

2011

**CHANGES OVER TIME IN THE PRACTICE OF SELF-DEFENSE
AMONG YOUNG MEN IN CANADA: AN EXAMINATION OF
INSECURITY AND UFC HYPOTHESES**

Matthew W. Logan

Follow this and additional works at: <https://ir.lib.uwo.ca/digitizedtheses>

Recommended Citation

Logan, Matthew W., "CHANGES OVER TIME IN THE PRACTICE OF SELF-DEFENSE AMONG YOUNG MEN IN CANADA: AN EXAMINATION OF INSECURITY AND UFC HYPOTHESES" (2011). *Digitized Theses*. 3292. <https://ir.lib.uwo.ca/digitizedtheses/3292>

This Thesis is brought to you for free and open access by the Digitized Special Collections at Scholarship@Western. It has been accepted for inclusion in Digitized Theses by an authorized administrator of Scholarship@Western. For more information, please contact wlsadmin@uwo.ca.

THE UNIVERSITY OF WESTERN ONTARIO
SCHOOL OF GRADUATE AND POSTDOCTORAL STUDIES
UNIVERSITY OF WESTERN ONTARIO

**CHANGES OVER TIME IN THE PRACTICE OF SELF-DEFENSE AMONG YOUNG MEN
IN CANADA: AN EXAMINATION OF INSECURITY AND UFC HYPOTHESES**

(Spine Title: Insecurity, self-defense, and the UFC)

(Thesis Format: Monograph)

by

Matthew W. Logan

Graduate Program in Sociology

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts

The School of Graduate and Postdoctoral Studies
The University of Western Ontario
London, Ontario, Canada

© Matthew W. Logan 2011

THE UNIVERSITY OF WESTERN ONTARIO
School of Graduate and Postdoctoral Studies
CERTIFICATE OF EXAMINATION

Supervisor

Dr. Paul-Philippe Pare

Examiners

Dr. Laura Huey

Advisory Committee Member

Dr. Laura Huey

Dr. Andrea Willson

Dr. Jeff Hopkins

The thesis by

Matthew W. Logan

Entitled:

**CHANGES OVER TIME IN THE PRACTICE OF SELF-DEFENSE AMONG YOUNG MEN
IN CANADA: AN EXAMINATION OF INSECURITY AND UFC HYPOTHESES**

is accepted in partial fulfillment of the
requirements for the degree of
Master of Arts

Date _____

Chair of Thesis Examination Board

Abstract

Using multiple waves of data (1999, 2004, 2009) from the General Social Survey (GSS) on victimization, the following study analyzes a number of factors thought to be influential in the practice of self-defense among young Canadian men (N=9,049) over time. Two perspectives are examined: 1) The practice of self-defense is related to feelings of insecurity among young men, and is a rational, adaptive response to perceived or actual dangerous environmental threats; 2) In addition to the effects of insecurity, the practice of self-defense should increase over time as a result of the mainstream popularity of the Ultimate Fighting Championship (UFC) and mixed martial arts, and may be the result of a potential "UFC effect".

Results indicate a strong, positive relationship between measures of insecurity (e.g., prior experience of violent victimization) and the likelihood of practicing self-defense, while evidence in support of the UFC hypothesis is, for the most part, absent. However, supplementary analyses lend partial support for the presence of such an effect, though it is less than definitive and only applies to young men of lower income. The implications of these findings are presented and discussed from both a theoretical and policy-oriented perspective.

Key words: insecurity; self-defense; fear of crime; rational choice; the UFC; MMA

Acknowledgements

I would personally like to take the time to thank the people responsible for making this thesis possible. First and foremost, I would like to thank Dr. Paul-Philippe Pare for his hard work and dedication in his decision to supervise me as a graduate student. I consider Paul a friend, a mentor, and a colleague, and am grateful to have had the opportunity to work with him. I would also like to thank Dr. Laura Huey, Dr. Andrea Willson, and Dr. Jeff Hopkins for taking the time to read and critique this thesis, as their advice, criticisms, and overall intellectual insight are things I consider invaluable as I move forward with my academic career. Additionally, I would like to thank Dr. Bill Avison for overseeing this defense. Finally, I would like to thank both of my parents for their continual support (both financial and otherwise) and encouragement regarding my academic interests and decisions. Without them, I would not have had the opportunity to write this thesis.

Table of Contents

Certificate of Examination.....	ii
Abstract.....	iii
Acknowledgements.....	iv
List of Tables.....	vii
List of Figures.....	viii
Chapter 1: Introduction.....	1
Chapter 2: Theoretical Context and Literature Review.....	3
2.1. Theories of self-defense.....	3
2.2. Alternative perspectives.....	20
2.3. The current study.....	26
Chapter 3: Research methodology and analytic technique.....	28
3.1 The General Social Survey on victimization.....	28
3.2 Variables.....	31
3.3 Analytic technique.....	34
Chapter 4: Results.....	36
4.1 Descriptive statistics.....	36
4.2 Multivariate analyses.....	39
4.3 Supplementary analyses.....	42
Chapter 5: Discussion.....	46
5.1. Fear of crime, insecurity, and self-defense.....	46
5.2. The UFC hypothesis.....	51
5.3. Limitations, implications, and future research.....	57

Legal cases/references63

Curriculum Vitae72

List of Tables

Table 1: Descriptive statistics	38
Table 2: Logistic regression predicting the practice of self-defense	40
Table 3: Logistic regression predicting self-defense by income bracket.....	44
Table 4: Logistic regression predicting self-defense by region.....	45

List of Figures

Figure 1: The practice of self-defense over time 27

Figure 2: The practice of self-defense over time by income bracket..... 42

Chapter 1: Introduction

Insecurity is an important area of research in criminology, and prior studies focus on a number of factors including the impact of specific violent crimes, such as murder or rape, to fear of crime and feelings of anxiety and insecurity in general. Fear of crime and insecurity can cause people to behave in a number of ways, both rational and irrational, and can profoundly affect the social, political, and legal functioning of a given society. A known adaptation to insecurity is self-defense (Felson and Pare 2010; Pare and Korosec 2011). When individuals live in environments where they are exposed to greater risks of victimization, they are more likely to engage in a variety of self-protective measures including the carrying of firearms and other weapons, as well as the practice of self-defensive martial arts.

Insecurity, however, is not the only explanation as to why some people engage in self-defense. Factors related to culture and social learning have also been suggested in prior work (Anderson 1999; Felson and Pare 2010; Pare and Korosec 2011;). A cultural factor that has received limited attention is the growing popularity of mixed-martial arts (Bolelli 2003; Buse 2006). Over the last 20 years, mixed martial arts competitions, such as the Ultimate Fighting Championship, have evolved from an underground "blood sport" with low visibility into a major mainstream cultural phenomenon, with millions of fans and followers all over the world and monthly events on mainstream pay-per-view television. Thus, the popularity of mixed martial arts should be considered as a hypothesis to explain why some individuals practice self-defense, above and beyond insecurity.

The goal of the current study is to examine the evolution of the practice of self-defense by young men aged 15-35, with a specific focus on two perspectives. The first perspective is that changes over time in the practice of self-defense reflect solely the impact of fear and insecurity.

The second perspective is that, even when insecurity is controlled, the practice of self-defense should significantly increase over time, a pattern that is attributed to the popularity of mixed martial arts as a mainstream cultural shift. The two perspectives are tested based on a quantitative methodology and the analysis of large sample social surveys.

This paper will begin by providing a comprehensive literature review of the theories of self-defense at both micro and macro levels. It will then focus more specifically on the development of insecurity and fear of crime in developed societies. For example, it will discuss the effect that technology has had on feelings of anxiety and security over time and the subsequent consequences for societies, including policies for crime control but also the desire for greater self-protection. It will also consider the role of popular culture, particularly entertainment and media, as well as gender norms as possible factors in the decision to participate in self-defense and martial arts. Although the research cited is predominantly based on American data, it is useful to incorporate because Canada bears close proximity and is directly influenced by American popular culture.

Following a review of the literature, this paper will describe the sample of interest (i.e., size and demographic), while specifically focusing on data based on multiple waves of the Canadian General Social Survey (GSS) on victimization. The methodology will then be discussed, with a detailed description of all variables, their coding, and the statistical techniques used. Results will be presented using descriptive statistics and multivariate analysis. These findings will then be interpreted and compared with previous research. Finally, potential limitations of the research will be addressed, while providing suggestions for additional and future research.

Chapter 2: Theoretical Context and Literature Review

2.1. Theories of self-defense

There are a number of reasons as to why individuals may engage in, or adopt measures of self-defense. Some of them may be related to the social environment, where self-defense may serve as a way to mitigate perceived or actual threats experienced by an individual; other explanations may be related to popular culture (i.e., the UFC) and the influence the media has in constructing socially desirable images for men and women. Additionally, an individual's psychological characteristics, as well as their geographic location, may influence their decision to engage in self-protective measures. The following section will review and analyze these possibilities in greater detail, with a focus on both theoretical explanations and empirical evidence.

Insecurity, victimization, and self-defense

The decision to participate in self-defense may be a strategic and rational response to living in societies characterized by danger, risk, and uncertainty. Using the logic of Becker (1963), individuals may take a martial arts or self-defense course as a way to minimize perceived or actual danger (i.e., physical victimization). According to both Beck (1992) and Giddens (1991, 1999), technological advancements are responsible for manufacturing a variety of risks that produce heightened levels of fear and anxiety. These risks are, in many instances, omnipresent and may include a fear crime and victimization. Additionally, because no one is completely immune from them, levels of insecurity and anxiety increase to the point where they become a problem in and of themselves (Garland 2001). In response to perceptions of vulnerability, government officials have adopted ideological discourses that focus on the roles and responsibilities of individual citizens. One such discourse is that of neo-liberalism.

Neo-liberal solutions to crime control in the United States date back to the early seventies when welfare strategies were receiving heavy criticism from conservative politicians (Garland 1996, 2001; Simon 2001; Wacquant 2005). Such strategies, based on offender rehabilitation and social reintegration, were criticized because they were implemented at a time when violent index crimes (i.e., murder and manslaughter) were on the rise (Savelsberg 1994), putting pressure on politicians who wanted to appear strong in the face of an apparent crime problem. One of the more popular responses in dealing with such problems has been the "tough on crime" movement (Garland 2001), which favors particularly punitive reactions to law-breaking such as an increase in mandatory minimum sentencing, three strike laws (Doob and Webster 2006), and capital punishment (Simon 2001). However, such strategies have had limited success in reducing crime, with critics arguing that they have created more problems than solutions. For example, conservative approaches have been castigated because of the drastic increase in the prison population over the past few decades, resulting in what many have referred to as the punitive turn (Savelsberg 1994; Garland 2001; Cesaroni and Doob 2003; Wacquant 2005).

Polarized stances on crime control have left State officials in a difficult position because the nature and pervasiveness of risk and anxiety does not allow for any one definitive solution. On the one hand, the State has been criticized for their lack of involvement in controlling or reducing crime. Dowler (2003), for example, found that a fear of crime at the individual level was partially attributed to the perceived inability of the police to protect them. Conversely, officials have also been criticized for their over-involvement in such matters. As Garland (1996:449) notes:

The predicament for governments today [...] is that they (i.e., ministers, officials, agency executives etc.) see the need to withdraw or at least qualify their claim to be the primary and effective provider of security and crime control, but they also see, just as clearly, that the political costs of such a move are likely to be disastrous.

In an effort to appear more competent and efficient, criminal justice officials shifted their priorities in terms of dealing with crime. Rather than attempting to be seen as the ultimate provider of security, the State relegated crime prevention to the level of the individual (McLaughlin and Murji 2001). The responsibility of ensuring one's physical safety, then, has moved from a State or macro concern to an individual or micro one. This form of crime control is related to new public managerialism and post-Keynesian policing, and is premised on both the community and individual citizens taking precautionary measures to avoid victimization (McLaughlin and Murji 2001; O'Malley and Palmer 1996). These precautions are diverse and often include supplementary measures of security such as living in gated communities, alarm systems, private security, and self-defense (Christie 1994).

Choosing to enrol in a martial arts or self-defense class in response to perceived or actual threats is also congruent with Black's (1986:34) notion of self-help, which he defines as "the expression of a grievance by unilateral aggression such as personal violence." In this sense, the practice of self-defense is regarded as an instrumental form of self-help, with the victim using it as a way to control or diffuse a potentially volatile situation while at the same time deterring future victimization. Tedeschi and Felson (1994) and Felson (2004) touch on this idea. Among the reasons for engaging in instrumental aggression, gaining compliance is fundamental. As Felson (2004:5) notes:

People often attempt to influence the behavior of others. They use persuasion, they promise rewards, or they threaten to administer punishment. Aggression is a social influence tactic, sometimes used as a last resort, sometimes used as a first resort. It can compel targets to do something they would not otherwise do, or to deter targets from what they are doing.

While Felson is explaining the actions of the aggressor or offending party, this can also be used to explain the actions of the victim when confronted by an offender. From the perspective of the victim, would-be offenders may be injured and subsequently prevented or deterred from successfully victimizing them if they pose a legitimate physical threat.

According to Black (1986), criminal self-help most often occurs in areas where the law is less available. In cases such as these, a background in martial arts or self-defense may be an instrumental way to ensure that justice is served. A lack of faith in the legal system (i.e., the police or courts) to adequately protect the general public from crime can cause feelings of dismay and insecurity among the population (Dowler 2003), and may result in cases of vigilantism. Because the legal system is far from infallible, there is no guarantee that grievances filed against individuals for crimes like physical assault will be handled properly. As Cole (1970) notes, the decision to prosecute is based on a number of factors including the strength of evidence and the prestige of the offender. In the former situation, it may be difficult to legally prove that a grievance (i.e., domestic violence) actually took place if there are no visible signs, and is especially problematic when a power (i.e., status) differential exists between the offender and aggrieved party (Black 1986).

There are a number of empirical studies that link protective measures to reduced levels of fear and anxiety. For example, research by Pare and Korosec (2011) suggests that a number of Canadians (particularly those in the Prairie Provinces) engage in defensive behaviours. Their work, which also uses data from the General Social Survey on victimization, indicates that individuals may engage in various forms of weapon carrying (i.e., gun possession) and subsequent usage when confronted with dangerous situations; situations that are defined as being adversarial in nature. Adversarial situations are characterized by the perception that the

surrounding environment is unsafe or that others may be carrying weapons, and may be influenced by a number of factors including recent victimization, recent arrest, and low socioeconomic status. When the perception of risk is particularly high, individuals residing in dangerous neighborhoods may choose to engage in an "arms race" with one another for protection (Blumstein 1995). Areas that are particularly conducive to the use of lethal weaponry may intensify the desire for an individual to arm themselves accordingly. As Pare and Korosec (2011:21) note, "bringing a knife to a gunfight is not enough."

Weapon acquisition for the purpose of protection has been documented by a number of scholars, many of whom focus on trends pertaining to adolescents and young adults. Research on the defensive habits of inner-city youth by Williams et al (1994), for instance, found that significant predictors of self-defensive behavior include experiencing or witnessing others getting victimized as well as the fear of being victimized in one's own neighborhood or school. Their sample was based on the secondary analysis of a questionnaire regarding youth safety, and consisted of 1,775 students across all schools within South Atlantic School System. In regards to protective measures, the vast majority of students (89 percent) indicated they had taken steps to prevent or reduce the likelihood of being victimized. Of those individuals, 19 percent reported taking a self-defense class while 10 percent reported carrying a mace. Similar findings were reported by Simon et al. (1997, 1999) and Lizotte et al. (2000), whereby self-protection, as well as feelings of vulnerability and insecurity were positively related to carrying guns, knives, and other weapons by adolescent boys and girls. Hemenway et al. (1996) also noted that nearly all the students who carried weapons in their study did so for self-defense and security reasons.

Regarding the specific practice of martial arts, a similar rationale seems to apply, with some empirical evidence suggesting that enrolling in martial arts can help to alleviate feelings of

fear and vulnerability. For example, participants from Columbus and Rice's (1998) qualitative study on the phenomenological meaning of martial arts stated a fear of criminal victimization as a primary reason for engaging in such behavior. For both men and women, the practice of martial arts was instrumental in promoting feelings of safety and protection from crimes such as physical and sexual assault. Other studies have reported similar findings for combat sports such as kickboxing (Theeboom, De Knop, and Wylleman 2008) and boxing (Weinberg and Arond 1952). While the decision to enrol in a self-defense class may reduce feelings of risk and anxiety, additional factors should also be considered. For example, an individual's perceived vulnerability (or lack thereof) may be correlated with their level of experience.

On the one hand, simply enrolling in a martial arts or self-defense program may lower the perception of risk and victimization of a given individual, as previously suggested. Madden's (1990) study of defensive measures and self-control found that taking an introductory class in karate and self-defense significantly enhanced students' levels of self-esteem and sense of power, while at the same time reducing depressive symptoms and feelings of vulnerability. However, studies such as these are often done in the absence of a comparison group, and follow up studies suggest that reduced levels of vulnerability and anxiety as a result of taking a self-defense class may be contingent on the duration of, and proficiency in a given martial art (Madden 1995).

Kurian, Caterino, and Kulhavy (1993) also came to this conclusion in their study of the psychological benefits of Taekwondo training. Their research, based on the 16 Personality Factor Questionnaire, divided thirty students into two equal groups according to their level of experience (i.e., 0-1.4 years vs. 1.5+ years of training). Results indicated that students with more than a year and a half of Taekwondo experience scored lower on measures pertaining to anxiety

and higher on measures of independence when compared to students with less than a year and a half of training. Additionally, research by Nosanchuck and MacNeil (1988) suggests that experienced martial arts students (i.e., "stayers") exhibit lower levels of aggression and a greater sense of self-control than do inexperienced students or those who have terminated their training (i.e., "quitters").

Differences in perceived vulnerability between inexperienced and experienced students may be attributed to both the symbolic and real meaning of martial arts and self-defense. By enrolling in a martial arts class, an individual may feel as though they are being proactive by taking steps to ensure their safety, irrespective of their level of experience. Traditional martial arts are synonymous with strength, honor, respect, and perseverance (Trulson 1986), and simply practicing a discipline characterized by these may be enough for an individual to develop a positive sense of self. However, that feeling may disappear when put in a situation where one's physical safety depends on their level of proficiency. It is here that the real or practical meaning of martial arts presumably factors into an individual's level of insecurity and vulnerability. Thus, students devoting a considerable amount of time and effort to a specific form of self-defense would likely exhibit a degree of confidence in mitigating potentially volatile situations above and beyond individuals with only novice-level training.

Regardless of whether an individual is a beginner or an expert, insecurity appears like a major explanation for enrolment in the martial arts and the reliance on self-protection more generally. However, the effect of insecurity on martial arts and self-defense is but one perspective, and does not account for the influential role of other social structures, including the media and various forms of popular culture.

The UFC, Violence as Entertainment, and Masculinity

Mixed martial arts (MMA) is a relatively new sport that combines a number of unique fighting styles (i.e., karate, boxing, and jiu-jitsu) used by participants. The goal of the participants involved is to win a fighting contest, and can be done in a number of ways including:

Concussing an opponent into defenselessness through blunt head trauma; disabling an opponent through joint subluxation, dislocation, or soft tissue trauma; causing syncope by way of a neck choke; or coercing an opponent into submission by any permutation of the preceding (Buse 2006:169).

Over the past few decades, the mainstream appeal of MMA has skyrocketed. Once seen as an underground and “barbaric” form of competition, MMA has transformed into an internationally sanctioned sport (Buse 2006). Its popularity has spawned a dramatic increase in the number of training facilities (most notably in North America) specifically devoted to its practice (Maher 2010). Franchise gyms, such as “Xtreme Couture” (founded by UFC icon Randy Couture) now exist all over the continent, ranging from Las Vegas, Nevada to Toronto, Canada, and are accessible to anyone willing to pay. Furthermore, online search engines and directories (i.e., www.mmatraining.com) are also available to guide prospective fans and fighters to local gyms for training.

While the sport of MMA is still in a stage of infancy, the proclivity for violence as entertainment has long been a part of human history and dates back to the traditions of the ancient Romans. In ancient Rome, Christian slaves were routinely fed to lions in front of a cheering and vengeful audience as part of the afternoon’s entertainment (Barton 1989; Hobart 1990). By the same token, they were often pitted against one another in fights to the death (Hopkins 1985; Wiedemann 1992; Grant 1995; Kohne, Ewigleben, and Jackson 2000). However, as humans became more “civilized”, so, too did combative entertainment. For example, the

ancient Olympiad sport of pankration, developed by the Greeks in 648 B.C., combined the most brutal elements of boxing, wrestling, and free-style fighting, but did not require participants to fight to the death (Buse 2006). This was the most popular event at the ancient Olympics and the notion of MMA is believed to be rooted in this tradition. Yet, the popularity of such competition faded from the mainstream until its apparent resurgence during the latter part of the twentieth century (Bolelli 2003; Buse 2006). That is not to say that the demand for, and popularity of combative sport disappeared altogether; rather, historical accounts suggest that boxing, in the form of prizefighting, took its place until recently.

Similar to MMA, boxing is historically tied to the sporting traditions of the ancient Greeks and Romans (McCain 2004; Sheard 1997), though the notion and actual documentation of prizefighting started in the late nineteenth and early twentieth centuries (Riess 1985; Donnelly 1988). First regulated in New York City in 1896, prizefighting served as a way for members of the lower-class (particularly Irish-Americans) to gain notoriety, status, and upward social mobility. However, while the occupation of a prizefighter was associated with manliness, bravery, discipline, and physical fitness, it was also synonymous brutality and accompanying vices of gambling and political extortion (McCain 2004; Riess 1985). As a result, prizefighting was outlawed and legally banned on a number of occasions during the early part of the twentieth century, though public pressure and the support of promoters by local magistrates led to continual reinstatements. Finally, after years of lobbying from both advocates and detractors of the sport, prizefighting achieved stability in 1920 due to its applicability in training soldiers in unarmed combat (Riess 1985).

Following its legal inception, a number of regulatory bodies and commissions were introduced including the International Boxing Club (IBC), which was castigated and successfully

prosecuted by authorities for its continual involvement in organized crime during the 1950s (McCain 2004). Other sanctioning organizations, such as the United States Boxing Association (USBA), the International Boxing Federation (IBF), the World Boxing Association (WBA) and the World Boxing Council (WBC), were formed during the 1970s and are still in existence today.

Over the past decade, the mainstream appeal and popularity of professional boxing has faded, and can be attributed to a variety of factors. For example, the paucity of North American talent and, more specifically, the absence of a marketable heavyweight champion (i.e., Muhammad Ali, Joe Louis, and Mike Tyson) has fostered a sense of disinterest among the general public (Cabellero 2011). Once regarded as the world's most supremely admired athlete, the heavyweight champion no longer commands the same respect he once did; the moniker has always been synonymous with an American pride that is not easily bestowed upon foreign champions by the public (Riess 1985). Other contributing factors include an increase in pay-per-view prices, a lack of unification between different organizations (Maliakkal 2008) and, of course, the emergence, popularity, and subsequent competition from MMA organizations (Human 2009).

The increase in the popularity of MMA can be interpreted a number of ways. Perhaps the most important reason is related to the recent marketing strategy of MMA organizations. In 1993, the first ever "Ultimate Fighting Championship" (UFC) tournament was broadcasted on pay-per-view in the United States, ultimately propelling MMA into the mainstream. At the time, however, its limited set of rules and poor marketing strategy (i.e., bouts were judge-free; no weight classes existed, and advertisements read "anything goes") caused the organization to be

ostracized by athletic commissions and politicians alike, hindering their ability to obtain licenses for future events (Maher 2010).

In an attempt to legitimize the sport, promoters, including UFC president Dana White and the Fertitta brothers (who bought the company when it was on the verge of bankruptcy in 2001), introduced a number of rules and regulations by which competitors had to abide, regulations that would prove significant in the legal sanctioning of MMA. Events remained on pay-per-view but were no longer in the style of a tournament; rather, defined rules, timed rounds, weight divisions, and title fights were introduced in a similar fashion to boxing (Bolelli 2003). An increase in regulation also gave rise to a number of other professional MMA organizations such as "Pride Fighting", "Elite XC" (Bolelli 2003), and "Strike Force", as well a share in the reality television market for the UFC (O'Hara 2008; Maher 2010). This exposure created further revenue for the sport and increased popularity, attracting fighters looking to receive a more legitimate pay check. For example, the first place payout at the inaugural UFC tournament was \$50,000 and was taken home by Royce Gracie (Bolelli 2003; Maher 2010); today, household fighters such as Brock Lesnar and Georges St. Pierre bank over \$400,000 of disclosed pay *per fight* (Hunt 2009).

MMA may have also gained popularity because of its unique and eclectic nature. There are a great number of ways to end a fight (as previously mentioned) that are not characteristic of other combative sports alone, such as boxing, wrestling, or jiu-jitsu (Bolelli 2003; Buse 2006; Cheever 2009). As a result, MMA can serve to unify enthusiasts and participants from a number of specific disciplines and draw new crowds seeking violent entertainment.

In conjunction with the marketing and nature of the sport, the rise in popularity of MMA may also represent a form of decadence in the developed and modern world in the same way that gladiator and arena battles epitomized the decadence of the Roman Empire (Barton 1989). It may

be that developed societies have reached the point where they have lost sight of their original goals and values.

As White (1977:356) notes:

A decadent society is one which, over a considerable period of time, has shown and continues to show a [...] pronounced tendency to be pre-occupied with what is worthless, or near worthless, for its own sake; and at the same time shows no strong commitment to the pursuit or in the pursuit of its aims.

In this sense, the general public's preoccupation and fascination with the brutal nature of MMA and other combative sports over the past few decades may be a manifestation of boredom and overindulgence in modern society. Rigidity and predictability existing within the modern era of living (i.e., "McDonaldization") may work to suppress and control individuals to the point where deviant or abnormal behavior becomes cathartic (Ritzer 1996; Bargdill 2000). Fed up with the mundane characteristics of everyday life, individuals may attempt to alleviate their feelings of boredom and unrest by viewing and participating in physically destructive behavior, including MMA.

The role of social and cultural norms is also important to consider in understanding why young men participate in MMA. It could be just as well that its practice among young men represents a cultural expression of masculinity. The vast majority of modern societies are characterized by patriarchal relations where fitting into prescribed gender roles is considered normative behavior. From a very young age, males in patriarchal societies are socialized to externalize their behavior that is traditionally characterized by independence, aggression, and toughness. Females, on the other hand, are socialized to internalize their behavior and are encouraged to foster dependent and passive relationships (Martin 1990). When either sex departs from these roles, they may be discouraged and ostracized by family, friends, and teachers. In the

case of young men, the physical and personality traits associated with practice of martial arts and other forms of self-defense (i.e., strength and competitive aggression) are not only culturally acceptable, but are also routinely encouraged (Messerschmidt 1999). Manifestations of acceptable gendered behavior are presented as an alternative to self-defense as a rational choice to a dangerous environment and can be understood through the incorporation of Messerschmidt's (1993) notion of hegemonic or hypermasculinity.

Rooted within psychology, the notion of hegemonic masculinity is concerned with exaggerations in stereotypical male behavior such as aggression, violence, and toughness. Individuals lacking in this area may feel a sense of insecurity because they do not fit the traditional definition of masculinity. Thus, young men who practice martial arts may be reaffirming their identities by "doing gender" (Messerschmidt 1993). Stereotypical exaggerations can be seen, in part, as a result of cultural and media influences, such as violent movies (e.g., *Fight Club*, *Die Hard*, or *James Bond*) that dichotomize images of acceptable and unacceptable forms of male behavior. These images can be seen as having an important effect in the socialization of young boys and largely influence subsequent behavior (O'Neil 1981).

In his examination of gender construction in MMA, Chapman (2004) discussed the authentic appeal surrounding combat sports, with specific focus on a male-oriented agenda. The participants in his study "[...] implied that they were influenced by [...] public image [...] as something which [exuded] a certain masculine cool and a means through which they could become stronger" (Chapman 2004:325). He further noted that combative sports, such as MMA and boxing, reinforce gendered scripts in the sense that women are predominantly featured in a supporting role. The extent to which most women become involved in the sport is related to fight

production as opposed to competition, where scantily clad women are viewed as an additional form of entertainment.

Notions of hegemonic masculinity can be seen with the increasing popularity of MMA competitions (Hirose and Pih 2009) such as the UFC, as well as the rapid emergence of training gyms (Maher 2010) that provide young men with cultural modes of masculinity which emphasize prowess in physical combat. Preston (2007:49) expands on this idea in his study on martial arts in the media, where he describes professional fighters, "who are role models for young men, [as being] depicted in a 'testosterone-fuelled world of money and sex, where the aggression exerted against each other is greatly rewarded.'" In terms of media representation, the partnerships which the UFC has established, such as their contract with "Spike TV", are almost entirely geared toward a young male demographic. One visit to the company's website (www.spike.com) exemplifies the company's target audience, with the title reading: "Spike.com [...] the premiere online destination for men" (Spike Digital Entertainment 2009). Additionally, their official motto is "Get more action". Moreover, the website's top search engine categories are "girls" (all of whom are dressed provocatively) and "sports", with the UFC having its own specially designated section.

Spike TV has been heavily criticized by scholars who argue that the network's programming has eroded the gains of feminism by normalizing and promoting hegemonic notions of masculinity (Walton and Potvin 2009), with UFC-related programming arguably being their biggest attraction. From both a social and cultural perspective, an increase in the practice of self-defense among young men may be the result of a "UFC effect" in which professional fighting epitomizes what it is to be a man in a patriarchal society (Chick and Loy 2001). While the concept of hegemonic/hypermasculinity is commonly used in fields such as

feminist studies, criminal justice, psychology, sociology, and education, its study has been subject mostly to theoretical debate, with shifting definitions and uneven empirical support making it difficult for study (Connell 2002).

There is some, albeit limited evidence suggesting that viewing MMA competitions can impact an individual's decision to engage in aggressive behavior, as well as their decision to actually participate in the sport. To the author's knowledge, only one such study exists that empirically examines this possibility. Cheever's (2009) online survey analysis examined the responses of 2,700 fans worldwide in relation to the uses and gratifications of viewing MMA. Her results showed that the vast majority of individuals surveyed were young, white males of the middle-class, with 63 percent of respondents indicating that viewing MMA produced a "vicarious thrill". Additionally, 54 percent admitted to engaging in the sport after viewing it.

Cheever also addressed the possibility of viewing MMA as a facilitator of hypermasculine behavior. Using two subscales of Mosher and Sirkin's (1984) Hypermasculinity Inventory, male respondents were asked if they saw violence and danger as having "manly" or "thrilling" components. Responses for the former were moderate ($M = 5.7$; $S.D. = 2.53$) while responses for the latter were low ($M = 3.2$; $S.D. = 2.18$), suggesting that male viewers were not excessively hypermasculine.

With regards to viewing MMA and aggressive behavior, over half the respondents (55 percent) reported never feeling like fighting after watching an MMA event. However, responses varied and were contingent upon an individual's level of involvement with the sport, including whether they had practiced MMA before, whether they had ever participated in a street fight, and whether they had actually participated in an organized fight. Taking these factors into account, Cheever employed logistic regression to determine the individual likelihood of engaging in acts

of aggression for male respondents. Female respondents were omitted because they comprised such a small proportion of the overall sample (2 percent). When compared to those who did not engage or participate in the sport, individuals who practiced MMA, had been in a street fight, or had actually participated in an organized fight were significantly more likely (approximately 1.5 times) to engage in aggressive behavior, including the desire to fight.

Though not specific to MMA, other studies have also suggested that the viewing sports and violent forms entertainment in general can lead to aggressive behavior (Anderson et al. 2008). Studies by Krcmar and Greene (2000) and Greene and Krcmar (2005) found a positive correlation between exposure to violent media such as contact sports and participation in various forms of risk-taking and delinquency (i.e., sensation seeking, verbal aggressiveness, and reckless driving) among adolescents and young men aged 11-22. Some research has even indicated that viewing sporting events, especially between heated rivalries, can affect individual testosterone production, a hormone associated with aggressive behaviour.

Bernhardt et al. (1998), for example, found that testosterone levels are subject to change among male fans before and after watching professional and amateur sports teams. Their study required two different sets of subjects to provide saliva samples prior to and after viewing World Cup soccer and NCAA basketball matches. For both groups, average levels of testosterone increased for the fans whose team won and decreased for the fans whose team lost, suggesting that viewing sports can have a physiological impact in addition to factors relating to mood and self-esteem.

Though not published in academic journals, there are also a number of anecdotal accounts of violent media and sporting events impacting individual behavior. For example, university fight clubs have recently been discovered whereby students participate in bare-

knuckle boxing matches against one another after hours at campus recreational facilities (CBC News 2010). Such behavior has been attributed to exposure to violent media, such as the movie "Fight Club", as well as MMA-related material (Harris 2009). This has also been the case for other sports, including youth hockey, where a number of adolescents have been found engaging in locker room boxing or "helmets and gloves", and has been attributed to the violent nature of professional hockey where fighting is viewed as both an inherent and necessary part of the game (Cribb 2010). However, while such examples have attracted a great deal of negative media attention, it is difficult to draw conclusions without empirical validation. In fact, some research suggests that the impact of mass media on violent behavior may be relatively small.

Felson's (1996) critical analysis of media violence and aggressive behavior reviewed a number of major empirical studies based on laboratory experiments, field experiments, natural experiments, and longitudinal surveys, and emphasized three major points regarding some of the arguments made in the existing literature. First, exposure to violent media in controlled settings, such as a laboratory, seems as likely to facilitate non-aggressive anti-social behavior as it does aggressive behavior. Second, it is difficult to ascertain that marked differences exist between violent messages learned from the media and violent messages learned from other sources of socialization. Third, the notion that exposure to violent media causes violent crime is inconsistent with the fact that most criminals are generalists and often commit a number of non-violent crimes as well.

Of course, Felson (1996) is not arguing that the effect of violent media exposure is negligible; rather, he contends that while such an effect may be small relative to the general population, it may be more pronounced for certain individuals, particularly those exhibiting anti-social behavioral characteristics. Additionally, having a predisposition to violent or aggressive

behavior may be amplified when given the opportunity to view novel forms of media violence. Such violence, often contrived by television writers for the purpose of entertainment, may provide already susceptible individuals with ideas for violent crimes that they may have not otherwise considered. This reasoning may be useful in explaining the more extreme cases in which viewers mimic the events they see on television, such as those mentioned previously.

Despite the fact that the UFC and MMA have received so much attention as of late, from both an academic standpoint and otherwise, the sport (and its study) is still in a stage of infancy. As the sport continues to grow and evolve, so will the research, and will likely provide clearer insight to the relationship between MMA's cultural popularity and the individual propensity to engage in it personally.

2.2. Alternative perspectives:

Evolutionary psychology and altruism

An alternative explanation for self-defense may be influenced by evolutionary psychological and sociobiological notions regarding altruism. An individual may choose to engage in protective behavior such as self-defense not only for the purpose of self-preservation, but also for the purpose of protecting a significant other or loved ones from harm. This line of reasoning is congruent with Darwinian Theory and the idea of inclusive or reproductive fitness whereby altruistic behavior, such as protecting one's family, is genetically hard-wired and presumably increases the subsequent representation of one's genes (Richards 1987; Rushton et al. 1986). While there are no studies pertaining specifically to the practice of self-defense as a manifestation of altruistic behavior, some empirical research suggests that it might be worth pursuing.

Lagerspetz and Westman (1980), for example, developed a questionnaire to assess under which circumstances aggressive behavior was considered morally justifiable. They divided the questionnaire into three parts, asking respondents to give examples of 1) justifiable *acts* of aggression (i.e., hitting, threatening, killing, etc.), 2) justifiable *situations* in which to use aggressive behavior (i.e., altruism, self-defense, protection of property, etc.); and 3) any personal experiences or anecdotal accounts pertaining to aggressive arousal. Results showed that altruistic behavior (i.e., protecting somebody) was considered to be the most morally justifiable form of aggressive behavior, with the right to self-defense and the defense of one's property following closely behind. The results also indicated that the type of aggressive act is contingent upon the situation. Physical or violent altercations, for example, appear more likely to result when serious situations arise, including those involving altruistic or self-defensive components.

Personality characteristics

The possibility that the desire for self-defense results from personality, cognitive, or other mental disorders should also be taken into account. Past research indicates that people with mental disorders experience victimization at a much higher rate than the general population (Hiday et al. 1999; Goodman et al. 2001; Kelly and Mckenna 1997). With regards to the topic of interest, it could be that individuals exhibiting serious personality or mental disorders including paranoid, delusional, psychopathic, or anti-social characteristics adopt self-defensive measures to avoid (or instigate) aggressive situations as a response to feeling plotted against or spied on by others. Research by Felson and colleagues (2010) as well as Pare and Logan (2011) on mental disorders and violent offending in prisons is suggestive of this, as the inmates in their study who displayed such characteristics were more likely to victimize and be victimized (both verbally and physically) by other inmates as a result of provocation. Again, there is no such literature that

specifically indicates that individuals with these disorders are, or would be, more inclined to enrol in a self-defense class. However, the fact that vulnerable groups such as these experience a much higher rate of victimization in general and, to a lesser extent, are also instigators of violent behavior, the rationale for them to engage in self-defense seems plausible.

Lamb's (1997) analysis on state mental hospitals, for example, examined the effectiveness of rehabilitation programs in relation to how difficult or violent patients (i.e., those exhibiting psychosis) were. While not the focal point of his research, Lamb made note of one patient who was extremely difficult to manage because of his background in martial arts. Such knowledge prevented staff from administering necessary psychotropic medications.

Self-defense, martial arts, and thrill-seeking

In addition to altruism and personality characteristics as a way of accounting for self-protection, an individual may also engage in such behaviors as a way to fill a void. That is, participation in self-defense or martial arts may serve as a way to generate thrills. Such a rationale is congruent with Jack Katz's (1988) perspective regarding the various seductions of criminal and deviant behavior. According to Katz, the commission of various illegal or deviant activities can be seen exciting, acts which produce a "euphoric thrill" for the individual. While participating in martial arts is not criminal per se, the same logic applies: Martial arts and other forms of combative sport constitute legalized violence. These are acts which, under any other circumstance, would likely be subject to criminal charges. Whereas Katz's research is predicated on the thrill of the crime, those who practice martial arts presumably do so to experience the thrill of combat.

Deviance as a manifestation of thrill-seeking is a popular topic among academics in criminal justice, particularly those who are dedicated to the biosocial aspects of criminal

behavior. Researchers in this field attribute the behavior of certain criminals to genetic factors and biological harms affecting the autonomic nervous system and prefrontal cortex of the brain; their functions are responsible for regulating the interpretation of, and emotional arousal to various stimuli and higher thought processes (Bartol and Bartol 1986; Raine 1993). It is the contention of such research that criminals are underaroused and less emotionally responsive to stimuli, as demonstrated by their lower skin conductance (Raine 1993), lower resting heart rate (Raine 1993; Raine et al. 1997), low levels of serotonin (Moffitt 1993), and the inability of their brains to properly metabolize sugar.

The capacity of the brain (or lack thereof) to metabolize sugar leads to a reduction in activity occurring in the prefrontal cortex of the brain, and has been linked to increased levels of aggression (Raine et al. 1997). The link between brain chemistry, aggression, and criminal behavior is not conclusive, however; non-criminals also exhibit biological indicators of a criminal disposition (Rowe 2002). To suggest a definitive or causal link between the aforementioned factors would imply that all thrill-seeking individuals, including athletes of combative sport, are susceptible to criminal activity.

Honor cultures, regional variation, street codes, and bad asses

An individual's environment and geographic location may also be of relevance when establishing possible rationales for self-protective behavior. Certain regions, including a number of southern states in America, endorse cultural norms to which proficiency in self-defense and martial arts may be conducive. Such areas are often referred to as "honor cultures", and stress the importance of respect and responding to violent affronts with additional violence (Hackney 1969). Individuals living in these areas are taught from a young age that the use of violent aggression is acceptable under certain circumstances, including situations pertaining to self-

defense, perceived disrespect, and socialization (Cohen and Nisbett 1994). From this perspective, the use of violent aggression through the practice of martial arts is but one way to deal with the any of the aforementioned situations.

There is some empirical evidence regarding the existence of honor cultures, though results are varied. Cohen and Nisbett (1994) and Hayes and Lee (2005) found that southern white males from rural areas differed significantly from, and were more approving of, violent behavior (such as hitting) in comparison to the rest of the American public, most notably in dealing with personal affronts that were defensive in nature. Conversely, other research suggests the existence of a weapons culture as a more likely explanation for differences in violent behavior.

Using data based on the National Violence against Women Survey, Felson and Pare (2010) examined how geographic region and race factor into the decision to carry weapons for self-protection for 8,000 women and 8,000 men. Controlling for region, gender, race, the risk of victimization, they found significantly higher rates of gun-related homicides in the southern and western regions for Whites. Additionally, the Whites in these regions did not differ significantly from those in northern regions in the rate of unarmed assaults. In order to find support for an honor culture, one would expect to see significantly higher rates of both unarmed and armed assaults for the southern and western regions.

Closely related to the honor culture are Anderson's (1999) concept of the "Code of the Street" and Katz's (1988) notion of the "badass", both of which focus on an individual's ability to adapt to the informal social rules of street life, including the ability to use violent aggression instrumentally. Like honor cultures, the notion of respect is important, even paramount to the street code and the badass. By adopting or practicing self-defense, an individual may develop a

reputation that others admire, look up to, fear, or respect. Katz (1988:81) elucidates this idea in his explanation of what it is to be "bad":

[Individuals who are bad] engage in violence not necessarily sadistically or "for its own sake" but to back up their meaning without the limiting influence of utilitarian considerations or a concern for self-preservation. At this level, the badass announces, in effect, "Not only do you not know where I am at or where I'm coming from, but, at any moment, I may transcend the distance between us and destroy you. I'll jump you on the street, I'll 'come up side' your head, I'll f--- you up good' – I'll rush destructively to the center of your world, whenever I will! Where I'm coming from, you don't *want* to know!

Thus, in situations whereby such individuals feel as though they have been disrespected (e.g., having maintained eye contact with someone for too long), being able to effectively use the techniques learned from self-defense may serve as a way to regain respect, as well as reinforce the notion to others that they are well-deserving of it. Such actions are also congruent with Tedeschi and Felson's (1994) notion of "saving face" through the use of aggressive behavior, an act which most typically occurs when an individual's identity is undermined or compromised in the presence of others.

Irrespective of whether one lives in an honor culture or is a badass who abides by the code of the street, self-defense through the practice of self-defense martial arts can be viewed as a manifestation of a subcultural preference. Persons living in these areas are likely to have very different value systems in comparison to the majority of individuals, value systems that give priority to hypersensitive and violent responses to confrontational situations.

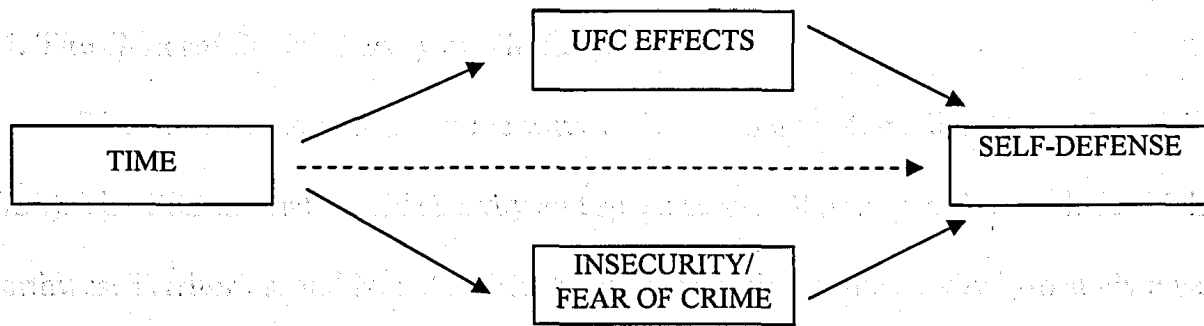
Based on a review of the literature, there is a convincing amount of evidence suggesting that there are a number of structural and cultural factors to consider when examining why the sport of MMA has experienced a surge in popularity, as well as for understanding the relationship between feelings of insecurity and motivations for taking martial arts. With respect to insecurity, self-defense, and the martial arts, it may be that modern societies are characterized

by greater risk, danger, and uncertainty than in the past, with people utilizing the martial arts as a way to minimize victimization. Such decisions are in line with rational choice perspectives, as individuals who choose to engage in self-protective measures weigh out the costs (i.e., victimization) and benefits (i.e., protection) of their decision before enrolling.

Conversely, choosing to participate in martial arts and other forms of self-defensive behavior may be a cultural manifestation characterized by positive masculine values, such as being a “bad ass”. Individuals who cannot or do not fit the definition of the traditional male may enrol in a martial arts class as a way to reaffirm their masculinity; essentially, they want to show that they mean “business” (Katz 1988). Visual representations of hegemonic masculinity and violent behavior through various media outlets, coupled with the reinforcing notion that such actions are often rewarded (both financially and socially), may entice young men to practice combative sports. Additionally, biological and psychological perspectives pertaining to self-defense also seem plausible, emphasizing the idea that the desire for self-protection may be hard-wired or the result of psychological abnormalities.

2.3. The current study

Using quantitative methods (regression analysis), this research identifies the mechanisms responsible for the practice of martial arts and self-defense tactics among young men in Canada over time. It examines whether these young men practice martial arts as a strategic response to insecurity and perceptions of dangerous environmental factors, or whether there is an additional growing popularity of martial arts over time that could reflect a cultural shift (i.e., a “UFC effect”) (Figure 1).

Figure 1. The practice of self-defense over time

To assess this relationship, the following hypotheses are presented:

Hypothesis 1 – Measures of insecurity, including prior victimization, police ineffectiveness, perceived neighborhood criminality, and a general dissatisfaction with personal safety will be positively associated with the practice of self-defense among young Canadian men.

Hypothesis 2 – If the practice of self-defense is increasing over time for young men, this relationship will be mediated or explained by these measures of insecurity.

Hypothesis 3 – The practice of self-defense will increase between 2004 and 2009, a time period during which the UFC and MMA experienced a surge in mainstream popularity.

Hypothesis 4 – An increase in the practice of self-defense among young men over time will remain significant above and beyond the effects of insecurity.

Chapter 3: Research methodology and analytic technique

3.1. The General Social Survey on victimization

The current study utilizes three waves of data from the Canadian General Social Survey (GSS). The GSS is a nationwide survey and spans across all provinces but excludes Yukon, Northwest Territories, and Nunavut. The primary objective of the survey is to study a variety of social trends occurring in Canada over time. Such trends include the formation of social networks, family, social support, and retirement, time use, aging and care giving, family history, and victimization. Given the nature of the research question, the study focuses on three waves (1999, 2004, and 2009) pertaining to victimization. The target population of the survey includes all persons over the age of 15, excluding individuals who have been institutionalized on a full-time basis. Data and information for the survey were collected using computer assisted telephone interviewing (CATI), with households selected using the random digit dialling (RDD) method; such a method indiscriminately generates the phone numbers used to reach households. Additionally, respondents were interviewed in the language of their choice. For the purposes of this study, only males age 15-35 are analyzed, as they represent a key demographic for the research questions. While the total sample includes just over 69,000 respondents, a specific focus on young men includes a final sample size of 9,049.

Though the victimization files date back to the late 1980s, only data from the last ten years are considered. There are two reasons for this: First, data from the first two cycles (1989 and 1993) are largely inconsistent with data from the last three; that is, some of the questions from the first two cycles are either worded differently or do not appear in later cycles, making it difficult for comparison. The 1999 cycle serves as the reference group for both the 2004 and 2009 cycles. A second reason is theoretical in nature and directly relates to the research

questions: In order to examine and consider the possibility of a "UFC effect", the time frame for which questions pertaining to self-defense and insecurity are asked must roughly correspond with the rise in popularity of the UFC and mixed martial arts in general. Because the UFC came under new ownership in 2001 (which ultimately led to its mainstream success), the last three cycles best approximate this relationship.

In general, the GSS is particularly useful for studying aggregate trends in large populations, and is done in a relatively unobtrusive manner. Both the nature (i.e., public accessibility) and structure of survey analyses allow for researchers to empirically assess theoretical claims pertaining to the social world (Bryman and Cramer 1990). Additionally, because the GSS is a large and nationally representative dataset, empirical validation (or lack thereof) based on such data is often valuable in a number of areas pertaining to law and the evaluation of public and social policy, such as crime control and self-defensive behavior (Kleck and Gertz 1995; Kleck 2004). Despite such utility, however, data based on the GSS also have their limitations.

Perhaps one of the more obvious limitations of using GSS data has to do with the exclusion of certain populations, as previously mentioned. Individuals residing in specific geographic locations or regions, including those who are incarcerated or institutionalized or without telephones or permanent addresses are excluded from questioning. Depending on the research question, such exclusion could significantly bias or skew results. For example, homeless populations and those with extremely low incomes have high risks of victimization but are not sampled or are underrepresented by the GSS. Additionally, the rise and popularity of cellular phones and other communicative devices may inhibit access to younger populations who do not subscribe to the use of landlines.

Closely related to the exclusion of persons from various regions is the problem of non-response. When administering large questionnaires like the GSS, respondents taking the survey often times skip questions, answer questions in a patterned fashion (i.e., acquiescence bias), or refuse to do the survey all together. In addition, some individuals may complete the survey but lie on some answers (e.g. social desirability bias).

Another limitation of using GSS data pertains to the way specific questions are phrased or worded. While the same questions are given to every respondent, they may be interpreted in different ways, and may not necessarily be reflective of the intended question. Such problems are often attributed to errors in measurement (Bound et al. 2001). For example, both novice and advanced students of martial arts may answer "yes" to taking a self-defense course, despite marked differences in their level of skill and duration of training. Subjective interpretations can make it difficult to ascertain an individual's thought process regarding a specific question. With respect to the current study, however, the risk of measurement error should be a random occurrence; that is, even if such a question is misunderstood by some of the respondents, it shouldn't have a significant effect on the overall pattern.

In addition to using and conducting survey-based analyses, the specific use of victimization surveys is invaluable to the study of crime-related patterns across Canada. In general, victimization surveys are useful for a variety of studies including information regarding the age, gender, race, socio-economic status, as well as the time, the type (i.e., property crime and violent crime), and the location (i.e., rural vs. urban) of crime for both victims and offenders (Gottfredson 1986). As is the case with surveys in general, such information is particularly useful in the formation and development of both legal and social policy (Tjaden and Thoennes 1998).

Similar to the general problems of large-scale, quantitative surveys, victimization surveys are also subject to issues of non-response, measurement error, and acquiescence bias. Skogan (1981), for example, found that the most significant problems associated with victimization surveys are associated with the victims' forgetting and the inaccurate recall of criminal events, the inability of survey makers to properly design and measure different types of victimization, as well as the fact that such surveys are highly susceptible to attrition bias. In the same way, O'Brien et al. (1980) note that discrepancies may exist between official crime statistics and the surveys that are based off of them (i.e., Uniform Crime Reports and National Crime Surveys). Such differences are often attributed to the "dark figure of crime", a phenomenon premised on the idea that, for a variety of reasons, a great deal of crime goes unnoticed or underreported by the legal system and victims alike (Coleman and Moynihan 1996).

3.2. Variables

The practice of self-defense among young men as a strategic response to insecurity can be tested directly since all relevant information is measured within the GSS. All variables in this study are measured in the same way that previous studies (i.e., Pare and Korosec 2010) have done in examining forms of protective or self-defensive behaviours. Operationalizing variables in this manner is beneficial because they are variables that have already been used in large, nationally representative datasets for studies of similar interest.

The dependent variable is self-defense and is measured using the following indicator, as provided within all waves of the GSS: "Have you ever taken a self-defense course to protect yourself or your property from crime?" Individuals who have taken a self-defense course are coded as 1 and those who have not are coded as 0. While there is no indicator that specifically references the use of martial arts, self-defense courses provide accurate measures because

instructors often incorporate a variety of martial arts techniques into their classrooms (Madden 1990).

The independent variables relating to fear of crime and insecurity are violent victimization within the past year, violent victimization over the life course, police ineffectiveness with crime control, perceived neighbourhood criminality, as well as dissatisfaction with personal safety. Violent victimization within the past year is measured by asking respondents about their experiences with various forms of victimization, including physical assault, sexual assault, verbal threats, stalking, and robbery over the past 12 months. The same questions are asked regarding victimization over the life course. For both questions, responses are coded as 1 for those who experienced violent victimization and 0 otherwise. Police satisfaction with crime control is measured by asking the following question: Do you think your local police force does a good job, an average job, or a poor job of ensuring the safety of the citizens in your area? Responses are coded as 1 for those who believe the police are ineffective and 0 otherwise. Perceived neighborhood criminality is measured according to an individual's subjective perception of how safe their community is. Individuals who feel that the level of crime in their community is high are coded as 1, while individuals who feel otherwise are coded as 0. In the same way, dissatisfaction with personal safety is subjective indicator and is measured according to how satisfied an individual is with their personal safety in general. Those who are dissatisfied with their personal safety are coded as 1, while those who are satisfied are coded as 0.

Because the GSS provides no direct way to measure the UFC's popularity and effect on self-defense enrolment, an indirect test based on theory must be made. Accordingly, the evidence of a "UFC effect" will be contingent upon finding a significant increase in the practice of self-

defense over and across the specified time frame (2004-2009), as such a period corresponds closely with the rise in popularity of the UFC and MMA in general. This pattern is also expected to remain strong and statistically significant even when the variables for fear of crime and insecurity are included in the analysis. It should be noted, however, that even if support for the "UFC effect" is found, results and implications should be viewed with caution, because alternative explanations are possible. Such issues will be specified and elaborated on in the discussion section.

By virtue of the target population, gender and age have already been controlled by design, as the study is focused on males aged 15-35. Place of residence (i.e., rural versus urban neighborhood) is controlled, as one would expect that young men living in urban areas would have greater access to self-defense training than would men living in rural areas, as well as a greater sense of insecurity/fear of crime. As previously mentioned, research (Cohen and Nisbett 1994; Felson and Pare 2010; Pare and Korosec 2010) has shown that self-defensive tactics may be specific to one's geographic location, such as the southern regions of the United States and the prairie provinces of Canada. Socioeconomic status (i.e., income and education) is controlled as well, with the assumption that both level of affluence and education would have an effect on the amount of access a young man would have in terms utilising a martial arts/self-defense course. For example, in order to train at the "Xtreme Couture MMA" gym, one is required to pay a \$50 activation fee. From there, price ranges can vary from \$100 per month, which includes the most limited of memberships, to \$450 per month, which includes the most advanced memberships.

Family income is separated into three categories: high (\$60,000 or more), middle (between \$20,000 and \$60,000), and low (below \$20,000) income. Level of education is also

divided into three categories, consisting of individuals with less than a high school education, those who have received a high school education, and those who are university educated. Racial or minority status is also an important consideration, as previous research has shown that some minority groups (i.e., blacks) have higher rates of violent victimization (Felson and Pare 2009, 2010), which may lead to self-defensive behavior. Minority status (i.e., non-Caucasian) is coded as 1 and 0 (i.e., Caucasian) otherwise.

3.3. Analytic technique

The data from the three cycles of the GSS on victimization are analyzed using SPSS computer software. The technique of choice for this analysis is logistic regression because the outcome/dependent variable of interest is dichotomous; that is, respondents answered either “Yes” or “No” when asked if they had ever taken a class in self-defense. The regression equation model for the research question is:

$$\text{Ln Odds (practice of self-defense)} = b_0 + b_1 (\text{victimization in past year}) + b_2 (\text{victimization over life course}) + b_3 (\text{police dissatisfaction}) + b_4 (\text{perceived neighbourhood criminality}) + b_5 (\text{dissatisfaction with personal safety}) + b_6 (2004) + b_7 (2009) + b_8 \text{ control variables} + e$$

(random error)

Essentially, this equation predicts the likelihood of young men engaging in the practice of self-defense while considering the effects of prior victimization, police satisfaction, the criminogenic elements of a given neighbourhood, how satisfied one is with personal safety, as well as sociodemographic characteristics pertaining to geographic region, level of education, household income, and minority status. As previously mentioned, the third cycle of the GSS (for the year of 1999) is not used in this equation, as it will serve as a reference point in comparison to all other years. Each cycle of the GSS is dummy-coded for changes over time. Dummy coding each cycle allows for any one cycle to be analyzed in reference to all others in terms of significance. This

makes it possible to determine whether a trend has been developing. Given the variables of interest and analytic technique, the following section will focus on, and provide results for the current study, with a focus on both descriptive and multivariate analyses.

... the following section will focus on, and provide results for the current study, with a focus on both descriptive and multivariate analyses. ...

... the following section will focus on, and provide results for the current study, with a focus on both descriptive and multivariate analyses. ...

Chapter 4: Results

4.1. Descriptive statistics

In Table 1, descriptive information for 9,049 men aged 15 to 35 is presented for all variables used in the analyses of the victimization surveys. With respect to the dependent variable, 16.1 percent ($n=1,457$) of respondents indicated they had taken self-defense course for protection. In terms of violent victimization, 12.9 percent ($n=1,168$) of the men reported experiencing some form (i.e., getting hit, slapped, shoved, beaten, shot, threatened, etc.) within the past year, while an additional 16 percent ($n=1,444$) reported they had experienced some form of victimization over the lifecourse. Other measures of insecurity, including perceived police ineffectiveness, perceived neighborhood criminality, and satisfaction with personal safety were relatively low among respondents: 5.8 percent ($n=525$) of young men believed that the police were ineffective in ensuring their safety; 9.1 percent ($n=826$) believed that their neighborhoods were highly criminogenic; and 3.7 percent ($n=338$) indicated that they were generally dissatisfied with their personal safety.

Regarding geographic location, the results reveal that the majority of men sampled reside in urban or city-based locations (79 percent; $n=7,147$) while a minority inhabit rural or farm-based communities (21 percent; $n=1,902$). Large, urban areas are often characterized by commercial and entertainment complexes, convention centers, as well upscale residential developments, and are often referred to as the Central Business Districts (CBD) of cities (Cybriwsky 1999). Based on the numbers, it is plausible to believe that the practice of self-defense and martial arts may be more popular in such areas, as they would likely be readily accessible and marketable to large and diversified populations. Such an idea will be discussed in greater detail later on.

For family income, results indicate that the majority of men fall within the middle and high income categories: 31.8 percent (n=2,876) of respondents earned more than \$60,000 per annum; 33.5 percent (n=3,031) earned between \$20,000 and \$60,000; 7.6 percent (n=687) earned less than \$20,000; while 27.1 percent (n=2,455) were unable to state their level of income. The relatively large percentage of men who were unable to definitively state their income may be partially attributed to having either a very high or very low income. In terms of social desirability, individuals who generate little or no financial capital may state their income as unknown to avoid feelings of embarrassment or inferiority. By the same token, affluent individuals may state their income as unknown because they are uncomfortable in disclosing just how wealthy they really are. There is also the possibility that such individuals became affluent as the result of illegal activities or enterprises and, by disclosing their personal income, believe they may draw the unnecessary attention of authorities. Additionally, it should be noted that the high concentration of young men in the middle and upper income brackets is likely due to the fact that they still live with their parents and are thus stating their parents' income instead of their own.

In terms of education, the results are somewhat dispersed, though higher education appears to hold a slight majority over the other two categories: 40.4 percent of respondents (n=3,657) indicated that they were university educated; 34.6 percent (n=3,134) indicated they had received a high school education; while 25 percent (n=2,258) indicated they had less than a high school education. While 25 percent may seem like a relatively high number for those without a high school education, it should be noted that the majority of those respondents (23.6 percent; n=2,140) fall within an age range (i.e., 15-18) to which the completion of high school and university is not yet applicable. An examination of the last sociodemographic variable,

minority status, indicates the sample to be comprised mostly of non-visible minorities, as 86.1 percent (n=7,788) of respondents identified themselves as Caucasian.

Table 1. Descriptive Results (n = 9,049).

Dependent variable	(%)
Taken a self-defense course	
Yes	16.1
No	83.9
Independent variables	
Time	
Wave 1999	42.8
Wave 2004	34.3
Wave 2009	23
Violent victimization	
Past year	
Yes	12.9
No	87.1
Over lifecourse	
Yes	16
No	84
Police effectiveness	
Ineffective	5.8
Effective	94.2
Perceived neighborhood criminality	
High	9.1
Low	90.9
Satisfaction with personal safety	
Yes	96.3
No	3.7
Control variables	
Place of residence	
Rural	21
Urban	79
Income	
High (Above \$60,000)	31.8
Middle (\$20,000-60,000)	33.5
Low (Below \$20,000)	7.6
Unknown	27.1
Age	
15-17	14.9
18-19	8.8
20-24	20.8
25-29	25.2
30-34	30.4
Level of education	
Less than high school	25
High school	34.6
University	40.4
Minority status	
Yes	13.9
No	86.1

With respect to the sample of interest, it is evident that a small but significant amount of young men have taken a self-defense course. As such, the next section will examine these men

using binary logistic regression to identify and establish any contributing factors or trends that may facilitate the practice of self-defense. Following this, a discussion of the findings will be presented.

4.2. Multivariate analyses

Table 2, which consists of three different models, presents information regarding the multivariate analyses of the factors hypothesized to contribute to the practice of self-defense among young men. The first model focuses only on changes over time with respect to the practice of self-defense, using the 1999 wave as a reference model for the 2004 and 2009 waves; the second model accounts for both time and sociodemographic variables (i.e., place of residence, income, etc.); while the third and final model accounts for time, sociodemographic variables, as well as measures of fear and insecurity (i.e., prior victimization, neighborhood criminality, etc.).

Regarding a change over time in the practice of self-defense, results indicate that such activity has decreased over all three waves of the victimization surveys. The men surveyed in 2004 practiced self-defense less than the men surveyed in 1999, and the men surveyed in 2009 practiced self-defense less than the men surveyed in 2004. Such a finding is inconsistent with the UFC hypothesis. In order to garner support for this hypothesis, participation in self-defense would have had to subsequently increase between each wave. However, while the practice of self-defense is decreasing over time for young men, there is strong support for its practice as a rational response to actual or perceived dangerous environmental factors.

Table 2. Logistic regression predicting the practice of self-defense (Standard error in parentheses; n=9,049).

	Model 1	Model 2	Model 3
Time			
Wave 2004	-.218** (.065)	-.228** (.066)	-.231** (.067)
Wave 2009	-.319** (.076)	-.340** (.077)	-.325** (.078)
Violent victimization			
Past year	--	--	.960** (.076)
Over lifecourse	--	--	.582** (.076)
Police ineffectiveness	--	--	.255* (.114)
Perceived neighborhood criminality	--	--	.202* (.095)
Dissatisfaction with personal safety	--	--	.299* (.137)
Control variables			
Residence			
Rural	--	-.255** (.076)	-.194* (.077)
Income			
High	--	.066 (.118)	.135 (.120)
Medium	--	-.023 (.116)	.043 (.118)
Unknown income	--	.118 (.118)	.235 (.120)
Age	--	-.080** (.026)	-.075** (.027)
Level of education			
High school	--	.198* (.084)	.198* (.085)
University	--	-.140 (.095)	.167 (.097)
Minority status	--	.002 (.083)	.047 (.084)

*p<.05; **p<.01

All measures pertaining to fear and insecurity yield positive and significant effects, the most pronounced of which involve the experience of prior victimization. Young men, particularly those who have been violently victimized within the past year are the ones most likely to participate in a self-defense course (.960; $p < .01$). Similarly, the experience of violent victimization over the lifetime is also a contributing factor (.582; $p < .01$). The perception of a dangerous or unsafe environment appears to facilitate participation, as well. Men who were generally dissatisfied with their personal safety (.299; $p < .05$), men who viewed their neighborhood as being criminogenic (.202; $p < .05$), and men who viewed the police as an ineffective provider of safety (.255; $p < .05$) were all significantly more likely to take up self-defense.

In addition to fear and insecurity as proximal measures for practicing self-defense, sociodemographic characteristics also give way to the initiation of such activity. The older men become, the less likely they are to practice self-defense (-.080; $p < .01$). Men with high school education are also more likely to practice self-defense (.198; $p < .05$). In addition, men living in rural locations appear less likely to practice self-defense than their urban counterparts (-.194; $p < .01$). On the other hand, income and minority status do not appear to have an effect on the decision to engage in self-defense.

Based on the models presented, evidence supporting the notion of the UFC hypothesis between 1999 and 2009 is not found, with an actual decline in self-defense occurring instead. Of the men who practice self-defense, fear of crime and feelings of insecurity appear to be the best predictors for doing so. It could be, however, that the UFC effect is only applicable to certain groups, and that the presence of such a pattern may be contingent upon an individual's socioeconomic status. This possibility is certainly plausible, as the UFC brand is marketed

toward, and appeals to men working in blue-collar sectors, many of whom would fall in the middle-to-lower income brackets. The following section will provide supplementary analyses and will address this possibility, among others, to determine if there is support for the UFC effect regarding specific subsections of the young men already sampled.

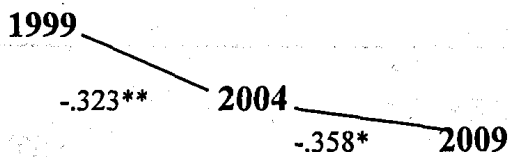
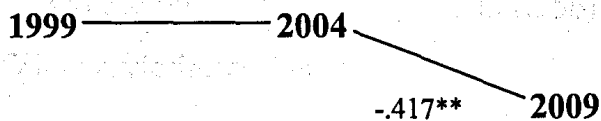
4.3. Supplementary analyses

Table 3 uses logistic regression to predict the practice of self-defense by income bracket, and yields some interesting findings. To begin, the downward trend in the practice of self-defense by young men over time found in the previous models is not consistent across all income brackets. For the young men in the bracket of less than \$20,000 per year, a significant decrease is apparent between 1999 and 2004 (-.663; $p < .01$), but such a trend disappears between 2004 and 2009. This indicates that the men from 1999 are no different from the men in 2009 with respect to the practice of self-defense, a finding that is partially supportive of the UFC hypothesis. For both the middle and upper-level income brackets, a significant decrease over time is also apparent, but for different years. Whereas participation in self-defense decreased over all three waves for the men in the \$20,000 to \$60,000 bracket, participation in self-defense only decreased between 2004 and 2009 for the men who made more than \$60,000. Figure 2 provides an illustrative account of the time trend across income bracket.

Figure 2. The practice of self-defense over time by income bracket.

Lower bracket (< \$20,000)



Middle bracket (\$20,000-60,000)**Upper bracket (> \$60,000)**

+The dashed line in the lower income bracket model is used to illustrate similarity between the men sampled in 1999 and 2009.

With respect to measures of fear and insecurity, the experience of prior victimization, both over the past year and the lifecourse, remains the best predictor for engaging in self-defense for all three brackets. Other indicators, including perceived police effectiveness, neighborhood criminality, and satisfaction with personal safety, are less consistent across brackets. Specifically, these measures are only applicable to lower and upper income categories. For those who made less than \$20,000, police effectiveness (.454; $p < .05$) and neighborhood criminality (.665; $p < .05$) were shown to significantly impact the practice of self-defense. This was not the case for the upper bracket: While individuals making more than \$60,000 per year were concerned with the ineffectiveness of their police force (.417; $p < .05$), they were most concerned with their personal safety (.700; $p < .01$). In terms of sociodemographic measures, level of education appears to be the strongest predictor for self-defense, though it only applies to the men in the middle income bracket. Those with either a high school (.585; $p < .01$) or university (.515; $p < .01$) education are more likely to practice self-defense than are those without a high school education.

Table 3. Logistic regression predicting the practice of self-defense by income bracket (Standard error in parentheses; n=9,049)

	<\$20,000	\$20,000-60,000	>\$60,000
Time			
Wave 2004	-.663** (.255)	-.323** (.116)	-.167 (.122)
Wave 2009	-.233 (.356)	-.358* (.179)	-.417** (.135)
Violent victimization			
Past year	1.058** (.277)	.859** (.139)	1.272** (.135)
Over lifecourse	1.173** (.266)	.498** (.132)	.521** (.133)
Police ineffectiveness	.454* (.271)	.203 (.206)	.417* (.201)
Perceived neighborhood criminality	.665* (.299)	.218 (.158)	.192 (.177)
Dissatisfaction with personal safety	-.735 (.495)	.203 (.254)	.700** (.245)
<u>Control variables</u>			
Residence			
Rural	-.014 (.287)	-.166 (.131)	-.253 (.148)
Age	-.166 (.101)	-.095 (.050)	.044 (.052)
Level of education			
High school	-.173 (.284)	.585** (.170)	.130 (.187)
University	-.055 (.331)	.515** (.179)	-.026 (.203)
Minority status	-.204 (.278)	.105 (.148)	.228 (.173)

*p<.05; **p<.01

As was the case for the previous table, Table 4 also uses logistic regression to predict the likelihood of practicing self-defense with regards to whether one lives in an urban or rural location. Prior research regarding other forms of self-protection (Felson and Pare 2009; Pare and Korosec 2011), including guns, knives, and mace, indicates that a patterned difference exists

according to the geographic region in which one lives. Consequently, there is reason to believe that this may also be the case for practice of self-defense among young men.

For both urban and rural communities, the practice of self-defense is decreasing over time. Again, prior victimization remains the strongest predictor of self-defense for both regions. However, the two regions differ with respect to perceived police effectiveness (.347; $p < .01$) and satisfaction with personal safety (.323; $p < .05$); such indicators appear to be rural-specific. Additionally, young men from rural communities with only a high school education are more likely to practice self-defense (.195; $p < .05$).

Table 4. Logistic regression predicting the practice of self-defense: Urban vs. rural communities (Standard error in parentheses; N=9,049)

	Urban	Rural
Time		
Wave 2004	-.445** (.163)	-.191** (.074)
Wave 2009	-.348+ (.181)	-.323** (.087)
Violent victimization		
Past year	1.094** (.178)	.932** (.085)
Over lifecourse	.569** (.199)	.583** (.083)
Police ineffectiveness	-.204 (.305)	.347** (.124)
Perceived neighborhood criminality	.412 (.306)	.187 (.100)
Dissatisfaction with personal safety	.135 (.376)	.323* (.147)
<u>Control variables</u>		
Income		
High	-.192 (.283)	.202 (.133)
Medium	-.225 (.271)	.100 (.131)
Unknown income	-.018 (.279)	.289* (.134)
Age	-.087 (.059)	-.069* (.030)
Level of education		
High school	.182 (.187)	.195* (.096)
University	.268 (.210)	.140 (.109)
Minority status	-.547 (.418)	.077 (.087)

* $p < .05$; ** $p < .01$

+ $p = .054$. With the alpha level set to .05, this value is not statistically significant; however, in terms of practical significance, its consideration is warranted.

Chapter 5: Discussion

The goal of this study was to examine two ideas pertaining to the practice of self-defense among young men over time in Canada. The first perspective sought to understand self-defense as a rational response to perceived or real threats occurring in one's social environment. Such a perspective is congruent with rational choice theory, and can be framed in the context of a neo-liberal response to crime control by police and government officials alike. From this perspective, young men practice self-defense in a rational manner because they are fearful of the surrounding social environment. This may be due, in part, to policy changes in the form of crime control; State responsibilities, such as ensuring the personal safety of citizens, have now become the responsibility of the individual.

The second perspective sought to understand the practice of self-defense as more of a cultural phenomenon, one characterized by the glorification and rewarding of violence and other forms of hypermasculine behaviour resulting from the rise of what is now considered the most popular form of combative sport worldwide, the UFC. Of the two perspectives, evidence for the practice of self-defense in response to a dangerous environment is quite strong, whereas evidence for the UFC hypothesis is, for the most part, absent. These findings will now be discussed in greater detail.

5.1. Fear of crime, insecurity, and self-defense.

Results based on the binary logistic regression model are strongly supportive of the first hypothesis and the perspective that self-defense courses serve as a way to mitigate feelings of unrest with regards to personal safety.

Prior victimization

The strongest measure pertaining to fear and insecurity is prior victimization, be it within the past year or over the lifecourse, though the past year appears to be the stronger of the two. This finding suggests that the immediacy of victimization factors into the decision to partake in a self-defense class. By responding to their victimization or grievance in a timely fashion, young men may not only find psychological solace in knowing that they are being proactive in protecting themselves, but also, they are able to use the skills necessary to physically thwart future perpetrators from victimizing them. For these men, the experience of violent victimization may serve as a sort of warning, a harsh lesson reminding them that complacency with personal safety is no longer an option. Such an idea is congruent with a rational choice perspective, as well as Tedeschi and Felson (1994) and Black's (1986) contentions regarding a cost-benefit analysis with respect to victimization, self-help, the use of instrumental aggression, and the notion of saving face when confronted with a situation that may compromise or undermine one's personal identity. In addition to providing a psychological sense of security, enrolling in a self-defense class may be rational for other reasons, as well.

By participating in self-defense, one may also reap the physical and social benefits that are associated with its practice. For the former, practicing self-defense may serve to improve one's physical fitness (e.g., cardiovascular health and weight loss). Certainly, self-defense classes constitute a form of exercise, one that can be quite challenging depending on the level of rigor and endurance. For the latter, self-defense courses, like other types of exercise classes, may foster a sense of camaraderie and networking among participants. Not only are individuals acquiring the necessary physical skills to defend themselves, but they are also able to share in the experience of others looking to do the same thing.

Police effectiveness, satisfaction with personal safety, perceived neighborhood criminality

Perceived police effectiveness and satisfaction with personal safety also impact whether young men engage in self-defense, a finding that is also supportive of the first hypothesis pertaining to fear and insecurity. What is it about these young men in particular that make them more likely to enrol in a self-defense course? Surely, not everyone is satisfied with their police force or their personal safety, but not everyone takes a self-defense class because of it.

Perhaps said individuals have embraced a proactive, "do it yourself" mentality in which they, and nobody else, can adequately protect them from crime, a rationale that draws parallels to the neo-liberal response for crime control. Recall that one of the goals regarding the neo-liberal agenda is to make citizens more aware and accountable for their personal safety. It would appear as though this idea has resonated among some of the men. Though technically not a form of vigilantism, the practice of self-defense among these young men may serve to fill a void, a way of delivering a tangible form of security in situations where the criminal justice system is unable. However, it is important to note that, for the most part, most men were satisfied with the effectiveness of the police and personal safety, and that the minority of men who were dissatisfied likely came from a specific income bracket and geographic region. This idea will be elaborated on in a discussion of the supplementary analyses.

Perceived neighborhood criminality, or the degree to which criminogenic elements are prominent in a given locality, also factors into the decision to engage in self-defense. Desperate times often call for desperate measures, and young men living in crime-prone areas may view the practice of self-defense as but one necessary measure, among others. Similar to the experience of prior victimization, proficiency in self-defense could serve as a requisite skill for living and surviving in neighborhoods that are particularly dangerous. Analogous to Anderson's (1999)

“code of the street” and Katz’s (1988) notion of the “badass”, these individuals may practice self-defense not only to protect themselves against the frequent danger and uncertainty that is characteristic of dangerous neighborhoods, but to also let would-be victimizers know that they are not easy or susceptible targets.

Additional factors

With respect to place of residence, income, level of education, and minority status, only place of residence significantly impacted the decision to engage in self-defense. While a downward trend is evident for both rural and urban regions, men living in rural areas practice self-defense significantly less by comparison. What is it about living in rural Canada that negatively impacts the practice of self-defense?

First and foremost, rural regions of the country are sparsely populated, with inhabitants often having to commute to larger, urban areas for a number of amenities, both commercial and otherwise. Like many other businesses, it might be that gyms offering self-defense classes are located within the Central Business Districts of large cities. For young men living outside the city, then, a lack of accessibility and the inconvenience of commuting may deter them from enrolling in a self-defense class. Additionally, it could also be that men residing in rural locations practice self-defense less because, by virtue of proximal distance from one another, they are not subject to the same forms of victimization that characterize large, urban centers. While measures of fear and insecurity have been controlled with regards to region, it could be that living in the city is qualitatively different in terms of how one views crime. For example, metropolitan areas often have districts or neighborhoods that are notorious for violence and criminal activity (i.e., “Skid Row” in Vancouver; the corner of Jane and Finch in Toronto); such areas are presumably of much less concern to rural inhabitants.

Supplementary analyses: Insecurity, income bracket, and geographic region

The goal of conducting supplementary analyses was to identify and examine specific patterns among and between different income brackets and geographic regions with respect to the practice of self-defense. Such analyses proved fruitful, as a number of interesting patterns emerged, all of which will now be discussed. Additionally, it should be noted that patterns consistent with previous models (i.e., prior victimization) will not be discussed, as they are without novelty.

That some measures of fear and insecurity vary in accordance to one's income bracket is illustrative of a subjective interpretation of the legal system as determined by the economic standing of specific groups. Regarding the income model, men in both the lower and upper brackets were significantly more likely to practice self-defense due to the perception that their police force was ineffective, a finding that was absent for men in the middle bracket. This begs the question as to why dissatisfaction with the police increases the likelihood of practicing self-defense for the men in these brackets. Why does this trend not occur for men in the middle bracket?

It is reasonable to assume that the men of the lower income bracket reside in neighborhoods or communities that are reflective of their income. A low income is synonymous with poverty, and poverty synonymous with crime, among other things. Crime-prone neighborhoods are more likely to attract a significant amount of police attention, and such attention may foster feelings of resentment and cynicism toward the goals of law enforcement (Klinger 1997). The targeting of criminal "hotspots" in these areas by the law enforcement officials, for example, may lead neighborhood residents to believe that they are the only ones receiving negative police attention; attention that could be better directed at other social

problems. If the police are seen as hindering rather than improving the quality of life in these neighborhoods, individuals may take it upon themselves to ensure their safety, with self-defense being a viable option.

For men in the upper bracket, a similar logic may apply, although such insecurities may be based on subjective rather than objective measures. A higher income is presumably accompanied by the luxury of residing in an area whereby safety is at a maximum, crime a minimum, and security is at one's disposal. At first glance, then, it may seem odd that these men would view the police as ineffective. It could be that, while the risk of victimization is relatively low, men in the upper bracket still feel threatened in a general sense, a notion consistent with Beck (1992) and Giddens' (1999) contention regarding manufactured risk in modern society. The pervasiveness and ability of crime to affect all members of society may leave the men in this category feeling particularly susceptible to victimization, warranted or not. In addition to gated communities, privatized security, alarm systems, cameras, locks, and the like, a supplementary form of security like self-defense may be seen as yet another way of ensuring one's safety in a world characterized by uncertainty.

Lastly, results from the supplementary analyses reveal that one's level of education plays a role in the participation of self-defense, though it is only apparent for the middle-class. This is a difficult finding to explain, as there is no logical argument as to why educational attainment is specific to the middle-class with regards to self-defense. As such, potential explanations will not be given, as they would be based on pure speculation.

5.2. The UFC hypothesis.

Overall, support for the UFC hypothesis, which would be indicated by an increase in the practice of self-defense among young men between 1999 and 2009, is not observed. Instead, a

downward trend is occurring, as the men sampled in 2009 actually practiced less than the men in both 1999 and 2004. Such a trend disconfirms hypotheses two, three, and four regarding an increase in the practice of self-defense over time with respect to the influence of a potential “UFC effect”. With the popularity and headway made by the UFC in terms of marketing strategy and mainstream acceptance over the past decade, a significant decline in the practice of self-defense for a target demographic is somewhat befuddling. In the coming paragraphs, a number of possible explanations will be put forth, the first of which focusing on discrepancies between viewing and competing.

Armchair athletics

It could be that, irrespective of the UFC’s target audience and recent surge in popularity, young men are more content in viewing rather than participating in self-defense and MMA, an idea that is synonymous with the notion of “armchair athletics/quarterbacking”. For the armchair athlete, living vicariously through their favorite player or fighter is sufficient in placating their desire or need for competition. Recall Cheever’s (2009) study regarding the gratifications of viewing and participating in mixed martial arts. A number men in her study acknowledged that watching their favorite MMA athletes in action produced a sort of vicarious thrill or sensation. Given the nature of the sport, the possibility of an influx of armchair athletes makes sense. Put simply, MMA is a brutal and dangerous sport characterized by cuts, bruises, broken bones, concussions, cartilage damage (i.e., “cauliflower ear”), among other things. At the most recent UFC event, for example, Mark Hominick, the number one contender for the UFC’s Featherweight Championship, endured such a beating throughout his fight that he sustained a hematoma (an injury that can lead to serious brain damage) to his forehead (Pitt 2011). For a first

time, casual, or even avid viewer of the sport, witnessing the serious, physical repercussions of fighting firsthand could prove to be a strong deterrent against actual participation.

Measurement discrepancies and the social desirability bias

The absence of a UFC effect may also be attributed to measurement discrepancies regarding self-defense and MMA. That is, the practice of self-defense may not necessarily be indicative of an actual interest in MMA. Though self-defense classes do incorporate a number of martial arts techniques into their regimen, and though a significant number of the men sampled (16 percent) did practice self-defense, the likening of self-defense to the UFC and MMA in general may not have resonated among this population. Measurement discrepancies, as well as their implications, will be further discussed with the concluding remarks of this paper.

Related to differences in measurement, another possible explanation for the apparent downward trend pertains to how self-defense classes are generally viewed with respect to the notion of social desirability. As previously mentioned, a social desirability bias occurs when individuals answer questions dishonestly in order to be viewed favorably by others. It could be that a number of men surveyed did not equate self-defense courses with the UFC or other MMA-related activities because they might appear effeminate. Generally speaking, self-defense courses are synonymous with the empowerment and liberation of women from interpersonal violence and spousal abuse, an idea that is reinforced by the fact that the majority of academic literature regarding such measures focus on the female response to violent victimization (i.e., "battered woman syndrome") (e.g., Faigman 1986; Maguigan 1991; Rosen 1992, etc.). By admitting to taking a self-defense course, a sort of cognitive dissonance may arise whereby young men feel as though their masculine identities have been compromised by participating in something that has been traditionally viewed as feminine.

Self-defense vs. other forms of protection

As previously mentioned, other research (i.e., Felson and Pare 2009; Pare and Korosec 2011) has indicated that self-defense is often accompanied by other forms of protection, including the use of guns and knives. With the current study focusing on self-defense in the context of unarmed combat, it could be that its practice is simply not enough for men who are particularly fearful of crime and victimization. The nature of victimization (e.g., assault), coupled with a lack of faith in the ability of the police to provide protection in crime-prone areas may entice young men to acquire more lethal means of protection. The acquisition of more lethal weaponry may provide a greater sense of security, and may serve to mitigate threats in ways that self-defense cannot. Guns have the potential to be extremely lethal and, irrespective of whether one decides to actually use it during a confrontational, their mere presence is enough to let perpetrators know the gravity of the given situation; this may not be the case for those with just a background in self-defense. After all, guns are referred to as the great equalizer and, if bringing a knife to a gun fight is insufficient, unarmed self-defense is likely to be viewed by practitioners in the same way.

Perceived risk: Canada and the U.S.A.

A decline in the practice of self-defense may also be indicative of a perception that, relatively speaking, Canada is a safe and hospitable place to live. Presumably, safer countries require fewer measures of security, including the practice of self-defense. This view would likely be influenced by the reputation of Canada's closest neighbor, the United States, with regards to specific and general violence. Canadian men, many of whom are likely to be direct consumers of American media (i.e., CNN and NBC), may believe that, compared to Canada, America is a

more dangerous place to live. Though speculative in nature, it is not unreasonable to consider this possibility.

In terms of geographic layout, the United States consists of a number of large, metropolitan areas, and the characteristics of such areas (i.e., crime, poverty, contraband, etc.) may influence Canadians' perceptions of life in America. Considering that a great deal of crime occurs in large cities, as well as the fact that crime-related events comprise a significant portion of news reporting, Canadians may very well view their country as the safer of the two. For example, Yin's (2011) research on the differences in perceptions of vulnerability between Canadians and Americans with regards to border security indicates that many Canadians view drugs, guns, gangs, and violent crime as threats that are synonymous with the United States. Though Canada is subject to these same problems, the fact that they may be less pronounced may factor into the decision or need to practice self-defense.

The legal ramifications of self-defense

In the same way that the practice of self-defense can be regarded as a rational response to a dangerous environment, a lack of participation among young men may also be indicative of that same logic, though the notion of danger is substantially different and is predicated on the legal repercussions associated with such training. Being trained in, and subsequently using self-defensive tactics such as martial arts in certain situations may be regarded as an aggravating criminal factor by the law. If the perception exists that using techniques learned through self-defense courses works to one's legal detriment, such practice may be avoided altogether. For example, in some American states, including Wyoming and Minnesota, the courts have taken into consideration a criminal defendant's experience in self-defense (i.e., boxing and karate) when determining the validity of a self-defense claim (see *Trujillo v. State* 1988 or the Matter of

the Welfare of D.S.F. 1988). Though this is based on American legal precedent, as well as the fact that citizens are not legally required to disclose their background in self-defense in the same way required for guns, it is possible that the notion of self-defense as a form of lethal weaponry has reverberated among Canadian men to the extent that it inhibits its practice.

According to Canadian law, and related to the British Heritage of Common Law, Canadians are legally obligated to defer engagement when confronted with a violent or dangerous situation, and are expected to call the police instead. As such, Canadians are only allowed to claim self-defense as legitimate in incidents involving lethal or mortal danger to one's self or others; such a defense is not considered valid for non-lethal incidents like street fights or burglaries, and could thus inhibit the decision to practice self-defense.

Supplementary analyses: Income and the UFC hypothesis

Though support for the UFC hypothesis is, by and large, not observed, results based on the supplementary analyses of income bracket suggest the possibility of a small effect among men in the lower bracket. Between the 1999 and 2004 waves, the practice of self-defense significantly decreases, and is consistent with the overall downward trend. However, no such trend is apparent when comparing the 1999 and 2009 waves, indicating an increase in the practice of self-defense between 2004 and 2009. Why is it that support for the UFC hypothesis is specific to one's earning potential?

While the marketing of strategy of the UFC appeals to young men across all social classes, the degree of influence might vary based on economic standing. Among the middle and upper-classes, it is possible that individuals view the promotion and their fighters as a form of pure entertainment whereby their association and perception of MMA does not extend beyond televised viewing, a contention synonymous with the aforementioned "armchair athlete". For

members of the lower-class, however, the appeal of the UFC and MMA may extend beyond televised entertainment to an identification and association with a particular lifestyle.

Previously, a suggestion was put forth that individuals living in dangerous, lower-class neighborhoods may practice self-defense as a way to adhere to or abide by a bad ass or street-oriented mentality for the purpose of security. Here, a similar logic applies, though it is based on aesthetic appeal rather than precautionary measures. Men of the lower-class may be influenced by the UFC brand because, to them, fighters serve as role models or status symbols. The UFC's athletes are glorified and financially compensated for exhibiting characteristics (i.e., toughness and sex appeal) that are revered in dangerous neighborhoods, and this may entice young men to follow suit in the hopes that they, too, will be viewed by their peers in a similar fashion.

5.3. Limitations, implications, and future research

Though the current study provides perspective regarding time trends, insecurity, the practice of self-defense and, to a much lesser extent, the influence the UFC and MMA has had on the decision to participate in said activities, the limitations of such research should also be considered. The following paragraphs will highlight these limitations with a specific focus on measurement. Additionally, the potential implications as well as the direction of future research for this area of interest will be presented.

As previously mentioned regarding the absence of a UFC effect, young men may not associate self-defense courses with MMA, irrespective of the incorporation of techniques from a number of disciplines. The main problem in using the victimization surveys to test for such an effect, then, pertains to the fact that there is no direct measure of participation in MMA. Had an indicator regarding the specific practice of MMA been constructed or made available, young men may have responded differently. Additionally, because the victimization survey poses

questions pertaining to crime-related incidents and nothing else, there is no real way of knowing if the men who do practice self-defense also watch the UFC and MMA. Lastly, and though the notion hegemonic masculinity served as more of a theoretical framework for the current study, the victimization surveys are without any indicator of hypermasculine behavior; these are indicators which would presumably influence UFC viewership and the participation in MMA.

Future research in this area could focus on the construction of a questionnaire consisting of indicators specifically designed to measure and account for these factors, and would likely yield more definitive and meaningful results regarding the UFC hypothesis. Additional support for the UFC hypothesis may also be found using qualitative methodologies. For example, future research might seek to conduct in-depth interviews with members, instructors, and owners of training facilities that specialize in MMA, with the interview schedule primarily focusing on the motivations to become involved with the sport. Prospective research might also look to do a comparative analysis with respect to cross-national differences, as well as differences in gender and the practice of self-defense.

A comparative analysis of Canada and the United States, for example, could provide insight as to whether feelings of fear and insecurity are more pronounced for Canadian or American men while, at the same time, assessing the likelihood of self-defense as a rational response for each group. Given the presence of guns in the United States, it would be interesting to see whether Americans view self-defense courses in a way similar to Canadians. Regarding the UFC hypothesis, researchers could also compare rates of participation with UFC viewership to assess whether any marked difference exists between the two countries using a newly designed questionnaire. In examining gender differences, the same logic applies.

By comparing men and women on measures pertaining to insecurity and self-defense, future research might be able to identify existing differences in rationale between the two sexes. Men and women perceive and experience their social environments differently, and it is plausible to assume that this might also be the case for something like the practice of self-defense. For example, the specific reasons as to why women practice self-defense could be gender-specific (e.g., protection from sexual assault or domestic violence). Finally, a comparative analysis between men and women could examine the presence of a potential UFC effect for women. While women do not constitute the target demographic of the UFC, the fact that professional female MMA fighters exist suggests that analysis is warranted.

Results based on insecurity and fear of crime also yields important implications. The General Social Survey on victimization has a variety of quality indicators that are well-suited for measuring feelings of insecurity and the rates of various violent crimes. The range of indicators, coupled with the specificity in which they are presented, allows for one to be confident in measuring and assessing a given research question. Such is the case for the current study, and from this one is able to glean information regarding the nature and desire for self-defense.

If individuals are more likely to practice self-defense because they are dissatisfied with their personal safety and the inability of their police force to provide adequate protection, then perhaps law enforcement officials should allocate more resources toward the alleviation of such feelings. One way of achieving this would be to place a greater emphasis on community-oriented policing, a form of patrol that is premised upon a proactive relationship between officers and citizens in the reduction of crime (Mirsky 2009). Such emphasis would be particularly favorable to those living lower-class, urban neighborhoods (Freeman 1989), as working closely together with residents would likely foster a sense of trust rather than resentment.

If citizens feel as though the police actually care about them and the problems specific to their community, then they are likely to view the goals of law enforcement as part of a solution as opposed to a problem. However, the introduction of community-oriented policing raises some important questions. To what extent should the police ensure the protection of citizens? Surely, it is the goal of the police to serve and protect, but they can only do so to a certain degree. Does community-oriented policing strike a fair and realistic balance between officer and citizen? How does this pertain to the neo-liberal mentality regarding crime control, and can it work to curb its influence?

Working in tandem with neighborhood residents in matters pertaining to crime reduction can be beneficial in preserving the balance between the State and the individual with regards to protection. As previously stated by Garland (1996), the difficulty in modern crime control relates to an imbalance of duty between the State and citizens; the State needs to be seen as a legitimate provider of security, but not to the point where they are being viewed as meddlesome or intrusive. With a form of policing focused on citizen input, this goal can potentially be achieved or, at the very least, improve the view of the police among those who feel as though they have been slighted by their previous efforts.

By creating a positive presence and subsequent influence in local communities, police officers and the State alike may bolster support for the idea that they are there for their citizens. By the same token, positive interaction may facilitate the acceptance of individual precautionary measures regarding personal safety. Citizens may be more receptive to suggestions given by the police if they perceive them to be making an effort to ensure their well-being. Put simply, a positive working relationship with the police force promotes the idea that crime prevention is a reciprocal, two-way street in which both residents and law enforcement officials are expected to

make equal contributions rather than shoulder the burden individually. Yet, while a citizen-police partnership may work to reduce tangible measures of insecurity (e.g., neighborhood burglaries), additional measures could focus on ways to reduce more general feelings of anxiety, such as the way criminal events are portrayed in the media.

Feelings of insecurity and the perceived need for self-defense may be alleviated by curbing biased media depictions of violent crime. With regards to the content of many news programs, crime-related events comprise a great deal of the material covered. And, while violent crime accounts for a very low percentage of the overall crime rate in Canada (Brazeau and Brzozowski 2008), these are the types of crimes that are likely to receive the greatest amount of coverage. Focusing on single and often isolated events can create hypothetical crime scenarios among viewers (Weaver and Wakshlag 1986), and may lead to the perception that one's social environment is much more dangerous than it actually is. It should be noted, however, that the cessation of coverage regarding particularly violent crimes is a difficult and somewhat unrealistic goal. Such stories are both serious and newsworthy, and to omit them would be a disservice to the general population. Nevertheless, the amount of time devoted to these events, as well as the light in which many of them are portrayed are done with the intent of creating entertainment and bolstering ratings for networks.

The suggestion, then, is to continue to encourage and promote fact-based (i.e., through police interviews or reports) rather than entertainment-based depictions of serious violent crimes among members of the media, with a focus on proportionality. If violent crime accounts for a small percentage of overall crime, then its coverage by the media should be congruent with this. By reporting violent crime in a manner proportional to other types of crime and current events in

general, viewers are able to get a realistic sense regarding the likelihood of being personally affected which, statistically speaking, is low.

1. *[Faint, illegible text]*

2. *[Faint, illegible text]*

3. *[Faint, illegible text]*

4. *[Faint, illegible text]*

5. *[Faint, illegible text]*

6. *[Faint, illegible text]*

7. *[Faint, illegible text]*

8. *[Faint, illegible text]*

9. *[Faint, illegible text]*

10. *[Faint, illegible text]*

11. *[Faint, illegible text]*

12. *[Faint, illegible text]*

13. *[Faint, illegible text]*

14. *[Faint, illegible text]*

15. *[Faint, illegible text]*

16. *[Faint, illegible text]*

17. *[Faint, illegible text]*

18. *[Faint, illegible text]*

19. *[Faint, illegible text]*

20. *[Faint, illegible text]*

21. *[Faint, illegible text]*

22. *[Faint, illegible text]*

23. *[Faint, illegible text]*

24. *[Faint, illegible text]*

25. *[Faint, illegible text]*

26. *[Faint, illegible text]*

27. *[Faint, illegible text]*

28. *[Faint, illegible text]*

29. *[Faint, illegible text]*

30. *[Faint, illegible text]*

31. *[Faint, illegible text]*

32. *[Faint, illegible text]*

33. *[Faint, illegible text]*

34. *[Faint, illegible text]*

35. *[Faint, illegible text]*

36. *[Faint, illegible text]*

37. *[Faint, illegible text]*

38. *[Faint, illegible text]*

39. *[Faint, illegible text]*

40. *[Faint, illegible text]*

41. *[Faint, illegible text]*

42. *[Faint, illegible text]*

43. *[Faint, illegible text]*

44. *[Faint, illegible text]*

45. *[Faint, illegible text]*

46. *[Faint, illegible text]*

47. *[Faint, illegible text]*

48. *[Faint, illegible text]*

49. *[Faint, illegible text]*

50. *[Faint, illegible text]*

Legal cases

Trujillo v. State, 750 P. 2d 1334 [Wyo.1988].

The Matter of the Welfare of D.S.F., 416 N.W. 2d 772 [Minn. App. 1988].

References

- Anderson, Craig A., Sakamoto, Akira, Gentile, Douglas A., Ihori, Nobuko, Shibuya, Akiko, Yukawa, Shintaro, Naito, Mayumi, and Kumiko Kobayashi. 2008. "Longitudinal Effects of Violent Video Games on Aggression in Japan and the United States." *Paediatrics*. 122:1067-1072.
- Anderson, Elijah. 1999. *Code of the Street: Decency, Violence, and the Moral Life of the Inner City*. New York, NY: W.W. Norton and Company Inc.
- Bargdill, Richard. 2000. "The Study of Life Boredom." *Journal of Phenomenological Psychology*. 31:188-219.
- Bartol, Curt R. and Anne M. Bartol. 1986. *Criminal Behavior: A Psychosocial Approach*. Englewood Cliffs, NJ: Prentice-Hall.
- Barton, Carlin A. 1989. "The Scandal of the Arena." *Representations*. 27:1-36.
- Beck, Ulrich. 1992. *Risk Society: Towards a New Modernity*. Thousand Oaks, CA: Sage Publications.
- Becker, Gary. 1968. "Crime and Punishment: An Economic Approach." *Journal of Political Economy*. 76:169-217.
- Bernhardt, Paul C., Dabbs, James M. Jr., Fielden, Julie A., and Candice D. Lutter. 1998. "Testosterone Changes During Vicarious Experiences of Winning and Losing Among Fans at Sporting Events." *Physiology and Behavior*. 65:59-62.
- Black, Donald. 1986. "Crime as Social Control." *American Sociological Association*. 48: 34-45.
- Blumstein, Alfred. 1995. "Youth Violence, Guns and the Illicit Drug Industry." *Journal of Criminal Law and Criminology*. 86:10-36.
- Bolelli, Daniele. 2003. "Mixed Martial Arts: A Technical Analysis of the Ultimate Fighting Championship in its Formative Years." *Journal of Asian Martial Arts*. 12:40-51.

- Bound, John, Brown, Charles, and Nancy Mathiowetz. 2001. "Measurement Error in Survey Data." Pp. 3707-3833 in *Handbook of Econometrics*, edited by James Heckman and Edward Leamer: Elsevier BV.
- Brezeau, Robyn and Jodi-Anne Brzozowski. 2008. "Matter of Fact: Violent Victimization in Canada". *Minister of Industry: Statistics Canada*. Pp. 1-3.
- Bryman, Alan and Duncan Cramer. 1990. *Quantitative Analysis for Social Scientists*. New York, NY: Routledge, Chapman, and Hall, Inc.
- Buse, G. J. 2006. "No Holds Barred Sport Fighting: A 10 Year Review of Mixed Martial Arts Competition." *British Journal of Sports Medicine*. 40:169-172.
- Cabellero, Manny. 2011. "American Fight Game Badly Needs a Heavyweight." Retrieved April 6, 2011 (<http://ringtalk.com/boxing-joe-louis-muhammad-ali-vitali-klitschko-hbo>).
- CBC News. 2010. "U of Manitoba Staffer Disciplined After Fight Club Discovery." Retrieved February 23, 2011 (<http://www.cbc.ca/news/canada/manitoba/story/2010/01/19/mb-fight-club-university-winnipeg.html>).
- Cesaroni, Carla and Anthony N. Doob. 2003. "The Decline in Support for Penal Welfarism. Evidence of Support Among the Elite for Punitive Segregation." *The British Journal of Criminology*. 43:434-441.
- Chapman, Kris. 2004. "Ossu! Sporting Masculinities in a Japanese Karate Dojo." *Japan Forum*. 16:315-335.
- Cheever, Nancy. 2009. "The Uses and Gratifications of Viewing Mixed Martial Arts." *Journal of Sports Media*. 4:25-53.
- Chick, Garry and John W. Loy. 2001. "Making Men of Them: Male Socialization for Warfare and Combative Sports." *World Cultures*. 12:2-17.
- Christie, Nils. 1994. "Crime Control as a Product." Ch. 8 in *Crime Control as Industry: Towards Gulags, Western Style*. New York, NY: Routledge.
- Cohen, Dov and Richard E. Nisbett. 1994. "Self-Protection and the Culture of Honor: Explaining Southern Violence." *Personality and Social Psychology Bulletin*. 20:551-567.
- Cole, George F. 1970. "The Decision to Prosecute." *Law and Society Review*. 4:331-344.

- Coleman, C. and J. Moynihan. 1996. *Understanding Crime Data: The Dark Figure*.
Buckingham, UK: Open University Press Crime and Justice Series
- Columbus, Peter J., and Don Rice. 1998. "Phenomenological Meanings of Martial Arts Participation." *Journal of Sport Behavior*. 21:16-29.
- Connell, R.W. 2002. "On Masculinity and Violence: Response to Jefferson and Hall." *Theoretical Criminology*. 6:89-99.
- Cribb, Robert. 2010. "GTHL Fight Club Shocks Parents Who Urge Crackdown."
Retrieved February 23, 2011 (http://www.thestar.com/sports/gthl/article/768652--_gthl-fight-club-shocks-parents-who-urge-crackdown).
- Cybriwsky, Roman. 1999. "Changing Patterns of Urban Space: Observations and Assessments from the Tokyo and New York Metropolitan Areas." *Cities*. 16:223-231.
- Dolwer, Kenneth. 2003. "Media Consumption and Public Attitudes toward Crime and Justice: The Relationship between Fear of Crime, Punitive Attitudes, and Perceived Police Effectiveness." *Journal of Criminal Justice and Popular Culture*. 10:109-126.
- Donnelly, Peter. 1988. "On Boxing: Notes on the Past, Present, and Future of a Sport in Transition." *Current Psychology: Research and Reviews*. 7:331-346.
- Doob, Anthony N. and Cheryl Marie Webster. 2006. "Countering Punitiveness: Understanding Stability in Canada's Imprisonment Rate." *Law and Society Review*. 40: 325-368.
- Faigman, David L. 1986. "The Battered Woman Syndrome and Self-Defense: A Legal and Empirical Dissent." *Virginia Law Review*. 72:619-647.
- Felson, Richard B. 1996. "Mass Media Effects on Violent Behavior." *Annual Review of Sociology*. 22:103-128.
- Felson, Richard B. 2004. "A Rational Choice Approach to Violence." Pp. 1-17 in *Violence: From Theory to Research*, edited by M.A. Zahn, H.H. Brownstein, and S.L. Jackson: Anderson Publishing.
- Felson, Richard B. and Paul-Philippe Pare. 2009. Firearms and Fisticuffs: Region, Race, and Adversary Effects on Homicide and Assault." *Social Science Research*. 39:272-284.
- Felson, Richard B. and Paul-Philippe Pare. 2010. "Gun Cultures or Honor Cultures? Explaining Regional and Race Differences in Weapon Carrying." *Social Forces*. 88:1357-1378.

- Felson, Richard B., Silver, Eric, and Brianna Remster. 2010. "Mental Disorder and Offending in Prison. Unpublished manuscript.
- Freeman, M.A. 1989. "Community-Oriented Policing." *MIS Report*. 21:1-14.
- Garland, David. 1996. "The Limits of the Sovereign State: Strategies of Crime Control in Contemporary Society." *The British Journal of Criminology*. 36:445-471.
- Garland, David. 2001. *The Culture of Control: Crime and Social Order in Contemporary Society*. Chicago, IL: University of Chicago Press.
- Giddens, Anthony. 1991. *Modernity and Self-Identity: Self and Society in the Late Modern Age*. Stanford, CA: Stanford University Press.
- Giddens, Anthony. 1999. "Risk and Responsibility." *The Modern Law Review*. 62:1-10.
- Goodman, Lisa A., Michelle P. Salyers, Kim T. Mueser, Stanley D. Rosenberg, Marvin Swartz, Susan M. Essock, Fred C. Osher, Marian I. Butterfield, and Jeffery Swanson. 2001. "Recent Victimization in Women and Men with Severe Mental Illness: Prevalence and Correlates." *Journal of Traumatic Stress*. 14:615-632.
- Gottfredson, Michael R. 1986. "Substantive Contributions of Victimization Surveys." *Crime and Justice: An Annual Review of the Research*. 7:251-287.
- Grant, Michael. 1995. *Gladiators*. Barnes and Noble Publishing.
- Greene, K. and M. Kremer. 2005. "Predicting Exposure to and Liking of Media Violence: A Uses and Gratifications Approach." *Communication Studies*. 56:71-93.
- Hackney, Sheldon. 1969. "Southern Violence." *The American Historical Review*. 74: 906-925
- Hayes, Timothy C. and Matthew R. Lee. 2005. "The Southern Culture of Honor and Violent Attitudes." *Sociological Spectrum*. 25:593-617.
- Harris, Misty. 2009. "Underground Fight Clubs on the Rise as MMA Knocks Out Competition." Retrieved February 23, 2011 (<http://www.vancouver.sun.com/sports/Underground+fight+clubs+rise+knocks+competition/2034146/story.html>).
- Hemenway, David, Prothrow-Stith, Deborah, Bergstein, Jack M., Ander, Roseanna, and Bruce P. Kennedy. 1996. "Gun Carrying Among Adolescents." *Law and Contemporary Problems*. 59:39-53.

- Hiday, Virginia Aldige, Marvin S. Swartz, Jeffery W. Swanson, Randy Borum, and Ryan Wagner. 1999. "Criminal Victimization of Persons with Severe Mental Illness." *Psychiatric Services* 50:62-68.
- Hirose, Akihiko and Kay Kei-ho Pih. 2009. "Men Who Strike and Men Who Submit: Hegemonic and Marginalized Masculinities in Mixed Martial Arts." *Men and Masculinities*. 000:1-20.
- Hobart, Mark. 1990. "Who Do You Think You Are? The Authorized Balinese." Pp. 303-338 in *Localizing Strategies: Regional Traditions of Ethnographic Writing*, edited by Richard Fardon. Edinburgh: Scottish Academic Press.
- Hopkins, Keith. 1985. *Death and Renewal: Sociological Studies in Roman History* 2. New York, NY: Cambridge University Press.
- Human, Charles. 2009. "Will Mixed Martial Arts Replace Boxing?" Retrieved April 6, 2011 (<http://www.sportsillustrated.co.za/the-others/mixed-martial-arts/2009/10/26/will-mixed-martial-arts-replace-boxing/>).
- Hunt, Loretta. 2009. "Lesnar, St. Pierre Lead UFC 100 Payouts." Retrieved April 23, 2010 (<http://www.sherdog.com/news/news/Lesnar-St-Pierre-Lead-UFC-100-Payouts-18495>).
- Katz, Jack. 1988. *Seductions of Crime: Moral and Sensual Attractions in Doing Evil*. Basic Books.
- Kelly, L. S. and H. P. McKenna. 1997. "Victimization of People with Enduring Mental Illness in the Community." *Journal of Psychiatric and Mental Health Nursing* 4:185-191.
- Kleck, Gary. 2004. "Resisting Crime: The Effects of Victim Action on the Outcomes of Crimes." *Criminology*. 42:861-910.
- Kleck, Gary and Marc Gertz. 1995. "Armed Resistance to Crime: The Prevalence and Nature of Self-Defense with a Gun." *The Journal of Criminal Law and Criminology*. 86:150-187.
- Klinger, David A. 1997. "Negotiating Order in Patrol Work: An Ecological Theory of Police Response to Deviance." *Criminology*. 35:277-306.
- Kohne, Eckart, Ewigleben, Cornelia, and Ralph Jackson. 2000. *Gladiators and Cesar: The Power of the Spectacle in Rome*. University of California Press.
- Krcmar, M. and K. Greene. 2000. "Connections Between Violent Television Exposure and Adolescent Risk Taking." *Media Psychology*. 2:195-217.

- Kurian, M., Caterino, L. C., and R. W. Kulhavy. 1993. "Personality Characteristics and Duration of ATA Taekwondo Training." *Perceptual and Motor Skills*. 76:363- 366.
- Lagerspetz, Kirsti M. J. and Martin Westman. 1980. "Moral Approval of Aggressive Acts: A Preliminary Investigation." *Aggressive Behavior*. 6:119-130.
- Lamb, H. Richard. 1997. "The New State Mental Hospitals in the Community." *Psychiatric Services*. 48:1307-1310.
- Lizotte, Alan J., Krohn, Marvin D., Howell, James C., Tobin, Kimberly, and Gregory J. Howard. 2000. "Factors Influencing Gun Carrying Among Urban Males Over the Adolescent-Young Adult Life Course." *Criminology*. 38:811-834.
- Madden, Margaret E. 1990. "Attributions of Control and Vulnerability at the Beginning and End of a Karate Course." *Perceptual Motor Skills*. 70:787-794.
- Madden, Margaret E. 1995. "Perceived Vulnerability and Control of Martial Arts and Physical Fitness Students." *Perceptual Motor Skills*. 80:899-910.
- Maguigan, Holly. 1991. "Battered Women and Self-Defense: Myths and Misconceptions in Current Reform Proposals." *University of Pennsylvania Law Review*. 140:379-486.
- Maher, Brendan S. 2010. "Understanding and Regulating the Sport of Mixed Martial Arts." *Hastings Communication and Education Law Journal*. Forthcoming.
- Maliakkal, Naveen. 2008. "Why Boxing is Becoming Less Relevant in America." Retrieved April 6, 2011 (<http://bleacherreport.com/articles/52173-why-boxing-is-becoming-less-relevant-in-america>).
- Martin, Carol Lynn. 1990. "Attitudes and Expectations About Children with Nontraditional and Traditional Gender Roles." *Sex Roles*. 22:151-165.
- McCain, John and Ken Nahigian. 2004. "A Fighting Chance for Professional Boxing." *Stanford Law and Policy Review*. 15:7-34.
- McLaughlin, Eugene and Karim Murji. 2001. "Lost Connections and New Directions: Neo-Liberalism, New Public Managerialism and the 'Modernization' of the British Police." Pp. 104-121 in *Crime, Risk, and Justice: The Politics of Crime Control in Liberal Democracies*, edited by K. Stenson and R. Sullivan. Portland, OR: Willan Publishing.
- Messerschmidt, James W. 1993. *Masculinities and Crime: Critique and Reconceptualization of Theory*. Lanham, MD: Rowan and Littlefield.
- Messerschmidt, James W. 1999. "Making Bodies Matter: Adolescent Masculinities, the Body, and Varieties of Violence." *Theoretical Criminology*. 3:197-220.

- Mirsky, Ian. 2009. "Community-Oriented Policing." *Internet Journal of Criminology*. 1-14.
- Moffitt, Terrie E. 1993. "Adolescent-Limited and Life-Course Persistent Antisocial Behavior: A Developmental Taxonomy." *Psychological Review*. 100:674-701.
- Mosher, D. L. and M. Sirkin. 1984. "Measuring a Macho Personality Constellation." *Journal of Research in Personality*. 18:150-163.
- Nosanchuck, T.A., and M.L. Catherine MacNeil. 1988. "Examination of the Effects of Traditional and Modern Martial Arts Training on Aggressiveness." *Aggressive Behavior*. 15:153-159.
- O'Brien, Robert M., Shichor, David, and David L. Decker. 1980. "An Empirical Comparison of the Validity of UCR and NCS Crime Rates." *The Sociological Quarterly*. 21:391-401.
- O'Hara, Brian Scott. 2008. "The Evolution of Dramatic Storylines in the Packaging, Selling, and Legitimizing of Ultimate Fighting Championship." Doctoral Thesis, The Graduate College, University of Nevada, Las Vegas.
- O'Malley, Pat and Darren Palmer. 1996. "Post Keynesian Policing." *Economy and Society*. 25:137-155.
- O'Neil, James M. 1981. "Male Sex Role Conflicts, Sexism, and Masculinity: Psychological Implications for Men, Women, and the Counseling Psychologist." *The Counseling Psychologist*. 9:61.
- Pare, Paul-Philippe and Lauren Korosec. 2011. "Regional Variations in Defensive Tactics in Canada." Unpublished manuscript.
- Pare, Paul-Philippe and Matt Logan. 2011. "Risks of Minor and Serious Violent Victimization in Prison: The Impact of Inmates' Mental Disorders, Physical Disabilities, and Physical Size." Revised and Resubmitted at *Society and Mental Health*.
- Preston, Sean A. 2007. "Disciplines of Peace Crushed by Mainstream Warriors: An Analysis of Violent Masculinity in the Martial Arts Movie and Entertainment Genre." Doctoral Thesis, the Department of Mass Communications: Southern Illinois University, Edwardsville.
- Pitt, Matt. 2011. "Fistic Medicine: Hominick's Hematoma." Retrieved May 4, 2011 (<http://www.sherdog.com/news/articles/Fistic-Medicine-Hominicks-Hematoma-32066>).
- Raine, Adrian. 1993. *The Psychopathology of Crime*. San Diego: Academic Press.

- Raine, Adrian, Brennan, Patricia A., Farrington, David P., and Sarnoff A. Mednick. 1997. *Biosocial Bases of Violence*. New York: Plenum.
- Richards, Robert J. 1987. *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior*. Chicago, IL: The University of Chicago Press.
- Riess, Steven A. 1985. "In the Ring and Out: Professional Boxing in New York, 1896-1920." Pp. 95-128 in *Sport in America: New Historical Perspectives*, edited by Donald Spivey. Westport, CT: Greenwood Press.
- Ritzer, George. 1996. *The McDonaldization of Society*. Sage Publications.
- Rosen, Richard A. 1992. "On Self-Defense, Imminence, and Women Who Kill Their Batterers." *North Carolina Law Review*. 371:103-139.
- Rowe, David C. 2002. *Biology and Crime*. Los Angeles: Roxbury
- Rushton, J. Philippe, Fulker, David W., Neal, Michael, C., Nias, David K. B., and Hans J. Eysenck. 1986. "Altruism and Aggression: The Heritability of Individual Differences." *The Journal of Personality and Individual Differences*. 50:1192-1198.
- Savelsberg, Joachim J. 1994. "Knowledge, Domination, and Criminal Punishment." *The American Journal of Sociology*. 99:911-943.
- Sheard, Kenneth G. 1997. "Aspects of Boxing in the Western 'Civilizing Process'." *International Review for the Sociology of Sport*. 32:31-57.
- Simon, Jonathan. 2001. "Entitlement to Cruelty: Neo-liberalism and the Punitive Mentality in the United States." Pp. 127-143 in *Crime, Risk, and Justice: The Politics of Crime Control in Liberal Democracies*, edited by K. Stenson and R. Sullivan. Portland, ORE: Willan Publishing.
- Simon, Thomas R., Dent, Clyde, W., and Steve Sussman. 1997. Vulnerability to Victimization, Concurrent Behavior Problems, and Peer-Influence as Predictors of In-School Weapon Carrying Among High School Students." *Violence and Victims*. 12:277-289.
- Simon, Thomas R., Crosby, Alex E., and Linda L. Dahlberg. 1999. "Students Who Carry Weapons to High School." *Journal of Adolescent Health*. 24:340-348.
- Skogan, W.G. 1981. *Issues in the Measurement of Victimization*. Rockville, MD: Northwestern University Center for Urban Affairs and Policy Research
- Spike Digital Entertainment. 2009. "SPIKE.COM: Check Out the Premiere Online Destination for Men!" Retrieved December 6, 2009 (<http://www.spike.com>).

- Tedeschi, James T. and Richard B. Felson. 1994. *Violence, Aggression, and Coercive Actions*. Washington, DC: American Psychological Association.
- Theebom, Marc, De Knop, Paul, Wylleman, Paul. 2008. "Martial Arts and Socially Vulnerable Youth: An Analysis of Flemish Initiatives." *Sport, Education and Society*. 13:301-318.
- Tjaden, P. and N. Thoennes. 1998. "Stalking in America: Findings from the National Violence Against Women Survey." *Research in Brief: National Institute of Justice Center for Disease Control and Prevention*. Pp. 1-20.
- Trulson, Michael, E. 1986. "Martial Arts Training: A Novel "Cure" for Juvenile Delinquency." *Human Relations*. 39:1131-1140.
- Wacquant, Loïc. 2005. "The Great Penal Leap Backward: Incarceration in America from Nixon to Clinton." Pp. 3-26 in *The New Punitiveness: Trends, Theories, Perspectives*, edited by J. Pratt, D. Brown, M. Brown, S. Hallsworth, and W. Morrison. Portland, OR: Willan Publishing.
- Walton, G. and L. Potvin. 2009. "Boobs, Boxing, and Bombs: Problematizing the Entertainment of Spike TV." *Spaces for Difference: An Interdisciplinary Journal*. 2:3-14.
- Weaver, James and Jacob Wakshlag. 1986. "Perceived Vulnerability to Crime, Criminal Victimization Experience, and Television Viewing." *Journal of Broadcasting and Electronic Media*. 30:141-158.
- Weinberg, S. Kirson and Henry Arond. 1952. "The Occupational Culture of the Boxer." *The American Journal of Sociology*. 57:460-469.
- White, F.C. 1977. "On Properties and Decadence in Society." *Ethics*. 87:352-362.
- Wiedemann, Thomas. 1992. *Emperors and Gladiators*. New York, NY: Routledge.
- Williams, J. Sherwood, Singh, Krishna B., and Betsy B. Singh. 1994. "Urban Youth, Fear of Crime, and Resulting Defensive Actions." *Adolescence*. 29:323-330.
- Yin, Hongxing. 2011. "What's the Border For? Perceptions of Vulnerability from Across the Border Among Canadians and Americans." Unpublished manuscript.