpetrator, and resistance response in relation to the dichotomous outcome of police reporting (hypotheses 1a-c). The interaction terms were included in the logistic regressions to assess the moderating effect (hypotheses d-f). Finally, the exploratory moderated moderation (hypothesis 1g) was completed with a three-way interaction term comprised of the main predictors and all the lower order terms (main effects and two-way interaction terms). These steps were then repeated for model two (hypotheses 2a-g) exchanging the type of violent crime variable with the type of sexual crime. To assess goodness of fit of the statistical analyses, likelihood-ratio tests were conducted comparing the moderated regressions to the direct relationship regression. Stratified analyses by level of the moderator were conducted for significant moderation effects.

Sensitivity analyses for the coding of the "relationship to perpetrator" variable were conducted to examine the conceptualization of the variable. One excluded missing values and created a three-category variable of "known," "unknown," and "don't know," and a second dropped both "don't know" and missing values.

Analyses used unweighted NCVS data rather than weighted data. Although weighted data takes the complex survey design into consideration and creates nationally representative victimization rates, unweighted data has been found to be preferable for predictive analyses (Avery et al., 2019). All analyses were adjusted for previously

mentioned covariates including victim race/ethnicity, age, and sex as well as survey year, household location and income.

Results

Model One – Non-Sexual Violent Crime Compared to Sexual Crime

Within the entire sample of those who experienced a violent crime and had complete data for the three predictors of interest (n=9,763), respondents were predominantly white, non-Hispanic (66.3%), followed by Hispanic (14.6%), Black, non-Hispanic (11.4%), another race, non-Hispanic (4.1%), and multi-racial, non-Hispanic (3.7%). Just over half identified as female (53.6%) with a mean age of 38.5 years (SD=16.7). The majority lived in non-rural settings (87.2%) and had a household income under $50,000 per year (57.4%). See Table 3.2 for the complete victim sociodemographic characteristics.

Table 3.2. Respondent sociodemographic characteristics

	All Violent Crime n=9,763	Sexual Crime only n=827[1]
	n(%)	n(%)
Biological Sex		
Male	4,527(46.37)	95(11.49)
Female	5,236(53.63)	732(88.51)
Age (years)		
12-17	966(9.89)	63(7.62)
18-24	1,490(15.26)	265(32.04)
25-34	2,017(20.66)	168(20.31)
35-49	2,505(25.66)	180(21.77)
50-64	2,072(21.22)	116(14.03)
65 and up	713(7.30)	35(4.23)
Race/Ethnicity		
White, non-Hispanic	6,469(66.26)	564(68.20)
Black, non-Hispanic	1,113(11.40)	58(7.01)
Hispanic	1,423(14.58)	125(15.11)
Other race, non-Hispanic[2]	399(4.09)	45(5.44)
Multi-racial, non-Hispanic	359(3.68)	35(4.23)
Household income		
Less than $12,500	1,603(16.42)	255(30.83)
$12,500 to $24,999	1,538(15.75)	134(16.20)
$25,000 to $49,999	2,460(25.20)	197(23.82)
$50,000 to $74,999	1,506(15.43)	90(10.88)
$75,000 and over	2,656(27.20)	151(18.26)
Household location		

Urban	4,166(42.67)	410(49.58)
Suburban	4,349(44.55)	328(39.66)
Rural	1,248(12.78)	89(10.76)

Note: The respondents in the sexual crime analysis are also represented in the violent crime analysis.
[2] Includes those who identify as Asian only, Hawaiian Pacific Islander only, American Indian only, or Alaska Native only.

The crimes experienced were largely non-sexual (91.5%) with less than half being reported to the police (45.8%). In addition, most perpetrators were known to the victims (61.5%). Regarding resistance measures, 43.4% of respondents reported freezing during the crime, 17.2% exhibited exclusively a flight response, and 39.4% stated they fought in some manner. Please see Table 3.3 for full descriptive statistics.

Table 3.3. Conceptual model descriptive statistics

	All Violent Crime n=9,763	Sexual Crime only n=827[1]
	n(%)	n(%)
Type of Crime Experienced		
Violent Crime		
Non-Sexual Violent	8,936(91.53)	
Sexual	827(9.47)	
Sexual Crime		
Rape		312(38.09)
Attempted Rape		126(15.24)
Other Sexual Assaults		386(46.67)
Reported to law enforcement		
No	5,294(54.23)	600(72.55)
Yes	4,469(45.77)	227(27.45)
Relationship to perpetrator(s)		
Unknown to Victim	3,759(38.50)	233(28.17)
Known to Victim	6,004(61.50)	594(71.83)
Victim resistance response[2]		
Freeze	4,234(43.37)	352(42.56)
Flight	1,679(17.20)	148(17.9)
Fight	3,850(39.43)	327(39.54)

Note: The respondents in the sexual crime analysis are also represented in the violent crime analysis.
[2]Those who selected only a response of 'other measures taken' but not responses that were categorized as 'fight' or 'freeze' were not included in the analysis as they were unable to be categorized (n=347). In addition, 18 respondents reported that 'yes', they took protective action(s), but the type of measure was coded as containing one or more out-of-range entries. Thus, they were also removed from the analysis due to an inability to categorize the type of protective measure.

The multiple logistic regression assessing the direct relationships between type of crime experienced, relationship to the perpetrator, and resistance response on police reporting found that all three were significantly related, confirming hypotheses 1a-c.

Experiencing sexual crime, compared to non-sexual crime, decreased the odds of police reporting by 60% [aOR, adjusted OR 0.40, 95% CI (0.34, 0.47), $p<0.001$] while those who knew the perpetrator were 14% more likely to report the crime to the police [aOR 1.14, 95% CI (1.04, 1.25), $p<0.01$]. Compared to those who reported 'freezing' during the attack, those who reported exclusively a 'flight' response were at 33% lower odds of reporting the crime [aOR 0.67, 95% CI (0.59, 0.76), $p<0.001$] and those who reported a 'fight' response had 88% increased odds of police reporting [aOR 1.88, 95% CI (1.71, 2.06), $p<0.001$]. Those who 'fought' also had 2.80 times greater odds of reporting the crime that those who exhibited 'flight' responses [aOR 2.80, 95% CI (2.47, 3.17), $p<0.001$].

Neither of the multiple logistic regressions assessing the moderating effect of relationship to the perpetrator on type of crime and resistance response were significant; therefore, hypotheses 1d and 1f were not supported. Sensitivity analyses showed that directionality and statistical significance did not change with different coding of the "relationship to perpetrator."

A moderating effect of resistance response on type of crime experienced was found, confirming hypothesis 1e. The relationship between exhibiting a 'fight' response and the likelihood of police reporting varied significantly between victims of sexual crime and victims of non-sexual violent crime when compared to 'freeze' responses [aOR 0.55, 95%CI (0.39, 0.78), $p<0.001$] and 'flight' responses [aOR 0.42, 95%CI (0.26, 0.67), $p<0.001$]. Differences between 'freeze' and 'flight' responses were not significant. See Table 3.4 for model one results and Table A1 for results with all covariates included.

Table 3.4. Non-sexual crime compared to sexual crime model results

	Hypotheses 1(a-c)		Hypothesis 1(d)		Hypothesis 1(e)		Hypothesis 1(f)	
	aOR(95% CI)	p	aOR(95% CI)	p	aOR(95% CI)	p	aOR(95% CI)	p
Type of Crime								
Non-Sexual Violent Crime	Ref		Ref		Ref		Ref	
Sexual Crime	0.40(0.34, 0.47)	**<0.001**	0.35(0.25, 0.48)	**<0.001**	0.50(0.39, 0.64)	**<0.001**	0.40(0.34, 0.47)	**<0.001**
Relationship to perpetrator(s)								
Unknown	Ref		Ref		Ref		Ref	
Known to Survivor	1.14(1.04, 1.25)	**0.004**	1.13(1.03, 1.24)	**0.011**	1.13(1.04, 1.24)	**0.007**	1.10(0.96, 1.25)	0.158
Resistance response								
Freeze	Ref		Ref		Ref		Ref	
Flight	0.67(0.59, 0.76)	**<0.001**	0.67(0.59, 0.76)	**<0.001**	0.66(0.58, 0.75)	**<0.001**	0.62(0.51, 0.75)	**<0.001**
Fight	1.88(1.71, 2.06)	**<0.001**[1]	1.88(1.72, 2.06)	**<0.001**	1.96(1.79, 2.16)	**<0.001**	1.83(1.58, 2.12)	**<0.001**
Moderation effects								
Crime * Perpetrator								
Sexual Crime*Known			1.21(0.83, 1.75)	0.316				
Crime * FFF[2]								
Sexual Crime*Flight					1.32(0.82, 2.13)	0.248		
Sexual Crime*Fight[3]					0.55(0.39, 0.78)	**0.001**		
FFF * Perpetrator								
Flight*Known							1.14(0.89, 1.46)	0.292
Fight*Known							1.04(0.86, 1.25)	0.678
Log likelihood	-6329.03		-6328.5208		-6320.349		-6328.4731	
LRT comparing to hyp. 1(a-c)			1.02	0.313	17.36	**<0.001**	1.11	0.573

Note: Model includes covariates of survey year, sex, age, household income, race/ethnicity, and urban/rural location, which are not shown in table.

[1]Post hoc analysis changed reference group for resistance response from *freeze*=0 to *flight*=0 allowing for comparison of *flight* to *fight*. Analysis found that *fight* varies significantly from *flight* responses [OR=2.80, 95% CI(2.47, 3.17), $p<0.001$] in addition to *freeze* response.

[2]Fight, Flight, Freeze response (FFF)

[3]Post hoc analysis changing reference group to *flight* found that *fight* response also varies significantly from *flight* response [OR=0.42, 95% CI(0.26, 0.67), $p<0.001$] in addition to *freeze* response.

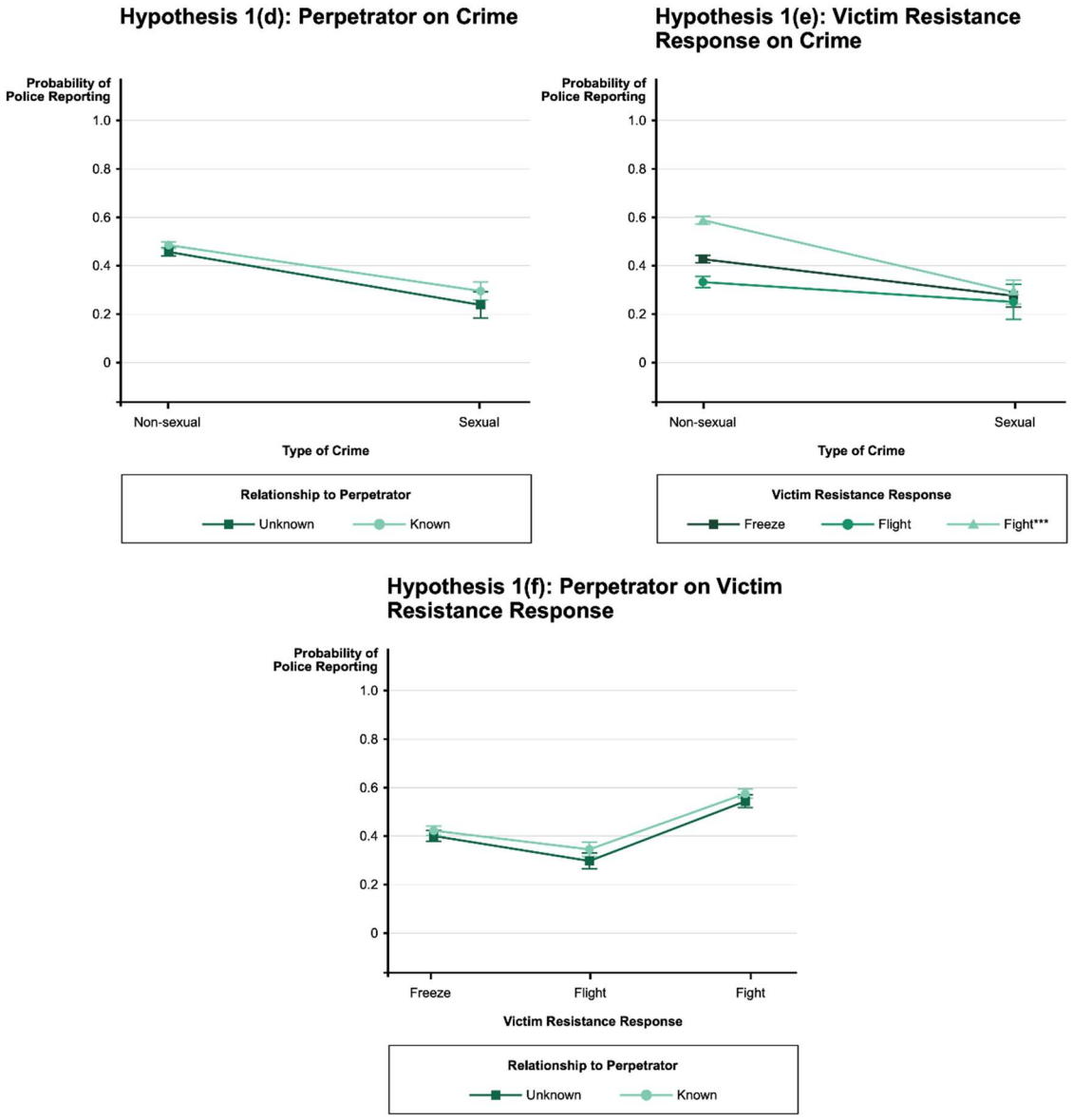
Stratified analyses showed that among victims of non-sexual violent crime, 'fight' responses resulted in 1.97 increased odds of reporting [aOR 1.97, 95%CI (0.387, 0.781), p<0.001] and 'flight' responses showed 0.66 decreased odds [aOR 0.66, 95%CI (0.578, 0.48), p<0.001] compared to those who 'froze.' In addition, post-hoc analyses showed that a 'fight' response, when compared to 'flight' responses, demonstrated 2.99 increased odds or reporting [aOR 2.99, 95%CI (2.627, 3.401), p<0.001]. Directionality of the odds ratios were the same with sexual crimes, but there were no significant differences between resistance responses. See Table 3.5 for stratification table and Figure 3.2 for interaction visualizations.

The exploratory analysis of the interaction between all three variables did not support hypothesis 1g as no significant relationships were found. See Table A2 for three-way interaction results.

Table 3.5. Model one hypothesis 1(e) stratification table for victim resistance response and type of crime predicting police reporting

	Non-Sexual Crime		Sexual Crime	
	aOR(95% CI)	p	aOR(95% CI)	p
Original analysis				
Victim resistance Response				
Freeze	Ref		Ref	
Flight	0.66(0.58, 0.75)	**<0.001**	0.70(0.43, 1.13)	0.139
Fight	1.97(1.79, 2.16)	**<0.001**	1.08(0.76, 1.54)	0.651
Post hoc analysis changing reference group				
Victim resistance Response				
Flight	Ref		Ref	
Freeze	1.52(1.34, 1.72)	**<0.001**	1.44(0.89, 2.33)	0.139
Fight	2.99(2.63, 3.40)	**<0.001**	1.56(0.96, 2.52)	0.071

Figure 3.2. Non-sexual crime compared to sexual crime model moderation visualizations



Note: $^{***}p<0.001$

Model Two – Rape Compared to Attempted Rape and Other Sexual Assaults

Those who reported a sexual crime (n=827) were predominantly white, non-Hispanic (68.2%); 15.1% identified as Hispanic, 7.0% as Black, non-Hispanic, 5.4% as another race, non-Hispanic, and 4.2% as multi-racial, non-Hispanic. Respondents identified primarily as female (88.5%) and had a mean age of 33.4 years (SD=15.1). The

majority lived in non-rural settings (89.2%) and had a household income under $50,000 per year (70.9%). Refer to Table 3.2 for complete sociodemographic characteristics.

More than half of the crimes experienced were rape or attempted rape (53.3%). Almost three out of four crimes were not reported to the police (72.6%), and most victims knew the perpetrator (71.8%). Closely reflecting all victims of violent crime, 42.6% of victims reported 'freezing' during the crime, 17.9% reported exhibited exclusively a 'flight' response, and 39.5% reported 'fighting' during the crime. Please see Table 3.3 for model descriptive statistics.

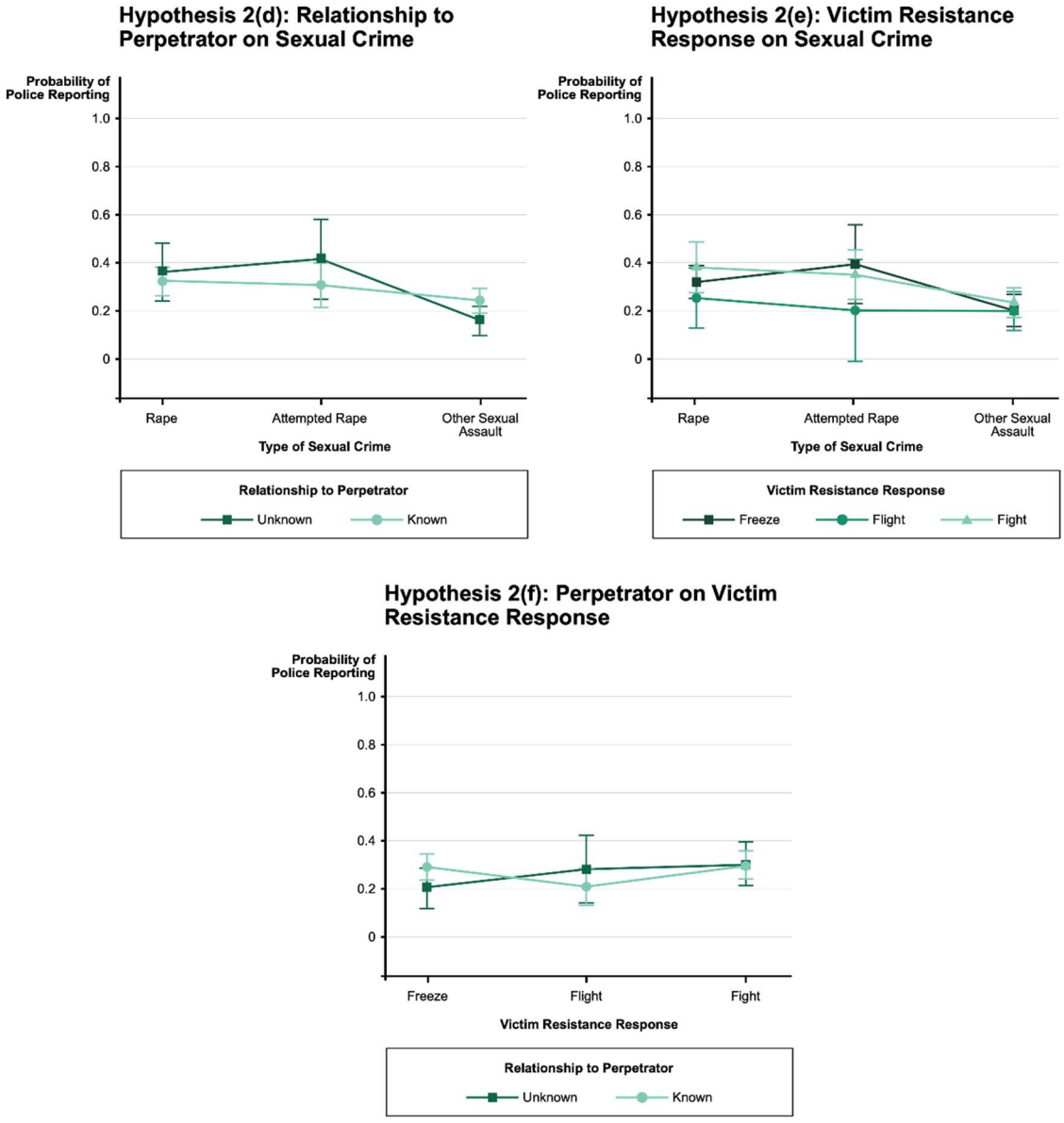
Multiple logistic regression assessing the model's main relationships found that only type of sexual crime had a significant impact on reporting, supporting hypothesis 2a but not 2b or 2c. Victims of other types of sexual assault were 46% less likely to report the crime to the police compared to those who were raped [aOR 0.54, 95% CI (0.36, 0.79), $p<0.01$] and 48% less likely to report compared to those who experienced attempted rape [aOR 0.52, 95% CI (0.32, 0.84), $p<0.01$]. See Table 3.6 for model two results and Figure 3.3 for interaction visualizations. Table A3 reports all model two results including covariates.

Table 3.6. Rape compared to attempted rape and other sexual assaults model results

	Hypotheses 2(a-c)		Hypothesis 2(d)		Hypothesis 2(e)		Hypothesis 2(f)	
	aOR(95% CI)	p	aOR(95% CI)	p	aOR(95% CI)	p	aOR(95% CI)	p
Type of Crime								
Rape	Ref		Ref		Ref		Ref	
Attempted Rape	1.03(0.64, 1.67)	0.901	1.27(0.50, 1.27)	0.611	1.42(0.63, 3.23)	0.401	1.03(0.63, 1.67)	0.902
Other Sexual Assault	0.54(0.36, 0.79)	**0.002**[1]	0.31(0.15, 0.65)	**0.002**	0.51(0.29, 0.90)	**0.021**	0.53(0.36, 0.79)	**<0.001**
Relationship to perpetrator(s)								
Unknown	Ref		Ref		Ref		Ref	
Known to Survivor	1.12(0.77, 1.64)	0.562	0.83(0.44, 1.56)	0.559	1.12(0.76,1.64)	0.566	1.63(0.87, 3.04)	0.125
Resistance response								
Freeze	Ref		Ref		Ref		Ref	Ref
Flight	1.03(0.64, 1.67)	0.336	0.79(0.48, 1.29)	0.336	0.70(0.32, 1.54)	0.379	1.56(0.61, 3.95)	0.353
Fight	1.18(0.81, 1.71)	0.392	1.17(0.81, 1.70)	0.408	1.34(0.74, 2.41)	0.334	1.730.84, 3.59)	0.138
Moderation effects								
Crime * Perpetrator								
Attempted Rape*Known			0.73(0.25, 2.12)	0.558				
Other Sexual Assault*Known			2.12(0.91, 4.93)	0.080				
Crime * FFF[2]								
Attempted Rape*Flight					0.51(0.09, 3.03)	0.461		
Attempted Rape*Fight					1.40(0.50, 3.97)	0.523		
Other Sexual Assault*Flight					0.61(0.21, 1.80)	0.370		
Other Sexual Assault*Fight					0.92(0.40, 2.09)	0.843		
FFF * Perpetrator								
Flight*Known							0.40(0.14, 1.19)	0.099
Fight*Known							0.60(0.26, 1.39)	0.234
Log Likelihood			-450.91		-452.63		-452.10	
LRT comparing to hyp. 2(a-c)	-		5.41	0.067	1.96	0.744	3.02	0.221

Note: Model includes covariates of survey year, sex, age, household income, race/ethnicity, and urban/rural location, which are not shown in table.
[1]Post hoc analysis changed reference group for the type of sexual crime variable from rape=0 to attempted rape=0 allowing for comparison of other sexual assault to attempted rape. Analysis found that other sexual assault also varies significantly from attempted rape [OR 0.52, 95%CI (0.32, 0.84), $p<0.01$] in addition to rape.
[2]Fight, Flight, Freeze response (FFF)

Figure 3.3. Rape compared to attempted rape and other sexual assaults model moderation visualizations



Hypotheses 2d-2g were also not supported as no moderation effects were found, nor was the exploratory three-way interaction significant. See Table A4 for exploratory analysis results. Sensitivity analyses similarly found no changes in directionality and statistical significance with changes to "relationship to perpetrator" conceptualization.

Discussion

This analysis sought to examine the interaction of contextual contributors to police reporting, both across violent crimes, and exclusive to sexual crimes. Across violent crimes, the type of crime, relationship to the perpetrator, and resistance response were all predictors of reporting to police. In line with previous research, compared to other violent crimes, victims of sexual crime were less likely to report the crime and those who exhibited a 'fight' response were more likely to report than those who 'froze' or 'fled.' Contrary to previous findings, those who knew their attacker were more likely to report than those who did not, and those who 'fled' the crime were less likely to report than those who 'froze.' These main effects held constant across all hypotheses except for the relationship to perpetrator, which did not have a significant main effect in either its interaction with resistance response or the three-way interaction. While main effects must be interpreted with caution when interactions are also included, these results show that the three main contextual characteristics remain important independent predictors of police reporting.

Differing from expectations, no moderation effects involving the relationship to the perpetrator were significant. This finding warrants investigation into whether further specifying of the type of relationship (e.g. intimate partner, family, or acquaintance, rather than known/not known) might impact results. A larger sample would increase cell sizes across the interaction, potentially allowing for testing moderation effects with more definition of the relationship.

Of interest, the moderation of resistance responses on type of violent crime was significant. Within those who experienced non-sexual crime, likelihood of reporting

varied significantly based on the resistance response taken. 'Fight' responses increased odds of reporting compared to any other response. However, resistance responses within victims of sexual crime did not impact likelihood of reporting. This shows that the lower rate of sexual crime reporting is not dependent on or influenced by resistance response. However, resistance responses remain an instrumental predictor for exploration within other types of violent crime.

This finding varies from previous findings (Pinciotti & Seligowski, 2019), especially those focused on examining the 'prototypical rape scenario' (DuMont et al., 2003; Williams, 1984) that within sexual crime, 'fight' and 'flight' responses have positively impacted reporting rates. This may be potentially explained by findings that physical assaults are significantly more likely to include physical force, use of a weapon, and victim injury than sexual assaults (Chen & Ullman, 2010), all of which have been independently tied to victim forceful or non-forceful responses (Hollander, 2018; Tark & Kleck, 2004), as well as police reporting (Chen & Ullman, 2010; Felson et al., 2002). These connections, in conjunction with the lower sexual crime reporting rates, may contribute to the differences between the findings and previous literature.

The results from the examination within sexual crimes did not hold from the cross-comparative model. Only the main effect that victims of other sexual assaults were less likely to report compared to those who experienced rape or attempted rape was significant across all hypotheses. This may fall into previous discussions about which crimes are 'severe enough' to warrant police involvement, with other sexual assaults seen as less so (Mennicke et al., 2019).

However, some of the moderations were approaching significance and it could be that for the sexual crime analysis, cell sizes for the interactions were insufficient to be detected, especially those with multiple categories. Future research could replicate the analyses including additional years of data to assess if a larger sample better detected potential moderation effects.

These results have important implications for research and practice. The analysis shows there are strong predictors for why an individual may decide to contact law enforcement. That resistance responses outlined in the prototypical scenario ('fighting' rather than 'freezing' or 'fleeing') demonstrated higher likelihood of reporting for non-sexual crime, but had no impact on sexual crimes, not only shows a difference between sexual crime and other violent crime but also runs contrary to previous research, meriting further investigation.

The current literature tends to focus on why crime victims elect *not* to report crimes (McCart et al., 2010; Mennicke et al., 2019), however these updated quantitative results also show predictors that relate to victims' reporting decisions. This may open qualitative opportunities to investigate from a different angle – why people *do* report crimes and how these decisions differ related to the type of crime. The predictors selected would be a good starting point for examination of affirmative reporting choices. As reporting has been tied to increased knowledge of and use of medical and victim services (Zaykowski, 2014), both of which are tied to improved victim health outcomes (McCart et al., 2010), leveraging this data to increase police reporting is pivotal. This similarly could be applied to discussions with or training of police to increase awareness about why victims are or are not reporting crimes. Knowledge of these contributors could work

to inform police mindset regarding victim decision-making and expand upon ideas of the prototypical crime victim.

While the use of a large, nationally administered survey has many benefits, its use comes with limitations. First, due to its cross-sectional nature, causal inferences are limited. However, due to the fact that the crime, pre-existing relationship (or lack thereof) with the perpetrator, and victim responses during the crime, would more than likely all have existed or occurred prior to police notification, there is an argument for assumed temporal precedence. Despite this fact bolstering support for the causality, results must be interpreted with caution.

Second, the manner in which questions are asked in the NCVS may be appropriate for criminal victimization data collection, but from a public health perspective, issues such as question wording and interview skip rules pose a problem for fully capturing the experience of the victim. For example, in this dataset, victims are only asked about the type of resistance responses taken if they respond yes to either of the screening questions. Upon being asked, options such as "cooperated, or pretended to…," "argued or reasoned, pleaded, bargained," and "screamed from pain or fear" are offered, responses that victims may not have previously considered resistance. This means that, even if they did take such actions, they may not have reported resisting/"protecting themselves" and those responses would not be reflected in the results. These limitations point to opportunities for improving survey development to capture crime characteristics more comprehensively.

Finally, the use of an affirmative answer approach for variables such as police reporting and the relationship to perpetrator results in conservative estimates. This

approach was replicative of previous research and allowed for minimal assumptions by the researchers about respondent's answers, while maintaining the integrity of the full sample. While the sensitivity analyses did not yield different results when changing the coding of the relationship to perpetrator variable, there were some changes in the magnitude of the odds ratios across analyses. As a result, a larger sample size, perhaps by inclusion of more years of survey data, could allow for larger cell sizes and an ability to detect differences between those who state "don't know" and those who report stranger crimes. This inclusion of "don't know" as its own category may be an important contribution to the literature, as many victims report fear of reprisal from the perpetrator or desire to avoid getting them in trouble (Planty et al., 2013), which could contribute to hesitancy in identifying the perpetrator by saying they are unsure if they know them.

Despite its limitations, this analysis has many strengths. Examining the interactions of three key situational variables provided a more comprehensive view of contextual contributors to police reporting. This was strengthened by the inclusion of victim resistance, conceptualized in terms of 'fight-flight-freeze' responses, contributing to a growing body of literature stressing differing impacts of various resistance responses. The fact that these results differ from previous findings (Pinciotti & Seligowski, 2019) raises new questions and demonstrates the need to continue this exploration in combination with other crime-specific characteristics.

The analysis also builds on previous research calling for investigation of 'prototypical rape scenario' characteristics across all violent crimes, not just for sexual crime (Muniz & Powers, 2021). The analysis not only compared sexual crime to other violent crimes but examined different types of sexual crime, allowing critical insight into

the heterogeneity of sexual crimes. The utilization of a large national criminal justice survey allowed such delineated investigation, by providing a large enough sample to detect most, if not all effects. This is key for the examination of already underrepresented and underreported crimes. It also provides the opportunity to determine how these characteristics across a more representative population rather than a subset of victims.

Chapter 4: Manuscript Two

Exploratory Analysis of The Role of Police Reporting and Victim Resistance on Distress Among Victims of Sexual and Other Violent Crime

This article was prepared in anticipation of submission to the Journal of Traumatic Stress.

Abstract

Sexual crime victimization is associated with lower police reporting rates and poorer health outcomes, compared to other violent crimes. Further, police reporting is linked to exacerbated levels of distress. What is less known is the role that a victim's resistance response plays in the relationship between police reporting and victim distress across violent crime in general and sexual crime specifically. National Crime Victimization Survey data from between 2015-2019 was used to examine a) the role of police reporting in the relationship between the type of violent (n=10,128) or sexual crime (n=856) experienced and victim distress and b) the modifying effect of resistance responses on these relationships. Unweighted multiple group path analyses found that experiencing sexual crime compared to other violent crimes, decreased the likelihood of police reporting and increased levels of victim distress. Overall, police reporting was associated with higher levels of distress and significantly mediated the relationship between the type of crime and distress. The direct effect of experiencing sexual crime compared to non-sexual crime on police reporting differed by resistance response. Sexual assault victimization, compared to rape or attempted rape, resulted in decreased police reporting and lower distress while reporting to police remained associated with higher distress. The relationship between type of sexual crime and distress was mediated by police reporting. These results contribute to growing evidence that police reporting

increases victim distress across all violent crime, suggesting a potential area for intervention. Additional research is needed into what contributes to a victim's decision to report crime to police, and what about police reporting contributes to distress.

Keywords: Sexual crime; violent crime; police reporting; distress; victim resistance

Introduction

Sexual violence is a worldwide public health pandemic with wide-reaching mental, physical, and economic impacts (Davies et al., 2015; Langton & Truman, 2014). Compared to other violent crimes, sexual crime victimization is associated with poorer health outcomes (Basile et al., 2014; Black et al., 2011; Langton & Truman, 2014) and lower police reporting rates (Kaukinen, 2002; Morgan & Truman, 2020).

Distress as a Result of Sexual Crime

Sexual crime has both acute and chronic impacts on a victim's health, including increases in or development of psychological symptomology (Black et al., 2011; Dworkin et al., 2017) and detrimental physical health outcomes (Coker et al., 2000; Davies et al., 2015). Moreover, these outcomes result in long-lasting behavioral (Campbell et al., 2004), social (Langton & Truman, 2014), and economic (Post et al., 2002) impacts for both victims and society as a whole.

In a recent meta-analysis, Dworkin et al. (2017) concluded that studies consistently find that that those who have experienced the crime exhibited significantly higher, clinically diagnosable symptomatology in trauma- and stressor-related disorders, depression, and anxiety, among others, compared to non-sexually victimized peers. Langton and Truman (2014) found that of different types of crime, victims of sexual

crime report the highest levels of moderate or severe socio-emotional distress. Further, the victims of sexual crime with elevated levels of distress reported more significant negative impacts on relationships at work, at school, and within their families. This increased trauma-induced psychological distress can also manifest somatically. Casanovas et al. (2021) found that such victimization led to significant increases in long-lasting somatic symptoms (headaches, abdominal pain, and sickness) with those individuals exhibiting higher rates of anxiety, panic, and depressive disorders, and lower psychosocial functioning than those without somatic symptoms.

Sexual Crime Reporting to Police

Historically, reporting of sexual crime is disproportionately low, meaning that estimates are generally conservative and underestimate the true level of sexual crime in the country (Tjaden & Thoennes, 2000, 2006). Estimates of police reporting for sexual violence vary greatly, primarily since many studies focus on specific subsets of victims or crimes (i.e., college students or only rape victims). Past national estimates of sexual crime police reporting have been approximately 15% (Wolitzky-Taylor et al., 2011) and 20% (Tjaden & Thoennes, 2006). Comparatively, the most recent National Crime Victimization Survey (NCVS) report estimates that approximately 41% of all violent crimes (including sexual) are reported to the police with the rate for sexual crime at 34% compared to 47% for robbery or 52% for aggravated assault (Morgan & Truman, 2020).

Distress Related to Reporting to Police

Beyond the health effects of experiencing sexual crime, those who report to police have described experiencing re-traumatization due to the reporting process (Campbell et al., 2001). This re-traumatization has been found to lead to poorer mental health and

increased longevity of symptoms (Kaukinen & DeMaris, 2009). Victims of sexual crime are subjected to often skeptical, extensive questioning and recounting of the experience, which can lead to 'victim-blaming' questions and increased opportunities for self-blame (ACLU, 2015; Campbell, 2005). As a result of their experience with the police, Campbell (2005) found that victims overwhelmingly described feeling bad about themselves, violated, depressed, and less likely to seek any further formalized help. Police reporting has contributed to feelings of institutional betrayal and anger (Lorenz et al., 2019) while police biases in the reporting process has impacted victims' ability to recover from the trauma (ACLU, 2015).

The Role of Victim Resistance Responses During Victimization

The role of victim resistance is essential to consider when examining the relationships between crime, police reporting, and victim distress. While literature examining resistance responses across types of crime is sparse, it has been argued that victims choose their resistance tactics based on the characteristics of the crime, which includes the type of crime occurring (Tark & Kleck, 2004). Within sexual crime, those who resisted, especially exerting forceful resistance (i.e., a physical response), were more likely to report the crime to the police than those who did not (DuMont et al., 2003; Pinciotti & Sligowski, 2021). In addition, those who acted against the perpetrator reported lower levels of distress after the crime (Feehan et al., 2001; Hollander, 2018).

Current Study

The current body of literature possesses a gap in cross-comparative exploration of the role of different types of crime on police reporting; most analyses focus only on subsets of crime (Rennison et al., 2013; Tark & Kleck, 2004). Similarly, the examination

of the role of police reporting in victim distress has been conducted almost exclusively with regard to sexual crime victims, without comparison to other violent crime victims (Kaukinen & DeMaris, 2009). To address these deficits, two main aims guide this study. The first aim is to examine the role of police reporting in the relationship between the type of crime experienced (across violent crime and exclusively sexual crime), and health outcomes as measured through levels of distress. The second aim is to explore the modifying effect of victim resistance responses on these relationships.

Methods

Participants and Procedure

The NCVS is a nationally representative survey funded by the U.S. Department of Justice, Bureau of Justice Statistics (BJS), and conducted yearly by the U.S. Census Bureau (BJS, 2017). It serves as the country's foremost source on criminal victimization characteristics, estimates, and consequences, covering both victimizations reported to the police and those that are not. The survey includes violent and non-violent crimes against the person and their property.

The NCVS is a self-report survey administered at the household level. The survey uses stratified, multi-stage cluster sampling. When selected, households are interviewed about the number and characteristics of criminal victimizations in the past six months. With participants' consent, the interviews occur twice a year over a span of three years for a total of seven interviews. All eligible members of the household are interviewed, allowing personal and incident level data to tie incidents to the demographics of each victim. Once the final interview occurs, the household exits the panel with a new household rotating into the sample. Those sampled include U.S. residents ages 12 and

older who reside in a housing unit or group quarter. NCVS methodology and data collection are discussed extensively elsewhere (BJS, 2017).

This study includes incidents recorded during the 2015 to 2019 iteration as available in the public use data set (BJS, 2020). It focuses exclusively on all violent victimization in line with the BJS type of crime typology. However, within sexual assault, unwanted sexual contact crimes (*i.e., grabbing and fondling*) are not classified as crimes and thus not available in the public use dataset (BJS, 2017).

Measures

While NCVS data has been used extensively for predictive analyses, it is crucial to recognize that the measures were created solely for NCVS data collection, and as such are not psychometric measures. The items were created to evaluate the incidence and prevalence of each crime characteristic and have no validity or reliability information publicly available.

Level of Distress

The victim's identification of their level of distress associated with victimization was measured through a single item, "How distressing was being a victim of this crime to you? Was it not at all distressing, mildly distressing, moderately distressing, or severely distressing?" Responses were coded on a Likert-type scale from 0 = *not at all distressing* to 3 = *severely distressing*, with each increment increase indicating higher levels of distress.

Type(s) of Crime

Violent crime. Violent crime (n=10,128) was coded dichotomously as 0 = *non-sexual violent crime* (robbery, aggravated assault, and simple assault) and 1 = *sexual crime* (rape, attempted rape, and sexual assault).

Sexual crime. Sexual crime (n=856) was further coded to create a dichotomous measure of 0 = *rape and attempted rape* and 1 = *other sexual assault*.

Police Reporting

Police reporting represented whether the crime was reported to law enforcement (i.e., "Were the police informed or did they find out about this incident in any way?"). Response options were combined to create a dichotomous measure of 0 = *not reported (no and don't know)* and 1 = *reported*. The dichotomization is the result of an affirmative answer approach.

Resistance Response

Victims were asked one to two items about any self-protective actions (resistance) taken during the attack (i.e., "Did you do anything with the idea of protecting yourself or your property while the incident was going on?" and if the initial response is no, they are asked the follow up item "Was there anything you did or tried to do about the incident while it was going on?"). Response options included "yes," or "no/took no action/kept still." The measure was coded dichotomously as 0 = *non-resistance* if both answers were no and 1 = *other resistance response* if either response was yes.

Covariates

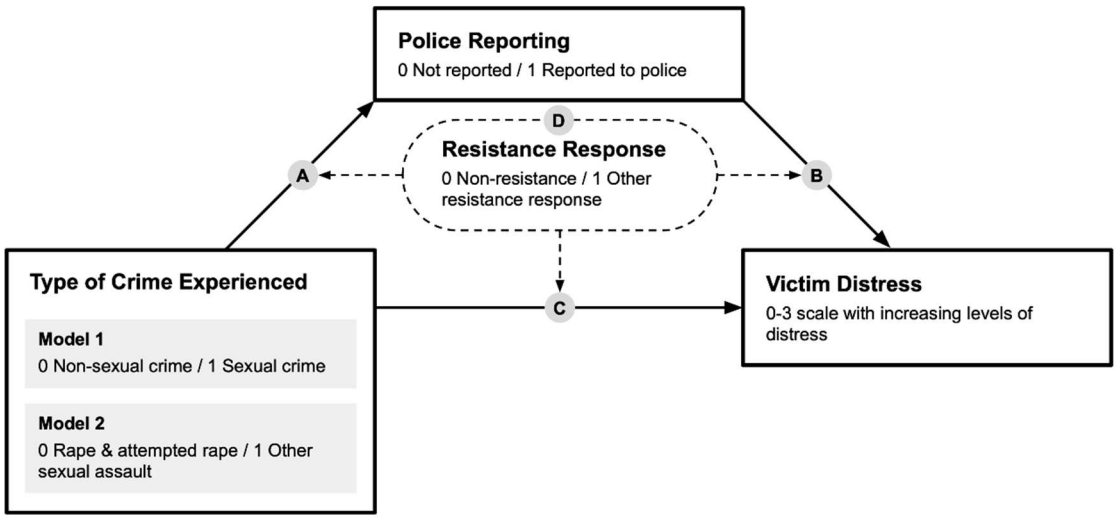
Covariates utilized included the victim's gender (0 = *male*, 1 = *female*), race/ethnicity (0 = *white, non-Hispanic,* 1 = *Black non-Hispanic,* 2 = *Hispanic,* 3 =

Other race, non-Hispanic, and 4 = *Multi-racial, non-Hispanic*), age (continuous variable from age *12* to *90*), relationship to the perpetrator (0 = *unknown* and 1 = *known*), the survey year (ordinal variable from 2015 = *2015* to 2019 = *2019*), household income (ordinal variable from 0 = *under $12,500* to 4 = *$75,000 and over*), and household location (0 = *urban*, 1 = *suburban*, 2 = *rural*).

Study Conceptual Model

The study's conceptual model, drawing from the empirical literature, is represented in Figure 4.1. As seen in the measures discussed above, the level of distress acts as the model's outcome variable with the type of crime experienced as the predictor and reporting to police reporting mediating the relationship between the two. Further, resistance response during the crime also moderates the proposed model.

Figure 4.1. Conceptualization of models one and two



Note:
Moderating effect of resistance response will be tested through multiple group analysis and will also include moderation of the indirect effects and total effects.
Based on prior research, model will include covariates of survey year, sex, age, household income, race/ethnicity, urban/rural location, and relationship to the perpetrator.

Path A represents the impact of the type of crime on police reporting. Those who experience sexual crime rather than other violent crime have a significantly lower

likelihood of reporting the violence (Campagna & Zaykowski, 2020; Kaukinen, 2002), with recent rate estimates around 40% for all violent crimes and approximately 33% for sexual crimes (Morgan &Truman, 2020). These differences are also reflected within sexual crime, with penetrative rapes showing higher associations with police reporting than other sexual crimes (Cantor et al., 2019).

The role of police reporting on victim distress is reflected in path B. Research has found that sexual crime victims who report to the police have increased levels of re-traumatization (Campbell et al., 2001) and increased mental health symptomatology (Kaukinen & DeMaris, 2009). Campbell (2005) posits that police officers substantially misjudge their direct impact on the level of distress experienced by rape victims. The type of crime experienced also directly affects victim distress (path C). Compared to other violent crimes, sexual crime victims exhibit elevated distress (Campagna & Zaykowski, 2020), such as a higher likelihood of experiencing emotional and physical symptoms (Vargas & Hemenway, 2021).

This model posits the moderation of these relationships by the resistance response during the crime (path D). Literature examining victim resistance has often used differing models and addressed different types of crime (e.g., exclusively rape or assault) and thus has yielded different or conflicting results (Tark & Kleck, 2004). This study therefore examines various crimes with a single analysis.

There has also been a demonstrated interaction between the effects of resistance during a crime on reporting to police (path A*D). For example, Pinciotti and Seligowski (2021) found that victims of sexual crime reported resisting the perpetrator during an attack were significantly less likely to report the experience to law enforcement than

those who resisted. This finding is replicative of past literature showing that the use of resistance strategies, especially forceful resistance, has been significantly associated with higher levels of police reporting (DuMont et al., 2003; Gunn & Minch, 1988). When sexual crime victims do interact with law enforcement, questions from police surrounding resistance and non-resistance, have led to increased distress (path B*D); victims felt the police questioning implied that if the victim had not resisted, they had taken the wrong course of action, or were thereby complicit in the crime (Campbell, 2005).

Finally, resistance responses also interact with victim distress post-crime (path C*D). Feehan et al. (2001) found that resisting the perpetrator reduced the likelihood of psychological distress. Furthermore, among women, those who took resistance actions were half as likely to report distress than victims who kept still (Feehan et al., 2001). Summarizing the state of the field of sexual assault victim resistance, Hollander (2018) noted that victim resistance reduces the severity of mental and physical health concerns. The author then argues that resistance during the crime may aid in post-assault recovery.

The literature demonstrating the pathways applicable to sexual crime is well established, as described above, compared to other types of crime. However, a common critique is that different crimes have been examined separately, contributing to the difficulty of comparison across crimes (Tark & Kleck, 2004). Similarly, rape and sexual assault are often assessed together, in part due to the notoriously low reporting rates (Basile et al., 2014), to increase sample sizes. These groupings may also be due to the conceptualization that the sexual aspect of crime differentiates it from other crimes, creating an independent subset of crime with limited exploration or further differentiation within the subset. This study seeks to bridge those gaps.

This study examines ten hypotheses across two models. Model one compares sexual crime to non-sexual violent crime (*violent crime model*) while model two looks at sexual assault compared to rape and attempted rape (*sexual crime model*). These models hypothesize that the direct relationships between (a) type of crime and police reporting, (b) police reporting and victim distress, and (c) type of crime and victim distress are significant, as are the (d) indirect effects of type of crime on victim distress as mediated by police reporting and (e) total effect of type of crime and police reporting on victim distress, including the mediation. This is followed by hypotheses (f-j) that each of these relationships is moderated by the victim's resistance response. The complete list of hypotheses for each model is reflected in Table 4.1.

Table 4.1. Hypotheses tested for models one (non-sexual crime/sexual crime) and two (rape & attempted rape/other sexual assault)

Hypothesis number	Pathway / variable	Hypothesis
1a/2a	A	There is a significant relationship between type of crime and police reporting
1b/2b	B	There is a significant relationship between police reporting and victim distress
1c/2c	C	There is a significant relationship between type of crime and victim distress
1d/2d	A & B	There is a significant indirect effect of type of crime on victim distress mediated by police reporting
1e/2e	A, B, & C	There is a significant total effect of type of crime on victim distress mediated by police reporting
1f/2f	A & D	The relationship between type of crime and police reporting is significantly moderated by resistance response
1g/2g	B & D	The relationship between police reporting and victim distress is significantly moderated by resistance response
1h/2h	C & D	The relationship between type of crime and victim distress is significantly moderated by resistance response
1i/2i	A, B, & D	The indirect effect of type of crime on victim distress mediated by police reporting is significantly moderated by resistance response
1j/2j	A, B, C, & D	The total effect of type of crime on victim distress mediated by police reporting is significantly moderated by resistance response

Statistical Analysis

The analysis was completed using Stata/IC 15.1 (Stata Corp, 2017) and Mplus 8.7 (Muthén & Muthén, 2021). Data management, variable creation, and descriptive statistics were conducted in Stata, while the mediation and moderation analyses were carried out in Mplus. Significance for all analyses was evaluated at an alpha of 0.05. Within Mplus, probit regressions were run with weighted least squares mean and variance adjusted estimators (WLSMV). WLSMV were used as they do not assume a normal distribution, have been shown to maintain sufficient power, and are appropriate for binary/categorical predictors and ordinal outcomes (Suh, 2015). The same analysis for both model one and model two, except for the alteration in the type of crime variable.

The mediation effect (hypotheses a-e), including indirect and total effects, was tested by assessing the joint significance of the product of coefficients (paths a*b; (a) being the relationship between the type of crime and police reporting and (b) being the relationship between police reporting and the victim distress). Bias-corrected bootstrapped confidence intervals with 5000 replications were calculated as the Sobel test has been reported to have low power, and bootstrapping allows for non-normal distribution of both the a and b pathways (Fritz & MacKinnon, 2007).

The moderated mediation (hypotheses f-j) was conducted through multiple group analysis with group 0 = *non-resistance* and 1 = *other resistance response*. Wald tests were run to determine whether there were group differences in paths a and b, the indirect, direct, and total effects.

The analyses utilized unweighted data thereby not taking into account the complex survey design. The weighted NCVS data works well for nationally

representative victimization rates; however, when used for predictive analyses, the weights result in sample sizes representative of the actual nationwide victimizations (i.e., approximately 22 million violent crime victimizations rather than the 10,000 included in the sample). Therefore, the use of unweighted data for predictive regression has been deemed preferable (Avery et al., 2019), including comparisons specific to NCVS (Lohr & Liu, 1994; BJS, 2020).

The initial mediation and moderation path analyses were adjusted for sex, age, race/ethnicity, household income, and household location. Based on the significance of the moderating effect, post-hoc analyses collapsing the two groups together were run adjusting for resistance response in the initial mediation model in addition to the other covariates

Results

Model One – Sexual Crime Compared to Non-Sexual Violent Crime

Participant and crime characteristics

Of those who reported a violent crime (n=10,128), more than half identified as female (53.6%) and had a mean age of 38.5 years (*SD* = 16.68). Respondents were predominantly white non-Hispanic (66.3%), followed by Hispanic (14.6%), Black non-Hispanic (11.4%), other race non-Hispanic (4.1%), and multi-racial non-Hispanic (3.6%). Over half (57.3%) reported a household income under $50,000 per year, and most (87.3%) lived in non-rural locations. Please see Table 4.2 for the full sociodemographic breakdown.

Table 4.2. Respondent sociodemographic characteristics

	Model 1 Violent Crime n=10,128	Model 2 Sexual Crime n=856[1]
	n(%)	n(%)
Biological Sex		
Male	4,696(46.37)	103(12.03)
Female	5,432(53.63)	753(87.97)
Age in years		
12-17	988(9.76)	64(7.48)
18-24	1,546(15.26)	270(31.54)
25-34	2,098(20.71)	178(20.79)
35-49	2,598(25.65)	189(22.08)
50-64	2,160(21.33)	119(13.90)
65 and up	738(7.29)	36(4.21)
Race/Ethnicity		
White, non-Hispanic	6,713(66.28)	583(68.11)
Black, non-Hispanic	1,150(11.35)	59(6.89)
Hispanic	1,480(14.61)	130(15.19)
Other race, non-Hispanic[2]	416(4.11)	47(5.49)
Multi-racial, non-Hispanic	369(3.64)	37(4.32)
Household income		
Less than $12,500	1,667(16.46)	262(30.61)
$12,500 to $24,999	1,586(15.66)	139(16.24)
$25,000 to $49,999	2,551(25.19)	204(23.83)
$50,000 to $74,999	1,574(15.54)	93(10.86)
$75,000 and over	2,750(27.15)	158(18.46)
Household location		
Urban	4,307(42.53)	426(49.77)
Suburban	4,533(44.76)	339(39.60)
Rural	1,288(12.72)	91(10.63)

Note: [1]The 856 respondents included in the sexual crime analysis are also represented in the overall violent crime analysis.
[2] Includes those who identify as Asian only, Hawaiian Pacific Islander only, American Indian only, or Alaska Native only.

In relation to the violent crime experienced, almost all (91.6%) crimes were non-sexual, and almost half (45.2%) of all crimes were reported to law enforcement. Over half of perpetrators (61.4%) were known to the victim, and the majority (58.2%) of victims reported taking some form of resistance while the crime was occurring. Finally, respondents had a mean score of 1.42 out of three (*SD* = 1.15) on the level of distress attributed to their victimization. Table 4.3 shows the model descriptive statistics.

Table 4.3. Conceptual model descriptive statistics

	Violent Crime Model n=10,128	Sexual Crime Model n=856[1]
	n(%) or M(SD)	n(%) or M(SD)
Type of Crime		
Violent Crime		
Non-Sexual Crime	9,272(91.55)	
Sexual Crime	856(8.45)	
Sexual Crime		
Rape and Attempted Rape		453(52.92)
Other Sexual Assaults		403(47.08)
Reported to law enforcement		
No	5,551(54.81)	621(72.55)
Yes	4,577(45.19)	235(27.45)
Resistance response		
Non-resistance	4,234(41.80)	352(41.12)
Other resistance response	5,894(58.20)	504(58.88)
Distress Scale Response (0-3)*(Mean)*	1.42(1.15)	1.94(1.08)

Note: [1]The 856 respondents included in the sexual crime analysis are also represented in the overall violent crime analysis.

Police reporting as a mediator for the relationship between crime and distress

The initial mediation analysis showed that experiencing sexual crime rather than non-sexual crime positively influenced levels of distress reported due to being a victim of said crime [B=0.392, 95%CI(0.320, 0.473), p<0.001]. Experiencing sexual crime also negatively impacted the likelihood of reporting the crime to law enforcement [B=-0.509, SE=0.050, p<0.001], which in turn was associated with higher reported levels of distress [B=0.202, SE=0.013, p<0.001].

Police reporting significantly mediated the relationship between the type of violent crime experienced and the subsequent level of distress felt [ab=-0.103, 95%CI(-0.128, -0.081), p<0.001]. The results also suggest that while considering the mediating role of police reporting, experiencing sexual crime rather than non-sexual crime remains a significant positive direct effect on the level of distress felt (B=0.495, SE=0.013, p<0.001]. Including both the direct and the indirect effect, the R^2 for the outcome was 0.155. These findings confirm hypotheses 1a-1e.

Resistance response as a moderator

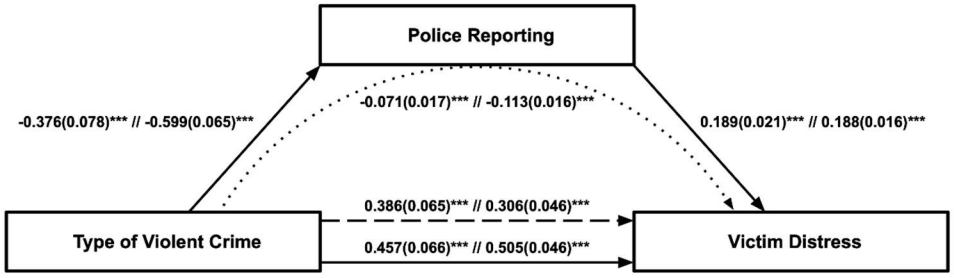
Diagram (a) in Figure 4.2 presents the multiple-group analysis run with groups of those who reported (1) non-resistance or keeping still, and (2) those who reported any other resistance response.

Within those who reported non-resistance, there was a negative effect of experiencing sexual crime on police reporting [B=-0.376, SE=0.078, p<0.001], a positive relationship between police reporting and distress experienced [B=0.189, SE=0.021, p<0.001], and a positive impact of experiencing sexual crime on distress [B=0.47, SE=0.066, p<0.001]. In addition, results demonstrated a total positive effect of experiencing sexual crime on the level of distress reported [B=0.386, 95%CI (0.254, 0.501), p<0.001] and a negative indirect effect of the police reporting mediation pathway [ab=-0.071, 95%CI (-0.110, -0.042), p<0.001].

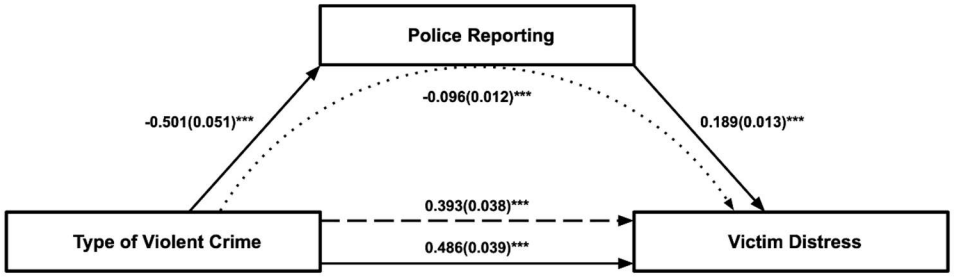
Looking just at those who reported resisting, all pathways were also significant. Experiencing sexual crime decreased the likelihood of police reporting [B=-0.559, SE=0.065, p<0.001], police reporting led to increased levels of distress [B=0.505, SE=0.046, p<0.001], and when taking into consideration the mediation of police reporting, experiencing sexual crime still had a direct effect of increasing distress experienced [B=0.505, SE=0.046, p<0.001]. There was a total positive effect of experiencing sexual crime on distress [B=0.306, 95%CI (0.393, 0.483), p<0.001] and negative indirect effect of the police reporting mediation pathway [ab=-0.113, 95%CI (-0.145, -0.084), p<0.001].

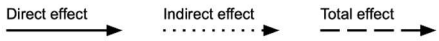
Figure 4.2. Model one – Violent crime multiple group analysis and final path analysis

(a) Violent crime multiple group path analysis for Group Non-Resistance // Group Other Resistance Responses[1]



(b) Violent crime final path analysis[2]





Note:
Results presented as coef(SE); ***p<0.001;
Analytical covariates not illustrated in final models.
[1] Non-Resistance results presented to left of (//) and Other Resistance Responses presented to right of (//)
[2] Final model (b) includes both groups from (a) collapsed together to treat grouping variable as covariate

Difference testing between the two groups revealed that only the moderation of resistance response on the direct role of experiencing sexual crime on police reporting was significant [*B*=-0.223, SE=0.102, *p*=0.029], confirming hypothesis 1f that the relationship between type of crime and reporting varies by resistance response. However, hypotheses 1g-1j were not supported as no other significant group differences were found. Therefore, no moderative effect of resistance responses on the total effect, indirect effect or direct effects was found. See Table 4.4 for the multiple group analysis path estimates including difference testing and Tables B1 and B2 for both groups' results with covariate values included.

Table 4.4. Model one – Violent crime multiple group analysis with test of differences

	Non-Resistance[1]				Other Resistance Response[2]				Differences			
Path	**Coef**	**S.E.**	**95% CI**	***p***	**Coef**	**S.E.**	**95% CI**	***p***	**Coef**	**S.E.**	**95% CI**	***p***
Sexual Crime → Police Reporting	-0.376	0.078		**<0.001**	-0.599	0.065		**<0.001**	-0.223	0.102		**0.029**
Police Reporting → Distress	0.189	0.021		**<0.001**	0.188	0.016		**<0.001**	-0.001	0.027		0.957
Sexual Crime → Distress	0.457	0.066		**0.001**	0.505	0.046		**0.001**	0.048	0.081		0.555
Indirect effect	-0.071	0.017	**-0.110, -0.042**	**0.001**	-0.113	0.016	**-0.145, -0.084**	**0.001**	-0.041	0.023	-0.086, 0.005	0.073
Total effect	0.386	0.065	**0.254, 0.510**	**0.001**	0.306	0.046	**0.393, 0.483**	**0.001**	0.007	0.080	-0.145, 0.167	0.934

Note: Coef = Coefficient; SE = Standard Error; CI = Confidence Interval; *p* = p-value
[1] The R^2 for Group Non-Resistance, including the indirect effect, was 0.146.
[2] The R^2 for Group Other Resistance Response, including the indirect effect, was 0.165.

Final model one path analysis

As hypotheses 1g-1j positing the moderating role of resistance response on the initial mediation model were not supported, the two groups were collapsed together, allowing the resistance response measure to stand as a covariate. The results of this final analytical model are reflected in diagram (b) of Figure 4.2. Similar to the initial mediation analysis, all direct, indirect, and total effects were significant and are reflected in Table 4.5. Experiencing sexual crime has a total effect of increasing levels of reported distress [B=0.393, 95%CI (0.321, 0.472), p<0.001], and police reporting significantly mediated the above relationship [ab=-0.096, 95%CI (-0.121, -0.075), p<0.001].

Experiencing sexual crime compared to non-sexual crime decreased the likelihood of reporting the crime to law enforcement [B=-0.501, SE=0.051, p<0.001], which in turn, was associated with higher levels of distress [B=0.189, SE=0.013, p<0.001]. There was also a positive direct effect of experiencing sexual crime on the level of distress reported [B=0.489, SE=0.039, p<0.001]. The R^2 for the outcome of distress, including the indirect effect, was 0.169. These findings reinforced the initial confirmation of hypotheses 1a-1e. See Table B3 for the final mediation model results with covariate values included.

Table 4.5. Model one – Violent crime path coefficients with bias corrected bootstrap

Path Estimate	Coef	S.E.	95% CI	*p*
Sexual Crime → Police Reporting	-0.501	0.051		**<0.001**
Police Reporting → Distress	0.189	0.013		**<0.001**
Sexual Crime → Distress	0.489	0.039		**<0.001**
Indirect effect	-0.096	0.012	**-0.121, -0.075**	**<0.001**
Total effect	0.393	0.038	**0.321, 0.472**	**<0.001**

Note: Coef = Coefficient; SE = Standard Error; CI = Confidence Interval; *p* = p-value
Final model includes binary resistance response as a covariate rather than moderator.
The R^2 for the collapsed model, including the indirect effect, was 0.169.

Model Two – Sexual Assault Compared to Rape and Attempted Rape

Participant and crime characteristics

Respondents who reported a sexual crime (n=856) identified predominantly as female (88.0%) and had a mean age of 33.5 years (*SD* = 15.11). The majority identified as White non-Hispanic (68.1%), followed by Hispanic (15.2%), Black non-Hispanic (6.9%), other races non-Hispanic (5.5%), and multi-racial non-Hispanic (4.3%). More than two-thirds (70.7%) reported a household income under $50,000 per year, and almost all (89.4%) lived in non-rural areas. The respondents' full sociodemographic breakdown is available in Table 4.2.

Approximately half (52.9%) of the sexual crimes experienced were rape or attempted rape, with the remainder encompassing other types of sexual assault. Of all crimes experienced, fewer than one-third (27.5%) were reported to law enforcement, almost three-fourths (72.6%) of perpetrators were known, and the majority (58.9%) of victims reported some form of resistance while the crime was being committed. The mean level of distress associated with being a victim of a sexual crime was 1.94 out of three (*SD*=1.08). Table 4.3 shows the model's descriptive statistics.

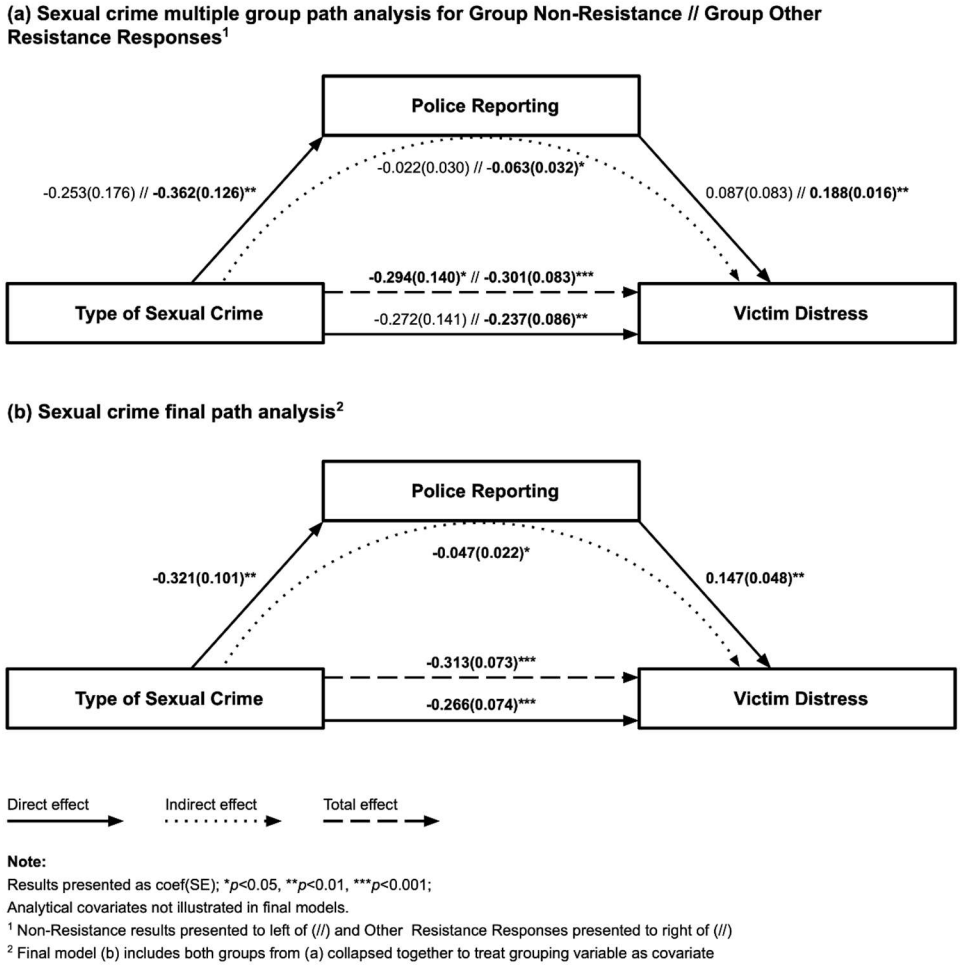
Police reporting as a mediator for the relationship between crime and distress

The preliminary analysis showed that experiencing other sexual assault rather than rape or attempted rape was significantly associated with lower levels of distress attributed to the crime [*B*=-0.247, 95%CI (-0.391, -0.104), *p*=0.001]. This relationship was significantly mediated by police reporting [ab=-0.048, 95%CI (-0.103, -0.014), *p*=0.030]. Experiencing other sexual assaults decreased the likelihood that the crime was reported to law enforcement [*B*=-0.317, SE=0.099, *p*=0.001], and police reporting produced higher levels of distress [*B*=0.150, SE=0.049, *p*=0.002]. Even after taking the mediating effect of police reporting into account, there remained a negative direct effect of experiencing other sexual assault rather than rape or attempted rape on the level of distress experienced [*B*=-0.199, SE=0.076, *p*=0.008]. The R^2 for distress in the model, was 0.117. These findings support hypotheses 2a-2e.

Resistance response as a moderator

Diagram (a) in Figure 4.3 represents the results from the multiple group analysis using the same grouping variable as model one. Within those who reported non-resistance, there was a total negative effect of experiencing other sexual assault on levels of distress [*B*=-0.294, 95%CI (-0.563, -0.015), *p*=0.035]; however, the indirect effect of the police reporting on the effect of type of sexual crime on levels of distress was not significant.

Figure 4.3. Model two – Sexual crime multiple group analysis and final path analysis



Note:
Results presented as coef(SE); *p<0.05, **p<0.01, ***p<0.001;
Analytical covariates not illustrated in final models.
[1] Non-Resistance results presented to left of (//) and Other Resistance Responses presented to right of (//)
[2] Final model (b) includes both groups from (a) collapsed together to treat grouping variable as covariate

Within those who reported resisting, both the total effect [*B*=-0.301, 95%CI (-0.431, -0.135), p<0.001] and indirect effects [ab=-0.063, 95%CI (-0.144, -0.016), p=0.048] of experiencing other sexual assaults on distress levels were significant. The direct pathways were also significant. Experiencing other sexual assault led to lower levels of police reporting [*B*=-0.362, SE=0.126, p=0.004], which in turn resulted in higher levels of distress [*B*=0.175, SE= 0.060, p<0.003]. In addition, there was a direct relation between experiencing other sexual assault and lower levels of distress [*B*=-0.237, SE=0.086, p=0.006].

Analysis of the differences between the non-resistance and other resistance response groups revealed that none of the pathways were significant, thereby not supporting hypotheses 2f-2j. See Table 4.6 for all multiple group analysis estimates, including the difference testing and Tables B4 and B5 for both group's estimates with covariates included.

Table 4.6. Model two – Sexual crime multiple group analysis with test of differences

	Non-Resistance[1]				Other Resistance Response[2]				Differences[3]			
Path	**Coef**	**S.E.**	**95% CI**	***p***	**Coef**	**S.E.**	**95% CI**	***p***	**Coef**	**S.E.**	**95% CI**	***p***
Other Sexual Assault → Police Reporting	-0.253	0.176		0.151	-0.362	0.126		**0.004**	-0.109	-0.109		0.617
Police Reporting → Distress	0.087	0.083		0.294	0.175	0.060		**0.003**	0.088	0.088		0.389
Other Sexual Assault → Distress	-0.272	0.141		0.053	-0.237	0.086		**0.006**	0.035	0.035		0.836
Indirect effect	-0.022	0.030	-0.116, 0.015	0.463	-0.063	0.032	**-0.144 , -0.016**	**0.048**	-0.041	-0.041	-0.127, 0.046	0.343
Total effect	-0.294	0.140	**-0.563, -0.015**	**0.035**	-0.301	0.083	**-0.431, -0.135**	**<0.001**	-0.006	-0.006	-0.331, 0.315	0.970

Note: Coef = Coefficient; SE = Standard Error; CI = Confidence Interval; *p* = p-value
Indirect effects were calculated as the product of the a path and the b path. Total effects are the sum of the indirect effect and the c' direct effect.
[1] The R^2 for Group Non-Resistance, including the indirect effect, 0.168.
[2] The R^2 for Group Other Resistance Response, including the indirect effect, was 0.153.

Final model two path analysis

As in model one, resistance response did not moderate the initial mediation of police reporting on distress; thus, the multiple group analysis was collapsed into a final analytical model (see diagram (b) of Figure 4.3). All direct, total, and indirect effects remained significant, as reflected in Table 4.7 and further supporting hypotheses 2f-2j. Results reinforced that experiencing other sexual assault is associated with lower levels of distress [*B*=-0.313, 95%CI (-0.459, -0.173), *p*<0.001] and police reporting significantly mediated that relationship [ab=-0.047, 95%CI (-0.102, -0.014), *p*=0.030]. Experiencing other sexual assaults negatively impacted the likelihood of reporting to law enforcement [*B*=-0.321, SE=0.101, *p*=0.001], and reporting the crime to police was associated with higher levels of distress [*B*=0.147, SE=0.048, *p*=0.002]. The direct effect of experiencing sexual assault on the level of distress remained significant [*B*=-0.266, SE=0.074, *p*<0.001]. With the inclusion of resistance response as a covariate, the R^2 for distress in the mediation model, was 0.148. See Table B6 for the final mediation model results with covariate values included.

Table 4.7. Model two – Sexual crime path coefficients with bias corrected bootstrap

Path Estimate	**Coef**	**S.E.**	**95% CI**	***p***
Other Sexual Assault → Police Reporting	-0.321	0.101		**<0.001**
Police Reporting → Distress	0.147	0.048		**0.002**
Other Sexual Assault → Distress	-0.266	0.074		**<0.001**
Indirect effect	-0.047	0.022	**-0.102, -0.014**	**0.030**
Total effect	-0.313	0.073	**-0.459, -0.173**	**<0.001**

Note: Coef = Coefficient; SE = Standard Error; CI = Confidence Interval; *p* = p-value
Final model includes binary resistance response as covariate rather than moderator.
The R^2 for the collapsed model, including the indirect effect, was 0.148.

Discussion

Prior research has predominantly demonstrated that compared to other violent crimes, sexual crime is associated with lower rates of police reporting and higher levels of distress, while police reporting of any violent crime is also strongly tied to high levels of victim distress (Langton & Truman, 2014; Morgan & Truman, 2020). However, limited literature examines neither the interplay between crime, police reporting, and distress, nor the role that victim resistance plays in each relationship. This study aimed to do so across types of crime.

The results were consistent with the existing literature that has found that compared to other violent crime, sexual crime is related to lower police reporting and higher distress, while police reporting across crimes is associated with higher distress. In addition, police reporting partially explains the higher distress associated with sexual crime, despite lower rates of reporting. Importantly, the finding that victims of sexual crime (when compared to non-sexual crime), who resisted had lower rates of police reporting compared to those who kept still is contrary to previous findings. Past literature has found that victims of crimes which are more reflective of the 'prototypical rape scenario' such as resisting the perpetrator are more likely to engage with the police (DuMont et al., 2003; Pinciotti & Seligowski, 2021). It is, however, in line with work investigating the efficacy of self-defense courses which show that victim resistance has beneficial impacts on crime completion and the 'severity' of the crime, making lower rates of reporting understandable, as it may be felt to be less needed (Tark & Kleck, 2004). The finding could also be attributed to a victim's fear of arrest or collateral consequences should they fight back (ACLU, 2015; Dichter, 2013; Lippy et al., 2020).

As with the comparison of other violent crime to sexual crime, when examining different types of sexual crime, a significant impact on police reporting and distress was found. Those who experienced sexual assaults other than rape or attempted rape, were less likely to involve the police and experienced lower levels of distress; however, police reporting was still associated with heightened distress. Again, reporting a crime to police partially explained the lower distress associated with sexual assault, despite reporting being associated with higher distress. These findings may tie into the concept of crime severity, or victim perception of what constitutes a crime 'worthy of services,' which contributes to non-reporting (Patterson et al., 2009). This is reflective of Wyatt (1992)'s work that argued the effects of sexual crime on a victim are shaped by their perception of the experience. It is possible that the perception that the crime was 'not that bad' or 'not bad enough,' e.g., not rape, results in both non-reporting and lower levels of distress.

Both analyses, sexual crime compared to other violent crimes and rape or attempted rape compared to other sexual assaults, reflected similar patterns in that both crimes that could be classified as more 'severe' (BJS, 2017) *and* police reporting resulted in higher distress. Resistance response did not change these relationships. While comparison of model fit across models is not possible, the analyses of the model including all violent crime did explain a greater proportion of the relationship between the variables.

Past research has focused on the impact of law enforcement on sexual crime victims (Kaukinen & DeMaris, 2009), but the results of this study give credence to the idea that reporting to police exacerbates distress regardless of the type of crime experienced. This would suggest that more investigation into how law enforcement is

interacting with victims of all violent crimes is warranted. In line with findings from the ACLU (2015), there may be differences in how the public perceives the role of law enforcement and how the police interpret their role. These differences in expectations may influence interactions between police and crime victims, impacting victim distress (ACLU, 2015). Moreover, as many crime victims – not just sexual crime victims – are traumatized, and the distress itself may contribute to negative interactions with police (Hansen et al., 2018). While explorations of why or how police involvement increased distress have been conducted from the survivor perspective, further inclusion of police perspectives might open up opportunities for deeper understanding and intervention points. Literature including both perspectives is sparse and needs to increase to better capture the potential contributors to distress (Campbell, 2005).

There is also the consideration that reporting to police is multifaceted, potentially leading to a combination of factors which contribute to distress. One example might be that it is not actually reporting to police that triggers distress but some other element of the reporting process, such as not having been the person who notified the police (Lippy et al., 2020), collateral damage in their lives because of police involvement (ACLU, 2015) or the reactions of others who thereby find out about the crime (Patterson et al., 2009). If there was police reporting, there very well may have been other types of reporting, such as to friends, family, or victim services, which may themselves influence or compound distress (Kaukinen & DeMaris, 2009). Thus, research that includes interviews of victims will be key to a more nuanced understanding.

Limitations

NCVS is first and foremost a criminal justice survey, not a public health survey. This can make public health analyses and conceptualizations more difficult, given the differing priorities of the survey and subsequent survey design. Survey questions may not have captured nuances associated with the health impacts of crime, and those questions that were asked were only asked of certain respondents based on previous responses. This makes formulating a full picture of crime impact a bit more difficult. For example, the survey only asks respondents about health symptomology if they report having moderate or severe distress or other socio-emotional impacts – but from a public health perspective, somatic and emotional symptoms are not exclusive to elevated levels of distress. This is especially salient for concepts such as distress, which are evaluated with single item responses rather than public health validated psychometric measures.

Similarly, public health findings support that cooperating with the assaulter (or pretending to) is a form of self-protection, the survey offers this as a response option only if the respondent previously answered yes to "protecting themselves." Many crime victims may not view cooperation as a form of self-protection, and thereby not reach this option. In this regard, interview guide skip rules thus have likely resulted in conservative results due to the interpretation of either the interviewer or the respondent.

Another limitation is that the survey excludes subsets of the population who have been shown to experience elevated levels of crime, including those in the military, those who are homeless, or those who are institutionalized. Questions into gender identity and sexual orientation were not added to the survey until 2017, not allowing for identification of other populations who disproportionately experience crime and have been found to

have more biased interactions with police (ACLU, 2015). The same goes for bias regarding race (ACLU, 2015), something that may be underestimated due to the respondents being predominantly women and white, non-Hispanic. In addition, it also excludes a number of crimes strongly associated with both violent and sexual crime such as prostitution, sex trafficking, or crimes resulting in homicide. As a result, the overall incidence, prevalence, and true impact of violent and sexual crimes may be under-counted.

Finally, as the survey is cross-sectional, causal inferences cannot be made, because temporal precedence does not exist between police reporting and level of distress. That is, this study cannot rule out the possibility that causation between these two factors is reversed – i.e., those who experience heightened distress are more likely to report to the police, rather than that the reporting leads to greater distress. However, the question specifically asks about distress as a result of 'being a victim of *this crime'* which adds a semblance of temporal precedence and a separation from distress due to reporting to police. In addition, the model as hypothesized is replicative of, and supported by, past research showing police reporting as contributing strongly to distress.

Strengths

While weighted data was not used, the NCVS reaches a large number of people nationwide and thus is more fully representative the population. This sample size is pivotal, especially for already underrepresented crimes and populations, thereby allowing for exploration that is not exclusive to a single subset of people, such as college students. It also allows for differentiation between types of sexual crime, which has been notoriously difficult due to sample sizes. It also allows for more variability in the distress

outcome, compared to previous studies which have coded the measure dichotomously, rather than using the full scale represented here.

This study capitalizes on these factors to complete both a cross-comparison of sexual and non-sexual crime as well as comparison within types of sexual crime, filling gaps in the existing literature. As sexual crimes are often examined as a whole, i.e., grouping rape/sexual assault together, rather than delineating types of sexual crimes, the study presented a more robust analysis of differences among sexual crimes themselves. The study further presents a more comprehensive exploration into contributors to police reporting and victim distress by including the impact of resistance responses during the crimes themselves.

Finally, the study's results contribute to not just the body of literature focusing on the impact of sexual and other violent victimizations on distress but expand upon that focus by including the role of police reporting and resistance response in that distress, something predominately examined in sexual crime. The results invite further investigation into the roots of the relationships between reporting to police, victim distress, and resistance responses. Such research will be critical for the development of new approaches to police response, treatment for victim distress, and dispelling myths about resistance responses.

Chapter 5: Discussion

This study sought to explore two main considerations around crime: police reporting, and distress. First, it investigated the role of three main crime-related contributors to police reporting and whether their interaction affected a victim's decision to pursue police notification. These included the type of crime experienced, the victim's relationship to the perpetrator, and resistance responses during the crime. Second, the impact of police reporting on the relationship between crime and victim distress was examined. These relationships were first analyzed independently, and then by testing differences between non-resistance and other resistance responses taken during the crime.

This chapter will first summarize key findings from the study as well as results found but not expounded upon in the manuscripts. Next, the dissertations strengths and limitations are discussed. This is followed by important implications for research, including study design and areas for further study, and public health and criminal justice practice.

Key Findings

Contextual contributors to police reporting

The comparison of rape, attempted rape and other sexual assaults demonstrated limited significant relationships. Only the main effect of victims of sexual assaults exhibiting lower reporting rates than both victims of rape and attempted rape was significant. However, the two moderation effects which included the relationship to perpetrator were approaching significance with alpha values less than 0.10. A larger sample might allow for detection of interactions that this analysis could not.

Within victims of non-sexual crime, reporting differed based on the resistance response exhibited during the crime. More forceful 'fight' responses yielded higher reporting rates compared to any other response while 'flight' responses exhibited lower rates than those who 'froze.' Contrary to past literature, resistance responses within victims of sexual crime did not influence the likelihood of reporting (Pinciotti & Seligowski, 2019). However, resistance response was an instrumental predictor for exploration within other types of violent crime. This is in line with findings by Muniz and Powers (2021) who found that physical resistance during robberies was significantly tied to reporting rates, while it was not in cases of sexual assault. However, the difference between the two types of crime was not significant. Unfortunately, due to the author's use of a dichotomous resistance response variable, the directionality of resistance on reporting cannot be confidently compared to this dissertation.

Mediation effect of police reporting on the relationship between crime and distress

The comparison of sexual crime to other violent crime is strongly supportive of current literature about the impacts of sexual crime being unique from non-sexual crime (Chen & Ullman, 2010). The results are not in line with an argument that more 'severe' crimes, as defined by NCVS, are more likely to be reported. However, they are consistent with the vast body of literature showing significant differences from other violent crimes in crime reporting rates and distress levels.

Comparison within sexual crime does support arguments about the 'severity' or 'seriousness' hierarchy[9] of crimes with rape and attempted rape demonstrating higher reporting and higher distress compared to other sexual assaults (Mennicke et al., 2019).

[9] See page 26 under crime classifications.

This speaks to literature previously discussed about victims' beliefs regarding crimes that are 'worthy' of reporting and are therefore more influential on distress levels (Patterson et al., 2009). The differential relationships within sexual crime also support that grouping rape and sexual assault together is not always appropriate.

Within the all violent crime analysis, resistance response moderated the relationship between type of violent crime and police reporting. Contrary to past literature (Pinciotti & Seligowski, 2021) and the findings in the first manuscript, those who experienced sexual victimization compared to non-sexual and resisted were less likely to report the crime than those who reported non-resistance. Sexual crime compared to non-sexual crime was associated with lower odds of reporting in both groups but the difference in the magnitude of the two negative relationships was not significant.

These differences between the findings in the two manuscripts may be attributable to the dichotomization of the resistance response measure. 'Flight' and 'freeze' were combined in manuscript two for analytical purposes within the multiple group path analysis, but this decision was supported by previous findings. This was reflected in findings from manuscript one that non-resistance differs significantly from other resistance responses. Despite literature support for the binary variable, the combination of 'flight' and 'fight' responses may still have contributed to differentiated findings based on differences between 'fight' and 'flight' responses and their role in police reporting.

Finally, the results support the concept of re-traumatization at the hand of reporting to police, *regardless* of the type of crime experienced. Most research examining victim re-traumatization has been completed exclusively within sexual crime, therefore this shows the importance of conducting future research focusing on all violent crime

victims. To determine potential differences between the types of crime and police reporting related distress, future investigations could explore if police reporting moderates the relationship between type of crime and victim distress rather than mediated it. This analysis would build on findings that there is a relationship between reporting and distress by determining if distress experienced differs based on the type of crime.

Individual and household characteristics' impact on outcomes

The relationships of respondent characteristics and the outcomes were not discussed in the presented manuscripts due to constraints created by strict journal requirements. Journals require succinct papers and unless the focus of the analysis, concepts such as race/ethnicity cannot always be discussed in their totality. Due to the previously demonstrated importance of these factors in determining both police reporting and distress, these relationships shall be discussed here. Please reference Appendices A and B for all analysis results with the inclusion of the covariates.

The manuscript examining the contributors to police reporting (see Chapter Three and Appendix A) found that many of the covariates included in the analysis remained influential on the likelihood of reporting across the hypotheses, even with the inclusion of the models' main predictors. Contrary to a vast body of literature, within all violence, self-reported victim sex did not significantly contribute to police reporting when all other predictors were considered. Previous literature has consistently found that those who identify as female exhibit higher rates of police reporting of violent crime (Morgan & Truman, 2020). Victims who identified as Black, non-Hispanic and Hispanic exhibited higher rates of reporting compared to their white, non-Hispanic counterparts. This supports one side of conflicting literature on criminal reporting within marginalized

communities, especially the Black community, by revealing higher reporting rates (Breiding et al., 2014; Sigurvinsdottir & Ullman, 2016; West, 2013). Age also impacted reporting with the only age bracket with lower likelihood of reporting were those 12-17. This difference could be due to lower agency within those under 18, as well as the high level of crimes committed, especially sexual crime (Sinozich & Langton, 2014), against those 18-24.

Finally, household characteristics significantly predicted changes in likelihood of reporting. Those of higher income, specifically household incomes of $50,000 and over, were significantly less likely to report than those with households approximately at or below the Federal Poverty Limit. This is in line with Morgan and Truman (2020) who found that higher incomes were indicative of decreased reporting. In addition, respondents living in suburban and rural areas were more likely than urban residents to report violent crime. This is in conflict to some literature discussing barriers to services and police in rural areas (Logan et al., 2005), which was previously found to decrease reporting. It also merits investigation into contributors to lower reporting rates in urban areas, when that is where the preponderance of crimes occur (National Center for Victims of Crime, 2017).

The majority of these relationships did not remain significant in the comparison exclusive to sexual crime. Contrary to results across violent crime, those ages 12-17 and those 35-49 were more likely to report the crime to police than those 18-24. This difference in reporting might also be attributed to parents reporting the crime on a child's behalf. Gender remained a non-significant predictor and race/ethnicity, again contrary to the violent crime analysis, was no longer significantly contributed to reporting. This

contributes again to the contradictory literature about the variations in reporting different types of crime within racial/ethnic groups. In regard to household characteristics, there was no longer a relationship between household location, and in this analysis, those in the lower income brackets, $12,500-$50,000, were more likely to report. This is inverse of the previous analysis.

Demographic contributors in manuscript two, examining police reporting and distress, were similar to those found in the first manuscript (see Chapter Four and Appendix B). Self-identified sex continued to be a non-significant predictor and as age increased, so too did the probability of reporting to police. Again, Black non-Hispanic and Hispanic respondents had higher odds of reporting, however those who identified as multi-racial non-Hispanic were now less likely to report. At the household level, as income increased, the likelihood or reporting decreased while living in suburban and rural areas continued to increase the odds of reporting. However, the analysis within exclusively sexual crime yielded different results – only income remained a significant predictor with increasing income contributing to increased reporting.

Outside of the effects of police reporting, there were also significant predictors for victim distress. Across all violent crimes, females, those of increasing age, and multi-racial, non-Hispanic and Hispanic race/ethnicity all predicted higher distress. Increasing income and living in rural areas rather than urban areas resulted in decreased distress. Research into each contributor individually, or in conjunction with the others would contribute to the literature and application of tailored interventions addressing victim outcomes. Within sexual crime, females continued to exhibit higher distress than males, while increasing age increased distress and increasing income decreased distress. The

change in significance for race/ethnicity warrants further research into the difference between reactions to victimization to better support victims. This may include understanding biased reactions and interactions certain populations experience regarding the crime experienced.

When considering the impact of individual and situational characteristics on the dissertation outcomes, it is important to consider those which were unable to be included in the analyses. The survey excludes groups known to experience not only disproportionate levels of sexual crime, but also different rates of police reporting such as institutionalized individuals, those in the military, and those who are homeless. This exclusion may contribute to variation in victim reporting rates. For example, the ACLU (2015) found that reporting can lead to collateral damages including victim incarceration or homelessness, which thereby may remove some of those who reported from the sample. However, the circumstances in which the crime occurs, e.g., while on active duty or within an institution, likely contribute greatly to the decision to report the crime (Heath et al., 2011; Kubiak et al., 2017; Mengeling et al., 2014). As such, separated examination may be warranted, but these factors should be considered in more generalized analyses.

Dissertation Limitations and Strengths

Limitations

While conceptually and methodologically strong, no work is without limitations. This dissertation's limitations primarily surround survey design which impacted how data could be captured and conceptualized. Of importance, NCVS was not created to evaluate public health concerns, it was specifically designed to examine victimization characteristics. Therefore, the questions addressing the socio-emotional toll of

victimization, which were only added in 2008, are secondary to other crime characteristics. Most socio-emotional measures are single item. In addition, the items are not tied to any psychometric measures with reliability or validity metrics. This poses issues for this dissertation's outcome, as respondents can interpret 'distress' in a variety of manners. They may have symptoms or issues they may not initially attribute to 'distress' without further questioning. As an elevated stress response is needed to be asked about emotional and physical symptoms, a misinterpretation of the distress measure could result in not capturing additional impacts.

Another concern surrounds the data being analyzed as cross sectional despite the rotating panel design. As respondents are interviewed every six months, questions only capture crimes that occurred since the prior interview. There is no follow up on the ramification of crime reported in previous interviews. If a crime happened very close to the time of the interview, distress and other symptomology may not have yet manifested. This poses a concern as the onset of socio-emotional impacts may be delayed, and due to the lack of follow up in subsequent interviews, this distress would not be captured. In addition, based on this structure, temporal precedence with regards to police notification and victim distress cannot be assumed. It is possible that those experiencing higher levels of distress are more motivated to contact police rather than reporting to police contributing to the increased distress.

The structure of the CIR and what is available in the public-use dataset place some restrictions of the conceptualizations of resistance response. There is an "other responses taken" option available to respondents to mention resistance responses that did not fit elsewhere. That narrative is not accessible in the data. About 3% of respondents

selected only this option, thus those individuals were lost in manuscript one's analysis due to inability to categorize the responses. The respondents were however able to be included in manuscript two when a binary variable was used. These differences could have contributed to the differential findings between the two papers.

Finally, race and ethnicity had to be collapsed more than desired due to small cell sizes, especially in the sexual crime analyses. While inherently better than needing to dichotomize the variable, as is often the case, there are inherent issues with using the Census' Hispanic precedence categories. The placement of every respondent who answers yes to 'Hispanic' identity into one category likely means this category is extremely heterogenous and may not line up with the primary race/ethnicity with which the respondents identify. Therefore, the interpretation of the role of race in police reporting and distress is limited.

Strengths

Despite the previously discussed limitations, the studies demonstrated myriad strengths. The NCVS is collected via strong sampling methodology allowing for national-level examination across many iterations of the survey. Despite not using weights, this results in a more diverse sample compared to exclusive subsets of victims (college, only women, only IPV, etc.) used extensively in past literature. The large sample size permits complex comparison of a variety of factors. Considering the depth of the CIR, the survey is well designed to capture contextual characteristics of crime and their association with police reporting. Of the utmost importance, considering the well documented under-reporting of sexual crime, the data includes both reported and non-reported crimes presenting a more robust picture of police reporting behaviors.

Another strength is the use of a multi-category conceptualization of resistance responses in interactions. Manuscript one builds on growing literature that moves outside of a dichotomous action/no action variable. The addition of the theoretical backing of grouping the response options as 'fight-flight-freeze' allows for the application of psychological public health concepts to a criminal justice survey. The fact that the results found an interaction that showed a significant difference between the non-'freeze' responses show that continued delineation of the types of resistance responses is important. It creates opportunities for further application of the theory, or further investigation into newer theoretical conceptualizations.

Further, this dissertation builds on the growing literature focusing on the socio-emotional items in the NCVS. Continued analysis of these newer variables brings much needed attention to the importance of the personal toll of victimization and how they can benefit multi-disciplinary research. Within these measures, the author has yet to see another publication that utilizes the full four category distress scale as an outcome. Most typically, the distress variable had been conceptualized dichotomously (none/mild and moderate/severe) or with three categories –none/mild, moderate, and severe (0-2). In addition, this socio-emotional measure is often seen as a contributor rather than the outcome of interest. The dissertation's approach to the variable allows for more variance in the responses and contributes greatly to the literature.

Dissertation Implications

Building upon the strengths and limitations of this work, the dissertation has many implications for work going forward. These implications are centered primarily

upon research including improving survey design and areas for future research, as well as practical implications for work in the fields of public health and criminal justice.

Implications for research

Survey design. A major opportunity for survey improvement would be to follow-up on crimes reported in previous interviews. With additional information about past crimes, depth of information captured would increase exponentially. While still retrospective data, this could better establish temporal precedence for many of the measures. For example, the discussion of whether distress leads to reporting or reporting increases distress could be better discerned. This longitudinal use of the panel survey could also capture aspects of crime that might be delayed, such as police reporting that is not immediate, symptom manifestation, or the longevity of symptomology. It could also help reveal a pattern of movement through post-crime processes, like reporting and the use of medical and victim services. Information about the order in which access to these supportive services seem to occur, in conjunction with health outcome measurement would provide rich exploration into the impact of the broader help-seeking process.

Assessment of the socio-emotional impact of crime would also benefit greatly from more comprehensive measures. As mentioned in the limitations, a majority of the crime impact questions are single-item measures. This likely underestimates these critical assessments due to the possibility of construct validity issues. The use of reliable, validated psychometrics would be ideal; however, it would place an extensive burden on both the respondent and the interviewer. Survey revision to include established or new short form versions of existing metrics could improve confidence in interpretation of the results.

Within the interview guide, there are a large number of skip rules which create differences in which respondents are asked which questions. A variety of items are asked only of those participants who respond 'yes' or 'no' to a previous question, thereby negating comparison of the subsequent responses, as not all participants are presented with the same options. This creates many "within those who said yes…" analyses, further narrowing who can be included. For example, only victims of certain types of crime are asked the socio-emotional impact questions. Even further, only those who report moderate or severe distress, problems at work, or problems with family are asked more specific questions about emotional or physical symptoms and help-seeking behaviors due to those symptoms. Individuals who report low distress may still exhibit symptoms due to the victimization or seek medical or counseling services. That symptomology or behavior would not be recorded because those individuals are not asked. A lot of variation across crimes and potential impacts are lost. Eliminating or minimizing skip rules based on unknown assumptions of what victims experience would create opportunities for better cross-comparative examination of crime's impact.

Finally, data is also lost due to some of the "anything else?" questions with write in "other" response opportunities. The questions are important avenues for respondents to expound on something that might not fit cleanly into the provided response options, but those responses are not available for analysis. The issue arises because those text responses are not available in the public use file due to concerns about identifiability. While a valid and necessary concern, the dataset's utility would be considerably enhanced if a safe way to include that textual data was determined. Further, clarity on

how the responses are recorded, classified, and used by BJS is instrumental for researcher decisions regarding how to include those variables

Areas for further investigation. In addition to highlighting key areas to improve the NCVS survey design, the results also bring to light areas for further investigation. First, several contributors to (non-)reporting were confirmed or revealed. In interpreting police reporting data, most past research has focused on why victims elect *not* to report. Taking a slightly different perspective and conducting research centered on why victims *did* report could be capitalized upon to bolster efforts to increase reporting. This increase in reporting is not only necessary for more accurate estimations of victimization but it is also instrumental for future crime prevention and decreased risk for potential re-victimization. Of critical importance, the police, and those associated with the reporting process have been found to act as gatekeepers to other structural supports like victim services, advocates, and medical treatment which are associated with decreased levels of distress.

When considering the post-reporting outcomes, with the establishment of a closer approximation of temporal precedence, researchers could better investigate causal pathways. For example, in regard to these results, there could be exploration into whether it is police reporting contributing to distress or rather, the inverse, that distress levels are indicative of police contact. A longitudinal model could even identify whether these relationships are reciprocal.

It is also necessary to look at other potential contributors associated with police reporting to create a comprehensive picture of *what* about reporting contributes to distress. It could be the exchange with the reporting police officer, or some outside factor triggered by the reporting process such as collateral consequences (see ACLU, 2015),

informal disclosure reactions compounded with formal reporting (Kaukinen & DeMaris, 2009), or the presence or lack of an advocate (Campbell, 2006). On the flip side, and arguably of more importance, an assets-based approach could be used to qualitatively explore aspects of the reporting process that *did not* increase distress or even *decreased* distress. These results would be pivotal for informing police training practices.

Along these lines, further work into police perspectives of interactions with victims of crime could reveal potential points for service improvement intervention. This research should include looking into the understanding and expectation of the role of police from both police and victim perspectives and how differences or agreement might impact interactions. Working towards alignment of police mindsets with previously conducted, robust victim-perspective research could improve victim experiences.

Finally, when possible, studies should continue to differentiate types of resistance responses as opposed to dichotomous categorization. Expanded definitions would present opportunities for further fine-tuning categories based on existing or emerging theories. Conversely, there could be more varied statistically driven approaches to variable creation. These approaches, such as latent class analysis, could present different groupings, for example, of the 16 resistance options. If the variables are conceptualized differently, results may differ.

Implications for practice

This work also has several implications for public health practice. First, there needs to be further discussion about groups of individuals who are hesitant to report to police. As previously discussed, there are several populations who are more or less likely to both report the crime and to experience differential levels of distress. Within these

groups, utilizing identified reasons why or why not the crime was reported would better inform tailored strategies to increase sexual crime reporting within these groups. These groups may have differential reasoning for their decision, thus need to be approached in an appropriate manner to enact change.

The same goes for both the impact of crime and police interaction on distress levels. As previously discussed, different populations may have more biased interactions with police thus contributing to distress, or experience normalization or cultural norms regarding the crime may impact subsequent distress. Understanding these factors could greatly impact two areas. First, trauma-informed interactions with victims must be more culturally appropriate. This could be in the form of tailored advocacy, or adaptation of rape crisis counseling delivery. Service providers with increased knowledge could better work with victims to alleviate distress.

Second, training with police officers about contributors to reporting and their role in victim distress should begin to be addressed. It is pivotal to increase self-awareness of how the officers are interacting with certain subsets of victims (ACLU, 2015) as well as understanding of their impact on the victim's well-being, which is often underestimated (Campbell, 2005). Ideally, these changes could begin to mitigate the exacerbated levels of distress. This could be especially true if research on successful interactions with police that did not increase distress were investigated and used in training.

It is necessary to focus on how police interact with victims of violent crime regardless of the crime circumstances or type of crime. Across all crimes, reporting was tied to distress, so training for 'first responders' (e.g. not just specialized detectives) would be key to lower victim distress. As mentioned, this is especially true for sexual

crime as the magnitude of distress pathway was stronger. Officers could be trained on trauma-informed care from the lens of policing/interviewing. Training could focus on better understanding of trauma responses and how survivor distress might impact their interactions or cooperation with the police.

Conclusion

The dissertation's exploration of the relationships between the types of crime experienced, characteristics of those crimes, police reporting and distress present novel findings which fill gaps in research and can be used to improve victim post-crime experiences. Identifying avenues to enhance victim support is imperative to the advancement of public health. This research demonstrated critical avenues for further research and supports the need for improved police training and awareness to mitigate victim distress.

References

Abbey, A., Jacques-Tiaura, A., & Parkhill, M. (2010). Sexual assault among diverse populations of women: Common ground, distinctive features, and unanswered questions. In N. F. Russo & H. Landrine (Eds.), *Handbook of diversity in feminist psychology* (pp. 391–425). American Psychological Association.

American Civil Liberties Union. (2015, October). *Responses from the field: Sexual assault, domestic violence, and policing*. https://www.aclu.org/responsesfromthefield

Anderson, J. H. (2020, December). *Classification of Urban, Suburban, and Rural Areas in the National Crime Victimization Survey* (Technical Report No. NCJ 255923). U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. https://bjs.ojp.gov/redirect-legacy/content/pub/pdf/cusrancvs.pdf

Avery, L., Rotondi, N., McKnight, C., Firestone, M. Smylie, J., & Rtondi, M. (2019). Unweighted regression models perform better than weighted regression techniques for respondent-driven sampling data: Results from a simulation study. *BMC Medical Research Methodology, 19*(202). https://doi.org/10.1186/s12874-019-0842-5

Bachman, R. (1993). Predicting the reporting of rape victimizations: Have rape reforms made a difference? *Criminal Justice and Behavior, 20*, 254–270. https://doi.org/10.1177/0093854893020003003

Bachman, R. (1998). The factors related to rape reporting behavior and arrest: New evidence from the National Crime Victimization Survey. *Criminal Justice and Behavior*, *25*(1), 8–29. https://doi.org/10.1177/0093854898025001002

Basile, K.C., Smith, S.G., Breiding, M.J., Black MC, & Mahendra, R.R. (2014). *Sexual Violence Surveillance: Uniform Definitions and Recommended Data Elements, Version 2.0*. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. https://www.cdc.gov/violenceprevention/pdf/sv_surveillance_definitionsl-2009-a.pdf.

Black, M. C., Basile, K. C., Breiding, M. J., Smith, S. G., Walters, M. L., Merrick, M. T., Chen, J., & Stevens, M. R. (2011). *The National Intimate Partner and Sexual Violence Survey: 2010 summary report*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. https://www.cdc.gov/violenceprevention/pdf/nisvs_report2010-a.pdf

Bondurant, B. (2001). University women's acknowledgment of rape: Individual, situational, and social factors. *Violence Against Women, 7*(3), 294–314. https://doi.org/10.1177/1077801201007003004

Breiding, M. J., Basile, K. C., Klevens, J., & Smith, S. G. (2017). Economic insecurity and intimate partner and sexual violence victimization. *American Journal of Preventive Medicine*, *53*(4), 457–464. https://doi.org/10.1016/j.amepre.2017.03.021

Breiding, M. J., Smith, S. G., Basile, K. C., Walters, M. L., Chen, J., & Merrick, M. T. (2014). *Prevalence and characteristics of sexual violence, stalking, and intimate partner violence victimization — National Intimate Partner and Sexual Violence Survey, United States, 2011.* (MMWR; 63(No: SS-8)). Center for Surveillance,

Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention. https://www.cdc.gov/mmwr/pdf/ss/ss6308.pdf

Bronfenbrenner, U. (1995). Developmental ecology through space and time: A future perspective. In P. Moen & G. H. Elder, Jr., (Eds.), *Examining lives in context: Perspectives on the ecology of human development* (pp. 619-647). American Psychological Association.

Byrne, C., Resnick, H., Kilpatrick, D., Best, C., & Saunders, B. (1999). The socioeconomic impact of interpersonal violence on women. *Journal of Consulting & Clinical Psychology, 67*, 362–366. https://doi.org/10.1037//0022-006x.67.3.362

Caldwell, J., Swan, S., & Woodbrown, D. (2012) Gender differences in intimate partner violence outcomes. *Psychology of Violence, 2*(1), 42–57. https://psycnet.apa.org/doi/10.1037/a0026296

Campagna, L., & Zaykowski, H. (2020). Health consequences and help-seeking among victims of crime: An examination of sex differences. *International Review of Victimology*, *26*(2), 181–195. https://doi.org/10.1177/0269758019900392

Campbell, R. (2005). What really happened? A validation study of rape survivors' help-seeking experiences with the legal and medical systems. *Violence & Victims, 20*(1), 55-68. http://dx.doi.org/10.1891/088667005780927647

Campbell, R. (2006). Rape survivors' experiences with the legal and medical systems: Do rape victim advocates make a difference? *Violence Against Women, 12*, 1-16. https://doi.org/10.1177/1077801205277539

Campbell, R., Dworkin, E., & Cabral, G. (2009). An ecological model of the impact of sexual assault on women's mental health. *Trauma, Violence, & Abuse*, *10*(3), 225–246. https://doi.org/10.1177/1524838009334456

Campbell, R., & Raja, S. (1999). The secondary victimization of rape victims: Insights from mental health professionals who treat survivors of violence. *Violence & Victims, 14*, 261- 275. http://dx.doi.org/10.1891/0886-6708.14.3.261

Campbell, R., Sefl, T., & Ahrens, C. E. (2004). The impact of rape on women's sexual health risk behaviors. *Health Psychology, 23*, 67-74. https://doi.org/10.1037/0278-6133.23.1.67

Campbell, R., Wasco, S. M., Ahrens, C. E., Sefl, T., & Barnes, H. E. (2001). Preventing the "second rape:" Rape survivors' experiences with community service providers. *Journal of Interpersonal Violence, 16*, 1239-1259. https://doi.org/10.1177/088626001016012002

Cantor, D., Fisher, B., Chibnall, S., Harps, S., Townsend, R., Thomas, G., Lee, H., Kranz, V., Herbison, R., & Madden, K. (2019). *Report on the AAU campus climate survey on sexual assault and sexual misconduct*. The Association of American Universities. https://www.nsvrc.org/sites/default/files/2021-04/aau-report_rev-01-17-2020.pdf

Chen, Y., & Ullman, S. E. (2010). Women's reporting of sexual and physical assaults to police in the National Violence Against Women Survey. *Violence Against Women, 16*(30), 262-279. https://doi-org.proxygw.wrlc.org/10.1177/1077801209360861

Casanovas, M., Kramer, T., Clarke, V., Goddard, A., M Elena, G., & Khadr, S. (2021). Somatic symptoms following sexual assault in adolescents: A prospective longitudinal study. *Psychology, Health & Medicine*. Advance online publication. https://doi.org/10.1080/13548506.2021.1874437

Coker, A., Derrick, C., Lumpkin, J., Aldrich, T., & Oldendick, R. (2000). Help-seeking for intimate partner violence and forced sex in South Carolina. *American Journal of Preventive Medicine, 19*(4), 16–320. https://doi.org/10.1016/s0749-3797(00)00239-7

Davies, L., Ford-Gilboe, M., Willson, A., Varcoe, C., Wuest, J., Campbell, J., & Scott-Storey, K. (2015). Patterns of cumulative abuse among female survivors of intimate partner violence: Links to women's health and socioeconomic status. *Violence Against Women, 21*(1), 30-48. https://doi.org/10.1177/1077801214564076

DeKeseredy, W. S., & Schwartz, M. D. (2011). Theoretical and definitional issues in violence against women. In C. M. Renzetti, J. L. Edleson, & R. Kennedy Bergen (Eds.), *Sourcebook on violence against women* (2nd ed., pp. 3–20). Sage Publishing.

Dichter, M. E. (2013). "They arrested me – and I was the victim": Women's experiences with getting arrested in the context of domestic violence. *Women & Criminal Justice, 23*(2), 81-98. http://dx.doi.org/10.1080/08974454.2013.759068

DuMont, J., Miller, K. L., & Myhr, T. L. (2003). The role of "real rape" and "real victim" stereotypes in the police reporting practices of sexually assaulted women. *Violence Against Women, 9*, 466-486. https://doi.org/10.1177/1077801202250960

Duncan, R., Mulder, R., Wilkinson, S. H., & Horwood, J. (2019). Medically unexplained symptoms and antecedent sexual abuse: An observational study of a birth cohort. *Psychosomatic Medicine, 81*(7), 622–628. https://doi.org/10.1097/PSY.0000000000000726

Dworkin, E. (2020). Risk for mental disorders associated with sexual assault: A meta-analysis. *Trauma, Violence, & Abuse*, *21*(5), 1011–1028. https://doi.org/10.1177/1524838018813198

Dworkin, E. R., Menon, S. V., Bystrynski, J., & Allen, N. E. (2017). Sexual assault victimization and psychopathology: A review and meta-analysis. *Clinical Psychology Review, 56*, 65-81. https://doi.org/10.1016/j.cpr.2017.06.002

Feehan, M., Nada-Raja, S., Martin, J. A., & Langley, J. D. (2001). The prevalence and correlates of psychological distress following physical and sexual assault in a young adult cohort. *Violence & Victims, 16*(1), 49-63. https://doi.org/10.1891/0886-6708.16.1.49

Felson, R., & Paré, P. (2005). The reporting of domestic violence and sexual assault by non-strangers to the police. *Journal of Marriage and Family, 67*, 597-610. https://doi.org/10.1177/1077801209360861

Felson, R. B., Messner, S. F., Hoskin, A. W., & Deane, G. (2002). Reasons for reporting and not reporting domestic violence to the police. *Criminology, 40*, 617-647. https://doi.org/10.1111/j.1745-9125.2002.tb00968.x

Fisher, B. S., Cullen, F. T., & Turner, M. G. (2000). *The sexual victimization of college women.* U.S. Department of Justice, National Institute of Justice. https://www.ojp.gov/pdffiles1/nij/182369.pdf

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, *18*(3), 233–239. https://doi.org/10.1111/j.1467-9280.2007.01882.x

Gunn, R., & Minch, C. (1988). *Sexual assault: The dilemma of disclosure, the question of conviction.* University of Manitoba Press.

Hansen, N. B., Hansen, M., Nielsen, L. H., Bramsen, R. H., Elklit, A., & Campbell, R. (2018). Rape crimes: Are victims' acute psychological distress and perceived social support associated with police case decision and victim willingness to participate in the investigation? *Violence Against Women, 24*(6), 684–696. https://doi-org.proxygw.wrlc.org/10.1177/1077801217710002

Heath, N. M., Lynch, S. M., Fritch, A. M., McArthur, L. N., & Smith, S. L. (2011). Silent survivors: Rape myth acceptance in incarcerated women's narratives of disclosure and reporting of rape. *Psychology of Women Quarterly*, *35*(4), 596–610. https://doi.org/10.1177/0361684311407870

Hollander, J. A. (2018). Women's self-defense and sexual assault resistance: The state of the field. *Sociology Compass, 12,* e12597. https://doi.org/10.1111/soc4.12597

Howard, R., M., Potter, S. J., Guedj, C. E., & Moynihan, M. M. (2019). Sexual violence victimization among community college students. *Journal of American College Health,67*(7), 674-687. https://doi.org/10.1080/07448481.2018.1500474

Joseph, J. (1997). *Woman Battering: A Comparative Analysis of Black and White Women* (Technical Report No. NCJ 171756). U.S. Department of Justice, Office of Justice Programs. https://www.ojp.gov/ncjrs/virtual-library/abstracts/woman-battering-comparative-analysis-black-and-white-women-out

Kang, J. H., & Lynch, J. P. (2014). Calling the police in instances of family violence: Effects of victim–offender relationship and life stages. *Crime and Delinquency, 60*(1), 34–59. https://doi.org/10.1177/0011128709359655

Kaukinen, C. (2002). The help-seeking decisions of violent crime victims: An examination of the direct and conditional effects of gender and the victim-offender relationship. *Journal of Interpersonal Violence, 17*(4), 432–456. https://doi.org/10.1177/0886260502017004006

Kaukinen, C. (2004). The help-seeking strategies of female violent-crime victims: The direct and conditional effects of race and the victim-offender relationship. *Journal of Interpersonal Violence, 19*(9), 967–990. https://doi.org/10.1177/0886260504268000

Kaukinen, C., & DeMaris, A. (2009). Sexual assault and current mental health: The role of help-seeking and police response. *Violence Against Women*, *15*(11), 1331–1357. https://doi.org/10.1177/1077801209346713

Kelly, J. G., Ryan, A. M., Altman, B. E., & Stelzner, S. R. (2000). Understanding and changing social systems: An ecological view. In J. Rappaport & E. Seidman (Eds.), *Handbook of community psychology* (pp. 133-160). Plenum Press.

Koss, M. P., Abbey, A., Campbell, R., Cook, S., Norris, J., Testa, M., Ullman, S., West, C., & White, J. (2007). Revising the SES: A collaborative process to improve assessment of sexual aggression and victimization. *Psychology of Women Quarterly, 31*, 357–370. https://psycnet.apa.org/doi/10.1111/j.1471-6402.2007.00385.x

Kubiak, S. P., Brenner, H. J., Bybee, D., Campbell, R., Cummings, C. E., Darcy, K. M., Fedock, G., & Goodman-Williams, R. (2017). Sexual misconduct in prison: What factors affect whether incarcerated women will report abuses committed by prison staff? *Law and Human Behavior*, *41*(4), 361–374. https://doi.org/10.1037/lhb0000239

Kugler, B. B., Bloom, M., Kaercher, L. B., Truax, T. V., & Storch, E. A. (2012). Somatic symptoms in traumatized children and adolescents. *Child Psychiatry and Human Development, 43*(5), 661–673. https://doi.org/10.1007/s10578-012-0289-y

Langton, L., & Truman, J. (2014). *Socio-emotional impact of violent crime*. (No. NCJ 247076). U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. https://www.bjs.gov/content/pub/pdf/sivc.pdf.

Lippy, C., Jumarali, S.N., Nnawulezi, N.A., Williams, E.P., & Burke, C. (2020). The impact of mandatory reporting laws on survivors of intimate partner violence: Intersectionality, help-seeking and the need for change. *Journal of Family Violence, 35*, 255–267. https://doi.org/10.1007/s10896-019-00103-w

Logan, T. K., Evans, L., Stevenson, E., & Jordan, C. E. (2005). Barriers to services for rural and urban survivors of rape. *Journal of Interpersonal Violence, 20*(5), 591–616. https://doi.org/10.1177/0886260504272899

Lohr, S. L., & Liu, J. (1994). A comparison of weighted and unweighted analyses in the National Crime Victimization Survey. *Journal of Quantitative Criminology, 10*(4), 343-360. https://doi.org/10.1007/BF02221280

Lorenz, K., Kirkner, A., Ullman, S. E. (2019). A qualitative study of sexual assault survivors' post-assault legal system experiences. *Journal of Trauma and Dissociation. 10*(3), 263-287. https://doi.org/10.1080/15299732.2019.1592643

McCart, M.R., Smith, D.W. & Sawyer, G.K. (2010), Help seeking among victims of crime: A review of the empirical literature. *Journal of Traumatic Stress*, *23*, 198-206. https://doi.org/10.1002/jts.20509

McCollister, K. E., French, M. T., & Fang, H. (2011). The cost of crime to society: New crime- specific estimates for policy and pro-gram evaluation. *Drug and Alcohol Dependence, 108*, 98–109. https://dx.doi.org/10.1016/j.drugalcdep.2009.12.002

McLeroy, K. R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An ecological perspective on health promotion programs. *Health Education Quarterly*, *15*(4), 351–377. https://doi.org/10.1177/109019818801500401

Mengeling, M. A., Booth, B. M., Torner, J. C. & Sadler, A. G. (2014). Reporting sexual assault in the military: Who reports and why most servicewomen don't. *American Journal of Preventive Medicine, 47*(1), 17-25. http://dx.doi.org/10.1016/j.amepre.2014.03.001

Mennicke, A., Bowling, J., Gromer, J., & Ryan, C. (2019). Factors associated with and barriers to disclosure of a sexual assault to formal on-campus resources among college students. *Violence Against Women,* 1-9. https://doi.org/10.1177/1077801219889173

Morgan, R. E., & Truman, J. L. (2020). *Criminal victimization, 2019.* (No. NCJ 255113). U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. https://www.bjs.gov/content/pub/pdf/cv19.pdf.

Muniz, C. N. & Powers, R. A. (2021). Applying the classic rape scenario to robbery: An examination of situational characteristics and reporting victimization to police. *Journal of Criminal Justice, 72*, 1-11. https://doi.org/10.1016/j.jcrimjus.2020.101737

Muthén & Muthén. (2021). *Mplus* (Version 8.7) [Computer software]. Muthén & Muthén.

National Center for Victims of Crime. (2017). *Urban and Rural Victimization.* [Fact Sheet]. United States Department of Justice, Office for Victims of Crime. https://www.ncjrs.gov/ovc_archives/ncvrw/2017/images/en_artwork/Fact_Sheets/2017NCVRW_UrbanRural_508.pdf

Neville, H. A., & Heppner, M. J. (1999). Contextualizing rape: Reviewing sequelae and proposing a culturally inclusive ecological model of sexual assault recovery. *Applied & Preventative Psychology, 8*(1), 41-62. https://doi.org/10.1016/S0962-1849(99)80010-9

Patterson, D., Greeson, M., & Campbell, R. (2009). Understanding rape survivors' decisions not to seek help from formal social systems. *Health & Social Work, 34*(2), 127–136. https://doi.org/10.1093/hsw/34.2.127

Pinciotti, C. M., & Seligowski, A. V. (2021). The influence of sexual assault resistance on reporting tendencies and law enforcement response: Findings from the National Crime Victimization Survey. *Journal of Interpersonal Violence*, *36*(19-20), NPI11176-NPI11197. https://doi.org/10.1177/0886260519877946

Planty, M., Langton, L., Krebs, C., Berzofsky, M., & Smiley-McDonald, H. (2013*). Special report: Female victims of sexual violence, 1994-2010*. (No. NCJ 240655).

U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. https://www.bjs.gov/content/pub/pdf/fvsv9410.pdf.

Post, L. A., Mezey, N. J., Maxwell, C., & Wibert, W. N. (2002). The rape tax: Tangible and intangible costs of sexual violence. *Journal of Interpersonal Violence, 17*, 773–782. https://doi.org/10.1177/0886260502017007005

Rennison, C.M., Dragiewicz, M. & DeKeseredy, W.S. (2013). Context matters: Violence against women and reporting to police in rural, suburban and urban areas. *American Journal of Criminal Justice, 38***,** 141–159. https://doi.org/10.1007/s12103-012-9164-4

Schmidt, N. B., Richey, J. A., Zvolensky, M. J., & Maner, J. K. (2008). Exploring human freeze responses to a threat stressor. *Journal of Behavior Therapy and Experimental Psychiatry, 39*, 292-304. https://doi.org/10.1016/j.jbtep.2007.08.002

Schwartz, M. D. (2000). Methodological issues in the use of survey data for measuring and characterizing violence against women. *Violence Against Women, 6*(8), 815. https://doi.org/10.1177/10778010022182164

Sigurvinsdottir, R., & Ullman, S.E. (2016). Sexual orientation, race, and trauma as predictors of sexual assault recovery. *Journal of Family Violence, 31,* 913–921. https://doi- org.proxygw.wrlc.org/10.1007/s10896-015-9793-8

Sinozich, S., & Langton, L. (2014). *Rape and sexual assault victimization among college-age females, 1995–2013.* (No. NCJ 248471). U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. http://www.bjs.gov/index.cfm?ty=pbdetail&iid=5176

Spencer, C., Stith, S. M., Durtschi, J. A., & Toews, M. L. (2017). Factors related to college students' decisions to report sexual assault. *Journal of Interpersonal Violence, 35*(21-22), 0886051771749. https://doi.org/10.1177/0886260517717490

Spohn, C., & Tellis, K. (2012). The criminal justice system's response to sexual violence. *Violence Against Women*, *18*(2), 169–192. https://doi.org/10.1177/1077801212440020

StataCorp. (2017). *Stata Statistical Software* (Version 15) [Computer Software]. StataCorp LLC.

Suh, Y. (2015). The performance of maximum likelihood and weighted least square mean and variance adjusted estimators in testing differential item functioning with nonnormal trait distributions. *Structural Equation Modeling: A Multidisciplinary Journal, 22*(4), 568-580. https://doi.org/10.1080/10705511.2014.937669

Tark, J., & Kleck, G. (2004). Resisting crime: The effect of victim action on the outcomes of crime. *Criminology, 42*(4), 861-909. https://doi.org/10.1111/j.1745-9125.2004.tb00539.x

Temple, J. R., Weston, R., Rodriguez, B. F., & Marshall, L. L. (2007). Differing effects of partner and non-partner sexual assault on women's mental health. *Violence Against Women, 13*, 285–297. https://doi.org/10.1177/1077801206297437

Tjaden, P. & Thoennes, N. (2000). *Full report of the prevalence, incidence, and consequences of Violence Against Women: Findings from the National Violence Against Women Survey*. (No. NCJ 183781). U.S. Department of Justice, Office of Justice Programs National Institute of Justice. https://www.ojp.gov/pdffiles1/nij/183781.pdf

Tjaden, P. & Thoennes, N. (2006). *Extent, nature, and consequences of rape victimization: Findings from the National Violence Against Women Survey*. (No. NCJ 210346). U.S. Department of Justice, Office of Justice Programs National Institute of Justice. https://www.ojp.gov/pdffiles1/nij/210346.pdf

Turchik, J. A., & Hassija, C. M. (2014). Female sexual victimization among college students: Assault severity, health risk behaviors, and sexual functioning. *Journal of Interpersonal Violence, 29*(13), 2439-2457. https://doi.org/10.1177/0886260513520230

United States Bureau of Justice Statistics. (2017, December 8). *National Crime Victimization Survey, 2016: Technical documentation* (Technical Report No. NCJ 251442). U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. https://bjs.ojp.gov/redirect-legacy/content/pub/pdf/ncvstd16.pdf

United States Bureau of Justice Statistics. (2020). *National Crime Victimization Survey, Concatenated File, [United States], 1992-2019.* Inter-university Consortium for Political and Social Research [distributor], 2020-09-21. https://doi.org/10.3886/ICPSR37689.v1

United States Department of Justice. (2012, January 6). *An updated definition of rape*. https://www.justice.gov/archives/opa/blog/updated-definition-rape

Vargas, E. W., & Hemenway, D. (2021). Emotional and physical symptoms after gun victimization in the United States, 2009-2019. *Preventive Medicine, 143,* 106374. https://doi.org/10.1016/j.ypmed.2020.106374

West, C. (2013). *Sexual violence in the lives of African American women*. VAWnet: A project of the National Resource Center on Domestic Violence.

https://vawnet.org/sites/default/files/materials/files/2016-09/AR_SVAAWomenRevised.pdf.

Williams, L. S. (1984). The classic rape: When do victims report? *Social Problems, 31*, 459-467. https://doi.org/10.2307/800390

Williams, J. E., & Holmes, K. A. (1981). *Second assault - rape and public attitudes*. Greenwood Publishing Group.

Wolitzky-Taylor, K. B., Resnick, H. S., McCauley, J. L., Amstadter, A. B., Kilpatrick, D. G., & Ruggiero, K. J. (2011). Is reporting of rape on the rise? A comparison of women with reported versus unreported rape experiences in the National Women's Study-Replication. *Journal of Interpersonal Violence, 26*, 807-832. https://doi.org/10.1177/0886260510365869

Wyatt, G. E. (1992). The sociocultural context of African American and White women's rape. *Journal of Social Issues, 48*(1), 77-91. https://doi.org/10.1111/j.1540-4560.1992.tb01158.x

Zaykowski, H. (2014). Mobilizing victim services: The role of reporting to the police. *Journal of Traumatic Stress*, *27*(3), 365–369. https://doi.org/10.1002/jts.21913

Appendix A – Additional Manuscript One Tables

Table A1. Non-sexual crime compared to sexual crime model results including covariates

	Hypotheses 1(a-c)		Hypothesis 1(d)		Hypothesis 1(e)		Hypothesis 1(f)	
	aOR(95% CI)	p	aOR(95% CI)	p	aOR(95% CI)	p	aOR(95% CI)	p
Survey Year								
2015	Ref		Ref		Ref		Ref	
2016	0.96(0.83, 1.11)	0.566	0.96(0.83, 1.11)	0.570	0.96(0.83, 1.11)	0.557	0.96(0.83, 1.11)	0.561
2017	0.93(0.81, 1.07)	0.328	0.93(0.81, 1.08)	0.336	0.93(0.81, 1.08)	0.341	0.93(0.81, 1.07)	0.331
2018	0.93(0.81, 1.08)	0.350	0.93(0.81, 1.08)	0.351	0.93(0.81, 1.07)	0.336	0.94(0.81, 1.08)	0.361
2019	0.93(0.81, 1.07)	0.329	0.93(0.81, 1.08)	0.334	0.93(0.80, 1.07)	0.315	0.93(0.81, 1.08)	0.336
Biological Sex								
Male	Ref		Ref		Ref		Ref	
Female	1.05(0.97, 1.15)	0.231	1.06(0.97, 1.15)	0.217	1.06(0.97, 1.16)	0.200	1.06(0.97, 1.15)	0.226
Age								
18-24	Ref		Ref		Ref		Ref	
12-17	0.53(0.45, 0.65)	**<0.001**	0.54(0.45, 0.65)	**<0.001**	0.54(0.45, 0.65)	**<0.001**	0.54(0.45, 0.65)	**<0.001**
25-34	1.54(1.33, 1.77)	**<0.001**	1.54(1.33, 1.77)	**<0.001**	1.54(1.33, 1.78)	**<0.001**	1.54(1.33, 1.77)	**<0.001**
35-49	1.60(1.40, 1.84)	**<0.001**	1.60(1.40, 1.84)	**<0.001**	1.61(1.40, 1.84)	**<0.001**	1.60(1.40, 1.84)	**<0.001**
50-64	1.65(1.43, 1.90)	**<0.001**	1.67(1.44, 1.92)	**<0.001**	1.65(1.43, 1.91)	**<0.001**	1.65(1.43, 1.90)	**<0.001**
65 and up	1.50(1.24, 1.81)	**<0.001**	1.50(1.24, 1.81)	**<0.001**	1.50(1.24, 1.80)	**<0.001**	1.50(1.24, 1.80)	**<0.001**
Race/Ethnicity								
White, non-Hispanic	Ref		Ref		Ref		Ref	
Black, non-Hispanic	1.22(1.06, 1.40)	**0.004**	1.22(1.06, 1.40)	**0.004**	1.22(1.06, 1.39)	**0.005**	1.22(1.06, 1.40)	**0.004**
Hispanic	1.34(1.18, 1.51)	**<0.001**	1.34(1.18, 1.51)	**<0.001**	1.34(1.18, 1.51)	**<0.001**	1.34(1.18, 1.51)	**<0.001**
Other race, non-Hispanic[1]	0.87(0.70, 1.08)	0.199	0.87(0.70, 1.08)	0.193	0.86(0.70, 1.07)	0.177	0.87(0.70, 1.08)	0.200
Multi-racial, non-Hispanic	0.75(0.60, 0.95)	**0.016**	0.75(0.60, 0.95)	**0.016**	0.74(0.59, 0.94)	**0.012**	0.75(0.60, 0.95)	**0.016**
Household income								
<$12,500	Ref		Ref		Ref		Ref	
$12,500 to $24,999	0.96(0.82, 1.11)	0.547	0.96(0.82, 1.11)	0.543	0.96(0.83, 1.11)	0.570	0.96(0.82, 1.11)	0.551
$25,000 to $49,999	0.89(0.78, 1.02)	0.087	0.89(0.78, 1.02)	0.087	0.89(0.78, 1.02)	0.090	0.89(0.78, 1.02)	0.088
$50,000 to $74,999	0.78(0.67, 0.90)	**0.001**	0.78(0.67, 0.90)	**0.001**	0.78(0.67, 0.90)	**0.001**	0.78(0.67, 0.90)	**0.001**
$75,000 and over	0.80(0.70, 0.92)	**0.002**	0.80(0.70, 0.92)	**0.002**	0.80(0.70, 0.92)	**0.002**	0.80(0.70, 0.92)	**0.002**
Household location								
Urban	Ref		Ref		Ref		Ref	

Suburban	1.20(1.09, 1.31)	**<0.001**	1.19(1.09, 1.31)	**<0.001**	1.19(1.09, 1.31)	**<0.001**	1.19(1.09, 1.31)	**<0.001**
Rural	1.18(1.03, 1.35)	**0.016**	1.18(1.03, 1.35)	**0.016**	1.19(1.04, 1.36)	**0.012**	1.18(1.03, 1.35)	**0.015**
Type of Crime								
Non-Sexual Violent Crime	Ref		Ref		Ref		Ref	
Sexual Crime	0.40(0.34, 0.47)	**<0.001**	0.35(0.25, 0.48)	**<0.001**	0.50(0.39, 0.64)	**<0.001**	0.40(0.34, 0.47)	**<0.001**
Relationship to perpetrator(s)								
Unknown	Ref		Ref		Ref		Ref	
Known to Survivor	1.14(1.04, 1.25)	**0.004**	1.13(1.03, 1.24)	**0.011**	1.13(1.04, 1.24)	**0.007**	1.10(0.96, 1.25)	0.158
Resistance response								
Freeze	Ref		Ref		Ref		Ref	
Flight	0.67(0.59, 0.76)	**<0.001**	0.67(0.59, 0.76)	**<0.001**	0.66(0.58, 0.75)	**<0.001**	0.62(0.51, 0.75)	**<0.001**
Fight[1]	1.88(1.71, 2.06)	**<0.001**	1.88(1.72, 2.06)	**<0.001**	1.96(1.79, 2.16)	**<0.001**	1.83(1.58, 2.12)	**<0.001**
Moderation effects								
Crime * Perpetrator								
Sexual Crime*Known			1.21(0.83, 1.75)	0.316				
Crime * FFF								
Sexual Crime*Flight					1.32(0.82, 2.13)	0.248		
Sexual Crime*Fight[3]					0.55(0.39, 0.78)	**0.001**		
FFF * Perpetrator								
Flight*Known							1.14(0.89, 1.46)	0.292
Fight*Known							1.04(0.86, 1.25)	0.678
Log likelihood	-6329.03		-6328.5208		-6320.349		-6328.4731	
LRT comparing to hyp. 1(a-c)			1.02	0.313	17.36	**<0.001**	1.11	0.573

Note: Fight-Flight-Freeze response (FFF)

[1]Includes those who identify as Asian only, Hawaiian Pacific Islander only, American Indian only, or Alaska Native only.

[2]Post hoc analysis changed reference group for resistance response from *freeze*=0 to *flight*=0 allowing for comparison of *flight* to *fight*. Analysis found that *fight* varies significantly from *flight* responses [OR=2.80, 95% CI(2.47, 3.17), $p<0.001$] in addition to *freeze* response.

[3]Post hoc analysis changing reference group to *flight* found that *fight* response also varies significantly from *flight* response [OR=0.42, 95% CI(0.26, 0.67), $p<0.001$] in addition to *freeze* response.

Table A2. Non-sexual crime compared to sexual crime exploratory analysis of three-way interaction predicting police reporting

	Exploratory Hypothesis 1(g)	
	aOR(95% CI)	p
Type of Crime		
Non-Sexual Violent Crime	Ref	
Sexual Crime	0.35(0.20, 0.61)	**<0.001**
Relationship to perpetrator(s)		
Unknown	Ref	
Known to Survivor	1.06(0.93, 1.21)	0.398
Resistance response		
Freeze	Ref	
Flight	0.60(0.50, 0.73)	**<0.001**
Fight	1.88(1.60, 2.18)	**<0.001**
Moderation effects		
Crime * Perpetrator		
Sexual Crime*Known	1.60(0.86, 2.94)	0.135
Crime * FFF		
Sexual Crime*Flight	2.24(0.90, 5.58)	0.084
Sexual Crime*Fight	0.78(0.38, 1.57)	0.481
FFF * Perpetrator		
Flight*Known	1.18(0.91, 1.52)	0.209
Fight*Known	1.08(0.89, 1.31)	0.424
Crime * Perpetrator * FFF		
Sexual Crime*Known*Flight	0.48(0.17, 1.42)	0.185
Sexual Crime*Known*Fight	0.64(0.28, 1.44)	0.279
Log likelihood	**-6318.4882**	

Note: Model includes covariates of survey year, sex, age, household income, race/ethnicity, and urban/rural location, which are not shown in table.
Fight-Flight-Freeze response (FFF)

Table A3. Rape compared to attempted rape and other sexual assaults model results including covariates

	Hypotheses 2(a-c)		Hypothesis 2(d)		Hypothesis 2(e)		Hypothesis 2(f)	
	aOR(95% CI)	p	aOR(95% CI)	p	aOR(95% CI)	p	aOR(95% CI)	p
Survey Year								
2015	Ref		Ref		Ref		Ref	
2016	0.43(0.23, 0.08)	**0.008**	0.43(0.23, 0.08)	**0.008**	0.43(0.23, 0.80)	**0.008**	0.43(0.23, 0.80)	**0.008**
2017	0.71(0.40, 0.25)	0.231	0.71(0.40, 0.25)	0.239	0.72(0.41, 1,.27)	0.252	0.70(0.40, 1.24)	0.225
2018	0.71(0.44, 1.23)	0.243	0.73(0.43, 1.23)	0.232	0.73(0.43, 1.23)	0.241	0.73(0.44, 1.23)	0.243
2019	0.59(0.34, 1.04)	0.066	0.57(0.32, 1.00)	**0.049**	0.60(0.34, 1.05)	0.072	0.58(0.33, 1.03)	0.061
Biological Sex								
Male	Ref		Ref		Ref		Ref	
Female	0.89(0.53, 1.50)	0.674	0.94(0.55, 1.60)	0.829	0.91(0.54, 1.53)	0.723	0.91(0.54, 1.52)	0.706
Age								
18-24	Ref		Ref		Ref		Ref	
12-17	4.07(2.15, 7.71)	**<0.001**	1.88(1.05, 7.35)	**<0.001**	4.06(2.13, 7.72)	**<0.001**	4.31(2.26, 8.22)	**<0.001**
25-34	1.15(0.70, 1.86)	0.584	1.14(0.70, 1.85)	0.609	1.16(0.71, 189)	0.544	1.13(0.70, 1.84)	0.616
35-49	1.77(1.13, 2.78)	**0.013**	1.79(1.14, 2.82)	**0.011**	1.79(1.14, 2.81)	**0.012**	1.80(1.14, 2.83)	**0.011**
50-64	1.42(0.84, 2.42)	0.195	1.39(0.82, 2.37)	0.226	1.40(0.81, 2.40)	0.230	1.46(0.86, 2.49)	0.167
65 and up	0.53(0.19, 1.47)	0.224	0.53(0.19, 1.47)	0.220	0.52(0.19, 1.46)	0.214	0.53(0.19, 1.47)	0.220
Race/Ethnicity								
White, non-Hispanic	Ref		Ref		Ref		Ref	
Black, non-Hispanic	1.34(0.72, 1.47)	0.355	1.26(0.68, 2.33)	0.470	1.33(0.72, 2.47)	0.366	1.38(0.74, 2.56)	0.311
Hispanic	1.11(0.70, 1.75)	0.659	1.12(0.71, 1.77)	0.635	1.09(0.69, 1.72)	0.717	1.10(0.69, 1.73)	0.697
Other race, non-Hispanic[1]	0.46(0.19, 1.09)	0.077	0.45(0.19, 1.09)	0.076	0.45(0.19, 1.07)	0.072	0.46(0.19, 1.09)	0.079
Multi-racial, non-Hispanic	0.51(0.20, 1.28)	0.151	0.49(0.20, 1.25)	0.135	0.51(0.20, 1.30)	0.160	0.52(0.20, 1.31)	0.164
Household income								
<$12,500	Ref		Ref		Ref		Ref	
$12,500 to $24,999	1.67(1.01, 2.75)	**0.047**	1.71(1.03, 2.83)	0.038	1.66(1.00, 2.75)	**0.050**	1.67(1.00, 2.76)	**0.048**
$25,000 to $49,999	1.71(1.08, 2.72)	**0.023**	1.74(1.09, 2.77)	**0.020**	1.68(1.05, 2.68)	**0.029**	1.71(1.07, 2.72)	**0.024**
$50,000 to $74,999	1.69(0.93, 3.05)	0.083	1.76(0.97, 3.18)	0.064	1.65(0.90, 3.00)	0.102	1.68(0.93, 3.05)	0.086
$75,000 and over	1.38(0.81, 2.34)	0.232	1.45(0.85, 2.46)	0.173	1.38(0.81, 2.34)	0.235	1.34(0.79, 2.28)	0.284
Household location								
Urban	Ref		Ref		Ref		Ref	
Suburban	0.88(0.62, 1.25)	0.470	0.89(0.62, 1.27)	0.515	0.89(0.62, 1.27)	0.525	0.88(0.62, 1.25)	0.478
Rural	0.70(0.39, 1.23)	0.210	0.70(0.40, 1.24)	0.227	0.71(0.40, 1.26)	0.242	0.68(0.39, 1.21)	0.194
Type of Crime								
Rape	Ref		Ref		Ref		Ref	

Attempted Rape	1.03(0.64, 1.67)	0.901	1.27(0.50, 1.27)	0.611	1.42(0.63, 3.23)	0.401	1.03(0.63, 1.67)	0.902
Other Sexual Assault[2]	0.54(0.36, 0.79)	**0.002**	0.31(0.15, 0.65)	**0.002**	0.51(0.29, 0.90)	**0.021**	0.53(0.36, 0.79)	**<0.001**
Relationship to perpetrator(s)								
Unknown	Ref		Ref		Ref		Ref	
Known to Survivor	1.12(0.77, 1.64)	0.562	0.83(0.44, 1.56)	0.559	1.12(0.76,1.64)	0.566	1.63(0.87, 3.04)	0.125
Resistance response								
Freeze	Ref		Ref		Ref		Ref	Ref
Flight	1.03(0.64, 1.67)	0.336	0.79(0.48, 1.29)	0.336	0.70(0.32, 1.54)	0.379	1.56(0.61, 3.95)	0.353
Fight	1.18(0.81, 1.71)	0.392	1.17(0.81, 1.70)	0.408	1.34(0.74, 2.41)	0.334	1.730.84, 3.59)	0.138
Moderation effects								
Crime * Perpetrator								
Attempted Rape*Known			0.73(0.25, 2.12)	0.558				
Other Sexual Assault*Known			2.12(0.91, 4.93)	0.080				
Crime * FFF								
Attempted Rape*Flight					0.51(0.09, 3.03)	0.461		
Attempted Rape*Fight					1.40(0.50, 3.97)	0.523		
Other Sexual Assault*Flight					0.61(0.21, 1.80)	0.370		
Other Sexual Assault*Fight					0.92(0.40, 2.09)	0.843		
FFF * Perpetrator								
Flight*Known							0.40(0.14, 1.19)	0.099
Fight*Known							0.60(0.26, 1.39)	0.234
Log Likelihood			-450.91		-452.63		-452.10	
LRT comparing to hyp. 2(a-c)	-		5.41	0.067	1.96	0.744	3.02	0.221

Note: Model includes covariates of survey year, sex, age, household income, race/ethnicity, and urban/rural location, which are not shown in table.
Fight-Flight-Freeze response (FFF)
[1] Includes those who identify as Asian only, Hawaiian Pacific Islander only, American Indian only, or Alaska Native only.
[2]Post hoc analysis changed reference group for the type of sexual crime variable from *rape*=0 to *attempted rape*=0 allowing for comparison of *other sexual assault* to *attempted rape*. Analysis found that *other sexual assault* also varies significantly from *attempted rape* [OR 0.52, 95%CI (0.32, 0.84), $p<0.01$] in addition to *rape*.

Table A4. Rape compared to attempted rape and other sexual assaults exploratory analysis of three-way interaction predicting police reporting

	Exploratory Hypothesis 2(g)	
	aOR(95% CI)	p
Type of Crime		
Rape	Ref	
Attempted Rape	0.95(0.17, 5.44)	0.957
Other Sexual Assault	0.26(0.07, 0.92)	**0.037**
Relationship to perpetrator(s)		
Unknown	Ref	
Known to Survivor	1.10(0.47, 2.61)	0.824
Resistance response		
Freeze	Ref	
Flight	1.58(0.28, 9.01)	0.607
Fight	1.94(0.56, 6.75)	0.300
Moderation effects		
Crime * Perpetrator		
Attempted Rape*Known	1.68(0.24, 11.84)	0.607
Sexual Assault*Known	2.41(0.60, 9.70)	0.217
Crime * FFF		
Attempted Rape*Flight	2.43(0.10, 57.45)	0.582
Attempted Rape*Fight	1.07(0.12, 9.47)	0.951
Sexual Assault*Flight	1.07(0.12, 9.92)	0.950
Sexual Assault*Fight	0.96(0.17, 5.31)	0.964
FFF * Perpetrator		
Flight*Known	0.37(0.05, 2.59)	0.315
Fight*Known	0.61(0.15, 2.50)	0.490
Crime * Perpetrator * FFF		
Attempted Rape*Known*Flight	0.07(0.00, 3.76)	0.187
Attempted Rape*Known*Fight	0.46(0.04, 5.52)	0.538
Sexual Assault*Known*Flight	1.33(0.11, 16.66)	0.825
Sexual Assault*Known*Fight	0.98(0.14, 6.88)	0.980
Log likelihood	**-446.42636**	

Note: Model includes covariates of survey year, sex, age, household income, race/ethnicity, and urban/rural location, which are not shown in table.
Fight-Flight-Freeze response (FFF)

Appendix B – Additional Manuscript Two Tables

Table B1. Model one multiple group path analysis with bias corrected bootstrap - Group Non-Resistance

	Coef	SE	P-value
Path A: X -> M (Police Reporting)			
Type of crime experienced	-0.376	0.078	**<0.001**
Covariate: Relationship to perpetrator	0.029	0.041	0.490
Covariate: Survey year	-0.014	0.015	0.362
Covariate: Sex	0.006	0.041	0.876
Covariate: Age	0.009	0.001	**<0.001**
Covariate: Income	-0.037	0.015	**0.012**
Covariate: Race [ref: white, non-Hispanic]			
Black, non-Hispanic	0.137	0.064	**0.031**
Hispanic	0.247	0.057	**<0.001**
Other race, non-Hispanic	-0.122	0.107	0.254
Multi-racial, non-Hispanic	-0.180	0.115	0.120
Covariate: Household location [ref: urban]			
Suburban	0.099	0.044	**0.024**
Rural	0.108	0.062	0.080
Path B: M -> Y (Distress Scale)			
Police Reporting	0.189	0.021	**<0.001**
Path C' Direct Effect: X -> Y (Distress Scale)			
Type of crime experienced	0.457	0.066	**<0.001**
Covariate: Relationship to perpetrator	0.465	0.036	**<0.001**
Covariate: Survey year	-0.009	0.012	0.448
Covariate: Sex	0.275	0.036	**<0.001**
Covariate: Age	0.009	0.001	**<0.001**
Covariate: Income	-0.067	0.013	**<0.001**
Covariate: Race [ref: white, non-Hispanic]			
Black, non-Hispanic	0.037	0.059	0.524
Hispanic	0.169	0.050	**0.001**
Other race, non-Hispanic	0.158	0.090	0.079
Multi-racial, non-Hispanic	0.326	0.091	**<0.001**
Covariate: Household location [ref: urban]			
Suburban	-0.067	0.037	0.065
Rural	-0.076	0.054	0.157

Note: Distress scale R^2=0.146; police R^2=0.048

Table B2. Model one multiple group path analysis with bias corrected bootstrap – Group Other Resistance Response

	Coef	SE	P-value
Path A: X -> M (Police Reporting)			
Type of crime experienced	-0.599	0.065	**<0.001**
Covariate: Relationship to perpetrator	0.112	0.036	**0.002**
Covariate: Survey year	-0.005	0.012	0.697
Covariate: Sex	0.066	0.035	0.058
Covariate: Age	0.007	0.001	**<0.001**
Covariate: Income	-0.038	0.012	**0.002**
Covariate: Race [ref: white, non-Hispanic]			
Black, non-Hispanic	0.114	0.056	**0.042**
Hispanic	0.123	0.048	**0.011**
Other race, non-Hispanic	0.009	0.084	0.915
Multi-racial, non-Hispanic	-0.164	0.088	0.061
Covariate: Household location [ref: urban]			
Suburban	0.097	0.036	**0.007**
Rural	0.133	0.057	**0.019**
Path B: M -> Y (Distress Scale)			
Police Reporting	0.188	0.016	**<0.001**
Path C' Direct Effect: X -> Y (Distress Scale)			
Type of crime experienced	0.505	0.046	**<0.001**
Covariate: Relationship to perpetrator	0.366	0.029	**<0.001**
Covariate: Survey year	0.003	0.010	0.794
Covariate: Sex	0.410	0.029	**<0.001**
Covariate: Age	0.010	0.001	**<0.001**
Covariate: Income	-0.063	0.010	**<0.001**
Covariate: Race [ref: white, non-Hispanic]			
Black, non-Hispanic	-0.044	0.046	0.345
Hispanic	0.020	0.039	0.605
Other race, non-Hispanic	0.078	0.065	0.229
Multi-racial, non-Hispanic	0.021	0.074	0.776
Covariate: Household location [ref: urban]			
Suburban	-0.013	0.029	0.666
Rural	-0.080	0.046	0.083

Note: Distress scale R^2=0.165; Police R^2=0.055

Table B3. Final model one path analysis with bias corrected bootstrap – groups collapsed together

	Coef	SE	p-value
Path A: X -> M (Police Reporting)			
Type of sexual crime experienced	-0.510	0.051	**<0.001**
Covariate: Resistance response	0.185	0.025	**<0001**
Covariate: Relationship to perpetrator	0.078	0.027	**0.004**
Covariate: Survey year	-0.009	0.009	0.325
Covariate: Sex	0.040	0.026	0.129
Covariate: Age	0.008	0.001	**<0001**
Covariate: Income	-0.038	0.009	**<0001**
Covariate: Race [ref: white, non-Hispanic]			
Black, non-Hispanic	0.125	0.042	**0.003**
Hispanic	0.176	0.038	**<0001**
Other race, non-Hispanic	-0.042	0.065	0.519
Multi-racial, non-Hispanic	-0.168	0.069	**0.015**
Covariate: Household location [ref: urban]			
Suburban	0.097	0.028	**<0001**
Rural	0.118	0.041	**0.004**
Path B: M -> Y (Distress Scale)			
Police Reporting	0.189	0.013	**<0001**
Path C' Direct Effect: X -> Y (Distress Scale)			
Type of sexual crime experienced	0.489	0.039	**<0001**
Covariate: Resistance response	0.275	0.021	**<0001**
Covariate: Relationship to perpetrator	0.405	0.023	**<0001**
Covariate: Survey year	-0.002	0.008	0.806
Covariate: Sex	0.355	0.022	**<0001**
Covariate: Age	0.009	0.001	**<0001**
Covariate: Income	-0.064	0.008	**<0001**
Covariate: Race [ref: white, non-Hispanic]			
Black, non-Hispanic	-0.010	0.036	0.787
Hispanic	0.083	0.031	**0.008**
Other race, non-Hispanic	0.107	0.053	**0.043**
Multi-racial, non-Hispanic	0.107	0.057	**0.020**
Covariate: Household location [ref: urban]			
Suburban	-0.034	0.023	0.140
Rural	-0.074	0.035	**0.034**

Note: Distress scale R^2=0.169; Police R^2=0.056

Table B4. Model two multiple group path analysis with bias corrected bootstrap – Group Non-Resistance

	Coef	SE	p-value
Path A: X -> M (Police Reporting)			
Type of sexual crime experienced	-0.253	0.176	0.151
Covariate: Relationship to perpetrator	0.267	0.198	0.176
Covariate: Survey year	-0.049	0.056	0.385
Covariate: Sex	-0.216	0.247	0.381
Covariate: Age	-0.005	0.005	0.365
Covariate: Income	0.042	0.060	0.489
Covariate: Race [ref: white, non-Hispanic]			
Black, non-Hispanic	0.261	0.325	0.422
Hispanic	0.365	0.215	0.089
Other race, non-Hispanic	-0.794	1.275	0.534
Multi-racial, non-Hispanic	-0.405	1.442	0.779
Covariate: Household location [ref: urban]			
Suburban	0.420	0.164	**0.011**
Rural	-0.051	0.301	0.866
Path B: M -> Y (Distress Scale)			
Police Reporting	0.087	0.083	0.294
Path C' Direct Effect: X -> Y (Distress Scale)			
Type of sexual crime experienced	-0.272	0.141	0.053
Covariate: Relationship to perpetrator	0.759	0.152	**<0.001**
Covariate: Survey year	-0.014	0.044	0.741
Covariate: Sex	0.343	0.165	**0.038**
Covariate: Age	0.012	0.004	**0.002**
Covariate: Income	-0.24	0.051	0.640
Covariate: Race [ref: white, non-Hispanic]			
Black, non-Hispanic	-0.279	0.235	0.237
Hispanic	0.486	0.179	**0.006**
Other race, non-Hispanic	0.078	0.333	0.814
Multi-racial, non-Hispanic	0.318	0.418	0.446
Covariate: Household location [ref: urban]			
Suburban	-0.170	0.135	0.208
Rural	-0.221	0.233	0.342

Note: Distress scale R^2=0.168; police R^2=0.151

Table B5. Model two multiple group path analysis with bias corrected bootstrap - Group Other Resistance Response

	Coef	SE	p-value
Path A: X -> M (Police Reporting)			
Type of sexual crime experienced	-0.362	0.126	**0.004**
Covariate: Relationship to perpetrator	0.102	0.143	0.475
Covariate: Survey year	-0.008	0.042	0.842
Covariate: Sex	0.106	0.216	0.608
Covariate: Age	0.001	0.005	0.840
Covariate: Income	0.085	0.043	**0.048**
Covariate: Race [ref: white, non-Hispanic]			
Black, non-Hispanic	0.153	0.256	0.552
Hispanic	-0.226	0.186	0.223
Other race, non-Hispanic	-0.247	0.371	0.506
Multi-racial, non-Hispanic	-0.290	0.447	0.516
Covariate: Household location [ref: urban]			
Suburban	-0.318	0.141	**0.024**
Rural	-0.179	0.210	**0.393**
Path B: M -> Y (Distress Scale)			
Police Reporting	0.175	0.060	**0.003**
Path C' Direct Effect: X -> Y (Distress Scale)			
Type of sexual crime experienced	-0.237	0.086	**0.006**
Covariate: Relationship to perpetrator	0.276	0.094	**0.003**
Covariate: Survey year	0.029	0.028	0.303
Covariate: Sex	0.555	0.137	**<0.001**
Covariate: Age	0.003	0.003	0.254
Covariate: Income	-0.099	0.030	**<0.001**
Covariate: Race [ref: white, non-Hispanic]			
Black, non-Hispanic	-0.165	0.178	0.355
Hispanic	-0.037	0.109	0.735
Other race, non-Hispanic	0.173	0.206	0.402
Multi-racial, non-Hispanic	-0.019	0.230	0.934
Covariate: Household location [ref: urban]			
Suburban	0.112	0.094	0.235
Rural	-0.083	0.148	0.578

Note: Distress scale R^2=0.153; Police R^2=0.067

Table B6. Final model two path analysis with bias corrected bootstrap – groups collapsed together

	Coef	SE	p-value
Path A: X -> M (Police Reporting)			
Type of sexual crime experienced	-0.321	0.101	**0.001**
Covariate: Resistance response	0.028	0.098	0.775
Covariate: Relationship to perpetrator	0.151	0.110	0.169
Covariate: Survey year	-0.029	0.037	0.433
Covariate: Sex	-0.039	0.148	0.793
Covariate: Age	-0.001	0.003	0.793
Covariate: Income	0.072	0.034	**0.036**
Covariate: Race [ref: White only]			
Black only	0.199	0.187	0.287
Hispanic	0.088	0.133	0.507
Other race only	-0.427	0.249	0.086
Multi racial only	-0.341	0.323	0.290
Covariate: Household location [ref: urban]			
Suburban	0.001	0.104	0.995
Rural	-0.116	0.167	0.490
Path B: M -> Y (Distress Scale)			
Police Reporting	0.147	0.048	**0.002**
Path C' Direct Effect: X -> Y (Distress Scale)			
Type of sexual crime experienced	-0.266	0.074	**<0001**
Covariate: Resistance response	0.398	0.074	**<0001**
Covariate: Relationship to perpetrator	0.475	0.081	**<0001**
Covariate: Survey year	0.009	0.027	0.727
Covariate: Sex	0.449	0.103	**<0001**
Covariate: Age	0.007	0.002	**0.003**
Covariate: Income	-0.059	0.027	**0.026**
Covariate: Race [ref: white, non-Hispanic]			
Black, non-Hispanic	-0.231	0.143	0.106
Hispanic	0.168	0.095	0.078
Other race, non-Hispanic	0.116	0.174	0.506
Multi-racial, non-Hispanic	0.121	0.200	0.544
Covariate: Household location [ref: urban]			
Suburban	-0.017	0.077	0.822
Rural	-0.125	0.123	0.313

Note: Distress scale R^2=0.148; Police R^2=0.052