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Are White Collar Criminals Exceptional?

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ARE WHITE COLLAR CRIMINALS EXCEPTIONAL?

(Thesis format: Monograph)

by

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Graduate Program in Sociology

A thesis submitted in partial fulfillment of
the requirements for the degree of
Doctor of Philosophy

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Abstract

Some criminological theories of white collar crime suggest, both implicitly and explicitly, that white-collar criminals are an exceptional type of offender in comparison with other criminals. On the other hand, other scholarship implies the opposite, suggesting that white collar criminals are no different than other types of criminals, and hence, they are believed to be generalist offenders. As such, the following manuscript attempts to examine the following question: are white-collar criminals exceptional?

The data utilized for the analysis are an amalgamation of two nationally representative surveys originating in the United States - the 2004 Survey of Inmates in Federal Correctional Facilities and the 2004 Survey of Inmates in State Correctional Facilities. While the total number of cases in the dataset is 18,185, the final analytical sample utilized for the present study is 1,702 respondents. More specifically, it includes 97 white collar criminals, 307 blue collar criminals, and 1,298 thieves.

The current project employed a two pronged methodological approach. First, binary logistic regression analyses were conducted comparing white-collar and blue-collar criminals to other types of thieves. The results of these analyses show partial support for both arguments. In line with the idea that white collar criminals are exceptional, the regression models show that they are indeed less likely than thieves to: (1) have a history of property crime; (2) have juvenile delinquency antecedents; (3) heavily use drugs; (4) heavily use cocaine. For many of these outcomes, the analysis also indicates that high education is a key correlate, additional evidence of exceptionalism. Blue collar criminals are exceptional on only two outcomes: (1) juvenile delinquency; (2) heavy drug use.

In contrast, the regression analyses also provided support for the idea that white collar criminals are not exceptional, and may well be similar to street criminals such as thieves. More specifically, there is no measurable difference between white collar criminals and thieves on: (1) history of violence; (2) heavy alcohol use; and (3) heavy stimulant use. Similarly, there is no measurable difference between blue collar criminals and thieves on: (1) history of violence; (2) history of property crime; (3) heavy alcohol use; (4) heavy stimulant use; (5) heavy cocaine use.

In the second part of the analysis, two-step cluster analysis (a tool for typology-building) was employed in order to create a unique typology of occupational offenders. The results of the clustering revealed four unique groups of occupational offenders. Two groups are in line with the hypothesis of the 'exceptional white collar criminals': the 'hustlers' (30% of the sample) and the 'well-to-doers' (22% of the sample). One group is in line with the 'white collar criminals as generalists' hypothesis: these generalists were about 30% of the sample and have high levels of violent and property criminal antecedents and alcohol/substance use. Finally, the fourth group was unexpected given the two main hypotheses of this study: 16% of the sample includes female occupational offenders with high rates of heavy drug use. This last group is labeled 'female drug users'.

The findings of this dissertation are of particular significance to the field of criminology because they advance our knowledge of one of the most understudied and socially deleterious forms of offending within the criminological cannon – white-collar crime. In addition, the results also suggest that "methodology matters" for theory testing. Specifically, regression models are good at detecting average differences between groups (e.g. white collar criminals vs. thieves), while cluster analysis can highlight the presence of sub-groups that

would not be visible in a typical regression analysis. At the more theoretical level, this study indicates that white collar criminals are a very heterogeneous group of offenders, and that the general label may well be misleading. Some white collar criminals are indeed exceptional in comparison with thieves or other occupational offenders, but others are generalists for whom white collar criminality is part of a larger criminal history of violence, heavy alcohol and drug use, and other deviant activities.

Keywords

Co-Authorship Statement

Acknowledgments

First and foremost, I would like to thank my supervisor Paul Pare. I am infinitely grateful for your guidance and dedication not only to this project, but also to my growth as a scholar. I would also like to thank William Avison. Your insightful comments and feedback throughout this process have been invaluable.

Thank you to my committee members, Tracey Adams, Sam Clark, Peter Hoaken and Frederic Ouellet for your time, insight and commitment to my dissertation.

Writing a dissertation, and completing a PhD for that matter, is no easy task. There are so many people who have helped me get through the past five years. To my parents and brothers, your unwavering support, guidance and love have helped me more than you will ever know.

To Jayme – the love of my life. Words cannot describe how integral your love and support has been to the success of this project. I am eternally grateful.

Table of Contents

List of Tables

1 Introduction

In 1939, Edwin Sutherland brought to the fore an issue which he believed criminologists before him had largely ignored – white-collar crime. Friedrichs (2010) noted that Sutherland's inspiration derived from E. A. Ross' (1907) conception of the "criminaloid," a "…businessman who committed exploitative, if not necessarily illegal acts out of an uninhibited desire to maximize profit, all while hiding behind a façade of respectably and piety" (Friedrichs, 2010, p. 3). Since Sutherland's presidential address at the American Sociological Society entitled "the white-collar criminal," the sub discipline he wished to spur to life has largely remained small in size when compared to the scholarly base of traditional street crime. Nevertheless, despite its underrepresentation, a small, yet significant body of scholarship has emerged.

Perhaps one of the most discussed and debated topics within the field of study has dealt with the definition of white-collar crime itself. Sutherland, generally credited with coining the term "white-collar crime" in the presidential address cited above, described the construct as "a crime committed by a person of respectability and high social status" (Sutherland, 1949, p. 9; for an expanded definition, see Branham and Kutash, 1949). Notably, Sutherland's definition focused on the offender, rather than the offense, and has been critiqued on multiple grounds. Legal scholars such as Tappan (1947) and Orland (1980) have been particularly critical of Sutherland's conception (see also Benson and Simpson, 2009; and Geis 2007).

While Sutherland's definition focused on the offender, much of the ensuing scholarship attended to the *offense* committed (Edelhertz, 1970; Shapiro, 1990; Felson, 2002). For instance, Edelhertz (1970), in addition to outlining a formal definition, also made note of

four distinct types of white-collar crime: 'Personal Crimes', 'Abuse of Trust', 'Business Crimes' and 'Con Games.' Likewise, Shapiro (1990) emphasized the danger of focusing on the offender, highlighting the importance of "collaring the crime, not the criminal." Felson (2002) put forth the notion that the very term white-collar crime is one that is inherently flawed, and suggested the term "crimes of specialized access" as a suitable alternative. Although the debate between offense and offender based definitions has been the hallmark of the discipline for decades, Harel and Pare (manuscript in progress) have attempted to bridge the divide between the two camps by creating an empirically heuristic definition. It should be noted, however, that both offense-based and offender based definitions have displayed their utility in several research projects to date (Benson and Simpson, 2009).

One research project that demonstrated the value of using an offender-based approach to defining white-collar crime is the milestone study by Weisburd, Wheeler, Waring, and Bode (1991), "Crimes of the Middle Classes: White-collar Offenders in Federal Courts." A product of the celebrated Yale Studies in White-Collar Crime and arguably one of the most important research projects undertaken within the discipline, the researchers selected individuals found guilty of up to eight federal offenses in the United States that they believed best-described white-collar criminals (for other Yale Study projects, see Shapiro 1987; Mann 1985; Wheeler et al., 1988). The results of the research provided scholars with an exceptionally rich and detailed socio-demographic portrait of white collar criminals. Perhaps one of the most important conclusions of Weisburd et al. (1991) was that most white-collar criminals, in their estimation, would be better described as "middle class" criminals.

Although the work of Weisburd et al. (1991) is one of the most prominent studies undertaken to date, various researchers have contributed to the literature on white-collar crime in a variety of related fields. For one, Sutherland's (1949) investigation of large American corporations found that overall, there was an exceptionally concerning level of legal violations present within these companies. Today's scholars would label such offending behaviour as "corporate crime," a term characterized by Clinard and Quinney (1973) as "offenses committed by corporate officials for their corporation and the offenses of the corporation itself" (p. 188). Moreover, Clinard and Yeager's (1980) detailed study of corporate crime in the U.S. has also been exceptionally influential within the field and its data are still being utilized (see Wang and Holtfreter, 2012). Interestingly however, various scholars of white-collar crime have noted the absence of research within the domain of corporate crime specifically (Geis, 2007). In fact, a study conducted by Lynch, McGurrin, and Fenwick (2004) provided empirical support for the commonly held belief regarding the lack of scholarship and representation of corporate crime (and white-collar crime as well) within the discipline of criminology. Out of the 1,118 articles published from 1993-1997 included in the investigation, only 12 were identified as dealing with corporate crime. All white-collar crime topics, which included corporate crime, raise the article count to a mere 40. Despite the lack of research however, bright spots abound[1].

With respect to the mental accounting of white-collar offenders, Donald Cressey's (1953) renowned study, "Other People's Money," discussed the rationalizations of embezzlers.

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[1] See Alalehto (2015) for a recent review pertaining to the state of white collar criminal scholarship.

Despite the potential shortcomings of the study (see Nettler, 1982, 1974), it may have helped set the stage for later works such as Michael Benson's (1985) "Denying the Guilty Mind: Accounting for Involvement in White-collar Crime," which probed the psyches of 30 convicted white-collar offenders in order to identify the various justifications and excuses used to account for their crimes. The article is particularly noteworthy for its detailed analysis and candid offender descriptions and quotations. A more recent study by Willott, Griffen, and Torrance (2001) also utilized in-depth interviews in order to discern the justifications used to explain their circumstances. Additionally, Klenowski, Copes, and Mullins (2011) investigated the differences in the accounting and justifications of white-collar criminals, primarily focusing on gender differences.

Further research has also been conducted within the realm of gender and white-collar crime. Kathleen Daly's (1989) benchmark work, "Gender and Varieties of White-collar Crime," sought to investigate the gendered nature of white-collar offending by exploring, amongst other issues, the proportion of women's occupational and organization crime, as well as the motivational and economic differences between the offending behaviour of women and men. More recent literature within the gender and white-collar crime realm include Peter Gottschalk's (2012) Norwegian newspaper analysis, in which he found only four percent of all white-collar criminals presented (within a two-year span) to be women.

Other research has also been conducted within the realm of public perceptions of white collar crime versus street crime. For instance, a recent study by Leeper-Piquero, Carmichael, and Piquero (2008) found that within certain contexts, white-collar crime is indeed perceived as more serious than traditional street crime. An earlier study conducted

by Hans and Ermann (1989), notable for its application of an experimental design methodology, sought to compare perceptions of individual wrongdoing versus the wrongdoing of a corporation. Contrary to prevailing wisdom, the corporation was judged more harshly than the individual was. Additionally, Cullen and Agnew (2011) noted the historical differences in book titles chronicling white-collar crime, suggesting a significant change in public attitudes towards such upper class malfeasance (i.e.," Infectious Greed" versus "The Gentlemen Conspirators").

With respect to explaining white-collar crime, various theories in criminology have been applied to explain white-collar crime (Benson and Simpson, 2009). For instance, Sutherland argued that his theory of differential association, which postulated that all criminal behaviour is learned socially within intimate groups, could be used to explain white-collar crime, in addition to more traditional forms of criminality (Benson and Simpson, 2009). More specifically, Coleman's (1987) integrated theory argued that opportunity, motivation, and a culture of competition all played a role in creating the favourable conditions for white-collar criminality. Similarly, Braithwaite (1989) put forth the notion of integrating a variety of current criminological theories, including strain, labelling, subcultural and control in order to create a solid foundation for theorizing organizational crime. Despite the number of theoretical approaches, a significant portion of the academic literature tends to assume implicitly or explicitly that white-collar offenders such as Bernie Madoff, and the thousands of the non-celebrity variety, are rational actors and constitute a "criminal elite" (Piquero and Piquero, 2006; Pontell, 2005; Willott, Griffin, and Torrence, 2001; Coleman, 1987; Simpson, 1987; Benson,

1985; Cressey, 1953). Indeed, these white-collar offenders are often depicted as "cool, cold, and calculating." Their crimes are seen as planned, rationalized, and consciously executed. The offenders are often described as smarter, more educated, and more successful than other criminals.

Gottfredson and Hirschi, in their two seminal works *Causes of White-collar Crime* (1987) and *A General Theory of Crime* (1990), argued that the misdeeds of white-collar offenders could be explained from a perspective of low self-control. They postulated that the same psychosocial mechanism (low self-control) that leads a white-collar criminal to offend is identical to that of a blue-collar criminal or even a traditional thief. Importantly, they also posited that street criminals and white-collar criminals are similar to each other. However, what differentiated the two was the fact that white-collar criminals have different opportunities to commit different crimes.

The two theoretical perspectives mentioned above are inherently contradictory, and are part of a broader debate. One perspective proposes that white-collar criminals are supposedly elite rational actors; the other maintains that such offending is mainly the result of a desire for instant gratification and impulsivity, and similar to street criminality. The former postulates that white-collar criminals are *exceptional*, while the latter assumes that they are *generalists*, having a general propensity to offend. Although these two perspectives are well known within the academic community, to the best of my knowledge, there is no research that examines the validity of each paradigm within the context of occupational offending. It is surprising that two major lines of research within the sub-discipline of white-collar criminology do not influence or even acknowledge each other. Accordingly, the current project seeks to fill this apparent gap within the literature.

In additional to being important from a theoretical perspective, attempting to discern whether white collar criminals are exceptional or generalists is also important from the perspective of potentially challenging the various media portrays which present white collar criminals as an exceptional type of offender. Finally, the current study may have also implications for the criminal justice system itself, particularly within the context of corrections.

Accordingly, this dissertation seeks to answer the following question: *are white-collar criminals exceptional[2]?* It is comprised of a series of quantitative analyses which pit the "elite criminal" rational actor hypothesis against the notion that white-collar offenders are not much different than any other criminal – that they are generalists. The project utilized a single dataset, namely, the 2004 United States Survey of Inmates in Federal and State Facilities. For each article, a specified number of variables operated as proxy measures in order to examine the above hypotheses.

The current paper will progress in the following sequence. First, a review of the literature pertaining to the two overarching theoretical hypotheses will be explored, along with relevant scholarship pertaining to criminal careers, substance abuse, and the use of cluster analysis in criminological research (Chapter 2). Although the literature review of cluster analysis is also methodological, it is important to illustrate its usefulness because it has been a relatively underused methodology among criminologists. This section concludes with an outline of the current study and its hypotheses. Chapter 3 outlines the methodology utilized, including an explanation of both data and variable selection. The

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[2] Broadly, the current project defines the exceptionality of white collar offenders as being qualitatively different or distinct than other types of criminals (for instance, thieves).

following chapter outlines the results of both the binary logistic regression analyses and cluster analyses, while the 5th Chapter includes a discussion of the results, strengths and limitations of the study, and concludes with suggestions for future research.

2 Literature Review

The first section of the literature review presents the theoretical framework for the analyses. This is followed by a discussion of criminal careers and substance abuse in the workplace. As a secondary objective of this dissertation is to create a typology of occupational offending, a review of research pertaining to cluster analysis is also presented. The chapter then concludes with information relating to the current study.

2.1 The 'Exceptional' White-Collar Offender Hypothesis

2.1.1 Sutherland's Classic Work

In arguably his most well-known definition, Sutherland (1949) defined white-collar crime "as a crime committed by a person of respectability and high social status in the course of his occupation." (p. 9). Parsing this definition illustrates two salient points. First, the definition focused on respectability and high social status, which contrasted with the prevailing notion of the time that most criminal activities are perpetrated by the lower

classes and the marginalized. Second, the definition focused on crimes in "the course of his occupation", thus attempting to specifically focus on crimes within the workplace. This definition is particularly significant, as it shows that Sutherland himself regarded white-collar criminals as exceptional (vs. regular 'street' criminals), and as a criminological phenomenon requiring attention. Prior to his 1939 presidential address to the American Sociological Society, such attention was uncommon within the criminological community.

However, Sutherland was also known for creating a second, less acknowledged definition of white-collar crime in the *Encyclopedia of Criminology* (Branham and Kutash, 1949). Indeed, Geis (2007) noted that "…the most straightforward definition that Sutherland offered has largely gone unattended" (p. 135). Benson and Simpson (2009) also comment on the definition in that "…it further expanded upon and clarified his conception of white-collar crime" (p. 6) Specifically, Sutherland defined white-collar crime as "a person of high socio-economic status who violates the laws designed to regulate his occupational activities." Moreover, and perhaps most pertinent to the theoretical framing of this dissertation, he goes on to state that the "white collar criminal should be differentiated, on the one hand, from the person of lower socio-economic status who violates the regular penal code in ways not connected to his occupation" (Branham and Kutash, 1949).

With respect to the second definition, Sutherland explicitly noted that white-collar criminals should be differentiated from other types of criminals. Such an assertion tends to support the notion that white-collar criminals are exceptional, and should be viewed as a distinct group, in contrast to other types of offenders. Indeed, Sutherland has (1940)

also made note of the fact white-collar criminals have often received remarkably different treatment within the criminal justice system. He states: "White-collar criminality differs from lower class criminality principally in an implementation of the criminal law which segregates white-collar criminals administratively from other criminals" (Sutherland, 1940, p. 11-12).

Additional evidence pertaining to Sutherland's potential partiality to the idea of white collar criminals being exceptional can be found in his socioeconomic analysis of offenders:

> …the generalization that criminality is closely associated with poverty obviously does not apply to white-collar criminals. With a small number of exceptions, they are not in poverty, were not reared in slums or badly deteriorated families, and are not feebleminded or psychopathic. They were seldom problem children in their earlier years and did not appear in juvenile courts or child guidance clinics. The proposition, derived from the data used by the conventional criminologists, that "the criminal of today was the problem child of yesterday" is seldom true of white-collar criminals. The idea that the causes of criminality are to be found almost exclusively in childhood similarly is fallacious. (Sutherland, 1940, p. 10)

Thus, in accordance with his various definitions and assertions, there is significant reason to believe that Sutherland did indeed view white-collar criminals to be exceptional.

However, as Geis (2007) notes, the ultimate meaning of Sutherland's assertions are difficult to ascertain. Although he stated what he viewed as inherent differences between white-collar and less economically privileged offenders, for all intents and purposes,

Sutherland considered both groups criminals. Moreover, despite the noted evidence in favour of exceptionalism, he still believed them similar enough to be able to share the same criminal explanation, through his theory of differential association. Nevertheless, while remaining somewhat tempered, the notion of exceptionalism with respect to the white-collar criminal remains, at the very least, implicit within his various works.

2.1.2 The Criminal Elite? Rational Choice and White Collar Crime

Perhaps the prevailing theoretical perspective within the literature on white-collar crime is the notion of white-collar criminals as elite rational actors. Their crimes are thought to be "cool, cold, and calculated" beforehand, rather than impulsively driven, as the general theory of crime would predict. Intuitively, the notion of white-collar criminals as elite rational actors makes sense, especially if we look at media representations of white-collar crime and sensationalistic cases such as Bernie Madoff's infamous Ponzi scheme or the fall of Enron. Such crimes do not attain such a level of sophistication overnight, and by merely focusing on the chronological aspect of the offense, it is all too easy to disregard its beginnings and lose track of its continuities.

The Rational Choice Perspective in criminology has its roots in Cornish and Clarke's (1986), *The Reasoning Criminal: Rational Choice Perspectives on Offending*, where they put forth their thesis regarding the nature of criminal behaviour. The foundation of the perspective is captured in the following excerpt:

> The rational choice perspective draws heavily on classical theory and economic theories of crime, and argues that "crimes are broadly the result of rational choice based on analyses of anticipated costs and benefits (Cornish and Clarke, 1986,

vi). Individuals, then, choose to engage in crime in an effort to maximize their benefits and minimize their costs. This choice process occurs in two major stages….First, individuals decide whether they are willing to become involved in crime to satisfy their needs….Second, once individuals decide they are ready to engage in crime, they must decide to commit a particular offence…. (Cullen and Agnew, 2011, p. 400).

Since Cornish and Clarke's initial writing, the Rational Choice Perspective has gained considerable attention from criminologists conducting research on white-collar and corporate crime (Paternoster and Simpson, 1996; Shover and Hochstetler, 2006; Paternoster and Simpson, cited in Clarke and Felson 1993). A related theory is Tittle's (1995) Control Balance Theory. This theory, which combines elements of rational choice with stratification in power and control over one's life, has also received great attention for the study of white collar criminals (Hickman, Piquero, Lawton, and Greene, 2001; Piquero and Hickman, 2003: Tittle, 2004). A brief overview of Tittle's (2004) theory is as follows:

The central causal process of the theory is a cognitive 'balancing' of the gain in control to be achieved from engaging in deviant behavior against the potential counter control that a particular act of deviance is likely to stimulate (representing a form of control loss) (cf. Heider, 1946, 1958). Control means the ability of an individual or other kind of social entity to manipulate or block social or other actions and circumstances. The theory assumes that all people can be characterized globally and situationally by "control ratios," which represent the

total amount of control they can exercise, relative to the control to which they are

subject. (p. 397)

Moreover, Piquero and Hickman (cited in Piquero and Tibbets, 2002) elaborate on the

intrinsic rational choice element built in to Tittle's theory by noting "What makes control

balance useful, from the perspective of rational choice and routine activities theories, is

that it can help explain why some individuals fear punishment more than others, and how

certain situational factors condition the effect of the control balance ratio on deviant

outcomes" (p. 92). Specifically within the realm of white-collar crime, Piquero and

Piquero (2006) found that "control surpluses, rather than control deficits relate to

exploitative acts in the corporate context." When upper level management or even

employees encounter control surpluses (i.e. too much power), they are more likely to

exploit subordinates.

Pontell's (2005) research on fraud and financial debacles also lends support to a rational,

criminal elite explanation. Pontell (2005) used three American case studies (savings and

loans, Orange County bankruptcy, and the 2002 accounting scandals) to test the viability

of two competing theories of corporate wrongdoing—the minimum fraud model and the

material fraud model. The former postulates that the free market would deter misdoing on

its own volition because it is maladaptive for business practice (hence, there is no long

term commercial incentive to commit fraud), while the latter predicts that people expend

their efforts purposefully and deliberately. Although these models are appropriately

distinct and share different adherents, one common thread that unites them is the

underlying rational choice element that they both espouse.

Simpson (1987) attempted to determine whether there was a relationship between antitrust violations and economic cycles. In general, Simpson (1987) found that during times of poor economic activity (i.e., elevated unemployment and falling stock prices), antitrust violations markedly increased. Thus, these findings support the notion of the corporate criminal as a rational actor. More specifically, when business is "good," managers and other corporate executives have less of an incentive, and hence less need, to engage in corporate malfeasance. By contrast, when profits decline, margins are squeezed and substantial pressure is exerted from shareholders, executives may feel the need to pursue the choice of antitrust violation, if the benefits are indeed outweighed by the potential costs (i.e., higher earnings versus the possibility of detection). This study also presupposed rational actors in elite positions.

Additional studies have also examined the rationalization process that white-collar criminals adhere to in order to come to terms or "explain away" their criminality. Benson's (1985) qualitative analysis of those convicted of white-collar crime found that the participants in the study would often resort to various excuses or justifications for their malfeasance. An excerpt from a convicted tax violator illustrates this:

> I'm not a criminal. That is, I'm not a criminal from the standpoint of taking a gun and doing this and that. I'm a criminal from the standpoint of making a mistake, a serious mistake….The thing that really got me involved in it is my feeling for the employees here, certain employees that are my right hand. In order to save them a certain amount of taxes and things like that, I'd extend money to them in cash, and the company came from these sources that I took from. You know, cash sales

and things of that nature, but practically all it would was turned over to the

employees, because of my feeling for them. (p. 12)

The above quotation illustrates a rational choice process taking place. Quite simply, the

offender took out cash to save his employees money, due to his alleged sentiment toward

them—hence, a logical, rational process. Research by Willott, Griffin, and Torrance

(2001) also provides evidence for the rationalization process outlined above. This

rationalization process clearly implies that such offenders think of themselves as

exceptional, and very different from other criminals.

2.2 The Generalist White Collar Offender Hypothesis

2.2.1 The Low Self-Control Perspective

Gottfredson and Hirschi's (1990) book, *A General Theory of Crime* (GTC) sought to

transform the theoretical landscape within the field of criminology (see also Hirschi and

Gottfredson, 1987). Their thesis was simple and parsimonious: the opportunity to offend,

coupled with low self-control (also labeled as the propensity to commit a crime) is the

root cause of all criminal offending (Gottfredson and Hirschi, 1990). They elaborated on

their low self-control thesis by outlining its salient elements:

In sum, people who lack self-control will tend to be impulsive, insensitive,

physical (as opposed to mental), risk-taking, short sighted, and non-verbal and

they will tend therefore to engage in criminal and analogous acts. Since these

traits can be identified prior to the age of responsibility for crime, since there is

considerable tendency for these traits to come together in the same people, and

since the traits tend to persist through life, it seems reasonable to consider them as

comprising a stable construct useful in the explanation of crime. (p. 90-91)

Gottfredson and Hirschi (1990) further suggested that low self-control is the result of

ineffective parenting. In particular, they outlined several conditions that they deemed

essential for proper and effective parenting: "The minimum conditions seem to be these:

in order to teach a child self-control, someone must (1) monitor the child's behavior; (2)

recognize deviant behavior when it occurs; and (3) punish such behavior" (p. 97).

Since its original publication, the GTC has received considerable attention and citation

from the academic community (Cohn and Farrington, 1999), so much so that Pratt and

Cullen (2000) were able to conduct a meta-analysis of a select group of empirical studies

(n=21) which tested the GTC in order to assess its efficacy as a viable criminological

theory. Overall, Pratt and Cullen (2000) did indeed find support across studies for the

utility of the low self-control hypothesis to explain crime and concluded that low self-

control does seem to play a considerable role in criminal offending.

Shifting contexts, Gottfredson and Hirschi discussed the inherent efficacy of low-

selfcontrol in explaining white-collar crime not only by devoting a chapter to it in their

1990 book, but also by publishing an article three years earlier on the very topic (Hirschi

and Gottfredson,1987). In both works, the authors argued that white-collar crime could be

explained in the same manner and approach as other crimes, which is a central tenet of

GTC. In a critique of Gottfredson and Hirschi's theory, and referring specifically to their 1987 paper, Steffensmeier (1989) made note of several flaws in their theory within the context of white-collar crime. These flaws included the fact that the distribution of demographic characteristics relating to crime lacks uniformity (i.e. sex, age, race), as well as the notion that white-collar crime is rare in comparison to traditional crimes (Steffensmeier, 1989). Nevertheless, regardless of these claims, some of which can be refuted by means of categorical inclusion (i.e. crimes considered as white-collar), or by virtue of a particular definition of white-collar crime chosen, the central thesis that low self-control does in fact lead to criminality has remained strong.

More specific research pertaining to white-collar crime and to Gottfredson and Hirschi's theory was conducted by Szockyj and Geis (2002) in their investigation of insider trading. In this study, the authors analyzed 452 individuals who were charged federally with insider trading in the United States. The results of the research indicated moderate support for the theory, but also highlighted the potential efficacy of the exceptionalism thesis as well. For instance, the act of providing an individual(s) with a tip on a stock trade may be considered as an act of low self-control. However, the authors also mentioned that these tippers were discriminating and careful as to whom they provided such information, making tipping an act of rational choice.

Although the research on white-collar crime and low self-control is scarce, it is still possible to infer cautiously the presence of low self-control by reviewing case studies from within the white-collar crime domain. Indeed, former ex-convict and fraudster Jordan Belfort's (the "Wolf of Wall Street") extravagant and gluttonous lifestyle, which included drug use, solicitation of prostitution, as well as drowning a yacht reinforces a

thesis of low self-control. Thus, although low self-control may seem like an intuitively attractive explanation of white-collar crime, the current literature still overwhelmingly suggests the importance of a rational choice, "criminal elite" explanation.

2.2.2 Criminal Careers- A Brief Overview

Gottfredson and Hirschi (1990) are not the only scholars to argue that many criminals are generalists, and that white collar criminality may be part of a larger continuum that includes all kinds of deviant behaviors. The literature on 'criminal careers' is also supportive of this argument. Broadly, the study of criminal careers generally falls within the bounds of the life course and developmental perspectives, which take a longitudinal view of criminality, studying offending behaviour over time. Additionally, such research looks specifically at questions related to onset and desistance from crime, as well as its duration, intensity and frequency (Tibbetts and Hemmens, 2010).

Although many scholars have examined the sub discipline of criminal careers, it is arguably Blumstein, Cohen, Roth, and Visher's (1986) two-volume report on Criminal Careers and "Career Criminals" for the National Research Council (United States of America) that has spurred much research and debate within the field (Hare, McPherson, and Forth, 1988; Blumstein, Cohen, and Farrington, 1988; Reiss, Jr., 1988; Barnett, Blumstein, and Farrington 1989; Farrington 1990; Greenberg 1991; Barnett, Blumstein, Cohen, and Farrington, 1992; Nagin and Land 1993; Delisi, 2003; Piquero, Brame, and Lynam, 2004). The term, "criminal career," is often used somewhat arbitrarily, but Blumstein et al. (1988) defined the term as "…the longitudinal sequence

of offenses committed by an offender who has a detectable rate of offending during some period" (p. 2). Moreover, for over a century, criminological research has consistently identified a distinct temporal pattern of criminal desistance. Specifically, the likelihood of being engaged in criminal behavior decreases with age. Such a phenomenon has been referred to as the "age effect" within the literature. The typical pattern for this effect includes a sharp rise in offending during the teenage years that peaks in a person's early twenties, and tapers off through the years of post-retirement.

However, it is also noteworthy that the onset of offending in adulthood also seems to be a relatively widespread phenomenon, even though, as Eggleston and Laub (2002) suggest, "The conventional wisdom in criminology is that adult onset of offending is a rare event" (p. 1). This phenomenon is highlighted in Blumstein et al.'s (1986) work on criminal careers where they noted that "…40-50 percent of adult offenders do not have records of juvenile police contacts…" (p. 88). Thus, research pertaining to adult onset offending is especially pertinent to the study at hand with respect to its white-collar crime focus, as conventional wisdom as well as available literature would lead one to believe that whitecollar criminals are more educated, are of higher socioeconomic status, and enjoy more social capital. As such, these characteristics would ostensibly make them less likely to have a prior criminal offense.

Some criminological theories, such as Gottfredson and Hirschi's GTC, rely on age graded patterning as benchmarks in order to validate their theories. Piquero, Farrington, and Blumstein (2007) refer to such general theories within the context of criminal careers as "static;" that is, one's propensity to offend remains constant over time. Wilson and

Herrnstein's (1985) thesis would also fall into this category (Horney, Osgood, & Marshall, 1995). However, Piquero et al. (2007) also noted a second category of general theories which are referred to as "dynamic." As the name suggests, this category postulates that people's propensity to offend is dependent on the fruition of specific life events. One such theory noted by Piquero et al., (2007) is Sampson and Laub's (2003), who argued that people desist from crime, and hence criminal careers, not solely due to age (although they do attest to the fact that people desist from criminal offending over time), but due to specific "turning points" in one's life. In their widely cited research, which utilized data from Glueck and Glueck's (1950) classic study, Sampson and Laub analyzed a group of one thousand adolescent males (aged 10-17)—half of whom were delinquent—all the way to the age of 70 in order to discern what factors are involved in the persistence and desistance of criminal offending. Overall, their research identified three main life events which seemed to have acted as protective factors with respect to offending: marriage, gainful employment, and military service. Research by Ouimet and Le Blanc (1996) provided additional support for Sampson and Laub's turning points theory with respect to marriage and employment.

Sampson and Laub (2003) also attempted to understand those who continued to persist in a life of crime, namely, those persons who did not encounter the positive life events outlined above. An example they provided is "Boston Billy." Aside from the three main turning points, several potential causes of Billy's persistence in crime were understood to be the result of personal agency, attraction to crime, long standing resentment of authority, alcohol abuse, and prison experience. A third type of criminal career referred to by Sampson and Laub is that of the "zigzagging offender," one who intermittently

engages in criminal behavior. What is interesting to note, however, and is an appropriate dovetail into the next section, is a quotation taken from the end of their chapter on zigzagging criminal careers:

> The biggest surprise in this chapter…was learning that men who commit violence in later adulthood do so for reasons similar to those who commit violence earlier in the life course; for example, to obtain money or goods using a weapon, as a means to solve problems with family members and neighbors, or a means of gaining sexual power over females." (p. 297)

Although the literature on criminal careers is vast, an important pattern from these different studies is that criminal specialization is relatively rare. While some offenders tend to prefer certain forms of crime over others (e.g. some robbers commit few automobile thefts; many property offenders have low rates of violent crime), heterogeneity in offending is much more common than specialization. If this pattern holds true for white collar criminals, then the literature on criminal career would also predict that white collar criminals are more likely to be generalists than to be exceptional members of criminal elite. In short, research on criminal careers would suggest that those charged with a 'white-collar' offense at a specific point in their life are also likely to have histories of violence, property offenses, and drug problems, not unlike any other offender pursuing a criminal career.

2.2.3 Low Self-Control and Substance Abuse

As previously mentioned, Gottfredson and Hirschi's (1990) General Theory of Crime (GTC) is one of the most tested and studied theories within the discipline of criminology (Pratt and Cullen, 2000). Given that the current study will examine heavy alcohol and drug use among white collar criminals, this section will review the literature on low self-control and substance abuse specifically.

The GTC assumes that all criminal behavior is a product of low self-control, what Gottfredson and Hirschi (1990) also referred to as the propensity to offend. The authors further described the various components encapsulated within the low self-control conception, which included, but were not limited to a tendency towards immediate, easy and simple gratification, engaging in risky behavior, and a predisposition towards short term thinking. Moreover, Gottfredson and Hirschi argued that low self-control manifests itself in many non-criminal behaviours that are analogous to crime: alcohol and drug abuse are textbook examples.

Many researchers have sought to test the efficacy of Gottredson and Hirschi's low self-control hypothesis, especially with respect to the "analogous behaviors" to crime notion (Evans, Cullen, Berton, Dunoway, and Benson, 1997; Cochran, Wood, Sellers, Wilkerson, and Chamlin, 1998; Wood, Pfefferbaum, and Arneklev, 1993; Arneklev, Grasmick, Tittle, and Bursik, 1993). One piece of research that is particularly interesting is a study conducted by Arneklev et al. (1993). Specifically, the authors focused their attention on three variables which they referred to as "imprudent behaviours": smoking, drinking (2-3+ alcoholic beverages per week), and gambling. Although the findings of

their study were somewhat mixed, they did find "modest" support for the theory in explaining "imprudent behavior." However, in terms of the specific behaviors themselves, only alcohol abuse and gambling were found to support the low self-control hypothesis as an explanatory vehicle. Within the same context, smoking was not deemed to be significant.

A recent follow up study to the Arneklev et al. (1993) research was conducted by Reisig and Pratt (2011) using different proxies for imprudent behavior (e.g. "drunk dialing," using profanity). Moreover, the study also included three additional dependent variables, namely, minor criminal offenses, academic fraud, and binge drinking. The results of the research provided support for the efficacy of low self-control in explaining all of the criminal, deviant, and imprudent behaviours that they studied.

Finally, with respect to drug use and crime, Gottfredson and Hirschi (1990) noted that "Good research on drug use and abuse routinely reveals that the correlates of delinquency and drug use are the same…" (p. 93). The correlates they refer to are, of course, those that describe the conception of low self-control. Specifically with respect to alcohol, they also contended that "…alcohol and delinquency tend to go together. The reason they go together is that they both reflect a characteristic of the person: low self-control" (p. 140). Accordingly, a discussion pertaining to the relationship between substance abuse and crime follows.

2.3 The Drug-Crime Connection

Much research has examined the relationship between drug abuse and crime (Bennett, Holloway, and Farrington, 2008; Hoaken and Stewart, 2003; Seddon, 2000). With respect to alcohol, Siegal (1998) noted that "Alcohol may be a factor in nearly half of all U.S. murders, suicides and accidental deaths" (p. 395). Moreover, he stated "Research suggests that many criminal offenders have extensive experience with drug use and that drug users do in fact commit an enormous amount of crime" (p. 402). In a Canadian context, a pertinent finding from

CADUMS 2011 (The Canadian Alcohol and Drug Use Monitoring Survey) is that: "In 2011, 14.4% of Canadians aged 15 years and older exceeded the recommended quantity of alcohol outlined in guideline 1 for chronic risk and 10.1% exceeded the recommended quantity of alcohol outlined in guideline 2 for acute risk."[3] The following paragraphs attempt to corroborate the above assertions with a review of the current literature on the linkage between drug use and crime.

Although the general relationship between drug use and crime is well established, the direction of such a linkage seems to be somewhat less clear. For instance, in a critique of the United Kingdom's policy on illicit drugs, Seddon (2000) attempted to question the commonly held notion that drug use causes crime, asserting that such a direct "cause and effect" relationship was not supported within the current body of literature. Seddon (2000) further noted the three most prominent explanations with respect to the drug/crime connection, stating that "…drug use leads to crime; crime leads to drug use; both crime

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[3] Guidelines refer to Canada's Low-Risk Alcohol Drinking Guidelines.

and drug use are related to other factors" (p. 96). Overall, she suggested that the third, multifactorial category held the most promise.

Causal direction aside, many studies have shown that those who engage in drug abuse are more likely to be involved in some form of criminal activity. Perhaps the most persuasive piece of research to date on the subject is a meta-analysis conducted by Bennett, Holloway, and Farrington (2008). More specifically, upon completing a systematic review of the drug-crime literature, the authors narrowed down their sample set to 30 research studies. The final results of their meta-analysis revealed that those who engaged in drug abuse had a three to four time's higher likelihood of criminal offending. Two additional points regarding the article are worthy of mention. The first point relates to the fact that the authors managed to further partition several types of drugs and compare their mean effect sizes to each other. Accordingly, the researchers split the drugs into two tables, the first included heroin, crack, and cocaine[4], while the second contained marijuana and amphetamines. Specifically relevant to the current study, it was found that cocaine users had a two and a half times greater likelihood of engaging in crime than their non-cocaine using counterparts. A similar portrait was found with respect to amphetamines (1.9 times higher likelihood than non-amphetamine users).

The second point of interest pertaining to the article was the fact that it almost exclusively focused on street crime. Indeed, research on the drug-crime relationship with respect to white-collar crime is scarce. However, important contributions to advance our knowledge with respect to the above link have indeed been made. The first, and perhaps most

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[4] The authors noted that heroin, crack and cocaine are the drugs "most commonly associated with the drugs-crime connection" (p. 112).

important of these contributions is the product of Weisburd, Waring, and Chayet's (2001)

research investigating the criminal careers of white-collar criminals. Although the main

focus of Weisburd, Waring, and Chayet's (2001) work related specifically to the criminal

careers of white-collar offenders, in a handful of cases they did include variables in their

research pertaining to drug and alcohol abuse. For instance, when comparing low

frequency and chronic offenders, the authors found that about 7% of low-frequency

offenders had reported using drugs. In contrast, chronic offenders reported 19% drug

usage. With respect to alcohol, 5% of low-frequency offenders and 10% of chronic

offenders reported having an "alcohol problem." More specifically, when looking at

chronic offenders based on number of arrests, approximately 12% of those that

experienced 3-5 arrests reported drug use. This number increases to 20% for those with 6-

10, and 38% for those with 11 of more arrests. This is a strong pattern. It should be noted

that within the same arrest framework, alcohol abuse is not significant. However, a

breakdown was not provided regarding the specific drug type being abused.

An additional avenue that can be explored with respect to the drug-crime link within a

white-collar criminality context is through the biographical and autobiographical

accounts of executives, bankers, financiers, and other "captains of industry." Perhaps one

of the most important and well known accounts of such maladaptive behaviour is the

story of Jordan Belfort (2008), the so-called "Wolf of Wall Street" (also the title of his

autobiography). Up until his prison sentence of almost two years for defrauding investors

at his boiler room investment house Stratten Oakmont, Belfort lived a life which included

exorbitant hotel bills, traveling the world, prostitutes, sinking a yacht, crashing a plane,

and *severely abusing drugs*. Belfort also claimed that earlier in his career, his superior

stated: "And I also strongly recommend the use of drugs, especially cocaine, because that'll make you dial faster, which is good for me" (p. 5). Thus, such a quotation suggests that the use of illicit drugs within the workplace might be more common than expected.

Jordan Belfort's story is not unique. Defamed Ponzi schemer Bernie Madoff's office had allegedly been referred to as the "North Pole" due to the copious amounts of cocaine purportedly present (Melas, 2009). According to Charles Gasparino, author of "The Sellout," former chief executive of now defunct investment banking giant Bear Stearns, Jimmy Cayne was also partial to illicit drugs, which were said to have included marijuana and cocaine. An excerpt of Gasparino's account illustrates such:

> After a couple of minutes of small talk, Cohen says Cayne reached down into his desk and pulled out a blue Bromo Seltzer bottle. (Bromo Seltzer is a white powdery antacid.)
>
> "What do you think is in here? Cayne said, according to Cohen's recollection.
>
> "Bromo Seltzer?" Cohen asked, slightly bewildered.
>
> "No, it's filled with cocaine," Cayne said with a smile. (p. 47)

Cayne, for his part, denies having ever used cocaine (Gasparino, 2009). Many other case studies lean in the same direction. Thus, the connection between substance abuse and criminality may not be specific to 'street' crime. It is likely that white collar crime and substance abuse are also related.

2.4 Substance Abuse in the Workplace

The topic of substance abuse in the workplace has attracted a somewhat lukewarm scholarly following. In order to investigate the potential reasoning for the aforementioned reception, it may be appropriate to consider C Wright Mills' distinction between private troubles and public issues. For Mills (1959), a private trouble is a circumstance which was generally specific to oneself. Examples would include the loss of a job, or being diagnosed with a life-altering illness. Conversely, public issues are the broader social concerns experienced by society. Utilizing the example from above, while the loss of one's job is perceived to be a private trouble, a 10% national unemployment rate—the snowballing and extrapolation of a single job loss (or private trouble)—is a much more systemic issue potentially threatening a country's social fabric. In essence, the effects of a public issue are broad and wide reaching.

Accordingly, Mills' private trouble/public issue distinction provides much of value in explaining the mild reception that research pertaining to substance abuse in the workplace has garnered. Quite simply, to the casual observer, substance abuse in the workplace is an individual problem, or private trouble. It affects one person at one company and can be isolated fairly easily through such means as treatment, rehabilitation, or dismissal. However, perhaps only with the exception of professional sports, the effect of substance abuse in the workplace has rarely escalated into becoming a public issue.

Zwerling (1993) provided additional substantiation for the lack of scholarship within the area of workplace substance abuse. Further, Zwerling mentioned four rationales used for the conducting of drug and alcohol testing. These included safety, productivity, deterrence (decreasing drug use), and legislative and/or regulatory requirements.

Zwerling also found that "…workplace drug screening is likely to be greatly influenced by the prevalence of drugs in the population screened." An analogy to this finding can be roughly equated to the implementation of "hot spot" policing. Specifically, the more screening that occurs, the greater the likelihood of discovering drug abuse.

In 1986, United States President Ronald Reagan signed executive order 12564, the order for a Drug Free Federal Workplace, which implemented both voluntary and mandatory (dependent on circumstance or suspicion) drug testing for all federal civil servants (National Archives, n.d.). In the over 20 years that followed, drug testing has been widely adopted by employers in the United States and has achieved encouraging results. For instance, Gerber and Yacoubian, Jr. (2001), in their analysis of drug testing practices within the construction industry found that "…companies with drug testing programs experienced a 51% reduction in incident rates within 2 years of implementation" (p. 438). However, it is prudent to note that research does exist that questions the deterrent effect of drug testing (see: Comer, 1994).

The situation in Canada, however, appears to be much more liberal, and in contrast to the United States' "guilty until proven innocent" approach, Canadian employers are mandated to adhere to the stipulations of the Canadian Human Rights Act (Canadian Human Rights Commission, 2002). The following is an excerpt from the Canadian Human Rights Commission (2009) Policy on Alcohol and Drug Testing:

> The Canadian Human Right Act prohibits discrimination on the basis of disability
> and perceived disability. Disability includes those with a previous or existing

dependence on alcohol or a drug. Perceived disability may include an employer's

perception that a person's use of alcohol or drugs makes him or her unfit to work.

The Commission will accept complaints from employees and applicants for

employment who believe they have been dismissed, disciplined or treated

negatively as a result of testing positive on a drug or alcohol test. Workplace

alcohol- or drug-testing policies that contain discriminatory elements may also be

the subject of complaints. (1)

Further, the above Act prohibits pre-employment testing for both drugs and alcohol, as

well as random drug testing (this stipulation excludes safety sensitive positions). The few

exceptions to these rules include reasonable cause of suspecting substance abuse,

"postaccident" testing, testing that is part of a greater rehabilitation initiative, or specific

substance abuse inquiries for those who hold safety sensitive occupations.

Surely, drug testing is not the only means by which an employer is able to deter substance

abuse. Nevertheless, Cook, Back, and Trudeau (1996) asserted that

"…sophisticated approaches to primary and secondary prevention of alcohol and other

drug abuse in the workplace continue to be the rare exception, despite the injurious

impact of substance abuse on the work force…" (p. 319) Furthermore, generic Employee

Assistance Programs or EPA's (which would include such services as assessments and

referrals) and other formalized statements regarding an organization's substance abuse

policy are commonplace in many workplaces (Cook, Back, and Trudeau, 1996; Cook and

Schlenger, 2002). Moreover, with respect to the prevention of substance abuse,

Dusenbury (1999) noted the importance of theory in the prevention of substance abuse. However, although these preventative measures and approaches merit praise, there has been a documented and noticeable decline in the creation and development of new prevention initiatives, with specific emphasis on alcohol abuse (Roman and Blum, 2002).

Up to this point, I have attempted to provide an overview of the historical, procedural and preventative landscape pertaining to substance abuse in the workplace. The following paragraphs will explore the occupational variance relating to substance abuse.

2.5 All Jobs are not created equal – Occupational Variation in Substance Abuse

It is well established within the workplace substance abuse literature that certain occupations are more prone to alcoholism or drug abuse (Mandell, Eaton, Anthony and Garrison, 1992; Hemmingsson, Lundberg, Romelsjo and Alfredsson, 1997; Zhang and Snizek, 2003; Frone, 2006). For instance, a study conducted by Mandell et al. (1992) that investigated the relationship between 104 occupations and the likelihood of alcohol abuse found that, even after controlling for demographic characteristics, those individuals who held jobs as construction labourers or other construction trades, as well as those involved in the transportation of goods and materials, had the highest likelihood of engaging in alcohol abuse. This finding lends empirical support for the "safety sensitive position" exceptions granted within Canadian drug testing policy. It should also be noted that the study did indeed find several occupations that espoused a "protective" effect against alcohol abuse, which included social workers, teachers and registered nurses.

Although the above findings are indeed worthy of further discussion, this dissertation is specifically interested in occupations of white-collar status and their relation to substance abuse. A study conducted by Zhang and Snizek (2003) provided several points of interesting and illuminating insight. Perhaps the most notable finding of their research asserted that "…virtually all blue-collar occupations have proportionally more full time workers who are current heavy drinkers when compared to full time workers in white collar occupations." However, a more detailed appraisal of the researcher's findings yields several interesting observations. For one, it was found that occupations falling into the Executive, Administrative, and Managerial category had the third highest rate of fulltime workers who were current drinkers, behind only Sales and Construction Occupations. Further, this grouping was also amongst the top occupations under the

"current illicit drug user" category. In essence, the research proposed that although blue collar occupations do indeed exceed white-collar occupations in absolute proportional terms with respect to drinking and drug use, those who hold white-collar jobs are hardly far behind.

Although research is lacking with respect to white-collar occupations and substance abuse, pockets of occupation-specific research can be found. For instance, research conducted by Booth et al. (2002) investigated substance use and abuse prevention amongst medical doctors, specifically anesthesiologists, who by virtue of their specialty are privy to certain controlled substances. Survey data revealed that 1% of faculty physicians, and 1.6% of medical residents were found to have issues pertaining to drug abuse. Moreover, when department chairs were asked whether they believed more hours of formal training would help decrease instances of abuse, 55% responded in the

affirmative. The researchers also found an increase in controls pertaining to drug distribution when compared to an earlier decade. Additional research pertaining to the medical discipline of anesthesiology includes a study conducted by Domino et al. (2005), which investigated the risk of substance abuse relapse in the medical professions, finding that a quarter of the anesthesiologists in their sample had relapsed at least once.

The field of nursing has also been investigated in terms substance abuse propensity and habits. For instance, Trinkoff, Eaton, and Anthony (1991) examined the prevalence of substance abuse in a population of registered nurses and found that 32% had reported engaging in some form of substance use. It should be noted, however, that their measure of "substance" included not only traditionally illicit drugs (i.e., cocaine and marijuana), but also binge drinking, prescription drugs, and cigarette smoking as well.

Another interesting area of study concerns substance abuse among lawyers. A benchmark study conducted by Benjamin, Darling, and Sales (1990) investigated the use of cocaine and alcohol abuse among lawyers in Washington. D.C. Although only 1% of all lawyers in the sample reported abusing cocaine, an outstanding 18% of lawyers whom have been practicing between 2-20 years had reported abusing alcohol, and among those practicing for over 20 years, 25% admitted to having a drinking problem. According to various sources, a 9% alcohol abuse rate is deemed to be present in the general population.

In a 1995 study utilizing the same data set as above, Beck, Sales, and Benjamin (1995) attempted to examine the psychological correlates which may lead to alcohol abuse. Some of these variables included obsessive-compulsive, anxiety, hostility, paranoid ideation, and depression. Devoid of any theoretical or empirical leaps, it should be

apparent that substance abuse, and in particular alcohol abuse, has been a contentious issue within the legal profession. This contention is further characterized in Allen's (1997) paper which chronicled the substance dependency and denial of lawyers along with the numerous adverse effects of these both to the individual and to the profession.

In a survey of intellectual property lawyers, Langford (2005) found that 32% of the lawyers in the sample stated that they were familiar with an attorney who abused drugs or alcohol. Thus, by virtue of the research cited, it seems reasonable to assume that substance abuse within the legal profession remains an enduring problem in need of attention.

Despite the dearth of scholarship on the substance abuse habits of financiers and other investment banking professionals, an important study conducted by private firm Sterling Infosystems on the prevalence of drug use on Wall Street was highlighted within the Wall Street Journal several years earlier (Stock, 2010). Overall, the article noted that the finance profession is for the most part quite "clean"—only 2% of the profession tested positive for drug use. This compares to 3.6% for the working population at large. Moreover, for those who had failed their screenings, 80% tested positive for marijuana, and 7% tested positive for cocaine. However, a word of caution is in order. For the most part, the data illustrates the drug abuse of new hires. Random screenings are seemingly rare in the financial community, and, therefore, the abuse rates of seasoned employees may not be indicative of those recorded by Sterling.

In summary, the literature reviewed in this section make several points that are central to the current study. On the one hand, Sutherland's classic work on white collar crime

strongly suggests that white collar criminals are exceptional. Many qualitative studies pertaining to major frauds or financial debacles also implicitly or explicitly suggest that white collar criminals are part of a criminal elite and particularly rational and calculating. Thus, these studies support the claim that white collar criminals are exceptional.

On the other hand, Gottfredson and Hirschi argue that white collar criminals have low self-control and are not different from other criminals. Thus, in their view, white collar criminals are not exceptional and should engage in a variety of deviant behaviors. Research on criminal careers suggests that criminal specialization is rare. Most criminals, including white collar criminals, are expected to be generalists. Low self-control is not only associated with violence and theft, but also with analogous behaviors like heavy drinking and substance abuse. Assuming that white collar criminals have low self-control or are generalists, they should have high levels of alcohol and drug usage. The relationship between criminal behavior and drug use is well-documented. This may also be the case for white collar criminals. Generally speaking, some professions have higher levels of substance abuse than others. Many of these are white-collar.

Cluster Analysis in Criminology

Although traditional cluster analysis has not been employed as often as the more popular statistical techniques of multiple and logistic regression, criminologists have nevertheless been applying its methods in order to generate typologies that vary in subject matter from sex offenders to shoplifting. Given that cluster analysis will be used as a second

technique to test the validity of the exceptionalism vs. generalist hypotheses (based on the assumption that some clusters that emerge will be more aligned with one hypothesis or the other), it is relevant to examine the use of this uncommon technique in the criminological literature.

Shoplifting

McShane and Noonan (1993) utilized traditional cluster analysis in an attempt to discover whether shoplifters could be categorized based on various social, psychological, economic, and demographic variables. The results of their analysis suggested that the sample of shoplifters (n = 75) could be categorized into four groups: Rebels, Reactionaries, Enigmas, and the Infirm. The first group, 'Rebels,' were predominantly female, unmarried and were the youngest and most poverty stricken of the four categories. The majority of this cluster was also found to have prior criminal histories. In contrast to the first cluster, 'Reactionaries' were predominantly male, had a higher likelihood of being married and had much lower rates of prior criminal activity. Reactionaries were also found to have lower rates of poverty and tended to be older than Rebels. 'Enigmas' contained members who were older than the members of the previous two clusters, had substantially lower rates of poverty, and had the least amount of criminal involvement of the four clusters. They were more likely to be male, with just over half of the cluster professing to be married. The 'Infirm' included persons who were significantly older than the members of the previous three groups, and who also revealed the lowest rates of poverty. Most of the Infirm were males, while just over half the cluster was married. The Infirm had histories of criminality similar to Reactionaries.

Sex Offending

Another area of study within criminology that has employed cluster analysis is research pertaining to sex offenders. Rosenberg and Knight (1988) noted that despite the fact that such criminals are often regarded as a homogeneous group in general, these criminals are in actuality heterogeneous. The authors utilized the technique of cluster analysis in order to validate the above assertion. The final sample for the cluster analysis contained 156 convicted sex offenders. The results of the analysis illustrated 12 offender subtypes/clusters, which were based upon five psychosocial dimensions: "substances use, unsocialized behaviour, life management, offense impulsivity, and sexual aggression." (p. 394). For instance, the largest cluster within the typology was referred to as the 'Highcompetence Nonaggressive,' and comprised of 24 cases. This cluster, divided equally between child molesters and rapists, was defined by "low scores on substance abuse, unsocialized behavior, offense impulsivity, and sexual aggression, with one spike on life management competence" (p. 401). In contrast, the smallest cluster, the 'Predatory Antisocial Aggressive,' included only six cases. This cluster, which included four rapists and two child molesters, was defined by "its high degree of substance abuse in conjunction with a high unsocialized behavior score, a high sexualized aggression score, and a low offense impulsivity score."(p. 400).

Cluster analysis has also been applied to the classification of child molesters. Gannon, Terriere, and Leader (2012) utilized k-means cluster analysis in order to test the efficacy of Wart and Seigert's Pathway Model in explaining child sexual abuse. Wart and Seigert's Pathway Model proposes five primary routes which lead a child molester to offend. The five pathways include emotional regulation difficulties, sexual script

dysfunction, intimacy and social skill deficit, antisocial attitudes and beliefs that support offending, and multiple dysfunctions (an amalgamation of the four). The results of the cluster analysis which sampled 97 convicted child molesters in the United Kingdom yielded a total of five clusters, three of which roughly corresponded to similar pathways in Wart and Siebert's model. Thus, the authors suggested a potential retooling of the overall Pathway Model as a consequence of their findings.

Psychological Abuse and Personality

Additionally, cluster analysis has also been employed within the field of psychology. Although a discussion pertaining to the use of cluster analysis within psychology in general is beyond the scope of this paper, psychologically focused studies within the realm of criminology are indeed appropriate to highlight. One such study, conducted by Spaans et al. (2009), sought to test the validity of the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) with a sample of defendants (n=247) accused of committing severe crimes. The results of the cluster analysis revealed two distinct clusters - disturbed and non-disturbed. Due to the simplicity and homogeneity of the findings, the authors questioned the use of the MMPI-2 within forensic criminal contexts.

The study of psychological abuse has also found cluster analysis to be useful. Specifically, Marshall (1996) utilized the method in order to classify the psychological abuse of women and help explain its correlates. Both descriptive and explanatory variables were included in the cluster analysis and included age, length of relationship, psychological abuse, threats of violence, acts of violence, and sexual aggression. With a final sample size of 578 women, the results yielded six theoretically relevant clusters

(although they remained untitled).The first cluster (n = 172) compared to other groups, was the youngest, and on average had been in their relationships for nine and a half years. Additionally, this cluster had suffered the most serious abuse (psychological, physical, and sexual) of the six groups. In contrast to cluster 1, cluster 2 (n = 68) was one of the eldest of the six clusters, and had been in their relationships for almost fifteen years, on average. Compared to the other clusters, levels of psychological abuse were recorded as being moderately high. The third cluster (n = 222) differed from the previous two in that its participants reported encountering lower levels of abuse. In addition to being comparatively younger, the average duration of a relationship for cluster three was approximately eight and a half years. Cluster four (n = 40) shared a similar age and relationship profile as the first grouping. However, in contrast to the first cluster, the fourth had the lowest reported levels of abuse. With respect to cluster five (n = 33), compared to the previous two groups, the members of this cluster suffered significantly higher levels of psychological abuse, as well as suffering from high levels of threats, violence, and sexual aggression. Additionally, women included in this cluster were on average 40 years of age (one of the oldest), with the mean length of relationship being almost 16 years—the lengthiest in the sample. The final group, cluster six, shared similar levels of psychological abuse as cluster five. This group was on average, 38 years of age, and had been in a relationship for approximately 13 years. Thus, by reviewing the various profiles outlined in Marshall's (1996) study, it became apparent that psychologically focused criminological studies have benefited much from the application of cluster analysis.

Cluster analysis has also been applied to the study of personality and male juvenile offending. Using the Million Adolescent Clinical Inventory (MACI), and, in particular, its twelve-item Personality Patterns scale, Stefurak, Calhoun, and Glaser's (2004) analysis produced four clusters that typify the various personality variations in a sample of 103 juvenile offenders. The typology included four clusters: (a) antisocial-disruptive, (b) antisocial-compliant, (c) anxious prosocial, and (d) reactive depressive, which was found to be the largest group (n = 41).

Life Course Criminology

Within a longitudinal context, Juon, Eggleston-Doherty, and Ensminger (2006) investigated the well-established relationship between childhood problem behaviour and adult criminal offending. The sample consisted of 1,242 African American first graders (both male and female), tracking them to the age of 32. In the primary stages of the study, and specific to the cluster analysis, first grade teachers were tasked with rating each student's classroom behaviour with respect to six indicators (aggressiveness, restlessness, underachievement, immaturity, shyness, and conduct). These indicators formed the entirety of the variables included within the cluster analysis. Constructed separately for boys and girls, the results of the cluster analysis yielded seven unique groups, including (a) no problems, (b) mild conduct problems, (c) high shyness, (d) moderate problems but not shy or aggressive, (e) moderate aggressiveness, (f) multiple problems but not shy, and (g) multiple problems. For both boys and girls, mild conduct problems were the most populous clusters, respectively. The clusters were then contrasted with one another with respect to family characteristics and criminal outcomes. As would be expected, the multiple problems cluster had the highest number of arrests for serious offences.

Another study pertains specifically to victimization and school violence. Felix, Furlong,

and Austin (2009) employed cluster analysis in order to classify the victimization

characteristics of young adults (grades 7, 9, and 11) victimized within a school context (n

= 70,600). Using data from the California Healthy Kids Survey (CHKS), five subgroups

emerged from the analysis of seven victimization indicators. The clusters included (a) a

non-victimization/low-victimization group, (b) a predominantly teased group, (c) a

predominantly physically victimized group, (d) a predominantly sexual harassed group,

and (e) a poly-victimized group. The first subgroup, non/low victimization, was also the

most populous. Similar to the previous study, the authors utilized the new formed groups

for comparative purposes as well, finding that those victimized fared worse in terms of

mental health, grades, and truancy than their non/low victimized peers.

Drug Use/Offending

Engaging in risky behaviours, such as having unprotected sex or abusing drugs, is a

known and well documented correlate of criminal offending. In a research study which

explored HIV risk among felony drug offenders, Lang and Belenko (2001) employed

hierarchical cluster analysis in order to identify potential clusters of HIV risk among the

aforementioned population. The sample of 247 males yielded a two cluster solution, with

one group consisting of predominantly sex-related risk, and the other consisting of

predominantly drug-related risk. These groups were later used for exploratory purposes

with respect to additional latent variables subject to further analysis, including logistic

regression.

From the review above, it should now be apparent that cluster analysis is an important

statistical technique within the methodological tool box of criminology. Although less

frequently employed than more traditional methods of statistical analysis, such as

regression, cluster analysis has a significant role to play from both theoretical and applied

perspectives. Interestingly, sociological criminologists seldom make use of cluster

analysis, while psychological criminologists use it more often. Accordingly, sociology

may greatly benefit from examining data with cluster analysis. In the current study,

cluster analysis is used in addition to regression analysis, to maximize the probability of

discovering patterns that are aligned with either the exceptionalism or generalist

hypotheses.

2.6 The Current Study

This study seeks to assess whether white-collar criminals are exceptional, and part of a

rationally calculating "criminal elite", or generalist offenders, and potential products of

opportunity and low self-control, like any other criminal. It will do so by method of

individual proxies, which will not only provide valuable insight into the aforementioned

theoretical dilemma, but will also advance our knowledge of the characteristics (i.e.

criminal histories and alcohol/substance abuse habits) of white-collar offenders

themselves. The current project begins by investigating both the criminal histories and

substance abuse habits of white and blue-collar offenders (i.e. occupational offenders

who earn less than white collar criminals), comparing them to traditional thieves in order

to discern whether any form of exceptionality exists. With respect to criminal histories, three antecedents were selected – history of theft, history of violence, and history of juvenile delinquency. Additionally, heavy drinking, drug abuse, stimulant use, and cocaine use were included as measures of substance abuse[56].

The choice of focusing specifically on these variables is both theory and data driven. Particularly for the criminal antecedents, the choice is theory driven because in general those who commit crime early in life and have criminal histories are more likely to offend later in life than the population at large. This is of particular interest to the study, as white-collar crime by nature has an adult onset. The antecedent selection is also data driven due to the construction by particular variables that were readily available within the dataset utilized. Within the realm of white-collar crime scholarship, appropriate, full, and useful data are often difficult to obtain. As such, the data set utilized in this study is particularly valuable because of its comprehensiveness and relatively recent publication (as discussed in the coming section).

Weisburd, Waring and Chayet (2001) provided empirical precedent for the inclusion of several of the above variables (as well as some control variables). Using arrest data collected in the United States between the years of 1976-1978 on white-collar crime cases, the authors attempted to obtain a better understanding of the white-collar criminal

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[5] Although not available as a variable within the current data set, it should be noted that psychopathy would have been a potentially interesting dependant variable to include within the current analysis (see: Perry, Lichtenwald and Mieczkowska, 2014; Babiak and Hare, 2006).

[6] It should be noted that the current categorization of substance abuse would potentially be perceived as problematic from a psychopharmacological perspective. Accordingly, it is acknowledged that these four groups probably do not represent the nuanced differentiation that might be found in contemporary psychopharmacology (see: Hoaken and Stewart, 2003; Julien, 1981).

and their respective careers. Their research generated several significant findings[7]. For one, a substantial portion (over 40%) of the white-collar criminals included in the study were recidivists (in terms of prior arrest). Broadly speaking, white-collar criminals also exhibited a lack of specialization with respect to type of crime committed. Third, the white-collar criminal's first arrest was much later in life than street criminals (juvenile records not included). On a similar note, their criminal careers also tend to be longer than traditional criminals. With respect to the first arrest of white-collar criminals, 43.2% were due to white-collar crime, while other offenses, which included property crime (44.7), drug offenses (2.8%) and violent offences (9.3%)[8], accounted for the remainder of first time arrests. Finally, when looking at low frequency versus high frequency offenders, low frequency offenders were more likely to be home owners, have steady employment, be married, more likely to have a college education, and less likely to use drugs or abuse alcohol.

These findings provide impetus for including many of the same variables in the current analyses. Furthermore, in order to appropriately assess the explanatory efficacy of the overarching hypotheses outlined earlier, four specific hypotheses are listed below.

H1. White-collar criminals are different from other criminals and thus exceptional. They are more rational and their criminal acts are calculated. Manifestations of their exceptionalism include significantly lower levels of histories of violence,

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[7] Significant results relating to their substance abuse findings can be found in a previous section of this manuscript.

[8] It should be noted that there was much variation between those who only had two arrests, and those who had more than three. For instance, the majority of those who only had two arrests were more likely to have had their first arrest for white-collar crime, than those who had more than three. As well, for those who had more than three arrests, violent offenses were the reason for first arrest in 10%-11% of the cases. First arrests for drug offences tended to be low, however, accounted for 7.5% of those who had 6-10 arrests.

property crime, juvenile delinquency, heavy alcohol use, and heavy drug use when compared with thieves.

H2. Blue-collar criminals are different than other criminals, thus being exceptional. Manifestations of exceptionalism include lower levels of histories of violence, property crime, juvenile delinquency, heavy alcohol use, and heavy drug use when compared with thieves.

H3. White-collar criminals are generalist offenders and are no different than common criminals. Manifestations of this general propensity include similar levels of history of violence, property crime, juvenile delinquency, heavy alcohol use, and heavy drug use when compared with thieves.

H4. Blue-collar criminals are also generalist offenders and are no different than common criminals. Manifestations of this general propensity include similar levels of history of violence, property crime, juvenile delinquency, heavy alcohol use, and heavy drug use when compared with thieves.

If H1 and H2 are validated, the findings of the current study would fall in line with more conventional wisdom and theorizing relating to white-collar criminals as being qualitatively different than street criminals, and hence, exceptional. In contrast, the validation of H3 and H4 would cast doubt on such theorizing, supporting the notion of a generalist white-collar offender.

3 Methodology

3.1 Data and Sample

The data utilized for the analysis are an amalgamation of two surveys originating in the United States. These are the 2004 Survey of Inmates in Federal Correctional Facilities and the 2004 Survey of Inmates in State Correctional Facilities. The conglomerated survey is a nationally representative sample of the above mentioned inmate populations. In order to obtain the information, interviews were held with inmates between the dates of October 2003 and May 2004. Although the total number of cases in the dataset is 18,185, many individuals are incarcerated for violent or drug crimes. The final analytical sample utilized for the current study is 1,702 respondents. This sample includes 97 white collar criminals, 307 blue-collar criminals, and 1,298 thieves.

3.2 Variable Measurement

In order to create a valid measure of white-collar crime, three distinct variables in the dataset were amalgamated. These were (a) those who's "job enabled the offense," (b) who's "special job skills enabled the offense," and (c) those who "before conviction, had opportunities to steal because of their job." Following Felson (2002), the resultant variable was labeled "specialized access."[9] Thus, to be included in the white-collar criminal category, an inmate must have answered "yes" to any of these three questions.

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[9] Felson (2002) defined crimes of specialized access as "a criminal act committed by abusing one's job or profession to gain specific access to a crime target."

Moreover, in order to sufficiently distinguish white-collar criminals from other

occupational offenders, a second criterion based on income was also included.

Specifically, only those individuals who earned $90,000 or more prior to their arrest were

incorporated into the white-collar criminal sample. Indeed, Sutherland's own definition

of white-collar crime incorporates the notion of "high status," which is believed to be

captured in the current upper income threshold (Sutherland, 1949). Finally, in order to be

included within the white-collar criminal category, inmates must have stolen money or

goods[10]. This is to separate them from individuals who have committed workplace

violence, such as physically assaulting a colleague. Thus, this measure is a narrow

definition of white-collar crime—the subjects must have used their job to perpetrate their

offence, they must have had a high income, and their crime must have involved some sort

of economic gain[11].

The above variable construction was also used as a referential springboard in order to

create a valid measure of what this paper refers to as 'blue-collar criminals.' Specifically,

the composition of our blue-collar variable included both the specialized access and

economic consideration clauses. However, the variable departs from the above

construction in that it only included those criminals whom made less than $90,000 per

year. For instance, the subjects comprising such a group would ostensibly account for

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[10] It should be noted that a variety of alternative approaches to defining white collar crime could have been utilized. Future research (with more specific data on crime type) could potentially seek integrate actual types of crime (i.e. embezzlement, fraud) rather than using the specialized access construct. That being said, the current projects definition includes these types of crime, given that committing a property crime is an essential component pertaining to the construction of the white collar crime variable.

[11] The current study employs a hybrid definition of white collar crime, focusing on both the offender and the offense, in order to overcome the potential limitations of solely focusing on either. However, and as Benson and Simpson (2009) note, offense based definitions seem to be favoured by researchers within the field (for examples of studies using this approach see: Benson and Walker, 1988; Wheeler, Weisburd and Bode, 1982).

front line bank employees who embezzled funds or lower level management who acted

on insider information with respect to equity trading[12].

A third variable created accounts for other thieves. Unlike the two previous constructs,

the thieves variable only included those who did not use their job to commit their

property crime (hence, no specialized access), and would not include any type of income

threshold or control. However, the criterion for inclusion in the group solely relied on

whether their crime included some form of profit motive or economic consideration in the

form of money or goods. Thus, the thieves include burglars, automobile thieves, robbers

and others alike.

Criticism of the study could arise in connection with the small size of the white-collar

crime sample. However, it is my contention that the purity of the construct added an

element of authenticity and theoretical richness to our data that was unparalleled in

previous studies. Harel and Pare (manuscript in progress) further discuss the validity and

merit of my construct of white-collar crime. Additionally, a sample of 97 white-collar

criminals and 307 blue-collar criminals is much larger than many prior studies of

occupational offenders published.

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[12] It should be noted that the specific labels of "white collar" and "blue collar" criminal were applied for the sake of simplicity, as the specific job of different occupational offenders was not known. Accordingly, an alternative labelling of the above two groupings could be "occupational offenders with high income" and other "occupational offenders".

3.3 Criminal Antecedents

With respect to criminal antecedents, four models were created for each dependent variable (history of theft, history of violence, and juvenile delinquency). These outcomes are coded 1 if the respondents have been charged with these offenses previous to the current incarceration and 0 otherwise[13]. The first baseline model includes only white and blue collar criminals (i.e. the zero-order relationship). The second model includes sociodemographic characteristics in addition to the two criminal types, and is considered the main test of the hypotheses. The third model adds background characteristics (education, marriage, military service). If a pattern is observed in model 2, is it explained by the variables in model 3 (e.g. do white collar criminals fare better because they are married or have high education)? Finally, model 4 is a replication model controlling for the type of prison (federal vs. state). The addition of this variable ensures that the patterns observed in the other models are not strongly different when prison type is considered. One could argue that offenders sampled in these different prison systems are quite heterogonous, thus the interest in the replication. This methodological approach is in line with Schlegel and Weisburd (1992), who argued that "…attention to white-collar crime will best be served in the future by studying the similarities and differences between white-collar crimes and those referred to as 'common crimes'" (p. 4).

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[13] Although a more intricate and specific operationalization could have been conducted, binary outcomes were used for ease of interpretation. Future research could certainly look at more specific operationalization.

3.4 Substance Abuse

With respect to the four dependent variables of heavy alcohol use, heavy drug use, heavy

stimulant use, and heavy cocaine use, four separate models were created for each variable

in the same manner as for the criminal antecedents. Here again, the four models are (1)

baseline for white collar and blue collar criminals; (2) inclusion of socio-demographic

covariates; (3) inclusion of background characteristics (4) replication controlling for

prison type. Heavy alcohol use is measured from self-reports of drinking over the year

prior to the offense and is coded 1 if the respondent drank alcohol daily or almost daily

and 0 otherwise. Heavy drug use is measured from self-reports of drug use during the

month prior to the offense and is coded 1 if the respondent used drugs once a week or

more, based on a list of 14 drugs (e.g., cocaine, heroin, chemical drugs, but excluding

marijuana and hashish) and 0 otherwise. Heavy stimulant use and heavy cocaine use

follow the same measurement (1-0) but focus on the specific drugs[14].

3.5 Control Variables

3.5.1 Dichotomous Variables

Gender

With respect to gender, for the current analysis, women were coded 1, while men were

coded 0. From an empirical standpoint, research has shown men to have a much higher

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[14] With respect to the construction of substance abuse variables, Weisburd, Waring and Chayet (2001) utilized a binary operationalization in their research as well.

likelihood of being involved in white collar crime (Daly, 1989; Weisburd, 1991).

However, as Daly (1989) notes, women are also involved in such offending, and in

certain categories such as embezzlement, account for almost half the total criminal

offences. More generally, as the relationship between gender and crime is well

established within the field, specifically pertaining to men having a higher likelihood of

offending then women (Steffensmeier and Allen, 1996), it is thus an essential variable for

inclusion.

Relationship Status: Married or Previously Married

Within the context of marriage, respondents are coded as either being married, being

previously married, or never married (the reference category). Theoretically, marriage

may help to inoculate an individual from engaging in criminal behavior. Indeed, Sampson

and Laub (2003) explicitly reference marriage as a potential turning point within the

context of desisting from crime. Specifically pertaining to white collar crime, Weisburd,

Waring and Chayet (2001) found that low frequency offenders were more likely to be

married as well. On a more general level, marriage is also a correlate of socioeconomic

status, an important variable when measuring white collar crime.

Military

With respect to military service, those reported as having served were coded as 1, while

those reporting in the negative were coded as 0. This variable has theoretical and

empirical importance. On the one hand, Laub and Sampson (2003) argue that military

service should lead to distance from crime. However, more recent research suggests that

the relationship between military service and crime may be more nuanced, or in certain cases, actually have the opposite effect (Galiani, Rossi and Shargrodsky, 2006; Craig and Connell, 2015).

Facility of Incarceration

Within the context of facility of incarceration, those serving in a federal facility were coded as 1, while those serving in a state facility were coded as 0. In general, those serving longer sentences are placed in Federal facilities, while shorter sentences are served in State facilities. This variable is used as a control for sampling differences. Perhaps inmates who serve time in a federal institution are different than inmates who serve time in a State institution, and these differences could be correlated with white collar criminal status.

Minority Status

With respect to minority status, two dummy variables were created – African American, other minority status (including Asian, Aboriginal, and mixed race), and White (the reference category, coded 0). An additional minority status variable is coded 1 for Hispanic and 0 otherwise. Based on this coding, the two minority status variables can overlap (i.e. a respondent can be African American or white, and Hispanic or non-Hispanic). Although minority status variables are rarely used in Canadian criminology (Wortley 1999), they are commonly used in American criminology. Since the current study is framed in the US literature and based on US data, these variables were included. In the US, many African Americans and those of Hispanic decent face structural barriers that limit their social position and generate criminogenic forces, including high rates of

poverty, discrimination, unsafe environment, and unemployment/underemployment (e.g. Sampson & Wilson 1995). Thus, minority status is likely associated with criminal antecedents, and possibly with white collar criminal status.

3.5.2 Continuous Variables

Age

Age was measured as the number of years of lived. This is an important variable for inclusion, as by its very nature, white collar offending has an adult onset. On a more general level, the age-crime relationship/curve is one of the most empirically sound associations in criminology (Tibbets and Hemmens, 2010). Thus, since white collar criminals are potentially older, and thieves are potentially younger, it is important to control for the age of the respondents.

Education

Education was measured as the number of years of schooling an individual had acquired. This variable holds great significance for the current analysis, as research suggests that those with higher levels of education are less likely to criminally offend (see: Lochner and Moretti, 2004). However, white collar criminals, in many cases by virtue of their socioeconomic position, should also have higher levels of education. Thus, including education as a control variable may help to further our understanding of the relationship between education and crime.

3.6 Analytic Strategy

The statistical technique employed to analyze the data is the binary logistic regression, due to the binary nature of the dependent variables. The data were analyzed using IBM's Statistical Package for the Social Sciences (SPSS) version 19.

3.7 Analysis of background characteristics

Binary logistic, OLS, and multinomial logistic regression analyses were conducted in order to established the relationship between offender types and the background characteristic variables used in model 3. If (1) white collar or blue collar criminals must is associated with both the background characteristics and the outcome; (2) the relationship between white collar or blue collar criminals becomes weaker or non-significant when the background characteristics are included, then the background characteristics help explain why white collar criminals or blue collar criminals are exceptional. More specifically, education[15], military service and marital status were used as dependent variables for two distinct models – a baseline including only white collar and blue collar criminals, and a socio-demographic model which includes age, sex and minority status, in addition to the previous criminal types. They are then used as explanatory background factors in the main analysis.

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[15] It should be noted that as income and education are correlated, the result of white collar criminal being more educated is expected.

3.8 Cluster Analysis

Cluster analysis is a method for grouping specific cases or variables in "homogeneous and distinct groups" (Tryfos, 2001, p. 1). It is a widely applicable method of data analysis used in a variety of disciplines (Everitt, Landau, Leese, and Stahl, 2011; Tan, Steinbach, and Kumar, 2005). However, naturally heterogeneous disciplines (i.e., the social versus natural sciences) give way to entirely different research questions. Thus, three primary methods of cluster analysis have been utilized for a variety of purposes in the social sciences, depending on which provides the most sensible approach to answering a given research query. These methods include Hierarchical, K-Mean, and Two-Step cluster analysis. Each type will be briefly highlighted in order to facilitate a more thorough understanding of the methodology utilized in the current study.

3.8.1 Hierarchical Cluster Analysis

According to Norusis (2012), "Hierarchical clustering is one of the most straightforward methods [of cluster analysis]" (p. 377). Such means of clustering can either be carried out through agglomeration or division (Norusis, 2012). In agglomeration or agglomerative analysis, each case starts out as its own cluster (Norusis, 2012). Through an iterative process, eventually, every case in the data set is agglomerated into a single cluster (Norusis, 2012). On aggregate, agglomerative methods are the more popular form of analysis (Everitt, Landau, Leese, and Stahl, 2011). Division, or divisive analysis, is the exact opposite process where each case is initially incorporated into a single cluster, and then divided, through iteration, resulting in each case having its own cluster (Norusis,

2012). This iterative process highlights the significance of two important concepts within hierarchical clustering, and cluster analysis in general: similarity and distance.

Similarity and distance measures are at the heart of cluster formation. The distance between cases is a function of their similarity. For instance, cases which are "close" to one another will tend to "cluster" together, displaying their similarity (Norusis, 2012). Thus, there exists a negative relationship between the two measures (Nurosis, 2012). According to Everitt et al. (2011), Euclidean distance has proved to be the most popular distance measure. In terms of agglomeration, a variety of methods exist with respect to cluster formation. These include single linkage (nearest neighbor), complete linkage (furthest neighbor), average linkage, centroid linkage, weighted average linkage, median linkage as well as Ward's method (Everitt et al., 2011; Norusis).

Hierarchical cluster analysis, in effect, is a more 'scientific' methodology than the K Means clustering method, because it is the data itself that determine the number of clusters, not the analyst (see K-mean cluster below). However, hierarchical clustering methods still leave much room for subjectivity in cluster formation, as it is the researcher or analyst who is left to manually determine the cut-off points for each respective cluster (i.e. similar to counting the number of major branches on a tree). Often enough, this is not a straightforward task. On a related note, an additional issue with hierarchical clustering is the fact it tends to work better with smaller samples. The process of manually determining the cut-off points for a large number of cases can pose both logistical and methodological difficulty. The K-Means method, although deficient in many ways, overcomes the above noted problem by pre-selecting the number of clusters. It is outlined in the following subsection.

3.8.2 K-Means Cluster Analysis

K-Means cluster analysis is another method of clustering whose popularity has endured

for over 40 years (Everitt et al., 2011). One of the defining features of K-Means

clustering is the fact that the researcher or analyst is tasked with creating the number of

clusters a priori (Norusis, 2012). Thus, this method is well suited for marketing-style

research, where the number of groupings desired is known in advance. The K-Means

method, compared to hierarchical clustering, is a quite modest method in which the

algorithm attempts to fit the number of cases "neatly" into the outlined number of clusters

(Tan et al., 2005; Norusis, 2012). It does so by identifying the centroid (mean) of each

case, and matching them to the cluster with the most similar centroid (Tan et al., 2005;

Norusis, 2012). This is also an iterative process, where the means continue to change and

search for similarity through each data run, until the means become static and stable (Tan

et al., 2005; Norusis, 2012).

Overall, K-Means clustering is an efficient means of assigning cases to specific,

previously defined groups. The downside to this efficiency, however, is that in reality the

cases may not fit as "neatly" into predetermined clusters in practice as they may in

theory. For instance, a researcher may design a study with two clusters (due to a

theoretical or practical preference), when in actuality, the data would better fit a three

cluster assignment. Accordingly, the K-Means method has proven to be especially weak

in its classification of outliers (Norusis, 2012). Moreover, due to the nature of the initial

cluster creation process, it has been perceived as a less scientific method than hierarchical

analysis.

3.8.3 Two-Step Cluster Analysis

As alluded to in the name, the two-step clustering process is divided into two steps. The first step is the pre-clustering process, where the data is reduced from individual cases into pre-clusters based on distance and similarity measures (Norusis, 2012). Upon completion of this stage, the uniqueness of each case is diluted into its respective precluster (Norusis, 2012). This process makes the data more manageable for the second step, which is traditional hierarchical clustering (Norusis, 2012). What makes this process different, however, is that the pre-clusters are treated as the "cases" in the hierarchical analysis, rather than the cases themselves (Norusis, 2012).

The two-step procedure is a more recent innovation in cluster analysis, which is for the most part devoid of the limitations hampering the previous two techniques. For instance, two step-cluster analysis (1) works well with large samples, (2) omits the need to manually determine cluster cut-offs, and (3) the algorithm determines the most appropriate number of clusters based on the empirical data. Thus, it is also the most 'scientific' of the three clustering approaches. It should also be noted that the researcher is also able to predetermine the total number of clusters, if desired. For all of these reasons, this procedure is superior to the previous two, and accordingly, is the best method of analysis for the current study.

3.9 Cluster Analysis vs. Latent Class Analysis

Both cluster analysis and latent class analysis are valuable data reduction techniques.

They both allow for the creation and examination of meaningful subgroups derived from

a larger population. However, there remains uncertainty relating to which statistical

technique is superior. Although latent class analysis has been utilized within fields such

as marketing and mental health, cluster analysis seems to be the more popular of the two

techniques within criminology. As well, cluster analysis is readily available within SPSS,

whereas conducting a latent class analysis would require a more specialized program,

such as MPlus.

Magidson and Vermunt (2002) compared K-Means clustering to latent class analysis and

found that the latter was the superior clustering technique. However, more recent research

by Eshghi et al. (2011) suggests that cluster analysis is superior to latent class analysis

(albeit by a small margin). They state: "These results would imply that the traditional

cluster analysis provides the most homogeneous clusters while most effectively

differentiating between clusters" (p. 286). It should also be noted that the researchers

acknowledged that their performance measures were not perfect, and that the comparative

analysis is based upon a specific sample.

A potential limitation of both studies is that they utilized more dated clustering

techniques. The current study, as previously mentioned, utilized the two-step clustering

technique, which overcomes some of the major drawbacks to the more established

clustering methods. As such, the results of such prior research should be perceived with

caution, as they may have been significantly different if compared to the more modern

two-step clustering approach. Nevertheless, as a result of both previous research and

availability, cluster analysis was the method chosen for the current study. However, future research should also consider conducting latent class analysis as a valid alternative for classifying occupational offenders.

3.10 Data and Sample – Cluster Analysis

The cluster analysis in the current study is based on the United States 2004 Survey of Inmates in Federal Correctional Facilities as well as the 2004 Survey of Inmates in State Correctional Facilities. The data from the 97 white collar criminals and 307 blue collar criminals used in the regression analyses are combined in a sample of 404 occupational offenders (income is now used as a variable in the cluster analysis).

A total of 15 variables were utilized in the cluster analysis that provided insight into the criminal history, substance abuse, socio-economic, and demographic profiles of the 404 occupational offenders sampled. These variables are the same as those used in the regression analyses to maximize the comparability of the patterns. Specifically, these variables included history of violence, history of property crime, history of juvenile delinquency, heavy drug use, heavy alcohol use, gender, marital status (two indicators— married or previously married with never married as the reference category), minority status (two indicators—Hispanic, African American, with white as the reference category), military background, prison type, income, education, and age.

The statistical analyses were conducted in two parts. The first involved a two-step cluster analysis in order to group the variables into specific clusters, in essence, creating a

typology. The two-step clustering method, as previously mentioned, was employed

because of its superiority over both traditional hierarchical and K-Means cluster analysis.

Upon completion of the clustering, zero-order logistic regression was conducted in order

to test for significant differences between each cluster type and other occupational

offenders (IV: all variables, entered individually, DV: one cluster vs. all other

occupational offenders). Bivariate analysis is used instead of multivariate analysis

because the goal is not to "predict" the cluster types with the IVs (the cluster types have

already been created from the same variables), but to identify which variables are

statistically different between a cluster type and the remaining of occupational offenders.

3.11 Means of Analysis

IBM's Statistical Package for the Social Sciences (SPSS) version 19 was utilized for both

the cluster analysis and logistic regression.

3.12 Limitations – On the Use of Prison Data

It is prudent to briefly discuss the use of prison data in the current study. Perhaps the most

likely criticism of the analyses is its utilization of data collected from an incarcerated

population. It is important to acknowledge that the dataset may potentially be biased with

respect to including only the most hardened criminals (i.e., those who are sentenced to

incarceration), or only the offenders who were convicted. However, this selection bias

applies to the three groups under study: white-collar criminals, blue-collar criminals, and

thieves. While it is true that many white-collar offenders avoid detection or prosecution,

many burglars and carjackers do as well. The sample may not have been representative of

all offenders outside of prison, but a comparison of the similarities and differences

between various incarcerated offender types is still possible, interesting and valuable.

A central point regarding the use of this dataset is that data on white-collar criminals are very rare, and prison data offer a unique opportunity to examine a relatively large amount of quantitative data on this understudied group. Indeed, the current study cannot reveal the "true" level of violent antecedents, juvenile delinquency, or alcohol and drug use by white-collar criminals outside of prison, but it can help to answer the question of whether incarcerated white-collar offenders have different levels of these variables than other incarcerated groups such as thieves.

Indeed, by using prison data, a selection bias exists where incarcerated individuals may be qualitatively different than those who avoid detection in the first place. However, the current study also does not take into account those who may be tried for a white collar crime, but avoid conviction as well. This may be the result of having more resources in order to defend against criminal charges (i.e. hiring a team of top lawyers). An additional and related limitation of using prison data is that it may only include the most serious cases/offenders, as offenders convicted of "less serious" offenses may serve their sentences in the community.

Finally, the use of prison data also holds significant practical and theoretical value. First, white-collar offenders are very difficult to locate and to study empirically (Jackall, 1988; Friedrichs, 2010). Prison data, although somewhat biased, provides information on a relatively large sample of white-collar criminals that is not available elsewhere. Second, if one accepts the argument that prison samples include the most serious/hardened of criminals, this invariably makes the sample interesting and valuable to analyze because it focuses on individuals who pose the greatest hazard to society. Third, an anecdotal

argument exists that, eventually, most active criminals get caught. They might escape

detection most of the time, but very few people escape law enforcement all of the time.

Thus, prison samples are somewhat representative of offenders' population in the

aggregate, even if some offenders are more likely to escape conviction than others for a

specific incident.

4 Results

4.1 Descriptive Statistics

Descriptive statistics for the full model, WCCs (White Collar Criminals), BCCs (Blue

Collar Criminals) and thieves are presented in Table 1. Significant differences across the

three groups were tested for using ANOVA. The mean age of the full sample was 35.3

years. With respect to education, the average number of years of schooling for the full

sample was 11.6 years. Gender-wise, women made up 34.4% of the total sample of

offenders. The percentage of offenders who reported being married included 24.1% of the

entire sample. Relatedly, participants falling into the previously married category

accounted for 29.5% of the total sample. With respect to having a military background,

7.5% of the total sample answered in the affirmative. A minority of the sample was

incarcerated in a federal facility (20.7%). With respect to the final control variable of

minority status, 62.2% of the total sample identified as white, 33% identified as African

American, 13.6% identified as Hispanic, and 5.7% were identified as "other". Turning

attention to criminal antecedents, 39.8% of the full sample had a history of property

crime, 31.1% had a history of juvenile delinquency, and 11.1% were found to have

violent histories. Finally, for heavy alcohol consumption, 22.6% of the full sample

reported heavy drinking. In terms of heavy drug use, 43.2% of the full sample identified as heavy drug users. In addition, 27.3% of respondents were heavy stimulant users prior to incarceration. The second drug type, cocaine, had been heavily used by 15.3% of the total sample prior to imprisonment.

Turning attention to the offender types, white collar criminals had a mean age of 38.9, which compared to 34.5 for thieves (p<.01). Moreover, white collar criminals also had 14.1 years of schooling, which was a total of three years more than thieves (p<.01). With respect to marriage, 27.8% of white collar criminals professed to being married which was approximately 8% greater than thieves (p<.05). Looking at military service, 15.5% of white collar criminals within the sample were noted to have served in the military, compared to only 6.3% of thieves (p<.01). Notably, while 53.6% of white collar offenders were incarcerated in a federal facility, this was the case for only 14.2% of thieves (p<.01). With respect to minority status, 71.1% of white collar criminals were noted as being white, compared to 60.5% of thieves. In terms of criminal histories, while only 13.4% of white collar criminals had a history of juvenile delinquency, 34.6% of thieves were found such criminal backgrounds (p<.01). Finally, within the context of substance abuse, 28.9% of white collar offenders had engaged in heavy drug use, compared with 46.3% of thieves (p<.01). When looking at cocaine use, 7.2% of white collar criminals compared to 16.6% of thieves admitted to having used the illicit drug (p<.05).

Table 1

Descriptive Statistics Pertaining to the (1) Full Sample, (2) White-Collar Criminals, (3) Blue-Collar Criminals, and (4) Thieves

Variable	Full Model n=1702	White Collar Criminals n=97	Blue Collar Criminals n=307	Thieves n=1298
Age, in y, mean (SD)	35.3 (±10.0)	38.9 (±10.1)	37.4 (±10.7)	34.5 (±9.8)
Education, in y, mean (SD)	11.6 (±2.6)	14.1 (±3.0)	12.8 (±2.9)	11.1 (±2.2)
Female, N (%)	585 (34.4)	25 (25.8)	154 (50.2)	406 (31.3)
Married, N (%)	364 (21.4)	27(27.8)	96 (31)	241 (18.6)
Previously married, N (%)	502 (29.5)	38 (39.2)	110 (35.8)	354 (27.3)
Prior military, N (%)	128 (7.5)	15 (15.5)	31 (10.1)	82 (6.3)
Federally incarcerated, N (%)	353 (20.7)	52 (53.6)	117 (38.1)	184 (14.2)
Minority Status, N (%)				
White	1058 (62.2)	69 (71.1)	204 (66.4)	785 (60.5)
African American	562 (33)	25 (25.8)	81 (26.4)	456 (35.1)
Hispanic	231 (13.6)	10 (10.3)	36 (11.7)	185 (14.3)
Other	97 (5.7)	4 (4.1)	24 (7.8)	69 (5.3)
Previous criminal history, N (%)				
Juvenile delinquency	530 (31.1)	13 (13.4)	68 (22.1)	449 (34.6)
History of violence	189 (11.1)	9 (9.3)	21 (6.8)	159 (12.2)
History of property theft	678 (39.8)	31 (32)	107 (34.9)	540 (41.6)
Substance Abuse, N (%)				
High Alcohol	384 (22.6)	21 (21.6)	57 (18.6)	306 (23.6)
High Drug	735 (43.2)	28 (28.9)	106 (34.5)	601 (46.3)
Stimulant Use	465 (27.3)	21 (21.6)	77 (25.1)	367 (28.3)
Cocaine Use	261 (15.3)	7 (7.2)	39 (12.7)	215 (16.6)

Within the context of blue collar criminals, this particular offender type had a mean age

of 37.4, which was 2.9 years older than thieves (p<.01). At 12.8 years of schooling, blue

collar criminals also had 1.3 more years of education than thieves (p<.01). With respect

to gender, while 50.2% of blue collar criminals were women, they made up just under

one third of thieves within the sample. In terms of marriage, while 31% of blue collar

criminals within the sample were said to be married, only 18.6% of thieved shared a

similar matrimonial state (p<.01). Similarly, 35.8% of blue collar criminals had been

previously married, compared to 27.3% of thieves (p<.01). Regarding military service,

10.1% of blue collar criminals had served, which was a 4.2% greater percentage than

thieves (p<.05). Within the context of incarceration, 38.1% of blue collar criminals were

being held in federal facilities, compared to only 14.2% of thieves (p<.01). With respect

to minority status, 26.4% of blue collar criminals within the sample were African

American, which compared to 31.5% of thieves (p<.05). When looking at the criminal

histories of blue collar offenders within the sample, this group had lower percentages of

prior offending on all three criminality variables when compared to thieves. Finally,

while 34.5% of blue collar criminals had engaged in heavy drug use, almost half of all

thieves within the sample (46.3%) shared the same characteristic (p<.01).

4.2 Analysis of Life Circumstances

Three variables will be used as possible explanatory factors in the analyses of criminal

antecedents and substance abuse: level of education, military service, and marital status.

These variables could explain why white collar criminals are exceptional if they weaken

the relationship between white collar criminals and antecedents / substance abuse. Thus, this section examines the relationship between WCC, BCC and the three background factors, controlling for socio-demographic variables. Analyses predicting the type of prison are also presented, since it is possible that WCC and BCC are more likely to be incarcerated in federal prisons than thieves.

4.2.1 OLS Regression – Education

Table 2 displays the OLS regression analysis using education as the dependent variable. The baseline model indicates that both WCCs (b = 3.038) and BCCs (b = 1.743) have significantly more years of schooling than other thieves, the reference category. When demographic characteristics are included in the model, the magnitudes of these effects decline only modestly and remain statistically significant. The proportion of explained variance was .13 for the baseline model and .17 for the demographic model.

4.2.2 Binary Logistic Regression – Military Service and Place of Incarceration

Table 3 presents the results of the binary logistic regression analysis for both military service and place of incarceration. With respect to the baseline model for military service, when compared to thieves, WCCs were approximately 2.7 times more likely to have served in the military while BCCs were about 1.7 times more likely to have served. When demographic characteristics are controlled, the odds ratio for WCCs (2.1) declines somewhat but remains statistically significant while the odds ratio for BCCs (2.0)

increases and continues to be significant. Turning attention to place of incarceration, Model 3 illustrates the results for the baseline model. When compared to thieves, WCCs were approximately 7 times more likely to be incarcerated in a federal facility, while BCCs had just over half those odds (3.7). Including demographic characteristics in Model 4 does not substantially alter these odds. The R2 was .12 for the baseline model and .19 for the demographics model.

4.2.3 Multinomial Logistic Regression – Marital Status

Table 4 shows the results of a multinomial logistic regression analysis predicting marital status. With respect to the baseline model for being married, WCCs were 2.5 times more likely to be married when compared to thieves. Interestingly, BCCs (2.8) had a higher likelihood than WCCs when similarly compared to thieves. Both WCCS and BCCs were found to be significant the p <.001 level. Adding demographic characteristics to the model shows WCCs as having twice the likelihood of thieves of being married (p <.05), while BCCs have approximately 2.2 times the likelihood when compared to the same reference group (p < .001). The Nagelkerke R2 for two models was .04 (baseline) and .30 (demographic), respectively.

Table 2

OLS Regression Predicting Level of Education (N = 1702; Unstandardized Coefficient Followed by Standardized Coefficient in Parenthesis)

Variables	Model 1: Baseline	Model 2: Demographics
Intercept	11.065***	9.515***
WCC	3.038(.274)***	2.811(.254)***
BCC	1.743(.261)***	1.546(.231)***
Women	--	.149(.027)
Age	--	.047(.182)***
African-American	--	-.032(-.006)
Hispanic	--	-.774(-.103)***
Other race	--	.408(.037)
Pseudo-R2	.13	.17

Notes: *** p < .001; ** p < .01; * p < .05
WCC: White-collar Criminal; Blue-collar Criminal; Thieves are the reference category.

Table 3

Binary Logistic Regression Predicting Military Service and Place of Incarceration (N = 1702; Coefficient Followed by Odds Ratio in Parenthesis)

Variables	Model 1: Baseline Military Service	Model 2: Demographics Military Service	Model 3: Baseline Place of Incarceration	Model 4: Demographics Place of Incarceration
Intercept	-2.697***	-5.221***	-1.801***	-3.954***
WCC	.998(2.713)***	.730(2.076)*	1.945(6.996)***	1.916(6.794)***
BCC	.510(1.666)*	.669(1.952)**	1.316(3.728)***	1.164(3.202)***
Women	--	-2.382(.092)***	--	.471(1.601)***
Age	--	.082(1.085)***	--	.051(1.052)***
African-American	--	-.158(.854)	--	.194(1.214)
Hispanic	--	-1.420(.242)**	--	.277(1.319)
Other race	--	-.999(.368)	--	.447(1.563)
Pseudo-R2	.02	.24	.12	.19

Notes: *** $p < .001$; ** $p < .01$; * $p < .05$
WCC: White-collar Criminal; Blue-collar Criminal; Thieves are the reference category.

Table 4

Multinomial Logistic Regression Predicting Marital Status (N = 1702; Coefficient Followed by Odds Ratio in Parenthesis)

Variables	Model 1: Baseline *Married*	Model 2: Demographics *Married*	Model 3: Baseline *Previously Married*	Model 4: Demographics *Previously Married*
Intercept	-1.071***	-.4663***	-.686***	-4.922***
WCC	.901(2.461)***	.681(1.976)*	.858(2.358)***	.595(1.813)*
BCC	1.020(2.773)***	.790(2.204)***	.771(2.163)***	.526(1.693)**
Women	--	.745(2.106)***	--	.745(2.106)***
Age	--	.107(1.113)***	--	.124(1.132)***
African-American	--	-.934(.393)***	--	-.977(.376)***
Hispanic	--	.063(1.065)	--	.235(1.264)
Other race	--	-.019(.981)	--	-.324(.723)
Pseudo-R2	.04	.30	.04	.30

Notes: *** p < .001; ** p < .01; * p < .05
WCC: White-collar Criminal; BCC: Blue-collar Criminal; Thieves are the reference category.

Model 3 and 4 illustrate the results of the multinomial logistic regression with respect to having been previously married. Accordingly, the baseline model shows WCCs and BCCs as having a 2.4 and 2.6 times higher likelihood of being previously married, when compared to thieves. Both findings were significant at the $p < .001$ level. Turning attention to Model 4 and controlling for demographics, the likelihoods of being previously married for both criminal types decrease, with WCCs (1.8) now having a slightly higher likelihood of being previously married than BCC's (1.7). Within the fourth model, the findings for the WCCs and BCCs were significant at the $p<.05$ and $p < .01$ levels, respectively. The Nagelkerke $R2$ was .04 for the baseline model and .30 for the demographic model.

4.3 The Criminal Antecedents of White Collar Criminals, Blue Collar Criminals, and Thieves

4.3.1 Binary Logistic Regression – History of Violence

Table 5 highlights the results for the binary logistic regression analysis predicting history of violence. The baseline model shows only the coefficient for BCCs to be statistically significant ($p < .01$). Specifically, BCCs were found to have a 47% lower likelihood of having violent histories than thieves. However, once demographics are controlled for in the second model, this statistical significance disappears. Thus, with respect to the full model, both WCCs and BCCs are not found to be significantly less likely to have a Table 5.

Table 5

Logistic Regression Predicting History of Violence (N = 1702; Coefficient Followed by Odds Ratio in Parenthesis)

Variables	Model 1: Baseline	Model 2: Demographics	Model 3: Background Factors	Model 4: Replication (Prison Type)
Intercept	-1.969***	-1.864***	-1.749***	1.949***
WCC	-.311(.733)	-.290(.748)	-.193(.824)	-.018(.983)
BCC	-.642(.526)**	-.432(.649)	-.366(.693)	-.288(.749)
Women	--	-.977(.376)***	-.965(.381)***	-.931(.394)***
Age	--	-.003(.997)	.003(1.003)	.006(1.006)
African-American	--	.561(1.753)**	.525(1.691)*	.536(1.709)*
Hispanic	--	.152(1.164)	.137(1.146)	.161(1.174)
Other race	--	-.061(.941)	-.059(.942)	-.043(.958)
Education	--	--	-.020(.980)	-.004(.996)
Married	--	--	-.320(.726)	-.275(.760)
Previously married	--	--	-.145(.865)	-.152(.859)
Military	--	--	-.203(.816)	-.216(.806)
Federal prison	--	--	--	-.628(.534)*
Pseudo-R2	.01	.05	.06	.07

Notes: *** $p < .001$; ** $p < .01$; * $p < .05$
WCC: White-collar Criminal; Blue-collar Criminal; Thieves are the reference category.

history of violence than thieves at the p <.05 level. Other results depict women (p <.001) and those in Federal Prisons (p <.05) as being less likely to have violent histories, and African American's (p <.05) as more likely of having a history of violence. These patterns are in line with previous criminological research.

4.3.2 Binary Logistic Regression – History of Property Crime

Table 6 shows the results of the binary logistic regression analysis predicting history of property crime. The baseline model shows BCCs to be the sole statically significant criminal type (p <.05), and 25% less likely than thieves to have a history of property crime. However, once demographics are controlled for in Model 2, the statistical significance of BCCs dissolves, while a statistical significance with respect to WCCs emerges (p <.05). Indeed, within the second model, WCCs are shown to have a 37% lower likelihood of having a history of violence.

When the background characteristics are included in Model 3, the relationship becomes non-significant for WCCs. This suggests that the reasons why WCCs are less likely to have a history of property crime is because they are more educated and more likely to be married, and both these variables are negatively associated with property crime (p < .001). In addition, women (p <.05), those identifying as Hispanic (p <.05), and individuals incarcerated federally (p <.001) were less likely to have a history of property crime. In contrast, older individuals (p <.01) and those within the other minority status category (p < .05) were found to be more likely of having criminal histories which included property crime.

Table 6

Logistic Regression Predicting History of Property Crime (N = 1702; Coefficient Followed by Odds Ratio in Parenthesis)

Variables	Model 1: Baseline	Model 2: Demographics	Model 3: Background Factors	Model 4: Replication (Prison Type)
Intercept	-.339***	-.355	.501	.192
WCC	-.419(.659)	-.464(.629)*	-.183(.833)	.024(1.024)
BCC	-.286(.751)*	-.259(.772)	-083(.920)	.024(1.024)
Women	--	-.319(.727)**	-.281(.755)*	-.241(.785)*
Age	--	.004(1.004)	.012(1.012)*	.017(1.017)**
African-American	--	.003(1.003)	-.033(.968)	-.017(.983)
Hispanic	--	-.356(.700)*	-.436(.646)**	-.402(.669)*
Other race	--	.390(1.477)	.477(1.563)	.497(1.643)*
Education	--	--	-.094(.911)***	-.073(.929)***
Married	--	--	-.471(.625)***	-.423(.655)**
Previously married	--	--	-.021(.979)	-.033(.967)
Military	--	--	-.018(.982)	-.029(.972)
Federal prison	--	--	--	-.755(.470)***
Pseudo-R2	.01	.02	.04	.07

Notes: *** p < .001; ** p < .01; * p < .05
WCC: White-collar Criminal; Blue-collar Criminal; Thieves are the reference category.

Table 7

Logistic Regression Predicting History of Juvenile Delinquency (N = 1702; Coefficient Followed by Odds Ratio in Parenthesis)

Variables	Model 1: Baseline	Model 2: Demographics	Model 3: Background Factors	Model 4: Replication (Prison Type)
Intercept	-.637***	1.629***	3.158***	3.010***
WCC	-1.229(.293)***	-1.177(.308)***	-.761(.467)*	-.644(.525)*
BCC	-.620(.538)***	-.376(.687)*	-.142(.867)	.-086(.918)
Women	--	-1.076(.341)***	-1.050(.350)***	-1.030(.357)***
Age	--	-.057(.945)***	-.045(.956)***	-.043(.958)***
African-American	--	-.204(.815)	-.247(.781)	-.232(.793)
Hispanic	--	.055(1.056)	-.061(.941)	-.034(.967)
Other race	--	.115(1.122)	.189(1.208)	.206(1.229)
Education	--	--	-.163(.850)***	-.152(.859)***
Married	--	--	-.480(.619)**	-.453(.636)**
Previously married	--	--	-.182(.833)	-.190(.827)
Military	--	--	-.145(.865)	-.157(.855)
Federal prison	--	--	--	-.499(.607)**
Pseudo-R2	.03	.17	.21	.22

Notes: *** p < .001; ** p < .01; * p < .05
WCC: White-collar Criminal; Blue-collar Criminal; Thieves are the reference category.

4.3.3 Binary Logistic Regression – History of Juvenile Delinquency

Table 7 illustrates the results of the binary logistic regression analysis predicting history of juvenile delinquency. With respect to the baseline model, both the WCCs and BCCs have lower likelihood of juvenile delinquency (p <.001). More specifically, WCCs and BCCs were approximately 71% and 46% less likely to have a history of juvenile delinquency when compared to thieves. As depicted in Model 2, demographic characteristics somewhat temper the significance level for BCCS (p < .05), while the WCCs category maintains a statistical significance level of p <.001. Additionally, whereas the likelihood of WCCs having a history of juvenile delinquency remains similar to the baseline model, BCCs are found to be 31% less likely than thieves of having a history of juvenile delinquency after controlling for demographics.

In the analysis adding in the background characteristics, the effect for WCCs is only partially mediated while the effect for BCCs is fully mediated. Thus, for BCCs, their lower involvement in juvenile delinquency is attributable to their higher education and higher level of marriage, two variables associated with lower risks of juvenile delinquency (p < .01). For WCCs, these variables also matter, but a residual significant effect remains above and beyond these mediators. Other significant predictors include women (p <.001), older individuals (p <.001), and convicts incarcerated in federal prisons (p <.01), who all had lesser likelihoods of having a history of juvenile delinquency.

Table 8

Logistic Regression Predicting Heavy Alcohol Use (N = 1702; Coefficient Followed by Odds Ratio in Parenthesis)

Variables	Model 1: Baseline	Model 2: Demographics	Model 3: Background Factors	Model 4: Replication (Prison Type)
Intercept	-1.176***	-.866***	-.104	-.149
WCC	-.110(.896)	-.137(.872)	.133(1.142)	.165(1.180)
BCC	-.302(.739)	-.206(.813)	-.057(.945)	-.041(.960)
Women	--	-.597(.550)***	-.585(.557)***	-579(.561)***
Age	--	-.003(.997)	.005(1.006)	.006(1.006)
African-American	--	.014(1.014)	-.024(.977)	-.021(.979)
Hispanic	--	-.390(.677)*	-.465(.628)*	-.460(.631)*
Other race	--	.385(1.470)	.422(1.525)	.429(1.536)
Education	--	--	-.087(.916)***	-.084(.919)***
Married	--	--	-.242(.785)	-.234(.792)
Previously married	--	--	-.140(.869)	-.142(.867)
Military	--	--	-.232(.793)	-.234(.791)
Federal prison	--	--	--	-.112(.894)
Pseudo-R2	.01	.03	.04	.04

Notes: *** p < .001; ** p < .01; * p < .05
WCC: White-collar Criminal; Blue-collar Criminal; Thieves are the reference category.

4.4 Alcohol and Drug Abuse by White Collar Criminals, Blue Collar Criminals, and Thieves

4.4.1 Binary Logistic Regression – Heavy Alcohol Use

Table 8 shows the results for the binary logistic regression analysis predicting alcohol abuse. No statistically significant difference was found for either WCCs or BCCs when compared to thieves in any of the four models. Nevertheless, with respect to the full model, women ($p < .001$), those identifying as Hispanic ($p < .05$), and persons with more years of schooling ($p < .001$) were all found to have lower likelihoods of being engaged in heavy alcohol consumption. The Nagelkerke R2 for the full model was .04.

4.4.2 Binary Logistic Regression – Heavy Drug Use

Table 9 illustrates the results for the binary logistic regression analysis using drug abuse as the dependent variable. With respect to the baseline model, both WCCs and BCCs were shown to have an approximately 53% and 39% lower likelihood than thieves of being engaged in drug abuse. The findings were significant at the $p < .001$ level. When demographic variables are added to the model, the likelihood for both WCCs ($p < .001$) and BCCs ($p < .001$) of being engaged in drug abuse when compared to thieves remains similar at 55% and 41%, respectively.

When the background variables are included (Model 3), the pattern for the WCCs is fully explained, and the pattern for BCCs is partially explained (approximately 60%).

Education appears to be the key mediator. Thus WCCs and BCCs are less likely to have a history of heavy drug use because they are more educated.

Identifying as African American (p <.001), having more years of education (p <.001), and being incarcerated in a federal facility (p <.001) were shown to decrease the likelihood of being engaged in drug abuse. The Nagelkerke R2 for the full model was .13.

4.4.3 Binary Logistic Regression – Heavy Stimulant Use

Table 10 shows the results of the binary logistic regression analysis predicting heavy stimulant use. No statistically significant difference was found between WCCs and BCCs when compared to thieves in any of the four models. Older individuals (p <.05), those who identify as African American (p <.001), more educated persons (p <.001), and those incarcerated in a Federal facility (p .001) were all less likely to have used stimulants. The Negelkerke R2 for the model was .10.

4.4.4 Binary Logistic Regression – Heavy Cocaine Use

Table 11 illustrates the results of the binary logistic regression analysis predicting heavy cocaine use. Within the baseline model, only WCCs were found to be statistically significant (p <.05), having a 61% lower likelihood of having used cocaine frequently

Table 9

Logistic Regression Predicting Heavy Drug Use (N = 1702; Coefficient Followed by Odds Ratio in Parenthesis)

Variables	Model 1: Baseline	Model 2: Demographics	Model 3: Background Factors	Model 4: Replication (Prison Type)
Intercept	-.148**	.290	1.752***	1.312***
WCC	-.754(.471)***	-.790(.454)***	-.366(.693)	-.075(.928)
BCC	-.492(.612)***	-.547(.579)***	-.307(.735)*	-.154(.857)
Women	--	.095(1.100)	.138(1.148)	.205(1.227)
Age	--	-.007(.993)	.003(1.003)	.010(1.010)
African-American	--	-.575(.563)***	-.623(.537)***	-.610(.543)***
Hispanic	--	-.140(.869)	-.265(.767)	-.207(.813)
Other race	--	-.154(.857)	-.094(.910)	-.035(.965)
Education	--	--	-.157(.855)***	-.129(.879)***
Married	--	--	-.194(.824)	-.124(.883)
Previously married	--	--	-.125(.833)	-.114(.866)
Military	--	--	-.055(.946)	-.079(.924)
Federal prison	--	--	--	-1.147(.317)***
Pseudo-R2	.02	.04	.08	.13

Notes: *** p < .001; ** p < .01; * p < .05
WCC: White-collar Criminal; Blue-collar Criminal; Thieves are the reference category.

Table 10

Logistic Regression Predicting Heavy Stimulant Use (N = 1702; Coefficient Followed by Odds Ratio in Parenthesis)

Variables	Model 1: Baseline	Model 2: Demographics	Model 3: Background Factors	Model 4: Replication (Prison Type)
Intercept	-.931***	.255	1.483***	1.238***
WCC	-.355(.701)	-.331(.718)	.021(1.021)	.182(1.199)
BCC	-.163(.849)	-.149(.862)	.048(1.050)	.134(1.143)
Women	--	-.031(.969)	.013(1.013)	.042(1.043)
Age	--	-.026(.974)***	-.019(.982)**	-.015(.985)*
African-American	--	-.862(.422)***	-.898(.4070***	-.882(.414)***
Hispanic	--	-.028(.973)	-.127(.881)	-.089(.915)
Other race	--	-.261(.771)	-.208(.813)	-.180(.836)
Education	--	--	-.131(.877)***	-.116(.891)***
Married	--	--	-.128(.880)	-.095(.910)
Previously married	--	--	-.126(.881)	-.137(.872)
Military	--	--	.066(1.068)	.045(1.046)
Federal prison	--	--	--	-.632(.532)***
Pseudo-R2	.01	.06	.09	.1

Notes: *** $p < .001$; ** $p < .01$; * $p < .05$
WCC: White-collar Criminal; Blue-collar Criminal; Thieves are the reference category.

Table 11

Logistic Regression Predicting Heavy Cocaine Use (N = 1702; Coefficient Followed by Odds Ratio in Parenthesis)

Variables	Model 1: Baseline	Model 2: Demographics	Model 3: Background Factors	Model 4: Replication (Prison Type)
Intercept	-1.617***	-1.435***	-.306	-.510
WCC	-.937(.392)*	-.914(.401)*	-.563(.570)	-.396(.673)
BCC	-.311(.733)	-.270(.764)	-.070(.933)	.014(1.014)
Women	--	-.088(.916)	-.062(.939)	-.028(.972)
Age	--	-.005(.995)	.005(1.005)	.008(1.008)
African-American	--	-.031(.969)	-.073(.929)	-.060(.942)
Hispanic	--	.284(1.329)	.190(1.209)	.227(1.255)
Other race	--	-.235(.790)	-.189(.828)	-.170(.844)
Education	--	--	-.126(.882)***	-.112(.894)***
Married	--	--	-.188(.829)	-.153(.858)
Previously married	--	--	-.218(.804)	-.229(.795)
Military	--	--	-.165(.848)	-.167(.846)
Federal prison	--	--	--	-.622(.537)**
Pseudo-R2	.01	.01	.03	.04

Notes: *** $p < .001$; ** $p < .01$; * $p < .05$
WCC: White-collar Criminal; Blue-collar Criminal; Thieves are the reference category.

Table 12

Descriptive Statistics – Cluster Analysis

Variable	All Occupational Offenders n=404
Age, in y, mean (SD)	37.8 (±10.6)
Education, in y, mean (SD)	13.1 (±3)
Income, (scale 1-12), mean (SD)	8.6 (+3.2)
Female, N (%)	179 (44)
Married, N (%)	123 (30.4)
Previously married, N (%)	148 (36.6)
Prior military, N (%)	46 (11.4)
Federally incarcerated, N (%)	169 (41.8)
Minority Status, N (%)	
White	273 (67.6)
African American	106 (26.2)
Hispanic	46 (11.4)
Other	28 (6.9)
Previous criminal history, N (%)	
Juvenile delinquency	81 (20)
History of violence	30 (7.4)
History of property theft	138 (34.2)
Substance Abuse, N (%)	
High Alcohol	78 (19.3)
High Drugs	134 (33.2)

when compared to thieves. The WCC category maintains its statistical significance (p

<.05) with a similar likelihood (60%) in the demographic model.

The analysis of background variables (Model 3) shows that the pattern for WCCs is fully

mediated by adding the additional variables. Here again, education appears to be the key

factor. Thus, WCCs are less likely to be heavy cocaine users because they are more

educated. In addition, respondents incarcerated within a Federal prison (p <.01) were less

likely to have engaged in frequent cocaine use.

4.5 Cluster Analysis

The descriptive statistics of the sample used for the cluster analysis are outlined in Table

12. On average, 34% of occupational offenders have a history of property crime, but only

7.4% have a history of violence and 20% have a history of juvenile delinquency. In

addition, heavy drug use is more common among occupational offenders (33%) than

heavy alcohol use (19%). Interestingly, occupational offenders are relatively older, with

an average age of 38 and a standard deviation between 28 and 48 years of age.

4.5.1 Cluster 1: Female Drug Users

The first cluster (see Table 13) included 66 occupational offenders, the smallest of the

four groupings. Moreover, the statistical testing (zero order logistic regression) indicated

that 8 out of the 15 variables in the analysis were significant at the p<.05 level. Both

substance abuse variables were found significant. Specifically, 60.6% of the cases in cluster 1 admitted to using heavy drugs. This percentage was more than double that of other offenders. Alcohol abuse revealed an entirely opposite effect—only 3.0% acknowledged drinking heavily versus 22.5% for the remaining sample. Six significant socio-demographic variables round out the portrait of cluster 1. On the subject of gender, men were entirely absent from the cluster, although they made up 67% of all other offenders. Moreover, no offenders with a military background, or identifying as Hispanic were included in the cluster. This compares to 13.6% of the remaining sample for each of the variables. With respect to incarceration, only 12.1% of the cluster was imprisoned within a federal institution, compared to 47.6% of the residual sample. Finally, regarding income and age, both were found to be lower than the other occupational offenders. Specifically, the mean income of offenders within cluster 1 was 1.7 points less than the remaining sample average (on a scale of 1-12), while the average offender age was 3.6 years less than all other offenders. In short, the first cluster is made up of female occupational offenders who engage in considerable drugs use but otherwise are not very criminalized. One might speculate that they committed an occupational offense to financially support their drug use. The label "Female Drug Users" was selected for them.

Table 13

Female Drug Users vs. Other Occupational Offenders (Percentage or mean)

Variable	Drug Enthusiasts N = 66	Other occupational offenders N = 338	Sig. level
History of violence	0%	8.9%	**N/A**
History of property	43.9%	32.2%	.07
Juvenile delinquency	13.6%	21.3%	.16
Heavy drug use	60.6%	27.8%	**.00**
Heavy alcohol use	3.0%	22.5%	**.00**
Women	100%	33.4%	**N/A**
Married	30.3%	30.5%	.98
Previously married	36.4%	36.7%	.96
Hispanic	0%	13.6%	**N/A**
African American	25.8%	26.3%	.92
Military	0%	13.6%	**N/A**
Federal institution	12.1%	47.6%	**.00**
Income	7.2	8.9	**.00**
Education	12.5	13.2	.07
Age	34.8	38.4	**.01**

Note: When a case has 0% or 100%, we cannot calculate a significance level. We assume that 5% difference above 0 or below 100% is significant.

4.5.2 Cluster 2: Well-to-doers

The second cluster (see Table 14) consisted of 89 occupational offenders. Of the 15

variables included, 10 were found to be statistically significant at the p<.05 level.

Beginning with criminal backgrounds, both history of property crime and juvenile

delinquency were found to be significant within the cluster. More specifically, the

percentage of offenders having a history of the above was substantially lower than the

residual sample; 7.9% versus 41.6% for property crime, and 3.4% compared to 24.8% for

juvenile delinquency. Turning attention to the substance abuse indicators, both high

alcohol and drug use were found to be statistically significant. These findings mirrored

that of the above variables in form, as they were also significantly lower than the sample

at large. While the percentage admitting to heavy drug use was markedly lower at 3.4%

for the cluster compared to 41.6% of all other occupational offenders, heavy alcohol

consumption was more nuanced, with instances of admitting to such being 50% lower in

cluster 2 compared to other offenders (10.1 versus 21.9).

Of the remaining socio-demographic variables, six were found to be statistically

significant. The two most noteworthy variables of the six both relate to marital status—

being married and being previously married. With respect to the former, 100% of the

offenders within the cluster were married at the time of their arrest. This compares to

only 10.8% of the residual sample. Accordingly, it follows that none of the offenders

within the sample had been previously married, which is in stark contrast to the 47% of

offenders who were excluded from the cluster. The members of cluster 2 also had a

higher percentage of offenders having a history of military involvement —22.5%

compared to 8.3%. Higher rates of federal incarceration were also present within the

cluster with 76.4% of the offenders in cluster 2 being imprisoned in such a facility. A

minority of 32.1% of the residual sample can attest to a similar fate. Finally, with respect

to education and age, both were found to be higher than not only the excluded

occupational offenders, but also the highest of all four clusters as well. As such, the

average number of years in school was 14.5 for offenders within the current cluster,

compared to 12.7 years for the remaining sample. The average age of offender, 44, was

eight years older than all other occupational offenders. In short, the second cluster is a

group of occupational offenders that are not heavily involved in crime, drugs, or drinking.

These offenders are married, older, and have high levels of education. One might

speculate that they committed an occupational offense by mistake or for professional

reasons (e.g., increasing profits). The label "Well-to-Doers" was selected for them.

4.5.3 Cluster 3: Hustlers

The third cluster (see Table 15) consisted of 122 offenders. In terms of variable

significance, only two variables were found not to be significant— heavy alcohol use and

military background. As such, all three variables related to criminal history were

statistically significant. Accordingly, respondents in this cluster had substantially lower

rates of violent histories (3.3% versus 9.2%), past perpetration of property crime (13.1%

versus 44.3%) and juvenile delinquency (1.6% versus 28%). Heavy drug use for

Table 14

Well-to-Doers vs. Other Occupational Offenders (Percentage or mean)

Variable	Well-to-Doers N = 89	Other occupational offenders N = 315	Sig. level
History of violence	4.5%	10.8%	.24
History of property	7.9%	41.6%	**.00**
Juvenile delinquency	3.4%	24.8%	**.00**
Heavy drug use	3.4%	41.6%	**.00**
Heavy alcohol use	10.1%	21.9%	**.02**
Women	47.2%	43.5%	.54
Married	100%	10.8%	**N/A**
Previously married	0%	47%	**N/A**
Hispanic	5.6%	13%	.06
African American	21.3%	27.6%	.24
Military	22.5%	8.3%	**.00**
Federal institution	76.4%	32.1%	**.00**
Income	8.8	8.5	.51
Education	14.5	12.7	**.00**
Age	44	36	**.00**

Note: When a case has 0% or 100%, we cannot calculate a significance level. We assume that
5% difference above 0 or below 100% is significant.

offenders within the cluster was also considerably lower than the residual sample, only 8.2% of the cluster members engaged in such, compared to 44% of all other offenders.

The socio-demographic characteristics of cluster 3 are essential to creating the portrait of the third offender type. Perhaps most important to the typing process are the two indicators of marital status. In contrast to the "Well-to-Doers," no person within the present cluster was married at the time of arrest. This compares to 43.6% of all other offenders. Relatedly, 76.2% of offenders within cluster 3 identified as having been previously married, which is a considerably higher percentage than the residual sample at 19.5%. Gender was also deemed to be significant, with women accounting for 51.6% of all offenders, just shy of 10% higher than the offenders excluded from the cluster. The two indicators of minority status were both found in higher proportions within cluster 3, with those of Hispanic and African American decent comprising of 18.9% and 32.8% of the cluster population, respectively. Compared to all other offenders, these percentages are approximately 11% higher for Hispanics and 9% higher for African Americans. Being incarcerated in a federal facility was the norm for 65.6% of cluster 3, which is more than double the amount for the residual sample. Finally, the incomes, education level, and age were all above average in comparison to the offenders excluded from the current cluster. Specifically, the mean income of respondents in cluster 3 was 1.2 points higher (9.4 versus 8.2) on a 1-12 scale. They also averaged almost two years of additional education

(14.4 versus 12.6), and were just shy of 4 years older (40.4 versus 36.6) than the residual sample.

In short, the third cluster is a group of occupational offenders that share some similarities with the

"Well-to-Doers" (Cluster 2), but seem to lead a different life—a little more "on the edge",

perhaps. They are not highly involved in crime, drugs, or drinking, but a little more so than the

Well-to-Doers. They are either divorced or have never been married. They are also the only group

that earns more money than other occupational offenders, and also enjoys higher levels of

education. One might speculate that these persons committed an occupational offense as a game

or a hustle, trying to beat the system. The label "Hustlers" was selected for them.

4.5.4 Cluster 4: Generalists

The fourth and final cluster (see Table 16) was not only one of the two largest (a title

shared with cluster 3 at n=122), but also happened to be the most theoretically "pure" (a

subject for elaboration forthwith). With respect to the percentage of occupational

offenders with criminal histories, all three indicators were substantially higher than the

respondents not included within the cluster. More specifically, of the offenders in cluster

4, 17.3% reported having a history of violence, 67.7% reported having a history of

property crime, and 52.8% of offenders reported a history of juvenile delinquency. This

compared to 2.9%, 18.8%, and 5.1% for all other offenders, respectively. By virtue of

these figures alone, it is apparent that this group is qualitatively different from the

previous three. The rates of substance abuse follow a similarly elevated pattern, with

63.8% of offenders in cluster 4 admitting to heavy drug use, while 37% responded

Table 15

Hustlers vs. Other Occupational Offenders (Percentage or mean)

Variable	Hustlers N = 122	Other occupational offenders N = 282	Sig. level
History of violence	3.3%	9.2%	**.05**
History of property	13.1%	43.3%	**.00**
Juvenile delinquency	1.6%	28%	**.00**
Heavy drug use	8.2%	44%	**.00**
Heavy alcohol use	16.4%	20.6%	.33
Women	51.6%	41.1%	**.05**
Married	0%	43.6%	**N/A**
Previously married	76.2%	19.5%	**.00**
Hispanic	18.9%	8.2%	**.00**
African American	32.8%	23.4%	**.05**
Military	13.1%	10.6%	.47
Federal institution	65.6%	31.6%	**.00**
Income	9.4	8.2	**.00**
Education	14.4	12.6	**.00**
Age	40.4	36.6	**.00**

Note: When a case has 0% or 100%, we cannot calculate a significance level. We assume that 5% difference above 0 or below 100% is significant.

favourably to heavy alcohol consumption. In contrast, drug abusers accounted for 19.1%
of the residual sample, while heavy drinkers constituted 11.2% of the same group.

Six statistically significant socio-demographic characteristics rounded out the fourth
cluster. Regarding gender, only 6.3% of offenders within the cluster were women, a
considerable departure from the 61.7% representation for all other offenders. Moreover,
both variables pertaining to marital status were also deemed significant within the group.
Specifically, only 11% of respondents were married at the time of arrest, compared to
39.4% of the residual sample. Relatedly, previously married offenders accounted for
24.4% of cluster 4. This coincides with a rate of 42.2% for all other offenders. As well,
the current cluster also had the lowest percentage of federal inmates of any group, at
10.2% versus 56.3% of those outside the cluster. Education and age were the final
statistically significant variables within the Generalist cluster. Interestingly, this group
was both the youngest and least educated of the four clusters, having on average 2.7 less
years of education and being 7.8 years younger than the residual sample. In short, the
fourth cluster was a group of mostly male occupational offenders that fit Gottfredson and
Hirschi's low self-control hypothesis exceptionally well. They were criminal generalists
and were significantly more involved in all crime types, drugs, and drinking than the
other occupational offenders. Most of them were not married, and they were younger and
less educated. One might speculate that they committed an occupational offense as a
manifestation of a more general criminal lifestyle or predisposition. The label
"Generalists" was selected for them.

Table 16

Generalists vs. Other Occupational Offenders (Percentage or mean)

Variable	Generalists N = 122	Other occupational offenders N = 282	Sig. level
History of violence	17.3%	2.9%	**.00**
History of property	67.7%	18.8%	**.00**
Juvenile delinquency	52.8%	5.1%	**.00**
Heavy drug use	63.8%	19.1%	**.00**
Heavy alcohol use	37%	11.2%	**.00**
Women	6.3%	61.7%	**.00**
Married	11%	39.4%	**.00**
Previously married	24.4%	42.2%	**.00**
Hispanic	14.2%	10.1%	.23
African American	23.6%	27.4%	.42
Military	7.9%	13%	.14
Federal institution	10.2%	56.3%	**.00**
Income	8.4	8.7	.41
Education	11.3	14	**.00**
Age	32.4	40.2	**.00**

Note: When a case has 0% or 100%, we cannot calculate a significance level. We assume that 5% difference above 0 or below 100% is significant.

5 Discussion – Are White-Collar Criminals Exceptional?

The results of both the regression and cluster analyses suggest that the answer to this question is more nuanced than the original hypotheses would lead one to believe. These patterns will now be discussed in greater detail.

5.1 Regression Analysis

With respect to criminal antecedents and substance abuse habits, the results show complicated patterns: both the Exceptionalism and the Generalist hypotheses receive partial support. In line with the idea that white collar criminals are exceptional, the regression models show that they are indeed less likely than thieves to: (1) have a history of property crime; (2) have juvenile delinquency antecedents; (3) heavily use drugs; (4) heavily use cocaine. For many of these outcomes, the analysis of background variables indicates that high education is a key explanation, additional evidence for exceptionalism. Blue collar criminals are exceptional on only two outcomes: (1) juvenile delinquency; (2) heavy drug use.

On the other hand, the regression analyses also provided support for the idea that white collar criminals are not exceptional, and may well be similar to street criminals like thieves. More specifically, there is no measurable difference between white collar criminals and thieves on: (1) history of violence; (2) heavy alcohol use; and (3) heavy stimulant use. Similarly, there is no measurable difference between blue collar criminals and thieves on: (1) history of violence; (2) history of property crime; (3) heavy alcohol use; (4) heavy stimulant use; (5) heavy cocaine use.

5.2 Cluster Analysis

With respect to the cluster analysis, the first outlined goal was to create an empirical

typology of occupational offenders in order to examine if clusters were supportive of the

exceptionalism or generalist hypotheses -- something that to the best of my knowledge is

unique in the literature. The analysis resulted in four distinct occupational offender types:

Female Drug Users, Well-to-Doers, Hustlers, and Generalists. Each cluster carries a

theoretically rich persona. Overall, the results of the analysis reveal partial support for

both hypotheses: the exceptionalism and generalist hypotheses seem to carry at least

some weight based on the empirical clusters. The other goal of the cluster analysis was to

examine whether any new offender types emerge from the data, above and beyond the

exceptional or generalist offender. Interestingly, an unexpected occupational offender, the

Female Drug Users, emerges from the analysis.

The first and smallest cluster within the analysis was labeled Female Drug Users, as a

result of their exceptionally high rates of heavy drug use. This group consisted of all

women, with no violent histories, above average levels of property crime, substantially

lower levels of alcohol abuse, with weaker earnings, and were of comparatively younger

ages than all other offenders. As such, the cluster does not neatly conform to either of the

two primary theoretical types. Accordingly, it seems as though the data depicts a new

type of occupational offender not previously studied.

Theoretically, the absence of violent crime and an elevated level of property crime are

roughly consistent with previous research on female offending (Benson and Simpson,

2009; Tepperman, 2010). The cluster also appears to fit Daly's (1989) research pertaining to gender and white-collar crime, where she noted that women are more likely to be involved in white-collar criminal activities such as embezzlement rather than, for instance, securities fraud, as a result of their access and aggregation in lower level occupations such as bank tellers and bookkeepers. Charles and Grusky (2004) would refer to such work environment segregation as "occupational ghettos." Thus, the portrait of this cluster so far depicts a young woman, earning a relatively modest income, who potentially has a history of property crime. However, and perhaps most important, these woman are more likely than not to have engaged in heavy drug use.

Presumably, the female occupational offenders within the current cluster could ostensibly be drug users/addicts who use the "specialized access" afforded to them through their occupational position to finance their habit. Their previous criminal records pertaining to property offences help to substantiate such an argument. Thus, the heavy drug use of offenders within the cluster is a key explanatory variable which adds an additional layer of knowledge to the gender and white collar crime literature.

The second cluster was labeled "Well-to-Doers," because as the results depict, they seem to be leading fairly normal, "well-to-do" lives. For instance, their criminal histories and substance abuse levels are considerably lower than all other offenders, while their age and education level are the highest of the four clusters. Additionally, and perhaps the most distinguishing feature of the group, is that all 89 members of the cluster were married. Theoretically, this group should not be very likely to offend. Laub and Sampson's (1993, 2003) Turning Point Theory would argue that protective factors such

as marriage and military service (also quite pronounced within the cluster) should act as agents of desistance from committing crime.

With respect to the two main theoretical models, the generalist and exceptionalism hypotheses, the "Well-to-Doers" are most aligned with the latter. Thus, being rational actors, these occupational offenders should have been less likely to engage in criminal behaviour in the first place. However, we can look to Benson's (1985) research into the rationalization process of white-collar criminals in order to help build a "circumstantial narrative" as to why these well-to-doers would engage in crime. Accordingly, Benson's (1985) study reveals a number of justifications and excuses for offending. For instance, violators of financial trust cited extraordinary circumstances such as being in debt, tax violators excused their behaviour because "everyone does it," and those accused of fraud and false statements were most likely to deny guilt altogether, or claimed to have been set up, duped or wrongfully convicted. Consequently, it is quite plausible that offenders within the "Well-to-Doers" cluster used any one or more of these justifications and excuses to explain their crimes as one time, out of the ordinary event.

Hustlers, the third cluster type, are in many ways similar to the "Well-to-Doers". For instance, they have similarly low levels of previous criminality and substance abuse while maintaining comparably high levels of educational attainment. However, they also diverge from each other in several theoretically meaningful ways, most importantly perhaps with respect to marital status. More specifically, none of the Hustlers in cluster 3 declared being married at the time of arrest, contrasting with the 100% affirmative response rate for Well-to-Doers. Furthermore, 72.6% of Hustlers had also been previously married. Accordingly, statistics such as the above pertaining to marital

dissolution confound the case for a pure exceptionalism explanation. As such, it seems like low self-control theory might play a small role in understanding the Hustler cluster, even if a more rational choice or criminal elite hypothesis is also in line with the Hustlers. Thus, Hustlers might be the most complex of the clusters theoretically: part elite and rational, part living on the edge, taking risks, and exhibiting some level of self-control deficiency.

The Hustler cluster primarily takes its name from its circumstantial narrative. More specifically, members of this cluster could be understood as economically focused workaholics. They make more money than those of any other cluster, are more educated, and are, on average, about 40 years old. In fact, they may work so hard that it causes them to lose their families. Hustlers may also be motivated to succeed at any cost, including the perpetration of criminal offenses, such as hustling investment banking clients to take part in a Ponzi scheme (unbeknownst to the clients). Coleman (1987) would argue that this may be the result of the "Culture of Competition" rooted within American society. Indeed, Messner and Rosenfeld's (2007) Institutional Anomie Theory postulates that the American Dream is inherently criminogenic, and drives people toward crime in order to achieve material success. Overall, the Hustler can be portrayed as a smart, slick, and sly workaholic, driven to succeed at any cost. The Hustler's calculus, however, had proven to be faulty which ultimately resulted in incarceration.

The final cluster, Generalists, prove to be the most hardened, recidivist and theoretically "pure" offenders of the entire sample. This group had significantly higher rates of prior criminal offending and substance abuse, while concurrently having the least educated and youngest population of the four cluster types. In sum, for Generalists, the data

overwhelmingly, albeit indirectly, suggests that low self-control may be part of the explanation for their criminal behaviour. It is these occupational offenders about which Gottfredson and Hirschi (1990) theorized. Thus, they are not exceptional.

The Generalist cluster also seems to validate prior research conducted by Weisburd, Waring, and Chayet (2001) pertaining to white-collar criminal careers. Specifically, a large minority of participants in their dataset were recidivists (over 40%), while noting that in general, white-collar criminals tend to lack specialization with respect to the type of crime they commit. With respect to constructing a circumstantial narrative, the occupational offenders within the final cluster seemed to be of lower socioeconomic status, the majority of which got involved in crime early in life as juvenile delinquents. In adulthood, their criminal histories made it difficult to find meaningful, well-paying work, and as a result of their social dysfunction, may have become addicted to heavy drugs and alcohol. Although not directly tested in the model, mental health issues could have played a role in the offending and antisocial behaviour of many Generalist offenders.

In sum, both the regression analyses and the cluster analysis lead to the same conclusion, although the patterns are different: there is partial support for both the Exceptionalism and the Generalist hypotheses. Thus, scholars who theorize that white collar criminals are different, more elite, and more rational, than street criminals may well have a point according to some regression outcomes and two of the four cluster groups. At the same time, Gottfredson and Hirschi and criminal career scholars, who posit that white collar criminals are not very different from any other criminals, also have a point according to other regression outcomes and one large cluster group that is the most criminalized.

5.3 On the Importance of Survey Research: Occupational Offenders – A Heterogeneous Group

The results of the cluster analysis also illustrate another important point: occupational offenders are a very heterogeneous group. Indeed, such categorization is somewhat unique amongst the literature, and contrasts with the various case studies, sensationalized media stories, and even Sutherland's own outline of the white-collar offender. The four distinct clusters also illustrate the important role that cluster analysis is able to play within the methodological toolkit of the contemporary criminologist.

An additional point relating to the heterogeneity of occupational offenders relates to the importance of quantitative survey research. Case studies have historically been an important tool for white-collar crime research (Friedrichs, 2010). However, focusing on a single or small number of cases may not allow for the discovery of broad based trends. Indeed, the four heterogeneous clusters underscore the importance of conducting such quantitative survey research. The results of the analysis may have differed significantly had it relied on a small group of individual cases.

Another reason that the use of quantitative survey research is especially significant within the current context is that the results of the analysis are able to inform more qualitative studies in order to uncover more implicit and intricate data points. For instance, qualitative interviews may help in validating or refuting the circumstantial narratives outlined within the discussion. Thus, both methods of inquiry have an important role with respect to the study of white collar crime, and occupational offending more broadly.

Their ability to inform each other and to facilitate the creation of more theoretically informed, methodologically sound research, should be adequate motivation for researchers to conduct a greater amount of quantitative survey research, which regrettably, the sub discipline currently lacks.

5.4 Conclusion – Strengths, Limitations and Future Research

In this manuscript, I have primarily attempted to identify whether white-collar criminals, and occupational offenders more broadly, are exceptional. Both the regression and cluster analyses provide partial support for both the exceptionalism hypothesis and the generalist hypothesis.

The significance of this study's findings, although somewhat qualified, should not be understated. This is due to the fact that for quite some time, explanations of white-collar criminals as being qualitatively different than other criminals have permeated academic, political, and social discourse. The results of this project, at the very least, question this assumption by showing more complicated patterns: on some outcomes white collar criminals are different than other criminals, but on other outcomes they are similar. Of course, I would also hope that the data from this project spurs renewed debate amongst all relevant stakeholders, as well as acting as a referential springboard for further research. A related limitation, however, is that the survey did not include variables measuring levels of self-control. Thus, it is not possible to directly test whether white collar criminals, blue-collar criminals, and thieves have similar or different levels of the aforementioned construct, a central claim of Gottfredson and Hirschi. Instead, it can only

be cautiously inferred from similarities in criminal antecedents and alcohol and drug use. Whether criminal antecedents and alcohol and drug use reflect low self-control or some other common cause is a debatable question. Similarly, and specifically relating to the rationality of offenders, it should be noted that because the current study does not include specific measures of rationality, the suggestion that white collar criminals are more "rationality calculating" based on the proxy dependant variables included in the current study should also be potentially be perceived with caution. It is an interpretation, not necessarily a proven result.

Another generally accepted viewpoint that my research challenges is the widely held assumption within the academic literature that most white-collar criminals are exceptional – a criminal elite of rationally calculating actors. The analysis undertaken suggests that this assertion and belief may not be so straightforward. Overall, white collar criminals had less criminal antecedents and drug/alcohol use/abuse than thieves on four out of seven outcomes, with high education being a mediator on some of these relationships. Blue collar criminals, also occupational offenders, only had less criminal antecedents and drug/alcohol use/abuse than thieves on two out of seven outcomes. In addition, in the cluster analysis, only two out of the four groups show some evidence of exceptionalism. If one attempts to generalize these patterns, they suggest that only some sub-groups of white collar criminals are 'exceptional', and not necessarily in every aspect of their criminality. In contrast, they also suggest that Gottfredson and Hirschi and other scholars made a valid point (perhaps overstated) that often white collar criminals and other street criminals are relatively similar and often share comparable criminal histories.

Perhaps this could be the consequence of the study being quantitative in nature. Indeed, much research within the white-collar crime field which supports the rational choice or "elite professional criminal" perspectives has been qualitative in method, which includes many high-profile case studies. As such, more quantitative research should be undertaken in order to help support or challenge the findings of this study. On the other hand, a limitation of the study is the criminal justice process itself. Perhaps the elite white-collar criminals are so exceptional (due to cleverness or economic means) that they never get caught or convicted. However, media stories from the last decade suggest that even very good white-collar criminals eventually get caught. If anything, it might be the less serious, less sophisticated white-collar offenders that avoid incarceration by "flying under the radar" of the criminal justice system.

Taken as a whole, this study has yielded much insight and a fresh perspective on white collar criminality. It has also provided valuable information regarding how criminals of privilege compare against other types of criminals. However, it is also important to acknowledge the potential criticisms of the analysis, and attempt to refute such where possible. One point of criticism towards the current paper would be with respect to the validity of its white-collar/blue-collar crime measures. More specifically, it may be argued that the income cut offs for each variable were conducted in an arbitrary manner. In a way, the variable construction was in fact constrained by the nature of the data collection, particularly concerning the top echelon of income earners. One could argue that the cut-off of $90,000 annual income is too low, and that white-collar criminals should make more than $200,000 or a million dollars annually. However, these cut-offs are arbitrary too, and they would strongly restrict the opportunity for quantitative

comparisons since very few offenders (or people in general) make such large sums of money in the first place.

Additionally, while it is believed to be unlikely, the white- and blue-collar crime categories may have included some anomalous cases that could erroneously fall into each of the categories, and possibly have been categorized as traditional street crime. Although this is not believed to be a major threat to the integrity of the research, it is still prudent to recognize the potentiality of such a shortcoming.

A final potential problem with the current study that is worthy of mention is in its generalizability. In light of the fact that the research project made use of prison data, the findings may not be generalizable to other criminals who not only have been in contact with the criminal justice system, but also those who have avoided detection. Moreover, since the data was also an exclusively American sample, cross-national comparisons should be made with caution.

If this manuscript has demonstrated anything to the periphery of the main hypotheses, it is that future researchers and scholars of white-collar crime have much work ahead of them. For one thing, there is a great need for adequate survey research on the scale of Weisburd et al.'s (1991) Yale Studies. Even a handful of updated and variable rich datasets could act as empirical springboards for more research and hypothesis testing. As well, looking beyond the three criminal antecedents and four substance abuse predictors outlined here may provide for a more theoretically and empirically fruitful landscape of white-collar crime research. By doing so, researchers would not only to aid in advancing the literature/knowledge base within the sub discipline of white-collar criminology, but

also help capture a more complete picture of a subgroup of our population that for too long has been understudied at best, and in certain areas, almost completely neglected.

Specifically relating to the cluster analysis, the creation of an entirely novel typology of occupational offending not only aids in assessing the two main hypotheses, but also acts as a referential springboard for future research. Before formally concluding, however, a word on the practical applications of the above typology of occupational offending is in order. The typology outlined in this manuscript would allow for the efficient prevention of occupational offending in a variety of ways. For example, specific knowledge of cluster groups can be used by investigative agencies as well as public and private employers in order to construct screening tools for interviews, or warning benchmarks for managers or employers who may suspect that their employees are engaging in suspicious activity. The typology may be useful for rehabilitation and correctional purposes as well. For instance, rather than treating issues in isolation (i.e., substance abuse; social skills), a more holistic approach may be tailored to specific offenders if they exhibit a predefined number of characteristics within a particular typology.

Although the cluster analysis espouses many positive elements, including its novelty and heuristic value, one limitation specific to the results of the analysis is that they may be open to further interpretation, depending on which variables one deems most deserving of focus. The clusters' name selection, for instance, are always open to interpretation. Different scholars might have given them different titles. Overall though, the label selection was for the most part, data driven. As well, the sample used for the analysis only looked at occupational offenders as a whole. Finally, it should be noted that the

inclusion of additional (or subtraction of) variables may have created an alternate typology to that illuminated in the study.

In 1939, Edwin Sutherland coined the term *white-collar crime* at the annual meeting of the American Sociological Association in an attempt to shed light on a sorely neglected area of criminology. To this very day, white-collar crime still remains an understudied and underrepresented branch of the discipline (Lynch, McGurrin, & Fenwick, 2004).

Some scholars may point to more critical explanations as reasons for the lack of white collar crime scholarship. After crafting the current dissertation, and gaining somewhat of an expertise in the field, such explanations, while potentially valid and applicable, may not tell the whole story. A more obvious reason, from my perspective, is the lack of data available for analysis. Notwithstanding its limitations, the dataset utilized for the current project presented a unique opportunity to study occupational offending at the national level. The resultant dissertation would not have been possible without the quantity and quality of variables included within the U.S. survey.

Although this dissertation presents a significant contribution to white-collar crime scholarship, and occupational offending more generally, there is still much work to be done in bringing the sub-discipline onto a more equitable footing with respect to its more traditional cousin, street crime. Accordingly, an enormous amount of opportunity exists for those wishing to pursue such scholarship. The following paragraphs will seek to highlight future research trajectories, and briefly comment on the potential of multidisciplinary collaboration.

Many traditional theories of crime have been applied to the realm of white-collar crime. However, there is much to be gained by more intensive hypothesis testing which pits one theory or perspective against another, in a similar spirit to this dissertation. Often, white collar crime scholars rely on a single theory (e.g. differential association, critical Marxism, rational choice) to examine their research questions, leading to a potentially "one-sided" analysis. Use of multiple theories in a comparative framework has much to contribute to future research on white collar crime.

A second opportunity for future research is the study of the criminal careers of white collar offenders. Certainly, Weisburd, Waring, and Chayet's (2001) monograph helped to put the aforementioned area of focus in the scholarly forefront. As both their research and this dissertation have shown, many white-collar criminals are recidivists. Moreover, as this dissertation suggests that the criminal careers of white-collar offenders are somewhat similar to those of blue-collar criminals and other thieves, it would be prudent to ask how these white-collar offenders slip through the cracks, and enter the white-collar realm. This is an especially intriguing question, as today, many employers conduct background checks as part of the hiring process. For instance, could these offenders be entrepreneurs? Future research should seek to explore this area in greater detail. Indeed, qualitative research may prove particularly useful in attempting to uncover the reasoning and rationale behind such offending behaviour.

Additionally, and specifically pertaining to level of analysis, future research may wish to look beyond individual level data, potentially examining such meso/macro level constructs such as social contacts and workplace characteristics. Furthermore, cross-national comparisons may also prove to be fruitful and empirically interesting, as the

American data used for the current project may be specific to the US situation/culture. Indeed, the US, with its espousal of free market capitalism, is more individualistic in nature. Results from more communitarian societies may have less incarcerated individuals in the first place, so results of the current study should be viewed with caution.

While on the topic of cross-national comparisons, specifically comparing the current results to the Canadian context would certainly be a welcome addition to the literature on white collar crime in Canada. Indeed, a cross-national comparison may depict greater support for the generalist hypothesis, as a result of Canada's reputation of being "soft" on white collar crime. Nevertheless, such a scholarly undertaking may be especially difficult in Canada, as inmate surveys are generally not publically available for analysis.

On the subject of research and data collection, one of the most pressing issues within the discipline of white-collar crime is the lack of available data. For the most part, this scarcity of data is for good reason – there is an inherent difficulty in collecting and gaining access to data from upper class criminals (Friedrichs, 2010). Corporations and organizations may also feel threatened by researchers. For instance, Jackall's (1988) study on corporate morality yielded only four out of 40 companies willing to participate in his research. Therefore, going forward, creative solutions will be needed in order to collect meaningful data. One such approach is through participant observation, where a researcher would actually be working in an organization and actively documenting their potential misfeasance. Although such immersion may prove to be quite fruitful with respect to data collection, ethical issues abound. Perhaps the easiest way to increase the amount of data available on white-collar crime is to begin including such variables on

national, state/provincial surveys. Such inclusion would require a concerted effect on behalf of multiple stakeholders including government, academia, and industry.

In order to create the best possible and highest quality research, white-collar crime scholarship should focus more attention on interdisciplinary and collaborative endeavours. Sutherland (1940) acknowledged this gap between disciplines over 70 years ago. "The economists are well acquainted with business, but not accustomed to consider them from the point of view of crime; many sociologists are well acquainted with crime, but not accustomed to consider it as expressed in business." (p. 1). By encouraging and conducting more interdisciplinary scholarship, the potential for richer theory, stronger research design and more creative solutions to study, prevent, and detect white-collar crime would be greatly enhanced.

The goal of this dissertation was to make a contribution to the white-collar crime research literature. Although it represents a significant step in a favourable direction, the current study is not presented as a "be all and end all" answer to the problem of white-collar crime. Overall, I believe that the greatest contribution of this dissertation is its ability to act as a referential springboard for other research and scholarship in order to help understand, prevent and detect one of the most, understudied, socially maladaptive forms of criminal behaviour. As we have witnessed too often within the past century, from Charles Ponzi to Bernie Madoff, the impact of white-collar crime can inflict devastation on a massive scale. I hope that this dissertation can help restore faith not only in a damaged financial system, but in society as a whole.

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