

IS FACIAL ATTRACTIVENESS A FACTOR IN VICTIMIZATION INVOLVING ROBBERY/THEFT?

by

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Abstract

Researchers have found that attractive faces are associated with qualities of goodness, honesty, warmth, and being more socially desirable. Physically attractive individuals experience several advantages (i.e., occupational success, criminal justice system decisions, interpersonal relationships) compared to average and unattractive individuals. Facial attractiveness has been found to be a predictor of victimization for females in relation to sexual assault. To date, facial attractiveness involving male victims has not been studied. The purpose of this study was to determine whether facial attractiveness influences an offender's choice when selecting a male victim to commit robbery or theft against. The sample consisted of two hundred participants that ranged in age from 18 to 75 years old. Participants were asked to fill out an online survey comprised of a Facial Victim/Offender Survey and the Ten-Item Personality Inventory. Facial attractiveness did play a role in victimization. Facially attractive male victims were perceived as possessing more socially desirable qualities and more likely to be employed. Both male and female participants selected facially attractive males for the vignette offenders to victimize compared to average and unattractive male victims. Overall, this research provides evidence that facial attractiveness is related to offender victim-selection.

Keywords: Male Facial Attractiveness; Robbery; Theft; Victimization; Offenders

Dedication

For my Mom, who I truly aspire to be like in everyway.

In Memory of:

Grandpa Mac, who believed in me before I even knew how to believe in myself.

Uncle Carl, who taught me the important lesson of following your dreams.

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“Gratitude is the hardest of all emotions to express. There is no word capable of conveying all that one feels. Until we reach a world where thoughts can be adequately expressed in words, ‘thank you’ will have to do.”— A.P. Gouthey

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List of Acronyms

ANOVA	Analysis of variance
CRAVED	Concealable, Removable, Available, Valuable, Enjoyable, Disposable
HSD	Honestly Significant Difference
MTurk	Amazon Mechanical Turk
SFU	Simon Fraser University
USA	United States of America
VIVA	Value, Inertia, Visibility, Access

1. INTRODUCTION

Every human face is a hieroglyph[,] which can be deciphered, indeed whose key we bear ready-made within us. It is even true that a man's face as a rule says more, and more interesting things than his mouth, for it is a compendium of everything his mouth will ever say, in that it is the monogram of all the man's thoughts and aspirations. The mouth...expresses only the thoughts of a man, while the face expresses a thought of nature: so that everyone is worth looking at, even if everyone is not worth talking to - Schopenhauer (Davis, 2004, p. 10).

Victims of robbery and theft are generally thought to be the vulnerable --- women, the elderly and the disabled. In contrast, able-bodied men are viewed as being for the most part immune to victimization by robbery and theft, and are more likely to be regarded as the perpetrators of such crimes. Robbery¹ is taking an item of value by force or threat of violence (e.g., firearms or other offensive weapons) (Doerner & Lab, 2012; Siegel & McCormick, 2010). Theft² involves taking items of value too, but force and threat are not present (e.g., pocket picking, purse snatching, shoplifting; Siegel & McCormick, 2010). While men are the major perpetrators of robbery and theft, surprisingly men are also the most frequently victimized. According to a Statistics Canada (2008) survey, 65% of all robbery victims are male. Being single, young and participating in several

¹ Canadian *Criminal Code*: Section 343. **Robbery** – Every one commits robbery who (a) steals, and for the purpose of extorting whatever is stolen or to prevent or overcome resistance to the stealing, uses violence or threats of violence to a person or property; (b) steals from any person and, at the time he steals or immediately before or immediately thereafter, wounds, beats, strikes or uses any personal violence to that person;(c) assaults any person with intent to steal from him; or (d) steals from any person while armed with an offensive weapon or imitation thereof.

² Canadian *Criminal Code*: Section 322. **Theft** – (1) Every one commits theft who fraudulently and without colour of right takes, or fraudulently and without colour of right converts to his use or to the use of another person, anything, whether animate or inanimate, with intent (a) to deprive, temporarily or absolutely, the owner of it, or a person who has a special property or interest in it, of the thing or of his property or interest in it;(b) to pledge it or deposit it as security; (c) to part with it under a condition with respect to its return that the person who parts with it may be unable to perform; or (d) to deal with it in such a manner that it cannot be restored in the condition in which it was at the time it was taken or converted.

evening activities increased a male's risk of being a victim of theft (Perreault & Brennan, 2010).

Whether one is a victim of crimes such as robbery and theft is predicted by gender but also by age, race, socioeconomic status, and the offender-victim relationship (Schmallegger & Volk, 2001; Siegel & McCormick, 2010). One factor that has been far less frequently considered as a predictor of victimization for robbery and theft is physical attractiveness. For females, physical attractiveness has been identified as a contributing factor to explain how rape victims are perceived. Attractive females are more likely to be perceived as victims of rape than unattractive females (Cahlhoun, Selby, Cann & Keller, 1978; DeJong, 1999; Seligman, Brickman & Koulack, 1977). Apart from female attractiveness and rape, physical attractiveness and the likelihood of being victimized have not been studied.

Understanding and quantifying attractiveness is often done in the context of the human face. As Carl Theodor Dreyer put it best, "nothing in the world can be compared to the human face. It is a land one can never tire of exploring" (Valasek, 1992, p. 154). The human face is a "unique, physical, malleable and public...symbol of the self" (Synnott, 1989, p. 607). The human face is comprised of distinct features ranging from the eyes, nose, jaw, cheeks, lips, and forehead. These distinct areas of the face make the face unique, allowing others to distinguish one person from another. Just how unique is the human face? It is so unique that governments rely on photos of the human face for documentation such as a driver license, passport, and mug shots. Furthermore, the human face reveals a significant amount of information about a person (Synnott, 1989; Zebrowitz, 1997). Sex, age, health, race, personality, socioeconomic status, emotions and moods can be ascertained through examination of the human face.

Facial attractiveness has been of interest to psychologists, sociologists and neurobiologists (Kagian, et al., 2008; Little, Jones & DeBruine, 2011). Attractive faces are associated with qualities of goodness, honesty, warmth, and

social desirability (Callan, Powell & Ellard, 2007; Dion & Dion, 1987; Wilson & Eckel, 2006). Physically attractive individuals are advantaged in “interpersonal relationships, occupations, criminal justice system decisions, and health care” (Zebrowtiz, 1997, p. 12) compared to average and unattractive individuals (Siegel & Ostrove, 1975).

Because the human face reveals a significant amount of information about an individual, the human face could be of value to a criminal perpetrator in selecting a victim. The purpose of the present study is to determine whether male faces classified as attractive, average, or unattractive play a role in offenders’ victim selection. More specifically, does facial attractiveness influence an offender’s choice when selecting a male victim to commit robbery and theft?

This thesis reviews the literature on facial attractiveness within the theoretical contexts of evolutionary and psychology theories. Criminology and victimology theories of the offender and the victim demonstrate how male criminal victimization may be related to facial attractiveness. Following the literature review, the research questions and research design are discussed. The results are presented and accompanied by a general discussion. The last portion of this thesis provides the conclusion, implications and limitations of the present study.

2. LITERATURE REVIEW & THERORETICAL FRAMEWORK

Theories Explaining Facial Attractiveness

Facial attractiveness has been examined from a number of different theoretical perspectives, including evolutionary psychology and social psychology. Facial attractiveness is often viewed as “arbitrary, whimsical and unrelated to biological function” (Thornhill & Gengestad, 1999, p. 452). Evolutionary psychology provides support for why this view of facial attractiveness is false. Social psychology, specifically the halo effect, explains the psychological/cognitive phenomenon that relates to perceptions of facial attractiveness.

2.1 The Evolutionary Psychology of Facial Attractiveness

Charles Darwin's *Origin of Species* (1859) outlined the theory of evolution through the process of natural selection. Natural selection is a based on four observations made about the different species and their environments: (1) reproduction will increase the survival of offspring; (2) individuals vary in their traits; (3) trait variations are inheritable; and (4) offspring of some generations will not survive to reproduce (Lewontin, 1970). Evolution shapes human's physical features (i.e., body-shape, height, facial appearance; Buss, 2004). Adaptation, reproduction and survival of the fittest are emphasized in *evolutionary psychology* (Buss, 2004). Evolutionary psychology as a discipline is devoted to uncovering how natural selection shapes human behavior (Breedlove, Rosenweig, & Watson, 2007).

From an evolutionary psychology perspective, evolution influences mating patterns critical for the survival of the human species (Buss, 2000, 2004). Attractiveness is an evolved adaptation in mate selection (Buss & Schmitt, 1993; Gangestad & Simpson, 2000; Symons, 1979). Crawford and Krebs (2008) define an adaptation as the “attributes of an organism that show evidence of ‘special design’ for the purpose of increasing [survival]” (p. 215).

The human face, and more specifically an attractive face, provides cues to a person’s health, reproductive status and parasitic resistance (Langlois et al., 2000; Zebrowitz, 1997). From an evolutionary perspective, humans are drawn to attractive faces in order to attain optimal success when reproducing (Senior, 2003; Symons, 1979). Therefore, facial attractiveness could be viewed as a specially designed adaptation that influences mate-selection. Attractive female faces signal “good genes that will positively correlate with the genetic strength in any offspring” (Senior, 2003, p. 525). Attractive male faces are associated with longevity and better sperm quality (Henderson & Anglin, 2003; Soler et al., 2003).

2.2 Biological Structural Properties of Facial Attractiveness

There are many elements to mate selection. One element pertains to structural properties of facial attractiveness. It takes merely a fraction of a second for an individual to determine whether another person’s face is attractive (Johnston et al., 2001; Johnston & Oliver-Rodriguez, 1997; Oliver-Rodriguez, Guan, & Johnston, 1999). The preference for biological structural properties of the face, specifically sexual dimorphism, symmetry and averageness, appear to be a general phenomena amongst humans (Enquist & Arak, 1994).

2.2.1 Sexual Dimorphism and the Face

The structural distinction between male and female faces is known as sexual dimorphism. Both male and female bodies contain hormones, chemical

substances secreted by the endocrine glands (e.g., pituitary/thyroid gland, ovaries/testes; Hiort, 2002). There are two hormones, testosterone and estrogen, that are responsible for sexual dimorphism. Testosterone and estrogen are found in both males and females. Testosterone levels are higher in males; estrogen levels are higher in females.

High levels of testosterone during puberty affect how the male face develops (Senior, 2003; Thornhill & Gengestad, 1999). The eyebrow ridge, chin, jaw, and cheekbones become more prominent in adolescence, while the lips and cheeks become thinner (Little, et al., 2011; Merow & Broadment, 1990; Penton-Voak & Morrison, 2011). The effect that high testosterone levels have on the structure of male face results in the masculinity of the male face (Penton-Voak & Morrison, 2011). Fink and Penton-Voak (2002) suggest that masculine faces provide an *honest signal of quality* in a potential mate. Thornhill and Gengestad (1999) found that males with masculine faces signaled strength, dominance, and good genetic quality for mate-selection.

Estrogen affects female faces during puberty (Thornhill & Gengestad, 1999). High estrogen levels for the female face result in fat being deposited in the lip and upper cheek area (Perret et al., 1998; Senior, 2003). Estrogen also inhibits bone growth of the female face (i.e., eyebrow ridge, chin, jaw, and cheekbones; Rhodes, 2006; Thornhill & Gengestad, 1999). Thus, the impact of estrogen on the female face signals potential mates that the female is fertile (Thornhill & Gengestad, 1999).

2.2.2 Symmetry

Symmetry of the face is proportions that are balanced on both sides when the face is divided down the center. The amount of bilateral symmetry differs greatly from one individual to another (Penton-Voak & Morrison, 2011). Symmetry is often thought to represent perfection. However, this assumption is

false for humans. It is the “amount of asymmetry displayed in bilateral characteristics” of humans that affect ratings of attractiveness (Calder, Rhodes, Johnson, & Haxby, 2011, p. 655). Past studies found faces that were slightly asymmetrical to be more attractive than symmetrical faces (Langlois, Roggman, Musselman, 1994; Swaddle & Cuthill, 1995). However, the method used to depict a symmetrical face was based on the rudimentary technique of reflecting the mirror image of one side of the face to make a composite face (Rhodes, 2006). This technique distorted the ratio aspect and size of the composite’s facial features, resulting in abnormally wide or narrow spacing between the eyes, nose and overall face shape (Rhodes, 2006). More recent studies have found that symmetrical faces are viewed as more attractive (see , Mealey, Bridgestock, & Townsend, 1999; Rhodes, 2006 Perrett et al., 1999; Scheib, Gangestad & Thornhill, 1999).

2.2.3 Averageness

Averageness is another important structural property of the face. Averageness is defined as the mathematical “average [of] trait values for a population” (Rhodes, 2006, p. 202). A face that would be classified as average would reflect the characteristics of the population for that particular sex; distinctive characteristics would be absent (Rhodes, Sumich & Byatt, 1999). Galton was the first to provide empirical evidence to support a relationship between attractive and average faces (Penton-Voak & Morrison, 2011). A recent meta-analysis by Rhodes (2006) confirmed that there is a strong relationship between averageness and ratings of attractiveness. It is thought that averageness is indicative of good genetic quality (Symons 1979; Thornhill & Gangestad, 1999). Møller and Swaddle (1997) suggest that average faces serve as biological indicator of *developmental stability* and good immunity against disease.

2.3 Benefits of Facial Attractiveness Across the Lifespan

The face is perhaps the most dominant and complex feature on the human body. It is no wonder that people pay great attention to the face. This attention to the face can be beneficial for infants, school-aged-children, and adults if attractive.

From an early age, perceptions of positive facial attractiveness provide several advantages (Rosen & Underwood, 2010). Casey and Ritter (1996) state “the attractiveness of a child is a powerful social stimulus that influences how adults will treat that child” (p. 496). Infant and children’s facial features are indicative of their *developmental competency* (Richardson, Koller, & Katz, 1985) and may influence how well children are cared for. Children deemed attractive are thought to be younger (e.g., large eyes, small chin and nose) than less attractive children, and thus receive more attention and care (Rosen & Underwood, 2010). Casey and Ritter (1996) observed that caregivers deemed unattractive children (aged 6 months) as being older in age and less competent compared to attractive children. Attractiveness plays a role in school settings. A meta-analysis by Ritts, Patterson, and Tubbs (1992) found that teachers favor attractive students across all educational levels. Further, attractive students receive more favorable evaluations (i.e., encouragement) from teachers.

The effects of facial attractiveness carry through to adulthood. Some writers have dubbed physical attractiveness as the *beauty premium* (Hamermesh & Biddle, 1994; Olson & Marshuetz, 2005). This premium gives attractive individuals advantages such as they are less likely to be “noticed or reported when committing a crime” and are more likely to be assisted in a time of need (Zebrowitz, 1997, p.154). Experimenters in New York had a male confederate fall in a subway car; people were more likely to help the confederate when he was attractive (Zebrowitz, 1997). This *beauty premium* also boosts attractive individuals in their careers. Attractive individuals are more likely to be hired and subsequently to receive job promotions (Landy & Sigall, 1974). Attractive job

applicants are perceived as being more qualified and receive higher starting salaries than unattractive job applicants (Zebrowitz, 1997).

2.4 Halo Effect and Facial Attractiveness

Many people who looked at Warren Harding [the 29th President of the United States] saw how extraordinarily handsome and distinguished-looking he was and jumped to the immediate – and entirely unwarranted – conclusion that he was a man of courage and intelligence and integrity. They didn't dig below the surface. The way he looked carried so many powerful connotations that it stopped normal process of thinking dead in its tracks. (Gladwell, 2005, p. 76)

Edward Thorndike coined the phrase *halo effect* in 1920. Thorndike (1920) observed that one characteristic of a person might influence how the person was perceived generally. If one characteristic of a person is negative (or positive), the overall impression of that person will be negative (or positive). Many studies over the past 90 years have explored the halo effect in relation to physical attractiveness (for a review, see Langlois et al., 2000). The halo effect, also known as *what is beautiful is good* and the physical attractiveness stereotype, is seen across different age and cultural groups, and for varied social outcomes (Dion & Dion, 1987; Zebrowitz, 1997).

2.4.1 The Halo Effect and Perceptions of Attractiveness

What is Beautiful is Good is the title of a well-known study in social psychology by Dion, Berscheid and Walster (1972). Dion et al. observed that attractive individuals were generally perceived more positively, and were also seen to be more socially desirable, happier, more likely to get married, and predicted to have greater professional success compared to average looking and unattractive individuals. Since the publication of the Dion et al. study, other research has replicated the effects of attractiveness on perceptions of personality traits and for social outcomes (e.g., Hamermesh & Biddle, 1994; Olson &

Marshuetz, 2005; Penton-Voak, Pound, Little & Perrett, 2006; Reis et al., 1982; Sheppard, Goffin, Lewis & Olson, 2011).

Langlois et al. (2000), from their meta-analysis, determined that perceivers judged attractive individuals more favorably for personality traits of sociability, intelligence, mental/physical health, occupational success, and self-confidence. Jackson, Hunter and Hodge (1995) highlighted that attractive males were perceived to have greater intellectual competence. Sheppard and colleagues (2011) ascertained that attractive individuals were rated more highly for positive personality traits (e.g., extraversion, agreeableness, independence, intelligence, trustworthiness, industriousness) than less attractive individuals. Wilson and Eckel (2006) found that strangers were rated as more trustworthy if attractive. Thus, the research is clear that attractiveness influences perceivers positively.

2.4.2 Halo Effect Across Cultures

The halo effect is seen cross-culturally. Cunningham, Roberts, Brbee, and Druen (1995) examined physical attractiveness ratings for Caucasian, African, Hispanic and Asian females as rated by judges from those four ethnic groups. These judges demonstrated the halo effect in so far as attractive individuals were rated more positively on other characteristics such as personality traits. The results from Cunningham et al. replicated the results from an earlier study by Thakerar and Iwawaki (1979) that found Chinese and Indian judges attributed positive qualities to attractive faces.

2.5 Crime/Criminal Social Outcomes of Attractiveness

Criminological research tying attractiveness to crime is limited. However, social psychological studies have examined the relationship between attractiveness and the criminal justice system.

Thorton (1977) examined the impact of a rape victim's physical attractiveness and mock jurors' decisions. Male jurors were more affected by the victim's physical attractiveness; male jurors gave out harsher sentences to a defendant when the victim was an attractive female. Thorton concluded that "an offence against an attractive person elicits the desire for greater retribution due to perhaps to associate liking and respectability" (pp. 668-669). In that vein, Sigall and Ostrove (1975) found that an attractive defendant received a shorter sentence than an unattractive defendant when the crime was unrelated to attractiveness (i.e., burglary) but a harsher sentence when the crime was related to attractiveness (i.e., swindle). Erain, Lin, Patel, Neal, and Geiselman (1998) also examined juror verdicts for sexual assault cases, manipulating both victim and defendant attractiveness. Neither the attractiveness of the defendant nor the victim had an effect on guilty judgments, but prison sentences were harsher for the unattractive defendant. Assigning harsher sentences was attributed to an *attractiveness bias*; leniency was given to attractive defendants rather than punishment given to unattractive defendants.

Other researchers looking at attractiveness and crime have focused on responsibility attributed to rape victims. Thorton and Ryckman (1983) observed that unattractive victims of rape were judged to be at greater fault for their own victimization. Ferguson, Duthie, and Graf (1987) demonstrated that less blame was attributed to a rapist if the victim was unattractive. To the contrary, Calhoun et al. (1978) also found that a physically attractive victim was perceived to play a "somewhat greater role in her own...[victimization]" compared to unattractive victim (p. 191). While research on physical attractiveness has examined a females' physical attractiveness for the crime of rape and mock jury sentencing decisions, whether attractiveness affects male victims of crime has not been examined to date.

2.6 Criminological Theories

2.6.1 Criminological Theories Involving Physical Features

The belief that a propensity to commit crime is reflected in a person's face dates back at least as far as ancient Greece and to Far Eastern civilizations of the same period. Attempts to provide a scientific rationalization for this idea began in the 14th century, mixing popular lore and learned knowledge. Faces and skulls were subject to intensive investigation in order to reveal indicators of psychological dispositions. (Rafaële Dumas & Benoît Testé, 2006, p. 237)

J. Baptista Della Porte (1535-1615) was one of the few scholars to link crime and the human face (Winfrey, Latham, & Abadinsky, 2003). Physiognomy³, dating back to ancient Greece (Hassin & Trope, 2000), regarded facial features as a means to reveal one's personality (Collins, 1999). Similarly, Della Porte regarded certain facial characteristics (i.e., bushy eyebrows, small ears) as indicators of a criminal disposition (Winfrey, et al., 2003). As Winfrey et al. emphasized, Della Porte was a determinist at heart who believed criminals fell victim of their own physical features especially the face.

In the late nineteenth century, the positivist perspective (the study of crime and criminals using scientific techniques) emerged in criminology. Much of the Positive School is accredited to three Italian thinkers, one of whom is Cesare Lombroso, known as the father of Italian School of criminology (Williams & McShane, 2010). Lombroso is famous for rejecting the Classical School that regarded crime to be the product of human nature. Jeffery (1959) notes that Lombroso shifted criminologists' attention away from the crime and placed the focus on the criminal (e.g., "how and why do people commit crimes?", p. 9). A

³ Physiognomy is illustrated in the work of Johann Caspar Lavater's *Essays on Physiognomy* that maps out how precisely to read the human face for personality traits. (Refer to the article a "Face to Face with Johann Caspar Lavater" by Erle (2005) for the history of physiognomy).

belief expressed by Lombroso was that of the born criminal. Lombroso used physiognomy to determine physical abnormalities as identifiers of the born criminal, including flat noses, drooping eyes, protruding jaws, a retreating forehead, large ears, long arms, asymmetrical faces, and large lips (Akers & Sellers, 2009; Gibson, 2002). Lombroso proposed that individuals possessing these physical abnormalities were “a throwback...[to]... an earlier stage of human evolution...[thus, the individual had the] mental capabilities and instincts of [a] primitive man...[making the individual] unsuited for life in [a] civilized society” (Akers & Sellers, 2009, p. 48).

Although Lombroso later acknowledged other underlying factors for criminality, his work did provide a platform for future criminological research in the areas of biological and biosocial theories (Akers & Sellers, 2009). Like Lombroso, current criminological research into testosterone and criminal aggressiveness and genetically transmitted criminal susceptibility all utilize scientific methods to determine whether criminality is biologically underpinned (Akers & Sellers, 2009). Booth and Osgood (1993) noted that aggressive behavior is linked to high levels of testosterone in males; Rushton (1996) linked male violence to genetics.

Although physiognomy has been dismissed as pseudoscience by today’s criminological standards (Cunningham, 1986), people are judged based on their facial appearance (Zebrowitz, 1999). While facial attractiveness has not been studied from the basis of present-day criminological theories, past criminological theories provide a foundation for the notion of explaining criminality in relation to physical appearance. Present-day theories, such as rationale choice perspective and victimology, assist in understanding offender decision-making when selecting a victim.

2.6.2 Theories Involving Offender Decision-Making

2.6.2.1 Rational Choice Theory

Rational choice theory first surfaced in the late 1970s and early 1980s (Schmallegger & Volk, 2011) based on the assumption of economists (i.e., Cornish & Clarke, 1986) that human behavior is rational and chosen consciously (Scott, 2011). Rational choice theory extends criminological theories as it “predicts that individuals choose to commit crime when the benefits outweigh the costs of disobeying the law” (Schmallegger & Volk, 2011, p. 133). From the rational choice perspective, crime is in essence a by-product of an offender’s mind (Scott, 2011).

Rational choice perspective provides a theoretical framework for offenders’ decision-making. Since offenders are considered reasoning criminals, their decisions are rational based on cues found in the crime setting “about whether (or not) to commit particular crimes and, if so, how to commit them” (Cornish & Clarke, 2013, p. 24). Cornish and Clarke outline six core concepts of the rational choice perspective. The first core concept is criminal behavior is purposive. From a rational perspective, an offender who commits an offense does it with the intention of benefiting from the crime. These benefits range from material items (e.g., money) to psychological/physical gratification (e.g., excitement or control). The perceived benefits of the crime are more important than the costs of the crime to the offender (Nagin & Paternoster, 1993). The second core concept acknowledges that committing a crime is risky. Thus, the offender’s benefits are often merely satisfactory rather than optimal. The third core concept reveals that offenders commit specific crimes based on particular purposes, motives and benefits. Hence, crime is not unitary and should not be classified as a single phenomenon (Cornish & Clarke, 2013). The fourth core concept pertains to event and involvement decisions regarding the offender. Event decisions concern the preparation and the actual act of the crime (e.g., the preparation involved when choosing a potential robbery victim). Involvement

decisions include a wider variety of variables over an extended period of time (e.g., planning a terrorist attack). The fifth concept reflects the view that involvement decisions encompass initiation (e.g., the initial decision to engage in crime is based in psychological/sociological and personality), habituation (e.g., factors that play less of a role such as friends and lifestyle values), and desistance (e.g., background factors like marriage or family responsibilities that deter someone from committing crime; Felson, 1997). The sixth core concept focuses on the multiple decisions made by the offender when planning and preparing to stage the crime. For example, serial killers engage in several decision-making steps (i.e., location, time, how the crime event occurs) in order to be successful (Rossmo, 2000).

2.6.2.2 Victimology

Victims have been noticeably absent while the offender predominates in criminological research (Doerner & Lab, 2012). The re-emergence of the victim came in the form of theories pertaining to personal victimization, explaining why some people are victims of crime and others are not.

Victimology research explains offender decision-making relating to victim selection. Finkelhor and Asdigian (1996) developed “target congruence” (p. 6), a theoretical framework that predicts victimization risk. Individual characteristics/attributes (i.e., gender, physical features, psychological problems) increase the potential victim’s risk of being victimized. Target congruence specifically involves how offenders’ needs, and motives influence their choice of victim.

An individual’s risk of being victimized by an offender increases through (1) target vulnerability, (2) target gratifiability, and (3) target antagonism. Target vulnerability refers to some characteristic of a potential victim that makes them an easy target. Such characteristics include physical size, physical strength, and psychological problems. Target gratifiability is when the offender wants to attain, have access to, or exploit a feature of the victim. These features include highly

valued possessions, attributes or skills. For instance, the female gender is considered a “prototypical risk factor” for the crime of sexual assault (Finkelhor & Asdigian, 1996, p. 6). Beauregard, et al., (2007) found that some physical attributes based on appearance of a sexual assault victim were highly valued, such as being sexy, having blonde hair, blue eyes and being tall. Target antagonism pertains to “qualities, possessions, skills, or attributes [in the victim] that arouse the anger, jealousy, or destructive impulses of the offender” (Finkelhor & Asdigian, 1996 p. 6). Such qualities include ethnic features, “being gay or effeminate (for hate crimes), or being anxiously attached, a mama’s boy, etc. (as in the case of bullying victims)” (p. 6).

2.6.3 Routine Activity/Lifestyle Theory and Victim Precipitation

Victimization has been explained from two theoretical perspectives: routines activities theory and lifestyle theory. Garofolo (1987) argues that these two theoretical perspectives are synonymous with one another in providing reasons for victimization. Cohen and Felson (1979) developed routine activity theory based on the view that crime is a function of ordinary daily routine activities. Research derived from routine activity theory has shown that victimization is not a random phenomenon, but rather a product of one’s daily activities and lifestyle in relation to one’s demographics (i.e., age, geographical location; Tewksbury & Mustaine, 2003).

From routine activity theory, three fundamental elements are necessary for a crime to occur: motivated offenders, suitable targets and absence of capable guardians. Motivated offenders is the notion criminals exploit opportunities to commit criminal acts for the offenders’ own benefit. Offenders’ motivations vary greatly from crime to crime. Offenders may be influenced by biological and psychological characteristics that play a role in offensive/deviant behavior (Denno, 1986). Offenders who lack self-control tend to be impulsive (i.e., risk takers) and insensitive (Gottfredson & Hirschi, 1990).

A capable guardian ranges from people (i.e., police, neighbors, relatives and friends) to objects (i.e., security alarms) that deter potential offenders. When the capable guardian is absent, there is vulnerability, exposing the targeted item or victim. For example, sex offenders tend to choose victims who are young and alone, as they are perceived to be vulnerable (Beauregard et al., 2007). Young individuals, especially young males, often lack capable guardians, as they tend to travel alone in comparison to young females who often travel in groups (Kennedy & Baron, 1993).

A suitable target is either an object or person that is seen as being valuable in some form, particularly in the absence of a capable guardian. The suitable target in relation to victims of crime is understood from routine activities theory. For instance, individuals who engage in late night activities, carry valuables (i.e., purse, expensive jewelry, cash) and travel alone (without friends/family) are more likely to be victimized (Jensen & Brownfield, 1986; Kennedy & Forde, 1990). Felson (1997) confirmed that males with an active nightlife were more likely to experience victimization compared to females. Lifestyle theory suggests that young men are viewed as suitable targets to motivated offenders as they tend to go out more in the evenings. A male's risk of victimization also increases with the consumption of excess alcohol (Felson, 1997; Mustaine & Tewksbury, 1998). Individuals who consumed high levels of alcohol are at greater risk of being a target of violence (Felson, 1997).

The acronym VIVA (value, inertia, visibility and accessibility) was developed by Cohen and Felson (1979) in order to provide a theoretical understanding of the determination of target suitability. Although VIVA was designed to summarize certain elements addressing target selection, VIVA was not intended to be viewed as a "definitive model" (Clarke, 2001, p. 254). Thus, it is not surprising that VIVA "was not an adequate model of target suitability" (Clarke, 2001, p. 255). Due to VIVA's inadequacy for summarizing elements of a suitable target, the CRAVED model was developed to overcome these inadequacies.

The CRAVED model consists of six elements (concealable, removable, available, valuable, enjoyable, and disposable) that apply “to property of theft...[and can be applied to] the concepts to violent crime” (Felson, 2006, p.128). The element of Concealable involves items that can be easily concealed by the offender (i.e., jewellery). Removable is an element that consists of how easily the item can be moved or stolen by the offender (i.e., a handgun opposed to a shotgun). Availability is a necessary element for an item to be viewed as accessible and visible. Therefore, iPhones are a readily and attractive item for offenders to steal as iPhones are mass produced and are similar in style and colour. Lack of a capable guardian also makes a potential victim appear to be accessible and available to the offender. Young females are perceived to be vulnerable by offenders when selecting a victim for the crime of sexual assault. Stevens’ (1994) suggested that “younger females may demonstrate yielding cues to predators through their behavior” (p. 425). One offender who was interviewed by Stevens provided a scenario of how he perceived victim vulnerability:

Watching this s –flick at the movies but watch’em these young sweeties a few rows down. Each time they leave, they’re gone for 10 minutes or so. Probably screw’em around somewhere. When they leave, I waltz up next to one they left behind. I smile but she doesn’t look at me. I put my knife to her stomach. (p. 425)

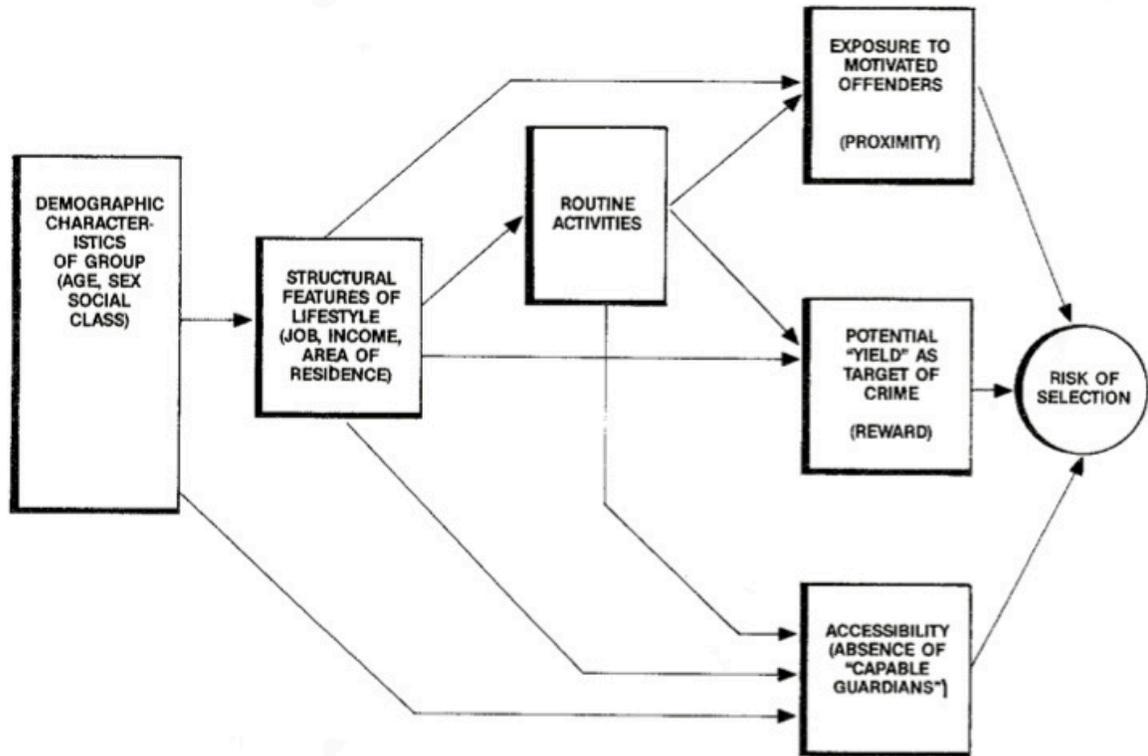
Valuable goods are generally sought by offenders in order to easily convert them for profit (i.e., pawning jewellery). Enjoyable items tend to be deemed as items of desire for offenders. For example, offenders engaging in the crime of robbery enjoyed the item of money as they could spend “the money on expensive clothes, particular expensive ‘Nike’ trainers, luxuries and cannabis” (Clarke, 1999, p. 24). The disposable element tends to consist of items that can be easily sold or converted for profit (i.e., electronic goods). The CRAVED model explains why certain items/victims are targeted by offenders.

In addition to factors associated with being a suitable target, victims are believed to emit certain cues that trigger an offender to target them as a victim. Victim precipitation is a concept that focuses on an individual’s character traits

that make them responsible for their own victimization to a certain degree (Doerner & Lab, 2012). “Potential victims are seen as inviting or provoking the offender’s behavior, thus sharing in the responsibility for the crime” (Timmer & Norman, 1984, p. 63). For example, rape victims are deemed by some to be responsible for the crime of rape due to how they conducted themselves; hence, dressing provocatively elicits responses such as “she was asking for it” (Timmer & Norman, 1984, p. 64). Beauregard et al. (2007) found that a victim’s behavior (e.g., smiling, dancing, being an exhibitionist) in conjunction with their personality (e.g., being naïve, extraverted) made them suitable targets for sexual assault.

Hough (1987) provides a conceptual framework (see Figure 3) for examining offender decision making when selecting a victim based on the theoretical perspectives of routine activities and lifestyle theory. Hough notes that offenders select their victims based on three primary conditions: “[Potential victims] must (a) be exposed more frequently to motivated offenders, (b) be more attractive as a target in that they afford a better “yield” to the offender, or (c) be more attractive in that they are more accessible, or less defended against victimization” (p. 359).

Figure 1. Conceptual framework for explaining target selection.⁴



⁴ From "Offenders' Choice of Target: Findings from Victim Surveys," by M. Hough, 1987, *Journal of Quantitative Criminology*, 3, p. 359. Copyright 1987 by the Plenum Publishing Corporation.

It is clear that certain factors make an individual a suitable target for offender(s). An individual's daily activities, attire (physical appearance) and personality are essential components that explain why some individuals are victimized and others are not. Within the context of an individual's physical appearance, could it be that facial appearance (i.e., attractiveness) plays a role in whether victimization occurs or not? By incorporating criminological theories (i.e., Rationale Choice Theory, Victimology, Routine Activity/Lifestyle Theory, and Victim Precipitation) pertaining to how an offender selects a suitable target, these theories provide a foundation for examining whether facial attractiveness plays a role in offender victim selection.

3. METHODOLOGY

3.1 Purpose

Pretend someone asks you the question, "Who would you rob, Brad Pitt or Steve Buscemi?" What would your first response be?

The purpose of this study is to determine whether facially attractive males are more likely to be victimized in comparison to facially average and unattractive males. Facial attractiveness influences how one is perceived. As discussed above, facially attractive individuals are seen to possess favorable personality traits such as being socially desirable, trustworthy and likeable (Langlois et al., 2000; Wilson & Eckel, 2006). These personality traits could cue an offender that the potential victim (i.e., an attractive individual) is vulnerable. For example, given that attractive individuals are deemed to be intelligent, they may be perceived to have occupational success (i.e., wealthy) and thus more likely to be targeted. Conversely, unattractive individuals who have prominent disfigured facial features (i.e., scars, broken nose, cauliflower ears) would appear threatening (i.e., a mixed martial artist) and thus less likely to be targeted.

The focus of this research is on male victims of crime. Several studies have demonstrated that males are more likely to be targets of crime (Jensen & Brownfield, 1986; Kennedy & Forde, 1990). For instance, victims of robbery and theft have been predominantly male (Siegel & McCormick, 2010). According to the General Social Survey (2004), men are more likely to be victimized (13 per 1,000) than women (8 per 1,000). Robbery and theft offenders also tend to be young males (Correctional Service of Canada, 1996).

Six research questions are addressed:

Research Question 1: Are facially attractive males more likely to be victimized than facially unattractive males and average males?

Research Question 2: Are facially attractive males more likely to be victimized than facially unattractive males or average males when violence is high?

Research Question 3: Are male participants in the role of an offender more likely than female participants in the role of an offender to victimize males?

Research Question 4: Are male participants in the role of an offender more likely than female participants in the role of an offender to victimize attractive males over unattractive males and average males?

Research Question 5: Are attractive male victims perceived as possessing more socially desirable qualities than average male victims and unattractive male victims (i.e., likeability, trustworthiness)?

Research Question 6: Does the personality of the offender (extraversion, agreeableness, conscientiousness, openness and emotional stability) impact an offender's likelihood of victimizing?

3.2 Participants

Participants were recruited online via Amazon Mechanical Turk (MTurk) website. MTurk is a crowd sourcing website used for labor-intensive tasks, and experimental research studies (Paolacci, Chandler & Ipeirotis, 2010). MTurk consists of a diverse group of participants from over 100 countries over the age of 18 years old who receive money in exchange for participating (Buhrmester, Kwang & Gosling, 2011). Participants are primarily from the U.S. (70-80%) and tend to be young, female (55%), and well-educated (Buhrmester et al., 2011;

Ross, Irani, Silberman, Zaldivar, & Tomlinson, 2010). Ross et al. (2010) observed that MTurk participants “are at least as diverse and more representative of noncollege populations than those of typical Internet and traditional samples” (p. 5).

The two hundred participants in this study ranged in age from 18 to 75 years ($M = 36.6$, $SD = 11.9$). Fifty-two percent ($n = 104$) of the sample was female and forty-eight percent ($n = 96$) were male. The majority of participants considered themselves Caucasian (80%), while a minority of participants considered themselves Asian (13%), Black (4%), Hispanic (1.5%), Middle Eastern (0.5%), East Indian (0.5%), and other (0.5%).

In regard to sexuality, ninety-three percent ($n = 186$) identified themselves as straight/heterosexual, four percent ($n = 8$) bisexual and three percent ($n = 6$) lesbian, gay or homosexual. Fifty-one percent ($n = 102$), were employed full-time, nineteen percent ($n = 37$) held a part-time/casual job, while the rest were students ($n = 14$), homemaker ($n = 18$), retired ($n = 8$) or not employed ($n = 21$). Only 4.5% of participants had a criminal record.

3.3 Design

A 3 (Stimulus Attractiveness: attractive, average, unattractive) between subjects x 3 (Level of Violence: low, medium, high) within subjects x 2 (Sex of participant: male and female) between subjects, mixed-model design was used. Participants were randomly assigned to one of the six (stimulus attractiveness by sex) cells.

3.4 Stimulus Materials and Stimulus Selection

3.4.1 Vignettes of Crime

Six written vignettes (approximately 185 words each) were employed. The vignettes mimic Kohlberg's (1971) ethical dilemmas, allowing a participant to view each dilemma from an impartial perspective. Vignettes are used to "standardize the social stimulus" [(i.e., crimes of robbery and theft)] across respondents and at the same time make the decision-making situation more real (Alexander & Beker, 1978, p. 103). Other criminology studies have given vignettes to non-offender samples to ask members of these samples whether they would participate in a criminal act (Klepper & Nagin, 1989; Langton, Piquero & Hollinger, 2007; Loewestein, Nagin, & Paternoster, 1997; Piquero & Tibbetts, 2006). For example, Langton et al. (2007) used three vignettes that asked participants to imagine themselves as the individual depicted in the vignettes.

In the present study, each vignette featured one of three levels of violence (high, medium and low). The high level of violence entailed direct confrontation with the victim during a robbery. The medium level of violence involved theft with the possibility of being confronted by the victim. The low level of violence involved theft but without the possibility of being confronted by the victim. Half of the vignettes were about iPhones, half were about money.

One of the six versions of the vignettes (i.e., high violence/money) reads as follows:

Joe is a 24-year old who has just completed his undergraduate degree. He is currently unemployed, has only a couple of dollars in his wallet, and his landlord is threatening to evict him from your apartment if he doesn't pay him by tomorrow. Although Joe has applied for several jobs, he hasn't received any callbacks. As each hour passes, Joe is another hour closer to being homeless. While Joe sits on a bench contemplating his situation, he notices a man robbing a couple in a back

alley. In a moment of pure desperation, it hits Joe that in order to keep a roof over his head he needs to rob someone. As Joe watches the couple surrender their possessions to the man, he decides that he too can easily commit this crime without being caught. Seeing the man run off with hand full of cash, Joe begins to examine the people around him who he could potentially rob. Joe has made the decision to rob someone. Assume that the robbery will occur just like the one that Joe witnessed.

3.4.2 Face Stimuli

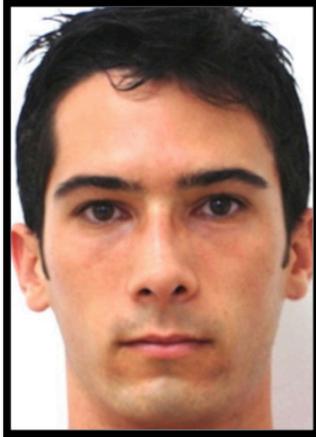
The face stimuli for this experiment were obtained from the FEI face database maintained by Dr. Carlos Eduardo Thomaz of Centro Universitario da FEI, São Bernardo do Campo, São Paulo, Brazil (2012). The FEI face database consists of 200 digital colored frontal facial images (640 x 480 pixels) of males and females taken between June 2005 and March 2006. The face stimuli ranged in age from 19 and 40 years old. The experimenter pre-selected forty male face stimuli in order to ensure the face stimuli did not include females, facial hair, scars, facial disfigurement, glasses, smiling and open mouth expressions. All of the pre-selected male face stimuli were presented with a white homogenous background and with closed mouth expressions.

3.4.3 Attractiveness Ratings of Face Stimuli

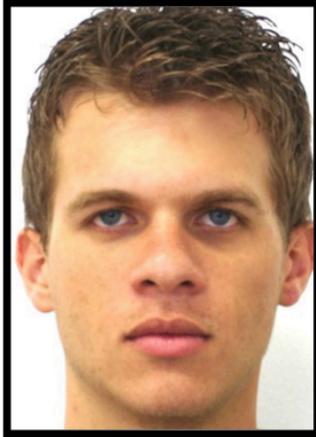
A set of 38 independent judges (14 men and 24 women) between the ages of 19-69 years rated the face stimuli for attractiveness. Judges were seated at a computer and presented a consent form with task instructions. Attractiveness ratings for the face stimuli were rated on a scale ranging from 1 = extremely unattractive to 7 = extremely attractive. From these ratings, nine images were selected for the experiment (i.e., three attractive, three average and three unattractive male face stimuli) (see Figure 1). Based on Sheppard et al. (2011), the means were calculated for all 40 images of the male face stimuli. The three faces with the highest mean scores were categorized as attractive, while

the three faces with the lowest mean scores were categorized as unattractive. The average faces were based on the median ($M = 3.10$) of all the means with one face just above the median ($M = 3.13$), one face just below the median ($M = 3.07$), and one face at the median.

Figure 2. Simuli Faces. Example of three faces that were judged to be attractive, average and unattractive (published here with the permission of FEI database, 2012).



Attractive



Average



Unattractive

3.5 Measures

3.5.1 Facial Victim/Offender Survey

The Facial Victim/Offender Survey (see Appendix A) measures whether an offender (i.e., participant) would commit a crime against a victim in the vignette. Following each vignette, participants were asked to respond on a 7-point Likert scale (1 = extremely unlikely to 7 = extremely likely) whether they would victimize the person presented as the stimuli face if they were in the position of the offender in the vignette (e.g., If you were in Joe's position, how likely would you be to rob/steal this person?). A second question asked again on a 7-point Likert scale (1 = extremely unlikely to 7 = extremely likely) how likely the offender in the vignette would victimize the potential victim (e.g., How likely is Joe to rob this person?)

3.5.1.1 Filler Items

Deception was used as a methodological tool to prevent participants from recognizing the purpose of the study. It is believed that if participants were aware that victim attractiveness was being measured, participants would alter their responses. Thus, several filler items were presented for each vignette to serve as memory/recall questions to disguise facial attractiveness as the focal point (refer to Appendix A). Five filler item questions followed each vignette. For example,

(1) Assume that Joe has already received his eviction notice, how likely do you think he will rob this person?; (2) Assume that the person Joe decides to rob is wearing a Rolex watch, how likely do you think Joe will rob this person?; (3) Assume that Joe has just missed his son's birthday, how likely do you think he will use the money he robbed from someone to buy his son a birthday gift?; (4) Why was Joe considering robbing someone?; and (5) What steps has Joe taken to get the money so far?

3.5.1.2 Face Stimuli Questions

Seven questions were then asked about the male face stimuli. The participants were asked to determine the age, job status, and salary of the male face stimuli. Then participants were asked to rate intelligence, trustworthy, likeability, level of attractiveness of the male face stimuli on 7-point Likert scales. Each question used the same format for rating but the wording was different based on what was being measured. For example, the question regarding trustworthiness was rated on a 7-point scale ranging from 1 (extremely untrustworthy) to 7 (extremely trustworthy). These seven questions were repeated for the other two faces.

3.5.1.3 Demographic Questions

A standardized set of demographic items assessed a participant's age, sex, race, sexuality, employment status and an optional yes/no question revealed whether or not the participant had a criminal record.

3.5.2 Ten-Item Personality Inventory

The Ten-Item Personality Inventory (TIPI; Gosling, Rentfrow & Swann, 2003; see Appendix F) is a relatively new short form instrument that assesses the Big Five personality traits (see Costa & McCrae, 1992). Five personality traits are assessed: (1) extraversion; (2) agreeableness; (3) conscientiousness; (4) emotional stability; and (5) openness. The TIPI consists of ten items that are associated with two descriptors (i.e., "I see myself as:") that relate to one of the five personality traits. Each item is rated on a 7-point Likert scale ranging from 1 (disagree strongly) to 7 (agree strongly). The TIPI is a time efficient personality instrument that takes one minute to complete (Ehrhart et al., 2009; Gosling et al., 2003).

3.6 Procedure

Participants from MTurk who showed interest were provided with a brief description of the study (see Appendix B for an example brief description). If they chose to participate in the study, participants clicked on a URL link that directed them to the study found on SFU's server. Next they were presented with a consent form (see Appendix C). If they decide not to participate, they clicked *quit* which abruptly ended the survey. If they decided to participate, they clicked *begin* to consent to participate.

After clicking *begin*, participants were asked to imagine themselves in the position of committing a robbery or theft involving either money or an iPhone. For example, the participant read the first vignette about robbing (high potential for violence) the potential victim (i.e., featured in the photo) classified as facially attractive for an iPhone. After reading the first vignette, the participant was asked two questions. The first question asked whether they would victimize the person presented as the stimuli face (i.e., potential victim) if they were in the position of the offender in the vignette. The second question asked how likely the offender in the vignette would victimize the potential victim. Next, five filler item questions regarding the events in the vignette were asked of the participant. Then seven questions were asked regarding features of the potential victim from the vignette, specifically age, job type, salary, intelligence, level of attractiveness and personality characteristics such as likeability, and trustworthiness. A second vignette was then presented to this participant that involved theft (i.e., medium potential for violence), again featuring an iPhone from a facially attractive potential victim. The same questions were asked as following the first vignette then a third vignette (i.e., low potential for violence) and the same questions were presented.

After reading and completing the three vignettes, a participant was asked to answer demographic questions about themselves (their age, sex, race,

sexuality, employment status, and whether or not they had a criminal record), and complete the Ten-Item Personality Inventory (TIPI).

When the above procedure was completed or if the participant withdrew from the study, they were debriefed (see Appendix E for debriefing form). Participants who decided to submit their data were then provided a numerical code in order to ensure they had completed the survey. This code was entered into Amazon Mechanical Turk confirming that they had completed the survey. Once the data were submitted, participants were paid \$2.00 for participating.

4. RESULTS

4.1 Preliminary Results

Descriptive statistics were computed for demographic information from the Facial/Offender Survey and subscale scores for the Big Five Personality traits (see Table 1). Personality trait data from three participants were eliminated because those participants decided to backtrack causing their data not to be collected. No other cases had missing values. The sample from the current study appeared to have elevated scores for males compared to normative data (i.e., agreeableness, conscientiousness, emotional stability) whereas females scored higher for agreeableness and emotional stability compared to normative data (Gosling et al., 2013).

Turning to the primary outcome variables, participants were asked to respond on a 7-point Likert scale (1 = extremely unlikely to 7 = extremely likely) whether they would victimize the person presented as the stimuli face if they were in the position of the offender in the vignette. Looking at the most extreme rating or a rating of 7, the majority of participants ($n = 129$; 64.5%) were extremely unlikely to victimize the attractive face, the average face ($n = 135$; 67.5%) and the unattractive face ($n = 119$; 59.5%).

Participants were also asked the likelihood that the offender in the vignettes would victimize the potential victim (also based on a 7-point Likert scale from 1 = extremely unlikely to 7 = extremely likely). Fifty participants (25%) believed the offender in the vignette was extremely likely to victimize the victim when the victim was attractive, 49 participants (25%) when the victim was average looking, and 59 participants (29.5%) when the victim was unattractive.

In order to determine whether relationships existed between participant ratings and offender vignette ratings of victimization, bivariate correlations were

calculated. There were no statistically significant associations between participant ratings and offender ratings.

Table 1

Means (SD) and Norms for the TIPI Subscales

	Male		Female	
	Current Study	TIPI Norms	Current Study	TIPI Norms
	(<i>n</i> = 96)	(<i>N</i> = 633)	(<i>n</i> = 104)	(<i>N</i> = 1173)
Extraversion	3.96 (1.77)	4.25 (1.41)	3.76 (1.74)	4.54 (1.47)
Agreeableness	5.31 (1.33)	5.06 (1.10)	5.80 (1.19)	5.32 (1.11)
Conscientiousness	5.66 (1.26)	5.19 (1.15)	5.46 (1.38)	5.51 (1.11)
Emotional Stability	5.57 (1.52)	5.13 (1.31)	4.95 (1.60)	4.66 (1.45)
Openness	5.44 (1.39)	5.34 (1.09)	5.18 (1.37)	5.40 (1.06)

Note: TIPI = Ten-Item Personality Inventory. The TIPI norms were compared to existing normative data from Gosling et al. (2013).

4.1.1 Manipulation Check for Attractiveness

A one-way analysis of variance (ANOVA) was conducted to examine whether the ratings of attractiveness as provided by the judges corresponded with the ratings of attractiveness as assessed by the participants. Participants were divided into three groups according to the attractiveness (i.e., attractive, average and unattractive) of the stimuli faces presented. For the first face presented to participants, the attractive face ($M = 4.51$ on a seven-point scale from 1 = extremely unattractive to 7 = extremely attractive) was rated more attractive than the average face ($M = 3.83$), and the attractive and average faces were both rated more attractive than the unattractive face ($M = 3.16$). These ratings were statistically significant, $F(2, 197) = 23.78, p < 0.001$. Tukey post-hoc tests ($p < .05$) found that all three faces differed in their ratings from each other. The same pattern of results were found for the second face presented to participants (attractive $M = 4.73$, average $M = 3.92$, unattractive $M = 3.16$), $F(2, 197) = 26.39, p < 0.001$, and the third face presented to participants (attractive $M = 4.80$, average $M = 3.76$, unattractive $M = 3.18$), $F(2, 197) = 31.60, p < 0.001$.

4.2 Results for Research Questions

4.2.1 Research Questions 1, 2, 3 and 4

Mixed-model ANOVAs were calculated to address research questions one, two and three and four. Separate ANOVAs were calculated for participants' ratings for themselves as to whether they would victimize the face presented and as to whether the offender in the scenario would victimize the face presented. The results from the mixed-model ANOVA for participant responses are presented in Table 2 and cell means are presented in Table 3.

Addressing Research Question 1 (Are facially attractive males more likely to be victimized than facially unattractive males and average males?), the mixed-model ANOVA found no statistically significant main effect for attractiveness, $F(2, 194) = .95$, ns. Thus, facially attractive males are not more likely to be victimized.

Table 2

Mixed Model ANOVA Results for Participants' Ratings of Victimization

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between subjects					
Attractive	6.86	2	3.43	.95	.39
Sex	.046	1	.046	.01	.91
Att x Sex	4.27	2	2.14	.59	.56
Error	704.44	194	3.63		
Within subjects					
Violence	12.00	2	6.00	7.32	.001
Viol x Att	.626	4	.157	.191	.943
Viol x Sex	.809	2	.404	.493	.611
Viol x Sex x Att	2.71	4	.678	.827	.509
Error	318.10	388	.820		

Table 3

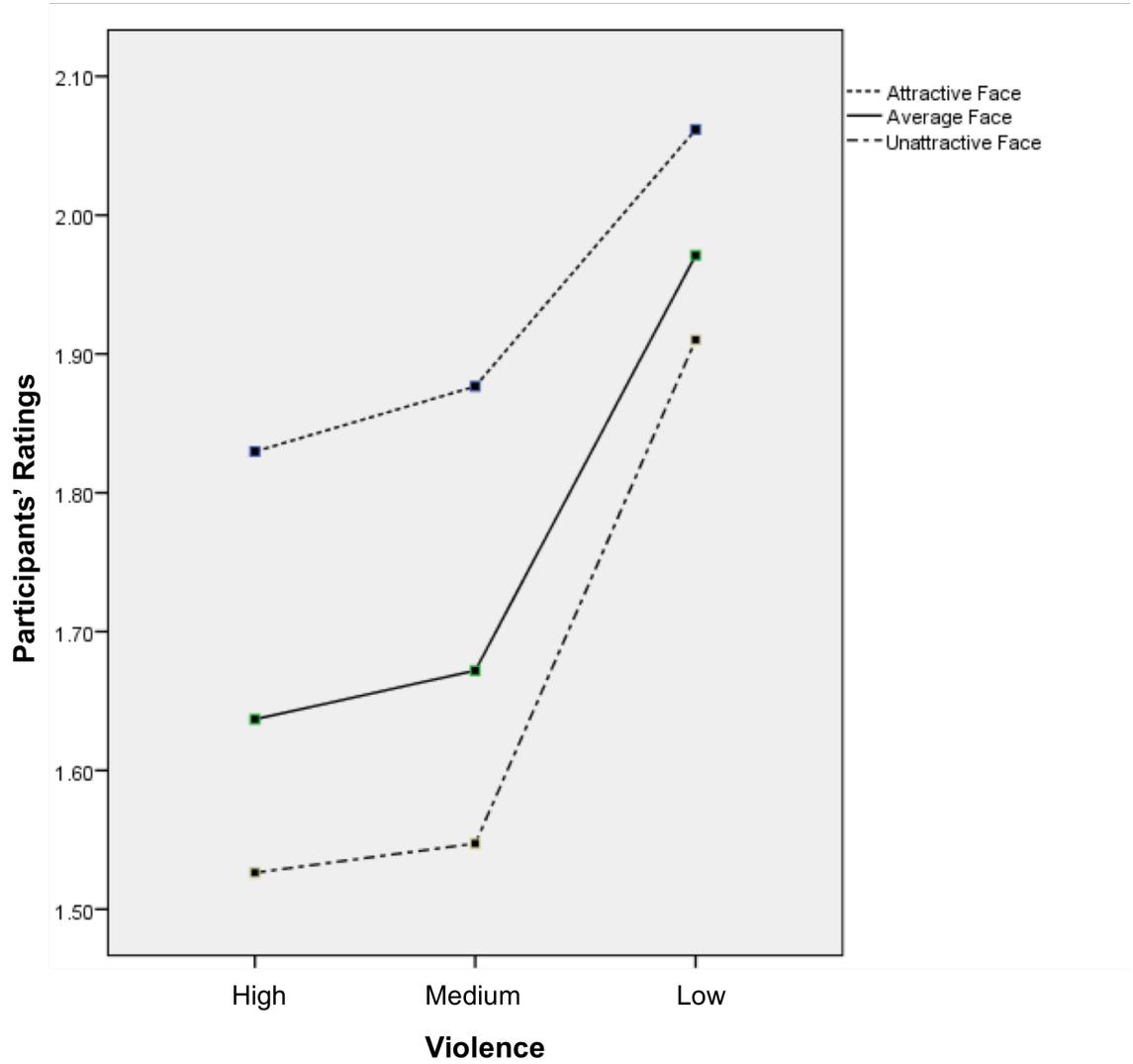
Mean (SD) Vignette Values for Participant Victimization Response by Victim Attractiveness, Participant Sex, and Violence

Vignette Type	Attractive Face		Average Face		Unattractive Face	
	Male	Female	Male	Female	Male	Female
High Violence	1.85 (1.35)	1.81 (1.45)	1.80 (1.00)	1.47 (1.13)	1.28 (.581)	1.77 (1.21)
Medium Violence	1.88 (1.43)	1.87 (1.69)	1.63 (1.00)	1.71 (1.16)	1.44 (1.05)	1.66 (1.06)
Low Violence	2.06 (1.58)	2.06 (1.90)	2.1 (1.24)	1.84 (1.44)	1.91 (1.57)	1.91 (1.44)

The greater the mean, the higher the likelihood the participant will victimize.

Research Question 2 asked whether facially attractive males were more likely to be victimized than facially unattractive males or average males when violence is high. Table 2 revealed that there was a statistically significant main effect for level of violence, $F(2, 388) = 7.321, p < .001$ but no violence by attractiveness interaction, $F(4, 388) = .19$. The plot of the interaction of violence by attractiveness appears in Figure 2. A test of the simple main effect of the levels of attractiveness at high violence did not approach statistical significance, $F(2, 197) = .94, p < .39$. Thus, Research Question 2 was not supported. Dependent t-tests were conducted as tests of simple main effects for violence at each level of attractiveness. No statistically significant simple main effects were found for the attractive face. However, participants were more likely to victimize the average face when violence was low ($M = 1.97$) than when violence was medium ($M = 1.67, t(67) = 1.82, p < .07$) or when violence was high ($M = 1.64, t(67) = 2.11, p < .04$). In the same vein, participants were more likely to victimize the unattractive face when violence was low ($M = 1.91$) than when violence was medium ($M = 1.53, t(66) = 2.03, p < .05$) or when violence was high ($M = 1.55, t(66) = 2.61, p < .01$). There were no other statistically significant main effects or interactions (see Table 2).

Figure 3: Interaction of Violence and Attractiveness Ratings



Research Question 3 (Are male participants in the role of an offender more likely than female participants in the role of an offender to victimize males?), and Research Question 4 (Are male participants in the role of an offender more likely than female participants in the role of an offender to victimize attractive males over unattractive males and average males?) pertain to the sex of the participants. Mixed-model ANOVAs were calculated for participants' ratings for the offender in the vignettes as to whether the offender in the vignette would victimize the face presented. Results from the mixed-model ANOVA for participant responses are presented in Table 4 and cell means are presented in Table 5. Addressing Research Questions 3 and 4, there was no statistically significant main effect for sex, $F(1, 194) = .70$, no two-way interaction of violence by sex, $F(2, 388) = .076$, no two-way interaction of sex by attractiveness, $F(2, 194) = .49$, nor a three-way interaction of violence by attractiveness by sex, $F(4, 388) = .43$ for offender ratings. The pattern of results for when participants rated what the perpetrator would do was similar to what was found when participants took the role of perpetrator. One exception was the main effect for attractiveness approached statistical significance ($p < .07$). The unattractive face ($M = 4.96$) was judged to be somewhat less likely to be perpetrated against by the offender than the attractive face ($M = 5.43$) or the average face ($M = 5.32$).

Table 4

Mixed Model ANOVA Results for Offender of Vignette Ratings of Victimization

Source	SS	df	MS	F	p
Between subjects					
Attractive	23.4	2	11.7	2.71	.069
Sex	3.03	1	3.03	.70	.40
Att x Sex	4.24	2	2.12	.49	.61
Error	837.34	194	4.32		
Within subjects					
Violence	21.5	2	10.8	8.1	.001
Viol x Att	2.15	4	.537	.404	.806
Viol x Sex	.203	2	.102	.076	.926
Viol x Sex x Att	2.51	4	.627	.427	.757
Error	515.56	388	1.33		

Table 5

Mean (SD) Vignette Values for Vignette Offender Victimization Response by Victim Attractiveness, Participant Sex, and Violence

Vignette Type	Attractive Face		Average Face		Unattractive Face	
	Male	Female	Male	Female	Male	Female
High Violence	5.53 (1.38)	5.23 (1.52)	5.07 (1.68)	5.32 (1.61)	4.78 (1.60)	5.20 (1.55)
Medium Violence	5.29 (1.34)	5.29 (1.62)	5.03 (1.50)	5.26 (1.75)	4.50 (1.61)	4.86 (1.54)
Low Violence	5.56 (1.40)	5.68 (1.33)	5.67 (1.24)	5.61 (1.78)	5.09 (1.33)	5.37 (1.46)

The greater the mean, the higher the likelihood the offender is perceived to victimize.

4.2.2 Research Question 5

To investigate whether attractive male victims are perceived as possessing more socially desirable qualities than average and unattractive male victims (i.e., likeability, trustworthiness, intelligence etc.), the data were analyzed using contrasts comparing the attractive face to the combined average and unattractive faces. Three faces were presented to participants. For the first face presented, there was a statistically significant contrast for intelligence, $t(197) = 2.27, p < .024$, and likeability, $t(197) = 2.06, p < .04$. The attractive face ($M = 4.40$) was seen as more intelligent than the average ($M = 4.03$) and unattractive ($M = 3.96$) faces. The attractive face ($M = 4.12$) was also seen as more likeable than the average ($M = 3.79$) and unattractive ($M = 3.66$) faces. Similarly, for the second face presented, there were statistically significant contrasts for intelligence, $t(197) = 2.40, p < .017$, and likeability, $t(197) = 3.24, p < .001$. The attractive face ($M = 4.49$) was seen as more intelligent than the average ($M = 4.07$) and unattractive ($M = 4.06$) faces. The attractive face ($M = 4.33$) was also seen as more likeable than the average ($M = 3.83$) and unattractive ($M = 3.58$) faces. Finally, for the third face presented, there were statistically significant contrasts for intelligence, $t(197) = 3.46, p < .001$, likeability, $t(197) = 2.67, p < .008$, and also trustworthiness, $t(197) = 2.39, p < .018$. The attractive face ($M = 4.54$) was seen as more intelligent than the average ($M = 3.94$) and unattractive ($M = 3.92$) faces. The attractive face ($M = 4.28$) was also seen as more likeable than the average ($M = 3.92$) and unattractive ($M = 3.56$) faces. And the attractive face ($M = 3.91$) was seen as trust worthier than the average ($M = 3.50$) and unattractive ($M = 3.33$) faces.

A chi-square test for independence indicated that there was a statistically significant association between attractiveness and job status for the first face presented, $\chi^2(2, N = 200) = 6.49, p < .04$. A greater proportion of attractive faces

(21.5%) were seen to be employed than average (7.4%) or unattractive faces (10.4%) That result was not found for the second face presented, $\chi^2 (2, N = 200) = .549, p < .76$. For the third face presented, there was again a statistically significant association between attractive male victims and job status, $\chi^2 (2, N = 200) = 10.70, p < .005$. A greater proportion of attractive faces (24.6%) were employed than average (19.1%) or unattractive faces (4.5%).

4.2.3 Research Question 6

Direct entry multiple regression was used to assess the personality (extraversion, agreeableness, conscientiousness, openness and emotional stability) of the participants as predictors of participants' ratings of committing the crime for the different levels of violence (i.e., high, medium or low). When violence was high, the model was not statistically significant, $F (5, 194) = 1.28, p < .27$; 3.2% of variance in likelihood is explained by personality (see Table 6). When violence was moderate, the model was not statistically significant, $F (5, 194) = 1.31, p < .26$; 3.3% of variance in likelihood is explained by personality (see Table 7). When violence was low, the model was statistically significant, $F (5, 194) = 2.71, p < .02$, indicating that personality is a predictor that accounts for 6.5% of variance. The statistically significant predictors of participants' ratings of committing the crime were low conscientiousness ($\beta = -.19, p < .01$) and high openness ($\beta = .14, p < .07$) (see Table 8).

Table 6

Multiple Regression Analysis Predicting Participants' Ratings of Committing a High Violence Crime From Personality Factors (N= 200)

Variable	<i>B</i>	<i>SE B</i>	β
Extraversion	.061	.052	0.92
Agreeableness	-.113	.075	-1.17
Conscientiousness	-.081	.071	-.092
Emotional Stability	.018	.065	.024
Openness	.068	.065	.081

* $p < .05$.

Table 7

Multiple Regression Analysis Predicting Participants' Ratings of Committing a Medium Violence Crime From Personality Factors (N= 200)

Variable	<i>B</i>	<i>SE B</i>	β
Extraversion	.063	.056	.089
Agreeableness	-.095	.081	-.098
Conscientiousness	-.091	.076	-.097
Emotional Stability	.006	.070	.007
Openness	.091	.070	.101

* $p < .05$.

Table 8

Multiple Regression Analysis Predicting Participants' Ratings of Committing a Low Violence Crime From Personality Factors (N= 200)

Variable	<i>B</i>	<i>SE B</i>	β
Extraversion	.054	.067	0.62
Agreeableness	-.148	.097	-.124
Conscientiousness	-.227	.092	-.197*
Emotional Stability	.049	.084	.051
Openness	.152	.084	.138*

* $p < .05$.

4.2.4 Additional Analyses

Supplementary analyses involved regressions predicting participants' ratings for themselves and for the offender as outcome variables, and age of participant, sex of participant, employment status of participant (recoded into 1 = employed fulltime, 0 = all other employment categories) and vignette presented. None of the regression models were statistically significant for the ratings of the offender. However, the regression model was statistically significant for the first vignette presented to participants (regardless of the attractiveness of the face presented with that vignette), $F(4, 195) = 2.98, p < .02, R^2 = .038$, statistically significant for the second vignette presented to participants, $F(4, 195) = 3.33, p < .012, R^2 = .064\%$, and approached statistical significance for the third vignette presented, $F(4, 195) = 2.07, p < .09, R^2 = .033$. For all three models, the statistically significant predictor was age of participant: for the first vignette $\beta = -.222 (p < .002)$; for the second vignette $\beta = -.232 (p < .001)$; and for the third vignette $\beta = -.198 (p < .006)$. Participants' ratings of the likelihood of robbing the victim diminished with age of participant. The interaction of age of participant by sex of participant was examined and found to approach statistical significance only for the first vignette presented to participants ($\beta = -.65, p < .055$). A plot of the interaction revealed that younger females were somewhat more likely to perpetrate than younger and older males and older females.

5. DISCUSSION

Researchers have demonstrated repeatedly that attractive faces are associated with qualities of goodness, honesty, warmth, and social desirability (Callan, et al., 2007; Dion & Dion, 1987; Wilson & Eckel, 2006). Physically attractive individuals have been found to be advantaged in “interpersonal relationships, occupations, [and] criminal justice system decisions” compared to average and unattractive individuals” (Zebrowtiz, 1997, p. 140). Researchers have devoted less effort to looking at the disadvantages associated with physical attractiveness. Researchers have considered the role of attractiveness in sexual assault but have not accounted for whether a victim’s facial attractiveness contributes to other crimes (e.g., homicide, criminal harassment, theft). Studies regarding attractiveness also tend to focus on the crime of sexual assault against women (Calhoun et al., 1978; DeJong, 1999; Seligman et al., 1977). Researchers have ignored male attractiveness associated with victimization.

The purpose of this study was to examine offender victim selection with the focus on male facial attractiveness. The general research question asked was does facial attractiveness influence a participant’s choice in the role of an offender when selecting a male victim involving the crimes of robbery and theft? Participants were presented with three vignettes involving either robbery or theft. Each vignette featured a photo of the potential victim’s face, a face that was attractive, average or unattractive. What was found was participants were unwilling to victimize the potential male victims in the vignettes regardless of their facial attractiveness.

One explanation for why facial attractiveness did not play a role in victimization is participants might not be able to imagine themselves victimizing a

face presented in the form of a photo. Perhaps if the vignettes were executed using live social interactions (i.e., watching a video of someone committing robbery or theft), these live social interactions might invoke a differential response from the participants relating to attractiveness. Alternatively, participants may have given especially low ratings to their own likelihood of offending against the individual (regardless of the level of attractiveness) because of a floor effect. The likelihood of victimization ratings were already so low that the ratings could not go any lower even if a level of attractiveness called for lower ratings.

Another possible explanation for the failure to find differences on facial attractiveness could be that the items to be stolen in the vignettes (i.e., iPhone, money) did not meet all six components that make an item a desirable product to steal according to the CRAVED model (Felson, 2006). Although both a wallet and an iPhone are Concealable, Removable, Available, Valuable, Enjoyable and Disposable, participants might not have perceived these items in this way. For example, participants might have assumed the wallet-contained money but participants were not made privy to how much money (i.e., a small or large amount of money) was in the wallet. When it comes to the iPhone, iPhone users now can install software (e.g. Find My iPhone) to track their iPhone if it is lost or stolen. iPhone users also have the option of creating a passcode to prevent someone from using their iPhone. Consequently, these items might not have been perceived of value to participants.

When participants were asked whether the *offender* in the vignettes would victimize a potential victim, participants were more willing to respond in the affirmative as compared to when asked if *they* would victimize a potential victim. The offenders' "lifestyle, prior experiences, [and] emotional state" (Piotrowski, 2011, p. 428) described in the vignettes may have provided the conditions needed for participants to see why the offenders in the vignettes might engage in criminal activity. For instance, all three vignettes featured offenders who were young males of lower socioeconomic status. Being young and male are two

salient predictors of criminal behavior (Schmalleger & Volk, 2001). Further, Braithwaite (1981) found that individuals of lower socioeconomic status have a greater propensity for involvement in crime. Another consideration for why participants rated themselves as being of lesser likelihood of offending against the potential victim compared to the offender could be a self-serving bias. Self-serving bias is a cognitive and perceptual process that individuals use to protect, maintain or enhance their self-esteem (Miller & Ross, 1975). Participants could be engaging in a self-serving bias to protect their self-esteem as they may not want to view themselves as someone who would under any circumstances commit crimes of robbery and theft.

Each vignette featured one of three levels of violence: (1) a high level of violence entailed direct confrontation with the victim during a robbery; (2) a medium level of violence involved theft with the possibility of being confronted by the victim; and (3) a low level of violence involved theft but without the possibility of being confronted by the victim. Participants regardless of their sex and the assigned attractiveness of the victim were more willing to victimize the potential victim when the violence level was low. In the vignettes that featured low violence, participants were not aware of whether other patrons of Starbucks were in the coffee shop at the time when the theft would occur. Therefore, fellow patrons mentioned as frequenting the coffee shop in the vignettes might have challenged the participant and intervened. Conversely, participants were disinclined to conceive of engaging in the crime when confrontation with a victim was demanded or even a possibility. Like criminals in real-life, participants weighed the risks associated with violence. Beauregard et al. (2007) noted that rapists assess risk when targeting a female victim. This risk is based on a retaliatory response that could arise from the victim or from others nearby. On that basis, it can be presumed that when participants read the low violence vignette, they recognized the victim could not retaliate as they had left the vicinity of the crime scene.

Attractive male victims were perceived as possessing more socially desirable qualities, were rated higher for likeability, trustworthiness, and intelligence, and were seen as being more likely to be employed than average and unattractive male victims. These findings are consistent with the literature on the halo effect and perceptions of attractiveness as attractive individuals are seen to be more intelligent, sociable and trustworthy (Langlois et al., 2000; Sheppard et al., 2011; Wilson & Eckel, 2006). The result for employment also replicates a finding of Dion et al. (1972) that facially attractive males were perceived to be more likely to be employed when compared to average and unattractive males. Graber (1990) explained that people often infer personality characteristics from a person's physical appearance. A classic example is the 1960 US presidential debate between Nixon and Kennedy. This was the first time that presidential debates were televised. Voters who listened to the radio judged Nixon to be the winner of the debate whereas voters who watched the debate on television regarded Kennedy to be the winner. Kennedy's televised image affected voters as they derived his personality based on his physical appearance (Druckman, 2003).

Perhaps these desirable qualities could explain why facially attractive male victims were selected for victimization when participants placed themselves in the role of an offender in the vignette. Both female and male participants rated the vignette offender as being most likely to victimize someone with an attractive face. Attractive male victims could be perceived to be more financially secure compared to unattractive male victims. Thus, the attractive male victim might be seen to possess more desirable valuables (i.e., money/iPhone) congruent with the crimes of robbery and theft. According to Finkelhor and Asdigian (1996), target congruence is a theoretical framework that predicts victimization risk based on an individual's characteristics of attributes (i.e., gender, physical features, psychological problems).

The Big Five personality traits (Costa & McCrae, 1992) are widely used by researchers to capture human personality. These five traits are consistent within

individuals across the lifespan (Wortman, Luca & Donnellan, 2012) and are robust across cultural groups and for both males and females (Gurven, von Rueden, Massenkoff, Kaplan & Lero Vie, 2013). Participants low on the personality trait of conscientiousness (i.e., lack self-discipline, behavior is spontaneous) and high on the personality trait of openness (i.e., curious and prefer no routine regarding daily activities) were more likely to see themselves as committing theft when the violence level was low. Gottfredson and Hirschi (1990) found that individuals who lacked self-control and lacked a stable routine were more likely to engage in criminal activity.

To understand why participants saw themselves as committing theft when the violence was low, we can turn to rational choice theory. Rational choice theory is based on the presumption that human behavior is rational (Cornish & Clarke, 1986). Therefore, offenders choose to commit a crime based on whether the benefits outweigh the costs of getting caught. Cornish and Clarke (2013) noted that offenders' decision-making process involves rationalizing the risk when committing a crime. Therefore, participants may have rationalized that high and medium levels of potential violence posed too great of a risk to engage in the crimes of robbery and theft. Piotrowski (2011) identified "one of the most important traits of robbery as an offence... is the fact of direct confrontation between [the] offender and the victim. Every confrontation, especially one rife with strong emotional tension, entails a risk of injury" (p.429).

Age of the participant predicted whether participants could see themselves committing crimes of robbery and theft. Younger participants were more likely to see themselves as an offender than middle and older aged participants who were less likely to see themselves committing crime when in the role of the offender. These results are consistent with Correctional Service of Canada (1996) findings that young people are the main perpetrators of robbery and theft. Thus, the offenders age demonstrates that "conventional street crime [(i.e., robbery and theft) may be the bailiwick of... young [individuals]" (Schmallegger & Volk, 2001, p. 66).

5.1 Limitations

Several limitations in the study should be noted. First, the vignettes in this study were hypothetical featuring criminal activity (i.e., robbery/theft) of a young offender that some participants (i.e., older participants) might not have been able to relate to based on their age. Second, the vignettes only depicted Caucasian male victims and were based solely on facial appearance. It would be important to examine other racial groups, female victims, and other physical characteristics (i.e., body-shape and height) to determine how attractiveness affects offender victim selection. Third, the vignettes did not always make it clear to participants whether the potential victim was alone. This omission could have altered the participants' responses regarding victimization, as participants might have believed that the potential victim had a capable guardian (i.e., friend). A fourth limitation was that our sample used photographs of potential male victims. Examining facial attractiveness involving robbery/theft in live social settings would be more representative of offender decision-making involving victim selection. Finally, our sample of participants consisted predominately of non-offenders with no previous criminal records.

5.2 Implications

Criminologists should devote more attention to a victim's physical features (such as victim facial attractiveness) and the impact these features have on an offender's victim selection process. The results of the present study indicate that facially attractive male victims are more likely to be victimized compared to average and unattractive male victims.

Certain strategies could be developed for preventing victimization involving facially attractive males. One suggested strategy might be that facially attractive males alter their appearance by growing facial hair (i.e., beard, goatee, moustache). Facial hair denotes high levels of testosterone, suggesting that males with facial hair are more aggressive than clean shaven males (Durdens-Smith, 1983; Muscarella & Cunningham, 1996). Males with facial hair would be perceived to retaliate against a potential offender, thus making them less likely to be victimized. Additionally, facially attractive males could alter their appearance by concealing their face from the offender (i.e., wearing a baseball cap). Lastly, facially attractive males should take the precautionary measure of traveling with others (i.e., capable guardian) to lessen their risk of being victimized.

Being a victim of crime has direct and indirect impacts on the victim and society. Direct impacts of victimization involve physical injury, medical costs, financial loss (i.e., lost days from work), property loss, and psychological and emotional trauma. According to the General Social Survey (2009), 28% of violent crime victims reported that they were unable to carry out their daily activities after the incident. To date, the cost of victimization in Canada has not been calculated (Aucoin & Beauchamp, 2007). In the USA, the costs of victimization pertaining to “time loss, mental health care, and criminal justice system costs” totaled an annual loss of \$450 billion based on a 2 year time period (Doerner & Lab, 2012, p. 97). The indirect impacts pertain to the general public being fearful of crime and being victimized (Doerner & Lab, 2012). This fear of crime invokes the psychological effects of stress and worry (Doerner & Lab, 2012). More research is needed to prevent victimization. By examining the factors associated with becoming a victim like facial attractiveness, future researchers could develop strategies for reducing victimization, thus reducing the costs and impacts associated with victimization.

6. CONCLUSION

This study begins to shed light on how facial attractiveness impacts victimization. The present study found that participants were extremely unlikely to victimize attractive, average and unattractive stimuli faces. When participants were asked to determine if the offender in the vignette would victimize the stimuli face, they were more likely to respond in favor of the offender to commit robbery and theft. Participants in the role of the offender were found to victimize attractive and average males over unattractive males. Thus, our findings suggest that male and female participants are influenced by the potential victims' facial attractiveness.

It is crucial for future criminologists to conduct similar experiments to gain a better understanding of the offender victim selection process. It is important that criminological future studies use a sample that consists of an offender population. Furthermore, future studies need to explore other variables associated with attractiveness that could potentially influence whether one is selected as a victim of crime. Two variables that need to be considered regarding attractiveness are body shape and height to understand how physical appearance affects offenders' decision-making process when selecting a victim.

Criminologists primarily retrieve data regarding offender victim selection from secondary sources such as crime surveys and police reports. Although crime surveys and police reports provide a wealth of information, these sources are limited on the type of information captured pertaining to victims and offenders (i.e., demographic characteristics, offense type). For example, crime surveys and police reports tend to be inadequate when collecting data regarding the offender decision-making process when selecting a victim (Hough, 1987). While criminologists utilize interviews to obtain information about the offender and the

victim, interviews as a means of collecting data “is [often] limited by small and unrepresentative samples” (Clarke, 1999, p. 4). It would be advantageous for criminologists to engage in experimental research as it would provide researchers the ability to investigate more variables and manipulate those variables.

The present study adds to an ever-growing body of knowledge on facial attractiveness and social outcomes. Moreover, the present study is the first to examine facial attractiveness of male victims involving the crimes of robbery and theft. Given that the present study is the first of its kind, more research is required to fully understand the relationship between male facial attractiveness and offender victim selection.

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APPENDICES

Appendix A – Facial Victim/Offender Survey

Example of Scenario (s)

Please read the following scenario. After you are done, we will ask you a number of questions about the scenario, but you will not have the opportunity to go back to the scenario, so please read it carefully.

HIGH RISK- HIGH POTENTIAL FOR VIOLENCE (Note: these labels will not be included in the study)

Joe is a 24-year old who has just completed his undergraduate degree. He is currently unemployed, has only a couple of dollars in his wallet, and his landlord is threatening to evict him from your apartment if he doesn't pay him by tomorrow. Although Joe has applied for several jobs, he hasn't received any call backs. As each hour passes Joe is another hour closer to being homeless. While Joe sits on a bench contemplating his situation, he notices a man robbing a couple in a back alley. In a moment of pure desperation, it hits Joe that in order to keep a roof over his head he needs to rob someone. As Joe watches the couple surrender their possessions to the man, he decides that he too can easily commit this crime without being caught. Seeing the man run off with hand full of cash, Joe begins to examine the people around him who he could potentially rob. Joe has made the decision to rob someone. Assume that the robbery will occur just like the one that Joe witnessed.

MEDIUM RISK-POTENTIAL VIOLENCE

Justin is a 21-year-old university student. His girlfriend recently bought him an iPad for his birthday. While Justin is at school, he accidentally forgets his iPad in the library. Realizing he had forgotten it, he returns to the library to find it missing. Justin knows that if he doesn't find his iPad his girlfriend will be upset. As Justin continues to search and ask library staff if they have seen his iPad he notices another student using an identical iPad to his. While he continues to search for his iPad, the other student leaves their iPad unattended while they take a bathroom break. Justin is desperate to replace his iPad and considers stealing the unattended iPad. As each second ticks by he knows that the chance of the other student returning and catching him in the act gets higher. The other student will have to walk down past five bookshelves to get to him even if he does see the student. Justin has decided to steal the iPad. Assume that the uncertainty about whether he will be caught still exists.

LOW RISK-NO POTENTIAL FOR VIOLENCE

Billy is a 18-year old university student. He is studying for an upcoming Chemistry exam in his local Starbucks. Billy is low on cash and he berates himself for spending money on yet another Java Chip Frappuccino rather than saving it for next semester's tuition. He struggles to focus on his studying as he knows he needs to do well in this class if he is going to avoid academic probation. Eventually Billy is distracted from his studying and starts people-watching. He eavesdrops on a couple arguing over a recent indiscretion at a party. The couple look like they are going to start yelling at each other and they agree that they should continue their discussion at home. As the couple leaves, he watches them go and notices that one of them leaves behind a silver iPod. Billy watches the iPod for about ten minutes. Billy is low on cash and considers stealing it to sell online to make extra cash. Billy has decided to steal the iPod. Assume the couple has not returned for it.

Example of Questions

HIGH RISK- HIGH POTENTIAL FOR VIOLENCE

- If you were in Joe's position, how likely would you be to rob this person? (*Note: This question will be answered 3 times as the participant will be presented 3 stimuli faces x 3 times.*)
- How likely is Joe to rob this person?
- Assume that Joe has already received his eviction notice, how likely do you think he will rob this person?
- Assume that the person Joe decides to rob is wearing a Rolex watch, how likely do you think Joe will rob this person?
- Assume that Joe has just missed his son's birthday, how likely do you think he will use the money he robbed from someone to buy his son a birthday gift?
- Why was Joe considering robbing someone?
- What steps has Joe taken to get money so far?

MEDIUM RISK-POTENTIAL VIOLENCE

- If you were in Justin's position which of these students would you be most willing to steal from? (*This question will be answered 3 times as the participant will be presented 3 stimuli faces x 3 times.*)
- How likely is Justin to rob this person?
- Assume Justin doesn't steal the iPad, how likely is it that Justin will tell his girlfriend the truth about how he lost his iPad?
- Assume that the student Justin decides to rob is in his math class, how likely do you think Joe will rob this student?
- Assume that Justin brother has an identical iPad, how likely is he to steal his brother's iPad?
- Why was Justin considering robbing someone?
- Where did Justin forget his iPad?

LOW RISK-NO POTENTIAL FOR VIOLENCE

- If you were in Billy's position which of these people would you be most willing to steal from? (*This question will be answered 3 times as the participant will be presented 3 stimuli faces x 3 times.*)
- How likely is Billy to rob this person?
- Assume Billy buys another Java Chip Frappuccino, how likely is it that Billy will steal the iPod for extra cash?
- Assume that the Billy's best-friend texts him to meet up at the universities pub, how likely do you think Billy will go?
- Assume that Billy's birthday is tomorrow, how likely is it that Billy will go out with friends or chose to stay at home and study for his exam?
- What class is Billy studying for?
- What colour is the iPod?

Stimulus-Related Questions-Done for the 3 Stimulus Faces Selected to Rob

Please examine this photo and select the appropriate response after each question.

(1) How old do you think this person is?

- Less than 18
- 18 to 29
- 30-39
- 40-49
- 50 or older

(2) Do you think this person has a good job (e.g., doctor, engineer)?

- Yes
- No

(3) What annual salary do you think this person makes?

- Less than \$10,000
- \$10,000 to \$19,999
- \$20,000 to \$29,999
- \$30,000 to \$39,999
- \$40,000 to \$49,999
- \$50,000 to \$59,999
- \$60,000 to \$69,999
- \$70,000 to \$79,999
- \$80,000 to \$89,999
- \$90,000 to \$99,999
- \$100,000 to \$149,999
- \$150,000 or more

(4) How intelligent do you think this person is? (select one):

1	2	3	4	5	6	7
Extremely Unintelligent			Somewhat Intelligent			Extremely Intelligent

(5) How trustworthy do you think this person is? (select one):

1	2	3	4	5	6	7
Extremely Untrustworthy			Somewhat Trustworthy			Extremely Trustworthy

(6) How likeable do you think this person is?

1	2	3	4	5	6	7
Extremely Unlikeable			Somewhat Likeable			Extremely Likeable

(7) Please classify this person as one of the following:

1	2	3	4	5	6	7
Extremely Unattractive			Average			Extremely Attractive

Demographic Questions

(1) What is your age (years)?

(2) What is your sex?

- Male
- Female
- No Response

(3) How would you classify yourself?

- Asian
- Black
- Caucasian/White
- East Indian
- Hispanic
- Native American,
- Middle Eastern
- Other

(4) Do you consider yourself to be :

- Straight or Heterosexual
- Lesbian, Gay or Homosexual
- Bisexual
- Transgender
- Don't Know

(5) Which best describes your current employment situation?

- Full-time (more than 30 hours)
- Part-time/casual job
- Home maker

- Full-time student
- Retired
- Not currently employed

(6) Do you have a criminal record? *Just a reminder that this questionnaire is completely anonymous.

- Yes
- No

If yes, what offence(s) were you convicted of?

Appendix B - Ten-Item Measure of the Big Five

Ten-item measure of the Big Five 1

Ten-Item Personality Inventory-(TIPI)

Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree strongly
1	2	3	4	5	6	7

I see myself as:

1. ____ Extraverted, enthusiastic.
2. ____ Critical, quarrelsome.
3. ____ Dependable, self-disciplined.
4. ____ Anxious, easily upset.
5. ____ Open to new experiences, complex.
6. ____ Reserved, quiet.
7. ____ Sympathetic, warm.
8. ____ Disorganized, careless.
9. ____ Calm, emotionally stable.
10. ____ Conventional, uncreative.

TIPI scale scoring (“R” denotes reverse-scored items):

Extraversion: 1, 6R; Agreeableness: 2R, 7; Conscientiousness: 3, 8R; Emotional Stability: 4R, 9;

Openness to Experiences: 5, 10R.

Appendix C – Brief Description on Amazon Mechanical Turk

Perceptions of a Crime Survey

Perceptions of a Crime Survey
Requester: Stephanie Kaiser
Qualifications Required:
Masters has been granted

Reward: \$2.0 per HIT HITs available: 1 Duration: 20 Minutes

HIT Preview

Perceptions of Crime Survey

We are conducting an academic survey about how different situations affect the likelihood of a crime being committed and how this relates to perceptions of the criminal and one's own characteristics.

The survey is short and should only take 15 minutes to complete.

Select the link below to complete the survey. At the end of the survey, you will receive a code to copy and paste into the box below to receive credit for taking our survey.

Survey link: <http://cgi.sfu.ca/~skkaiser/cgi-bin/sfu-survey>

Provide the survey code here:

Appendix D – Consent Form

CONSENT

This is a research project being conducted by Stephanie Kaiser and Dr. Martin A. Andresen of Simon Fraser University (SFU). The purpose of this research is to understand how different situations affect perceptions of the likelihood of a crime being committed and how these perceptions relate to perceptions of the criminal and one's own characteristics. If you decide to participate, you will be presented with instructions for the experiment. You will then view a series of pictures of faces and be asked hypothetical questions relating the committal of a crime and the person committing the crime. Next, you will fill out a series of questionnaires about yourself. You will have the opportunity to decide whether you want your data to be submitted to us at the end of the study. The entire session of the survey should last approximately 15 minutes

Participation is completely voluntary. You are free to withdraw at anytime for whatever reason you may have. After completing the study, you will not be contacted regarding the study in the future. You will not be identified in any way if the results are published and nothing will connect you to your responses. There will be no way to associate your data with your identity. The Worker ID code from Amazon Mechanical Turk will not be stored with the data you provided and the program that will collect your data will collect no personal information. When you submit your survey, the raw data will go to a data-text file saved on SFU'S secure server. Once the study has reached the participant quota, the data will be transferred and stored for five years on a external hard drive in a locked cabinet which Dr. Martin A. Andresen and I will have access to. No identifying information is collected by the survey, therefore, confidentiality is ensured. The server on which the collected data will be stored is secured and encrypted on SFU'S server. It is managed by SFU IT services (██████████).

There are no known physical, psychological, economic, or social risks associated with your participation in this study. By participating in this study, we will have the opportunity to learn more about how people process faces under different circumstances. The entire survey should last approximately 15 minutes. You will receive payment of \$2.00 for your participation.

If you would like to hear the results of this study, please contact Dr Martin A. Andresen at ██████████@sfu.ca (778-782-8111), at the end of this year. If you have any concerns or complaints regarding this experiment, please contact Dr. Dina Shafey, Associate Director, Office of Research Ethics at ██████████@sfu.ca (778-782-8111). This file number for reference if a complaint is received is 2013s0420.

By filling out this survey, you are consenting to participate. For consent: If you would like to participate, please click **Begin**. If you would not like to participate, please click **Quit** or close the browser window. Please note that you must do all of the trials at one time. Thank you for taking the time to participate in our research.

Appendix E – Debriefing Form

Victimization and Facial Attractiveness Debriefing

Research has repeatedly demonstrated that attractive faces are associated with qualities of goodness, honesty, warmth, and being more socially desirable. Physically attractive individuals have been found to have several advantages in “interpersonal relationships, occupations, criminal justice system decisions, and health care” compared to average and unattractive individuals. Past research indicates that physical attractiveness plays a significant role in judicial settings. Specifically, victim attractiveness in rape cases have shown to have an impact on jury “attributions of responsibility” and sentencing of the offender. Thorton (1977) found that when the victim was attractive, the defendant received a longer sentence in contrast to when the victim was unattractive. Cavior and colleagues found that ratings for 75 female offenders on institutional performance were significantly related to attractiveness. Specifically, attractive female offenders were allowed to go on more out of town trips.

Literature on physical attractiveness generally notes only the positive advantages, as opposed to the negative disadvantages. While research on physical attractiveness has examined victim physical attractiveness from the crime of sexual assault, it has so far, not accounted for whether the victims attractiveness attributed to them becoming a victim of any other type of crime (e.g., homicide, robbery, criminal harassment etc.). The purpose of this study is to examine how victims of robbery are chosen. The intent of the study is to determine whether facial attractiveness play a role in the offenders selection process. More specifically, does facial attractiveness influence an offender’s choice when selecting a target to commit robbery against.

As stated earlier, you will not be identified in any way if the results are published and nothing will connect you to your responses. There will be no way to associate your data with your identity. When data collection is completed, the raw data will be stored for five years on a hard-drive in a locked cabinet which I, Stephanie Kaiser and Dr. Martin A. Andresen, will have access to. There are no known physical, psychological, economic, or social risks associated with your participation in this study.

If you would like to hear the results of this study, please contact Dr. Martin A. Andresen at [REDACTED] at the end of the year. If you have any concerns or complaints regarding this experiment, please contact Dr. Dina Shafey, Associate Director, Office of Research Ethics [REDACTED]. The file number for reference if a complaint is received is 2013s0420.

Now that you know the full purpose of the study, would you like your data to remain as part of the study? If yes, please click **Submit**. If no, please click **Quit** or close the browser window. Thank you for taking the time to participate in our research.

If you are interested in learning more about this topic consult:

Dion, K. L., & Dion, K. K., (1987). Belief in a just world and physical attractiveness stereotyping. *Journal of Personality and Social Psychology*, 52(4), 775-780.

Callan, M. J., Powell, N. G., & Ellard, J. H., (2007). The consequences of victim physical attractiveness on reactions to injustice: The role of observers' belief in a just world. *Social Justice Research*, 20, 433-456.

Cavior, H. E., Hayes, S.C., & Cavior, N., (1974). Physical attractiveness of female offenders: Effects on institutional performance. *Criminal Justice and Behavior*, 1(4), 321-331).

Ferguson, P. A., Duthie, D. A., & Graf, R. G., (1987). Attribution of responsibility to rapist and victim: The influence of victim's attractiveness and rape-related information. *Journal of Interpersonal Violence*, 2(3), 243-250.

Appendix F – Ethics Approval



OFFICE OF RESEARCH ETHICS

Street Address
Simon Fraser University
Discovery 2
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dore@sfu.ca
<http://www.sfu.ca/vp-research/ethics/>

Delegated Minimal Risk Approval

Study Number: 2013s0420
Study Title: Victimization and Facial Attractiveness

Approval Date: 2013 June 14
Principal Investigator: Kaiser, Stephanie
SFU Position: Graduate Student

Expiry Date: 2014 June 14
Supervisor: Andresen, Martin
Faculty/Department: Criminology

Co-Investigators: none

Funding Source: none
Grant Title: n/a

Documents Approved in this Application:

- Study Details, dated 2013 June 5
- Consent Form, dated 2013 June 5
- Debriefing Form, dated 2013 June 5
- Recruitment Text, dated 2013 June 5
- Survey, dated 2013 June 5
- Electronic Survey Submit Form after Debriefing

I am pleased to inform you that the above referenced study has been approved by the Associate Director, Office of Research Ethics, on behalf of the Research Ethics Board in accordance with University Policy R20.01 (<http://www.sfu.ca/policies/research/r20.01.htm>). The Board reviews and may amend decisions or subsequent amendments made independently by the Associate Director, Director, Chair or Deputy Chair at its regular monthly meeting.

The approval for this protocol expires on the **Expiry Date**, or the term of your appointment/employment/student registration at SFU, whichever comes first. **An annual renewal form must be completed every year prior to the anniversary date of approval. Failure to submit an annual renewal form will lead to your study being suspended and potentially terminated.** If you receive any grant for this protocol in addition to any funding listed above, please email dore@sfu.ca stating the funding source, the term of approval of the funding source and the title of that funding application if it differs from the title of your ethics application. If you intend to continue your protocol to collect data past the term of approval, you must contact the Office of Research Ethics at dore@sfu.ca and request an extension at least 6 weeks before the expiry date.



OFFICE OF RESEARCH ETHICS

The Office of Research Ethics must be notified of any changes in the approved protocol. If you wish to revise your study in any way, please send an email requesting an amendment addressed to dore@sfu.ca. In all email correspondence relating to this application, please reference the application number shown on this letter, which should be included in square brackets at the beginning of the Subject Line; this will ensure that all correspondence is saved to the electronic study file.

Your application has been categorized as "Minimal Risk". "Minimal Risk" occurs when potential participants can reasonably be expected to regard the probability and magnitude of possible harms to be no greater than those encountered by the participant in those aspects of his or her everyday life that relate to the research. Please note that it is the responsibility of the researcher, or the responsibility of the Student Supervisor if the researcher is a graduate student or undergraduate student, to maintain written or other forms of documented consent for a period of 1 year after the research has been completed.

The REB assumes that investigators continuously review new information for findings that indicate a change should be made to the study protocol or consent documents and that such changes will be brought to the attention of the ORE in a timely manner.

If there is an adverse event, the principal investigator must notify the Office of Research Ethics within five (5) days. An Adverse Events Form is available electronically by contacting dore@sfu.ca.

All correspondence with regards to this application will be sent to your SFU email address.

Please notify the Office of Research Ethics at dore@sfu.ca once you have completed the data collection portion of your project so that we can close the file.

This Notification of Status is your official ethics approval documentation for this project. Please keep this document for reference purposes and acknowledge receipt of this Notification of Status by email to dore@sfu.ca and include the study number in square brackets as the first item in the Subject Line.

Best wishes for success in this research.

Sincerely,



Dina Shafey, PhD, MBA
Associate Director
Office of Research Ethics