PSYCHOPATHY AND VIOLENCE: EFFECTS OF EMOTIONAL DETACHMENT AND ANTISOCIAL BEHAVIOR ON LABORATORY AGGRESSION

by

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(Under the Direction of Amos Zeichner, Ph.D.)

ABSTRACT

Although psychopaths represent one percent of society, they are responsible for nearly fifty percent of all crime and are five times more likely to commit future violent offenses. Moreover, these proportions include only diagnosed psychopaths and exclude those who have succeeded to evade the legal system. The present investigation examined the relationship between the two factors of psychopathy (i.e., emotional detachment and antisocial behavior), as measured by the Levenson Self-Report Psychopathy scale, and two forms of aggression (i.e., instrumental vs. hostile/reactive). One hundred twenty-seven undergraduate males participated in a competitive reaction-time task, during which, they were afforded the opportunity to shock or refrain from shocking an ostensible opponent. Participants were assigned to one of two aggression conditions (monetary incentive, no incentive). Analyses revealed significant interaction between Factor 2 and condition on aggressive behavior. Additionally, hierarchical regression analyses revealed that Factor 1 proved to be a superior predictor of aggressive behavior.

INDEX WORDS: Psychopathy, Aggression, Violence

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INTRODUCTION

According to the Federal Bureau of Investigation's Uniform Crime Report there were 1, 381, 259 violent crimes reported to law enforcement agencies in 2003. These acts were comprised of 857, 921 aggravated assaults 413, 402 robberies 93, 433 forcible rapes and 16, 503 murders. Although these statistics identify a 3.1% decrease in violent crime since 1999, a deeper analysis reveals an increase in the most severe of these violent acts. Whereas aggravated assault decreased by 6% since 1999, murder and rape increased by 6% and 4.5% respectively, while robberies increased by 1% (Federal Bureau of Investigation-Uniform Crime Reports, 2003). These data indicate that there may be a decrease in the volume of violence and aggression reported to legal authorities, but not in the significance of this societal problem.

Aggressive and violent behavior is a ubiquitous phenomenon that necessitates scientific examination, and the neglect of this endeavor is done so at the peril of society. Aggression is neither new nor restrained to our culture. Indeed, we can find evidence of its existence in the writings of the Bible and the study of history informs that wars were waged in the name of a god or to increase the land mass of a country. This behavior is evident in current events we read about in newspapers and view on television. Violence is not only present in wars waged during the Crusades, Viet Nam, or presently in Iraq. It also occurs in our neighborhoods, our places of work, and in our homes. We see aggression and violence in the form of schoolyard fights, rape, murder, spousal abuse, as well as numerous other offensive acts committed daily. While aggressive behavior has always been a part of human interaction, it is these latter forms of

aggression, waged by individuals upon individuals that consistently and continually have encumbered society and its resources.

Aggression Defined

Bandura (1973) highlighted the development of a definition of *aggression* that began nearly a century ago. He purported that the numerous characterizations of this concept are partially due to authors' attempts to describe it solely in terms of the behavior, while other have included assumptions about provocation, attributes of the provocateur and aggressor, and their emotional concomitants. Dollard, Doob, Miller, Mowrer, and Sears (1939) defined aggression as any sequence of behavior, the goal of which is to injure the person toward whom it is directed. Recognizing that this definition was limited and only accounted for physical aggression directed proximately towards an individual, Bandura (1973) expanded this definition by including any behavior that results in injury, which can be in the form of physical or psychological (e.g., degradation, devaluation, imposed fear), or results in the destruction of property. However, this definition too, was incomplete because it did not address the intent of the actor. For example, under this definition, doctors who perform invasive procedures would be considered aggressive. Additionally, accidental harm would not be excluded under this definition and, therefore, an individual who bumps into another on a crowded street, knocking him to the ground, would be labeled as behaving aggressively. Berkowitz (1993a) attempted to resolve this discrepancy by operationlizing aggression as "any form of behavior that is intended to injure someone physically or psychologically (p. 22)." This has been the commonly accepted definition in the literature, but in their comprehensive review of human aggression, Anderson and Bushman (2002) combined several proposed definitions (e.g., Baron & Richardson, 1994; Berkowitz, 1993a; Bushman & Anderson, 2001; Geen, 2001) to offer one succinct and exhaustive definition. They

defined human aggression as "any behavior directed toward another individual that is carried out with the proximate intent to cause harm, and during which, the perpetrator must believe that the behavior will harm the target, and the target is motivated to avoid the behavior (p.28)." Under this definition, accidental harm is discounted because it lacks the intent and harm that may result from helping actions. As such, a doctor performing surgery is not considered aggressive because the doctor does not believe that the patient is motivated to avoid the action (Anderson & Bushman, 2002). Additionally, pain that is welcomed by the individual such as sexually masochistic act is not aggressive because the individual is not motivated to avoid the pain (Baumesiter, 1989). Anderson and Bushman (2002) defined *violence* as aggression that has extreme harm as its goal (e.g., physical injury or death). All violence in considered aggression but aggression may be present in the absence of violence as is the case of verbal aggression. For the remainder of this work we will use *aggression* and *violence* interchangeably to refer to only violent acts of aggression.

Theories of Aggression

The evolution of this behavior's definition and different approaches of conceptualizing it, are likely a by-product of evolving theoretical paradigms that have been put forth in the past century. Perhaps the oldest theory in this field, *instinct theory*, was forwarded by Freud. Freud originally believed that all human behavior, including aggression, stems from libidinal drives to prolong life and reproduce (Bandura, 1973; Baron, 1977). However, Freud (1920) changed his views to a substantially more pejorative belief about behavior. He used the term *thanatos* (death force) to refer to man's second major instinct of self-destruction and termination of life. According to Baron (1977), Freud believed that all human behavior was a complex interplay between *eros* (life instinct) and *thanatos*. If the *thanatos* is unrestrained, life will be terminated

and, therefore, through the mechanism of displacement the energy of the death force is directed outward. Therefore, the basis of aggression was the redirection of the self-destructive death instinct toward others. The social implications of this theory revealed a negative prognosis for the prevention of aggressive acts due the inevitability of aggression. As such, if *thanatos* is not turned outward upon others, the result is the termination of the individual himself. However, Freud believed that act of expressing some aggressive acts or emotions, primarily anger and hostility, would reduce the destructive energy and attenuate the likelihood of more dangerous acts. This assertion has been criticized by Freud's followers (Hartman, Kris, & Loewenstein, 1949) and disputed by others (Doob & Wood, 1972; Geen, Stonner, & Shope, 1975). According to Baron (1977), Freud's assertion that the expression of aggressive acts would significantly mitigate future aggressive acts is misinterpreted. He purported that Freud was not so optimistic and believed that the cathartic effects would be minimal and short lived.

A similar view was propagated by famed ethologist Konrad Lorenz (1966). He proposed the existence of an innate fighting instinct that was present in man as well as animals. This instinct, a result of evolution, spontaneously generated aggressive energy within an organism in a continuous and constant manner. With the passage of time, this energy accumulates until it is evoked by the presence of the necessary environmental stimuli. The stimulus threshold, necessary to release overt aggression, decreases as the amount of accumulated aggressive energy increases due to passage of time. Lorenz, like Freud, believed that aggression is inevitable, and inherent in his theory was the process of catharsis. Although aggression cannot be prevented, it can be reduced in intensity through repeated overt expressions preventing the accumulation of aggressive energy.

Although instinct theory remained extant for several decades, it never gained widespread acceptance from psychologists in the field. From the dismissal of this spontaneous and instinctual view arose a more general theory that aggression is the result of a heightened state of arousal or *drive* that can be attenuated through overt acts of aggression. *Drive theory* was instigated when Dollard and colleagues (1939) published *Frustration and Aggression*, in which they introduced the *frustration-aggression hypothesis*. They suggested that frustration (i.e., blocking some form of goal-directed behavior) engenders an "instigation toward aggression" or aggressive drive, which facilitates aggressive behavior. According to Dollard and colleagues, frustration always leads to some form of aggression and aggression always stems from frustration. However, Baron (1977) noted several empirical studies that have indicated frustration does not always lead to aggression (Berkowitz, 1969; Geen & O'neal, 1976), and additional studies have shown aggression may occur in the absence of frustration (Berkowitz, 1973). Miller (1941), one of the originators of the frustration-aggression model, relaxed the original constraints of the model to state that frustration may lead to numerous behaviors among which aggression is dominant. Moreover, it is *instigation* rather than the behavior itself that is aroused by frustration. Berkowitz (1969) proposed several revisions to the frustration-aggression model the most significant of which was that frustration is not a sufficient condition for the elicitation of aggression. Aggressive cues must also be present and combine with frustration to produce an emotional state, such as anger, which will then produce a readiness to overtly aggress (Baron, 1977). Furthermore, Berkowitz (1969) contended that highly frustrated individuals can reduce their aggressive drive only by inflicting harm upon the source of frustration. This view was in contrast to Dollard et al. (1939) who, in their original assertion, stated that the aggressive

drive could be mitigated through assaults perpetrated upon individuals other than the provocateur.

As empirical research disputing the frustration-aggression hypothesis waxed, support for drive theory and its tenets began to wane. In their review of human aggression, Anderson and Bushman (2002) highlighted five domain-specific theories of aggression that are paramount in guiding the majority of current research. One of these extant theories, social learning theory, arose due to many the inadequacies of its now extinct precursors, instinct theory and drive theory. According to social learning theory, aggressive behavior must be understood in terms of (1) the acquisition of such behavior; (2) the precipitants of this behavior; and (3) the conditions which maintain the emission of aggression (Bandura, 1973). The acquisition of behavior occurs through processes of observational learning or by direct experience (Bandura, 1983; Mischel, 1973, 1999). Many youths of violent neighborhoods join gangs because they see members are respected by peers, protected by peers, and able to afford luxuries that are otherwise out of reach to young men and women. When these individuals become members of a gang they learn that their peers have obtained that reverence and wealth through violence and they, too, will utilize violence to obtain those desired rewards. Studies have demonstrated that incentives such as money, social status, or escape from aversive treatment by others increases the tendency of adults and children to use aggressive behaviors (e.g., Buss, 1971; Geen & Stonner, 1971; Patterson, Littman, & Bricker, 1967; Walters & Brown, 1963). As individuals directly experience the incentive to aggress, such acts become positively reinforced and the tendency to engage in such behavior is strengthened (Baron, 1977).

Another domain-specific theory discussed by Anderson and Bushman has been proposed by Berkowitz (1989, 1990, 1993b). Cognitive neoassociation theory conceptualizes aggression

as behavior triggered by an aversive event or noxious stimuli such as frustration, temperature, or provocations (Anderson & Bushman, 2002). These aversive stimuli produce negative affect in the individual which, in turn, stimulates memories, thoughts, and motor reactions that are associated with the physiological arousal inherent in fight or flight responses. Those associations of fighting precipitate feelings of anger while the flight associations yield feelings of fear. Moreover, cues that are present during the arousal process become associated with the event and prove to be associations that may produce the same physiological arousal in response to future aversive events. This theory incorporates deliberate cognitive processing of appraisals and attributions. Individuals motivated to do so, may appraise what has caused them to experience physiological arousal and subsequent negative affect, and to evaluate the consequences of their aggressive reactions. This may result in the suppression of some aggressive behavior and the enhancement of others.

Anderson and Bushman also identified script theory (Tomkins, 1979) as one the five major current theories of aggression. Scripts are sets of particularly well-rehearsed, highly associated scenes in memory, often involving causal links, goals, and action plans (Abelson, 1981). Mosher and Tomkins (1988) explained that the most basic unit of the script is the scene, which is a real-life event denoted by a beginning, an end, and an affective experience. When these scenes are organized and connected through a series of rules for interpreting, responding, and defending behavior, they are dubbed a script. These scripts are used to determine the appropriate behaviors to enact during social and interpersonal interactions. An individual selects a script that most appropriately represents a situation and then determines their behavior by taking on one of the roles in that script. According to Anderson and Bushman, scripts that are frequently rehearsed become more readily accessible through the creation of new links to other

concepts in memory. The more links that are generated the easier it is to access the script because the number of paths by which it can be activated is increased. Additionally, each rehearsal or overt enactment of the script strengthens the existing links. Mosher and Tomkins (1988) have argued that one script pervasive in society is the *machismo* script derived from the ideology of the warrior as a great hero. Under the guidance of this script, children learn that certain "masculine" affects such as anger are seen as superior to the "inferior feminine" affects of fear and distress. Furthermore, violence is viewed as a symbol of masculinity and those males who exhibit it are respected for their manliness.

Social interaction theory (Tedeschi & Felson, 1994) contends that aggression is a form of coercion intended to influence or change the behavior of the individual aggressed upon. These coercive acts can serve to achieve secondary gains such as money, sex, and services, or they may influence social perceptions of the aggressor (e.g., toughness, respect, fear). The perpetrator decides to use aggression based upon the consideration of the costs of the behavior, the possible rewards of the behavior, and the probability that aggression will result in the desired outcome (Anderson & Bushman, 2002).

The final domain-specific theory of aggression reviewed by Anderson and Bushman is excitation transfer theory. Zillmann (1983) stated that when two events are separated by a short period of time, arousal, stimulated by the first event, may become associated with or attributed to the second event. Inherent in this model is the contention that arousal dissipates slowly and that anger may be extended over long periods of time if the arousal is attributed to that emotion. The residual arousal from one event may combine with arousal and anger experienced in a subsequent event resulting in higher levels of anger. The maintenance of anger may predispose an individual to aggress even after the dissipation of arousal.

There is considerable overlap between all of these theories. For example, script theory could be considered a detailed and specific form of social learning theory in which scripts are developed through observation of others and direct experience. The neoassocianistic model incorporates cognitive associations between cues and concepts, while script theory details associations created between cognitive and physiological experiences. Having explored and summarized the current theories of understanding aggression authors have attempted to integrate them into one unified model, the General Aggression Model (GAM) (Anderson, 1997; Bushman & Anderson, 2001). In this model, Anderson and Bushman posit the occurrence of aggression is dependent upon individual differences (e.g., personality traits, attitudes, values) and situational variables (e.g., frustration, cognitive cues, pain or discomfort). The outcomes (i.e., aggressive vs. constructive behavior) are determined by inputs (i.e., person and situation variables) through interrelated routes. These routes are the affect, cognition, and arousal experienced during the event as well as the consequent appraisal and decision making processes. They facilitate access to hostile feelings, aggressive thoughts, and physiological arousal, all of which are appraised by the individual before he or she enacts the aggressive behavior. Since its introduction, several empirical investigations have provided support for pathways contained within this model (e.g., Anderson, 1997; Anderson & Dill, 2000; Anderson, Anderson, Dill, & Deuser, 1998; Lindsay & Anderson, 2000). These studies have provided encouraging support for the early stages of the GAM by demonstrating how a host of person and situation input variables influence an individual's affect, cognition, arousal, and aggressive behavior. However, further investigation into theoretically-relevant person × situation interactions of the GAM is required (Lindsay & Anderson, 2000).

Hostile vs. Instrumental Aggression

Before the GAM can be utilized to elucidate how personality traits and attitudes interact with the situational variables to engender aggression, the delineation between forms of aggression must be addressed. In the twentieth century, numerous forms of aggression have been introduced and studied. In the animal kingdom, researchers have observed "maternal aggression" (Ebensperger, 1998), "reproductive aggression" (Kendrick & Schlinger, 1996), "predatory aggression" (Koprowska & Romaniuk, 1997), and territorial aggression (Goodson, 1998). These distinctions do not characterize most social or clinical research on humans. However, certain varieties of aggression exhibited by humans with similar features have been identified including self-defense, violence carried out for purposes of coercion or profit, and violence committed in self-defense (Geen, 1998). In order to identify the commonalities among these and other forms of aggression, studies have attempted to explain aggression in terms of motivation to aggress. The motivation-based distinction between types of aggression identify hostile (also referred to as impulsive, reactive, affective, angry, or emotional) and instrumental (also referred to as proactive) aggression (Bushman & Anderson, 2001). Instrumental aggression is conceptualized by Bandura (1983) as a highly goal-driven behavior that is motivated by the attainment of an external reward or reinforcement. Berkowitz (1983, 1989) identified reactive aggression as a form of aggression that arises when the individual perceives a threatening situation and attempts to defend himself. This type of aggression is an impulsive, immediate reaction to an emotionally-laden stimulus such as perceived insult, embarrassment, or physical danger. Acknowledging that animal aggression is not the equivalent of human aggression, it can be noted that there are displays analogous of such behavior in the two groups. In animals, hostile/reactive aggression is charactrized by frenzied defensive behavior with great autonomic

arousal, while instrumental/proactive aggression is exhibited as a calm, patient, quiet, predatroy stalking behavior with minmal arousal (Eichelman, 1992). The significant demarcation between the two types of aggression in animal and human is the level of control the organism is believed to have over each (i.e. instrumental being more premeditated and hostile more automatic).

Experts have argued that human behavior may be too complex to classify an aggressive act as being purely instrumental in nature (Dodge & Coie, 1987; Giancola, 1995). Additionally, some researchers believe that this dichotomous classification of aggression has outlived its usefulness or that it may be a misconception. Bushman and Anderson (2001) argued that continued use of this dichotomy impedes further advances in the understanding and controlling of human aggression. They have purported that the distinctions between the two views are the primary goal, the presence of anger, and the level of thought and planning involved. Theortically, the primary goal of hostile/reactive aggression is to do harm, it lacks planning or thought, and and is committed while angy. In contrast, the goal of instrumental/proactive aggression is to attain secondary gain (e.g., money), it involves more planning and forethought, and is committed without anger. However, this view is flawed because aggressive acts are rarely pure in form (i.e., either instrumenal or reactive).

Bushman and Anderson (2001) used a real life example to argue this point. In April of 1999, Eric Harris and Dylan Klebold entered Columbine high school in Littleton, Colorado and murdered 13 classmates and wounded more than 30. These two students who had been subjected to years of ostracism, ridicule, and provocation by their peers, returned to school with automatic weapons to kill peers and teachers. Their actions were a reaction to prolonged provocation. Their acts would likely be classified as a form of reactive or hostile aggression. However, these individuals were not impulsive; they carefully planned their behavior. Although they were

motivated by anger, they were calm as they executed their plan. Their actions were premeditated and were, perhaps, representative of instrumental aggression. They demonstrated the patient, calm, stalking behavior that has been found in forms of instrumental aggression by some experts (Eichelman, 1992). However, the primary motivation for their actions would appear to be emotion-driven and their ensuing suicide would indicate that that there was no secondary gain inolved. Therefore, the primary goal appeared to have been infliction of harm on their vicitims.

The dichotomous classification system of aggression is inadequate and requires further considereation. However, for the purpose of research, it continues to proffer some benefit. Bushman and Anderson (2001) offered two revisions to the current model. First, they distinguished between proximate and ultimate goals. The intention to harm is a goal of all forms of aggression and is considered to be a proximate goal. Second, the different types of aggression are indicated by the ultimate goal. Therefore, in this model, assault and murder for hire both fit the classification of hostile aggression because both have the proximate goal of harming the victim. However, assault would not be considered an act of instrumental aggression because it lacks the ultimate goal of secondary gain, whereas murder for hire has an ultimate goal of profit. This model allows for purely hostile aggression, but instrumental aggression will always consist of a composite form of aggression which also contains hositility. This model is congruent with the aforementioned contentions of some experts who believe that no aggressive act can be purely instrumental (Dodge & Coie, 1987; Giancola, 1995).

These disparate forms of aggression may have different correlates important for the identification of targets for future treatment, prevention, and research efforts (Connor, 2002; Vitiello & Stoff, 1997). An individual's actions in a given context are assumed to stem both from various aspects of the situation and from the numerous states, dispositions, or

characteristics that he or she brings to bear (Baron, 1977). Understanding the motivators and goals of aggressive behavior may serve to identify individual differences presented in the GAM that will promote this behavior. As such, personality plays an important role in determining the likelihood that specific persons will engage in assaults against others (Baron, 1977). One set of attitudes and traits that has been shown to correlate with violent and aggressive behavior is the personality construct of psychopathy (Douglas, Ogloff, Nicholls, & Grant, 1999; Hare & McPherson, 1984a; Harris, Rice, & Quinsey, 1993; Hart, Hare, & Forth, 1994; Porter, Drugge, Fairweather, Hervé, Birt, & Boer, 2000; Salekin, Rogers, & Sewell, 1996; Skeem & Mulvey, 2001). Research by these experts has demonstrated the importance of psychopathy in understanding the role of personality in aggressive behavior.

History and Conceptions of Psychopathy

Psychopathy is a personality disorder not currently identified by the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV; 1994). It is commonly thought of as interchangeable with a diagnosis of Antisocial Personality Disorder (APD). This confusion is common and has arisen, in part, due to the ever-changing conceptualization and terminology related to the construct. Millon, Simonsen, and Birket-Smith (2003) as well as Herpertz and Sass (200) provided a detailed description of how the terminology for this disorder evolved during the two previous centuries among the French, German, and Anglo-American researchers. In 1809, Pinel of France became the first to label these individuals in a pertinent manner and, in doing so, launched the scientific study of this personality disorder. His descriptor, *manie sans delire (insanity without delirium)*, sparked a debate between those who saw the disorder as morally neutral and those who considered these individuals to be lacking morality (Hare, 1993). Prichard (1835) led the opposition to the neutral perspective

arguing that these individuals suffered from *moral insanity*. Tuke (1892) proposed that Prichard's label be supplanted by the term *inhibitory insanity* to signify the moral neutrality inherent to Pinel's original conceptualization (Millon et al., 2003). The term psychopath was introduced by German psychiatrist Koch (1891) in his designation of *psychopathische minderwertigkeiten (psychopathic inferiority)*. Originally, the term psychopathic was a generic label for all personality disorders intended to indicate a physical basis for personality dysfunction (Millon et al., 2003). However, Kraepelin (1915) proposed a distinction between *originare krankheitszustande (original illnesses)* and *psychopathische personalichkeiten (psychopathic personalities)* the latter of which was characterized by aggression, impulsivity, delinquency, dishonesty, and social deviance (Herpertz & Sass, 2000). Schneider (1923) supported this distinction between psychopathic types, arguing that there are those who suffer from their societal incontinuity and those from whom society suffers. In 1926, Birnbaum furthered the negative qualification of the term by introducing the terminology of the *psychopathic criminal*. Birnbaum (1926) believed that the antisocial behavior of these individuals was rarely the result inherent immoral character but, rather, it was the sequelae of societal forces which made acceptable forms of behavior and adaptation difficult to acquire (Herpertz & Sass, 2000). Koch's original intention of precluding Prichard's morally pejorative interpretation gradually transformed into a divergent view (Millon et al., 2003). In Great Britain, Henderson continued the nosological trend of delineating subtypes by identifying three *psychopathic states;* the predominately aggressive, the inadequate, and the creative. The first two were characterized by traits of aggression and antisocial behavior. At present, the British Mental Health Act still uses "psychopathic disorder" to indicate abnormally aggressive and irresponsible behavior (Herpertz & Sass, 2000). In 1941, Cleckley published *The Mask of Sanity* in an attempt to develop an

understanding of the psychopathic personality by clarifying terminology and offsetting the proliferation of disorders included under the rubric of psychopathy (Millon et al., 2003). He claimed that this disorder is a disease characterized by a *semantic dementia*; a discrepancy between linguistic abilities and emotional experiences. More important than Cleckley's (1941) nomenclature was his description of the psychopath's prominent traits which became the prototype for the current conceptualization. Additionally, Cleckley was the first to broach the idea of the *subcriminal psychopath*; lawyers, doctors, and businessmen who possess these psychopathic traits but manage to function within boundary of the law. In later editions of his classic book, Cleckley explains that, in 1952, the term *psychopath* was changed to *sociopath* to reflect societal influences as the origin of these personality disordered individuals (Hare, 1993). This term was intended to preclude any interchange between the personality disorder and psychoticism or insanity. However, the two terms were often used interchangeably making diagnostic accuracy elusive. Another change in terminology occurred in 1968, when *sociopath* was replaced by *personality disorder, antisocial type*. Antisocial Personality Disorder (APD) was intended to replace these two terms when it was included in the DSM-II and DSM-III. However, as was true with the two preceding editions, in the current edition of the DSM, a diagnosis of APD is represented by a category of behaviors that merely reflect criminal and antisocial behaviors (Hare, 1993). This is a superficial and incomplete portrayal of the concept of the psychopath. Research by Hare and colleagues has demonstrated that while APD is a component of psychopathy, the two are not synonymous (see Hare, 1996a; Hare, 1996b; Harpur, Hakstian, & Hare, 1988; Harpur, Hare, & Hakstian, 1989; Templeman & Wong, 1994), and using them interchangeably commonly leads to the misdiagnosis of psychopathy.

Psychopathy and Society

McCord and McCord (1964) described the psychopath as "an asocial, aggressive, highly impulsive person, who feels little or no guilt and is unable to form lasting bonds of affection with other people and represents a major danger to society" (p. 3). The construct of psychopathy is composed of two distinct factors (Hare, 2003; Harpur, Hakstian, & Hare, 1988; Harpur, Hare, & Hakstian, 1989). The first factor, *emotional detachment*, is comprised of emotional and interpersonal aspects, including affective shallowness, absence of empathy, lack of remorse, lack of shame, superficial charm, manipulativeness, grandiosity, and lying. The second factor, *antisocial behavioral style*, is marked by impulsivity, aggression, substance abuse, high sensation seeking, low socialization, proneness to boredom, irresponsibility, lack of concern or plans for the future, low motivation, and early life behavioral problems and delinquency (Cleckley, 1976; Harpur, Hare, & Hatskian, 1989; Kiehl, et al., 2001; Patrick, Cuthbert, & Lang, 1994; Pitchford, 2001; Smith & Newman, 1990; Woodworth & Porter, 2002).

Our prisons are populated with men and women who can be identified by the second diagnostic factor, antisocial behavioral style, and meet the criteria for a diagnosis of APD. However, only a small percentage of these individuals would meet criteria for a diagnosis of psychopathic personality disorder (Hare, 1993) based on the Psychopathy Checklist - Revised (PCL-R; Hare, 1991), which is the accepted measure of psychopathy in the field. Along with the recognition that not all criminals are psychopaths, it is also true that not all psychopaths are criminals. Hare (2003) refered to these individuals as *white collar* or *subcriminal psychopaths* because they are never identified by the legal system. It is possible that this particular type of psychopath has found a way to function within the law or just narrowly within the law. Another possibility is that these individuals remain unidentified for other reasons or by chance

circumstances. Whatever the reason may be, it is pertinent to the functioning of society that we recognize that clinically callous and manipulative individuals are present in numerous social settings. Indeed, Cleckley (1976) described several of these individuals in case studies of the psychopath as a doctor, a psychiatrist, and a businessman.

At present, this personality disorder is believed to affect approximately one percent of the general population and approximately 20 percent of the population of incarcerated individuals. The numbers of criminal acts, especially the most violent acts, are disproportionately committed by psychopathic offenders who are responsible for nearly 50 percent of serious crimes (Hare, 1993; Hare & Mcpherson, 1984b). This informative statistic avers that psychopathic behavior constitutes a grave societal concern whereby such individuals often pursue their goals with deception and violence.

We do not yet sufficiently understand this disorder, its causes, its correlates, or have effective methods of treatment. Currently, our only method for dealing with forensic psychopathic persons is to imprison them, yet this approach represents neither an effective solution nor a deterrent for the psychopath. A plethora of studies have shown that psychopaths are unable to consider the consequences of their behavior or experience the requisite fear for the inhibition of the behavior (Blair, 2001; Lykken, 1957; Patrick, 1994).

Experts have proposed that this deficiency may be the result of interplay between biological deficits and a poor socialization process (Blair, 2001, 1995; Gorenstein & Newman, 1980). Blair's *violence inhibition mechanism model (VIM)* proposes that an innate biological system exists to respond to negative affect stimuli such as cues of sadness and fear. This system is considered to be essential to the moral socialization process whereby an individual learns to inhibit behaviors that produce sad or fearful responses in the presence of third party observers.

Blair argued that this mechanism is not present or is deficient in the psychopath. This, in turn, leads to the underdevelopment of morality (Blair et al., 2002). The model predicts that psychopathic individuals should display impaired recognition of sad and fearful facial expressions and has been supported by studies of children with psychopathic characteristics who display this deficit (Blair, 2001). Moreover, Blair et al. (2002) found that recognition of fearful vocal affect by psychopathic inmates was impaired, and that there was an association between recognition of sad vocal affect and higher PCL-R scores.

Patrick (1994) proposed a second model of socialization, the *low-fear model*, which purports that lack of socialization in the psychopathic individual is due to an inability to experience fear. Studies have shown that impaired startle reflex potentiation in psychopaths provides evidence for a deficit of fear (Levenston, Patrick, Bradley, & Lang, 2000; Patrick, 1994; Patrick, Bradley, & Lang, 1993). These and similar findings support the argument that the psychopath's violent and antisocial behavior may be due to an inability to experience emotion and to recognize it in others (Blair, 2001; Kosson, Suchy, Mayer, & Libby, 2002; Patrick, Cuthbert, & Lang, 1994).

An abundance of research has examined the biological underpinnings of psychopathy. Raine and colleagues examined the relationship between prefrontal glucose deficits in murderers who came from high social classes and intact homes. They found that murderers from these family backgrounds were characterized by deficits in prefrontal glucose metabolism (Raine, Stoddard, Bihrle, & Buchsbaum; 1998). Laakso et. al. (2001) found a negative correlation between scores on the PCL-R and regional volumes of anteroposterior axis of the hippocampus. Other studies have focused on criminal behaviors of the psychopath associated with deficits or lesions in the frontal lobes, limbic areas, and left hemisphere (Carl & Grant, 1992; Kiehl et al.,

2001). Gorentstein (1982) used the Wisconsin Card Sorting Test (WCST), Stroop Color-Word Interference Test, Sequential Matching Memory Test (SMMT), Anagrams, and spontaneous reversals of the Necker Cube Test to demonstrate deficits in frontal lobe functioning of psychopaths. Results indicated that in contrast to nonpsychopathic individuals, psychopaths exhibited the performance pattern of frontal lesion patients on every empirical measure of frontal lobe functioning.

Recidivism rates indicate that incarceration has proven to be an ineffective tertiary treatment for these individuals. These individuals are twice as likely to recidivate and are five times as likely to recidivate violently (Hare, 1993; Hemphill, Hare, & Wong, 1998; Kosson, Smith & Newman, 1990; Lyon, Hart, & Webster, 2001). Unfortunately, the literature neither indicates effective treatments or preventative measures for psychopathic personality disorder, nor does it provide insight into the causes of this disorder. It is clear that until we understand the underpinnings of the psychopathic personality, the factors that influence its expression and maintenance, and associated deleterious consequences, prevention of violent acts by psychopaths against others are unlikely to be curtailed. An important component of prevention and treatment for this disorder requires understanding of factors that engender aggressive and violent expression in some psychopaths and less severe behavior in others.

Identifying the existence of different elevations in the distinct factors of psychopathy informs that there are disparate behavioral manifestations of psychopathy that range from the most sadistic and violent individuals to those who function as contributing members of society and who are unknown to the legal system (Cleckley, 1976; Hare, 1993; Simourd & Hodge, 2000). Only a few studies have examined the differences between elevations in the factors of psychopathy and their relation to disparate forms of violent crime (Cornell et al., 1996; Serin 1991; Woodworth & Porter, 2002). The present investigation sought to examine the relationship

between elevations in Emotional Deficiency vs. Antisocial Behavior and various types of aggression (i.e., instrumental, reactive/hostile).

It was first hypothesized that psychopathic traits as indicated by the total scale psychopathy score would be significantly associated with general aggression. Second, there would be a positive relationship between Factor 1 and aggression due to an individual's diminished ability to experience emotion and the subsequent lack of empathy that is associated with the presence of this factor. Moreover, it was hypothesized that the relationship between Factor 1 and instrumental aggression would be signficantly stronger than relationship between this factor and hostile/reactive aggression. Concordantly, the relationship between Factor 2 and hostile/reactive aggression was predicted to be significantly greater relative to the relationship between Factor 2 and instrumental aggression. These expected findings and previous research that indicates problems of impulse control are associated with an attentional bias for negative emotional words (e.g., Loney, Frick, Clements, Ellis, & Kerlin, 2003), would support the argument that persons with elevated Factor 2 scores are hypersensitive to the specific negative affects such as fear and anger. These individuals may be more likely to misinterpret interpersonal interactions as challenges and therefor perceive them as threatening. Finally, it was hypothesized that Factor 1 would predict aggression as a whole (i.e., collapesed across conditions) signifcantly greater than Factor 2.

Summary and Statement of Purpose

One percent of society at large and 20 percent of our prison population meet diagnostic criteria for a diagnosis of psychopathy. Importantly, this segment is responsible for nearly 50 percent of all crime, twice as likely to recidivate, and five times as likely to be violent offenders. Moreover, these proportions include only diagnosed psychopaths and exclude those who have succeeded to evade the legal system.

Psychopaths may be dangerous and violent individuals or may be citizens unknown to the legal system who function and contribute to society as doctors, businessmen, or lawyers. The research literature that examines the differences between primary and secondary psychopathy and the relation of these factors to violent crime is insufficient and inconclusive. This investigation seeks to examine the relationship between elevations in the emotional deficiency scale and types of aggression.

This study and others like it have the potential to expand our understanding of aggression, violent crimes, and the personality characteristics that predict these variables. Many researchers have indicated that identifying whether violent acts a person committs are predominantly instrumental or reactive, may provide invaluable insight into the likelihood of future violence (Eaves, Douglas, Webster, Ogloff, & Hart, 2000; Woodworth & Porter, 2002). Law-enforcement agencies, court systems, and parole boards could potentially use this knowledge to facilitate criminal investigations, determine prison sentences, and decide who is least likely to recidivate if paroled. Furthermore, it is hoped that information gained from this and similar studies may serve to inspire new treatment plans and inform therapeutic interventions to diminish intervention-client mismatch. For example, an impulsive, angry indidvidual with elevated scores on Factor 2 may decrease the amount of aggressive behavior that he or she exhibits after learning emotion regulation skills. Illumination of the links between these factors will allow the development of interventions for, and the assessment of, individuals at risk to commit future violent acts.

CHAPTER 2

METHOD

Participants

One hundred thirty-five men were recruited from the University of Georgia to participate in a study advertised as "Effects of Cognition and Emotion on Reaction Time." All participants received research credit for their participation. Sample size was informed by an automated computation power analysis program (G-Power; Erdfelder & Faul, 1992), with an alpha level of .05 and an effect size of 0.35. Women were excluded from the study due to lower prevalence rates of psychopathy in this gender (Weizmann-Henelius, Viemerö, & Eronen; 2004) and because the majority of violent crimes have been committed by men (Federal Bureau of Investigation-Uniform Crime Reports, 1993 - 2001). Males over the age of 40 were excluded based on prior research indicating a decrease in psychopathy scores after the age 40 (Hare, 1993). Age range and gender of this sample was consistent with perpetrators of violent crimes who are commonly males in their late teens or early to mid twenties (Federal Bureau of Investigation-Uniform Crime Reports, 1993 - 2001). Eight participants believed that the opponent and/or the electric shocks were bogus and were subsequently excluded from analyses. The final sample consisted of 127 male undergraduate students recruited through a research participant pool in the Psychology Department. Reported mean age of all participants was 19.61 years (*SD* = 1.80) and mean level of education achieved was 14.45 years (*SD* = 1.31). The sample was comprised of 85.8% (109) Caucasians, 7.1% (9) Asians, 5.5% (7) Black/African Americans, and 1.6% (2) Hispanic/Latino. One hundred twenty-four participants reported that they were single never having been married, while two indicated that they were currently

married. One individual did not respond. All demographic data can be found in Appendix A, Tables 1 and 2.

Experimental Design

This study had three independet variables: the Emotional Detachment factor of psychopathy (a continuous variable), the Antisocial Impulsive Behavioral factor of psychopathy (a continuous variable), and the type of aggression (instrumental vs. hostile/reactive). Participants were randomly assigned to either the instrumental aggression condition (n = 59) or the hostile/reactive aggression condition (n = 68) via a coin toss. Levels of psychopathic traits were indicated by participants's responses on the Levenson Self-Report Psychopathy Scales (LSRP; Levenson et al., 1995). Literature informs that artificial dichotomization of quantitative measure may result in numerous unfavorable outcomes such as loss of statistical power and effect size, loss of measurement reliability, and loss of information about individual differences (MacCallum, Zhang, Preacher, & Rucker, 2002). For this reason, psychopathy scores were not dichotomized into high and low. Rather, regression analyses were used in order to treat the construct of psychopathy and its subfactors as continuous variables.

Materials

Demographic Form. Participants completed a brief demographic form assessing age, race, education level, and average yearly income to confirm that groups are equivalent on these variables.

Levenson Self-Report Psychopathy Scales (LSRP; Levenson et al., 1995). This 26-item Likert-type scale is comprised of two subscales that assess the two domains of the psychopathic personality. The first domain, termed primary psychopathy (Cronbach α = .82), reflects a callous, manipulative, and selfish use of others (e.g., “For me, what’s right is whatever I can get away with”). The range of possible scores is between 1 and 60. The second domain, termed

secondary psychopathy (Cronbach α = .63), assesses impulsivity and poor behavioral control (e.g., "When I get frustrated, I often let off steam by blowing my top"). Scores on this scale can range from 1 to 40. Primary and secondary psychopathy are conceptually analogous to the more widely used distinction "Factor 1" and "Factor 2," respectively (Levenson et al., 1995). Participants rated each item on a scale from 1 (*disagree strongly*) to 4 (*agree strongly*), with higher scores indicative of higher levels of psychopathy. This measure has been used reliably in the assessment of psychopathy in this population (Parrot & Zeichner, in press) and in other non-institutionalized, non-clinical populations (Lynam, Whiteside, & Jones, 1999). In the current sample, an alpha reliability coefficient of .72 was obtained for Factor 1; and a coefficient of .50 for Factor 2. The Cronbach alpha for the total scale was .79.

Response Choice Aggression Paradigm (RCAP; Zeichner, Frey, Parrott, & Butryn, 1999). Under the guise of a 24-trial reaction time competition, participants use an aggression apparatus consisting of a white metal box mounted with an assortment of electrical switches and light emitting diodes (LED's). Arranged on the console are push buttons labeled "1" through "10" provided for the ostensible administration of shocks by the participant to his opponent. A reaction time key is located at the center of the console. Shocks are administered via two electrodes attached to two fingers on the participant's non-dominant hand. The experiment is controlled by a 3-unit peripheral system interfaced with a PC located in a control room separated from the participant chamber. The shock unit features series resistance-regulation, which can never deliver more current than the total circuit resistance predicates. The set accuracy is controlled by the use of a fixed series resistor. The unit does not require calibration. For added safety, a shock level tester is connected the output so that accuracy can be verified. In addition, electrodes are never placed to form a path across the chest, head, neck, or abdomen.

Aggressive behavior is measured via seven indices: 1) *Mean Shock Intensity* (MSI) is the mean shock intensity for trials in which the participant administers a shock; 2) *Mean Shock Duration* (MSD) is the mean shock-time duration for trials which the participant administers a shock and represents an indirect form of aggression; 3) *Proportion of Highest Shock* (P10) is the number of times the participant uses the highest shock available for trials in which a shock is administered relative to all shock trials; 4) *Flashpoint Latency* (FP) defines the number of trials that expires before the participant administers the first shock; 5) *Flashpoint Intensity* (FPI) defines the intensity of the first shock administered; 6) *Flashpoint duration* (FPD) is the shock-time duration of the first shock administered; and 7) *Shock Frequency* (SF), which is the number of trials that a shock is administered. The latter four indices of aggression relate to one's ability to refrain from responding aggressively. Similar aggression paradigms have been used in previous studies and demonstrated good external validity (e.g., Giancola & Zeichner, 1995; Giancola & Zeichner 1997, Giancola & Zeichner, 2003; Parrott & Zeichner, 2002; Zeichner et al., 1999; Zeichner, Parrot, & Frey, 2003).

Procedure

The experimenter met the participants in a hall near where the experimental chamber was located. After providing informed consent, participants were given the instructions regarding the rules of the "competition." In order to disguise the RCAP's purpose as a measure of aggression, participants were told a fictitious cover story concerning the task. They were informed that the study was aimed at understanding the relationship between personality attributes, attitudes, and reaction time. Participants were told that they were competing in a reaction time task against an "opponent" who is seated in another chamber. Participants were told that during the task, they have the opportunity to punish their opponent following each reaction time trial by administering a shock to the competitor; and, whoever reacts faster to the green light on the aggression console

by releasing the reaction time button will win that trial. The task was explained to participants as follows: First, a red "get ready" light will illuminate, and the participant should get ready and place his finger over the reaction time button. Next, a yellow "press" light will illuminate, and the participant should press the reaction time button until the green "release" light illuminates. Once the green light illuminates, the participant must release the reaction time button as quickly as possible. Next, a computer will determine who was "faster." When the participant loses, a red "Lose" light will flash several times, and when he wins, a green "Win" light will flash several times. After this, all three lights on the console will illuminate for six seconds, during which time the participant and his "opponent" will have the opportunity to administer a shock. In order to administer a shock, the participant must press one of ten shock buttons, which ostensibly increase in shock intensity, with the button labeled "1" being the "lowest" shock intensity and the button labeled "10" being the "highest" shock intensity. However, the participant was told that he could refrain, entirely, from administering shocks to his opponent. LED's provided visual feedback to the participant as to the level of shock (i.e. 1 through 10) they received from the confederate. Following this explanation, participants completed the battery of questionnaires. Upon completion of the questionnaires and prior to commencement of reaction time task, each participant's subjective pain threshold was determined via incrementally-increasing shocks so that no shock administered during the task was above the participant's reported subjective pain threshold. Next, he competed in the sham reaction time task against the confederate. The confederate was described to the participant as a man to avoid confounding gender effects. In effect, the confederate was not a person, but a computer program by which a predetermined series of shocks was administered a maximum of 12 times.

Before participation commenced, each participant was randomly assigned to either the instrumental or hostile/reactive aggression condition (via a coin toss). Participants assigned to

the instrumental condition were told that they would earn one dollar for each trial they won and lose the same amount for each lost trial, ostensibly giving them the opportunity to receive a total of $24. Due to the fact that the participants were not actually competing against an opponent and the outcome of each trial was predetermined, participants who compete in the instrumental condition did not receive any additional compensation at the end of the task. Participants won 12 trials and lost 12 trials in a randomized order (each participant received the same win-lose sequence). All participants were thoroughly debriefed at the completion of the experiment, thanked for their participation, and given course credit.

Risk and Protection of Particpants

Some discomfort may have been experienced when receiving electric shocks. Each participant's subjective sensitivity to shocks was assessed and no shocks higher than the participant's reported pain threshold was administered. No long-term adverse consequences have been reported in connection with this procedure. Additionally, participants were allowed to terminate their participation without prejudice or punitive action at any time. In previous studies using competition tasks such as this one, neither immediate nor subsequent problems were encountered. However, had participants reported emotional distress from their participation in this study they would have been referred to mental health agencies.

CHAPTER 3

RESULTS

RCAP Manipulation Check

The validity of the data was analyzed with respect to the efficacy of deception. Individuals who did not believe that they were competing against another person in the reaction time task were excluded from analyses. These individuals were identified through the administration of a brief interview prior to the debriefing of participants. Participants were asked 1) to report their impression of their opponent, 2) whether they believed their opponent was fair during the task, 3) whether they believed the task was a good measure of their reaction time, 4) how did they feel about administering shocks, and 5) whether they recognized the voice of their opponent as someone they knew. In addition to the manipulation checks, participants' behavior during the reaction time task was observed via a video camera. Behavior indicating belief that their opponent was real (e.g., cursing at the opponent, saying the opponent's name) was noted and used in determination of the participants' belief that the opponent was existed. Of the 135 participants, only eight indicated that they did not believe the opponent manipulation and were, therefore, excluded from data analyses.

Preliminary Analyses

Excluded participants. Eight participants were excluded from the analyses because they failed to endorse the belief that they were competing against a real person. Due to the limited number of excluded cases, the power to detect differences between the two groups would not have been great enough to yield interpretable results. For this reason, evaluation of potential

differences between participants who were deceived versus those who were not deceived was not undertaken.

Demographic data. In order to identify any pre-existing differences on demographic variables between participants randomly assigned to the two groups, a series of one-way ANOVAs were performed using pertinent demographic characteristics as dependent variables. No significant disparities were revealed for age, $F(1, 125) = 0.22$; years of education, $F(1, 123) = 0.33$; income, $F(1,125) = 0.64$; or ethnicity, $F(1, 125) = 0.06$. Pearson product-moment and rank order correlations revealed no significant relationships between age, education, income, ethnicity, and the seven indices of aggression.

Group characteristics. Random group assignment was expected to ensure that the experimental groups did not differ on trait characteristics (i.e., Factor 1, Factor 2, and total psychopathy). However, prior to hypothesis testing, one-way ANOVAs were performed with Factor 1 and Factor 2 as the dependent variables to confirm this assumption. No significant group differences were found for Factor 1, $F(1, 125) = 0.23$; factor 2, $F(1, 125) = 2.81$; or total psychopathy, $F(1, 125) = 0.07$. Additionally, a series of one-way ANOVAs was performed on the seven indices of aggression to test the homogeneity of variance assumption for aggressive responses. Levine's statistic revealed no significant differences for mean shock intensity (MSI), $F(1, 125) = 0.73$; mean shock duration (MSD), $F(1, 125) = 2.08$; proportion of highest shock (P10), $F(1, 125) = 0.45$; flashpoint latency (FP), $F(1, 125) = 0.17$; flashpoint intensity(FPI), $F(1, 125) = 0.16$; flashpoint duration (FPD), $F(1, 125) = 1.25$; and shock frequency (SF), $F(1, 125) = 1.32$.

Regression Analyses

Relationship between Psychopathy and Aggression. To test the first hypothesis that psychopathy would be significantly related to aggression, Pearson product-moment correlations

were computed between total psychopathy scores and the seven indices of aggression. The results were significant for all indices of aggression. Additionally, Pearson product-moment correlations were computed to test the second hypothesis that Factor 1 would be significantly associated with general aggression (i.e., collapsed across aggression conditions). A significant relationship was found between Factor 1 and all seven indices of aggression. Correlation matrices for Factor 1, Factor 2, total psychopathy and the seven indices of aggression within groups (instrumental or hostile/reactive) and across groups (general aggression) can be found in Appendix A, Tables 1, 2, and 3.

Moderating Effects of Aggression Form. The primary aim of the present study was to investigate the moderating effect of the typology of aggression (i.e., instrumental vs. hostile/reactive) on the relationship between the two factors of psychopathy and direct physical aggression. Specifically, it was hypothesized that men assigned to the instrumental condition would evince a strong positive relationship between Factor 1 and direct physical aggression, while men assigned to the hostile/reactive condition would demonstrate a strong positive relationship between Factor 2 and direct physical aggression.

Due to the fact that psychopathy was measured as continuous construct, linear regression analyses were indicated to test for moderation (Aiken & West, 1991). A series of equations were computed such that the factor scores of psychopathy were individually regressed on the seven RCAP indices, using the form of aggression as the moderator. Literature has indicated that proper procedure for investigating effects of a moderator via multiple regression analyses requires scores to be standardized to reduce the multicollinearity which occurs between the interaction term and its component terms. Additionally, standardizing the scores will allow regression coefficients to be interpreted within the same metric (Aiken & West, 1991; Jaccard & Turrisi, 2003). Scores for all independent and dependent variables were converted to z-scores.

Participants assigned to the instrumental group were coded 0; participants assigned to the hostile/reactive group were coded 1. A product term was computed between the independent variables of interest and the dichotomous moderator variable. Moderation was then tested for by entering each factor and its corresponding interaction term into a series of regression models for all seven indices of aggression.

No Factor 1 x Aggression Form interaction was identified for any of the seven indices of aggression (all $p > .10$). No Factor 2 x Aggression Form interaction was revealed when MSD, FP, FPD, and SF were entered as the dependent variables (all $p > .15$). A marginal but nonsignificant Factor 2 x Aggression Form interaction was found for the dependent variable MSI, $t(124) = 1.87$, ($b = .17$, $p = .06$).

A Factor 2 x Aggression Form interaction was identified when P10 was entered as the dependent variable $t(124) = 2.03$, ($b = .18$, $p < .05$) (see figure B.1). Simple regression analyses revealed that, in the instrumental condition, no significant relationship was found between Factor 2 and P10 $F(1, 57) = .01$, $p > .05$. However, in the hostile/reactive condition, there was relationship between P10 and Factor 2 indicating that participants with greater elevations on the Factor 2 scale administered more level 10 shocks $F(1, 66) = 8.34$, $P < .01$. A significant Factor 2 x Aggression Form interaction was detected for the FPI, $t(124) = 2.87$, ($b = .25$, $p < .01$) (see figure B.2). No relationship between Factor 2 and FPI in the instrumental condition existed $F(1, 57) = 0.86$, $p > .05$, but a significant relationship was found between FPI and Factor 2 in the hostile/reactive condition $F(1, 66) = 9.80$, $p < .005$. A summary of the regression coefficients and $|t|$ values can be found in Appendix A, Tables 4 and 5.

Hiearchical Regression Analyses. To test the final hypothesis that Factor 1 is significantly superior to Factor 2 in the prediction of aggression, a series of hierarchical regression equations were computed for the seven indices of aggression. It was purported that

when Factor 1 was controlled for, Factor 2 would not significantly explain a proportion of variance in aggression above and beyond that explained by Factor 1. For this reason, Factor 1 was entered in the first step of all models. Results indicated that on all seven indices of aggression, the first model containing only Factor 1 was significant, ($p < .01$). Additionally, Factor 2 did not explain a significant proportion of variance above and beyond what was explained by Factor 1 for each of the seven indices of aggression, ($p > 0.4$, $\Delta R^2 < .005$). To further demonstrate that Factor 1 significantly contributed variance independent of Factor 2, the hierarchical regression analyses were repeated entering Factor 2 into the first step and Factor 1 in the second step. In the first model using MSI as the dependent variable and Factor 2 as the independent variable the results were not significant, $F(1, 125) = 2.92$, $p > .05$. With Factor 1 entered into the model in the second step, the model was significant $F(2, 124) = 11.18$, $p < .001$, $R^2 = .153$ Factor 1 contributed 13% of the variance to the model, $\Delta R^2 = .130$, $p < .001$. When MSD was entered as the dependent variable, the reduced model containing only Factor 2 was not significant, $F(1, 125) = 2.83$, $p < .05$. When Factor 1 was added to the equation, the model explained a significant proportion of variance in aggression measured by MSD, $F(2, 124) = 9.42$, $p < .001$, $R^2 = .132$. Further, Factor 1 explained a significant proportion of variance over and above the contribution of Factor 2, $\Delta R^2 = .110$, $p < .001$. Factor 2 did not significantly predict aggression as measured by the FP index, $F(1, 125) = 0.01$, $p > .05$. When Factor 1 was entered into the model a significant improvement in prediction was identified, $\Delta R^2 = .057$, $p < .01$ and the full model proved to account for 5% of the variance, $F(2, 124) = 3.78$, $p < .05$, $R^2 = .057$. When FPD was entered as the dependent variable Factor 2 did not significantly predict aggression, $F(1, 125) = 0.17$, $p > .05$, but when Factor 1 was entered, the regression model was significant, $F(2, 124) = 3.38$, $p < .05$, $R^2 = .052$, and Factor 1 contributed significantly to the variance above and beyond Factor 2, $\Delta R^2 = .050$, $p < .05$. With SF entered as the criterion

variable the reduced model was not significant, $F(1, 125) = 0.10$, $p > .05$, but the full model with Factor 1 entered in the second step was significant, $F(2, 124) = 5.47$, $p < .01$, $R^2 = .081$. Factor 1 accounted for 8% of the variance above and beyond Factor 2, $\Delta R^2 = .080$, $p < .001$. A marginal but nonsignificant effect was found when FPI was entered as the dependent variable in the model containing Factor 2, $F(1, 125) = 3.12$, $p = .08$. When Factor 1 was entered in the second step of the regression analyses, a significant increase in variance was identified, $\Delta R^2 = .151$, $p < .001$ and the overall model was significant, $F(2, 124) = 13.18$, $p < .001$, $R^2 = .175$. For P10, the reduced model was significant $F(1, 125) = 4.46$, $p < .05$, $R^2 = .034$. When Factor 1 was added to the model, a significant proportion of variance was explained above and beyond what was explained by Factor 2, $\Delta R^2 = .144$, $p < .001$. The overall model was significant, $F(2, 124) = 13.46$, $p < .001$, $R^2 = .178$. See Table A.6 for a summary of hierarchical regression analyses.

CHAPTER 4

DISCUSSION

This study sought to investigate effects of two constellations of personality traits on aggressive behavior. Connor et al. (2004) argues that aggression is a set of behaviors that may be a symptom or part of a syndrome. For the purposes of this research, aggressive behaviors were examined as a part of the psychopathic personality disorder. Furthermore, differences in the domains of traits in the construct of psychopathy were examined in their relation to different classifications of aggression and the motivation for the behavior. Nearly all of our hypotheses were confirmed in the current study.

As was hypothesized, results from the present investigation support numerous previous findings that psychopathy and its component factors are associated with violent behavior (e.g., Gretton, Hare, & Catchpole, 2004; Harris, Rice, & Quinsey, 1993; Hart, Hare, & Forth, 1994; Porter, Drugge, Fairweather, Hervé, Birt, & Boer, 2000; Salekin, Rogers, & Sewell, 1996; Salekin, Ziegler, Larrea, Anthony, & Bennett, 2003; Skeem & Mulvey, 2001). Total psychopathy scores in this study were positively associated with all seven indices of aggression. Furthermore, Factor 1 was positively associated with all indices aggression while Factor 2 was positively correlated only with the proportion of highest shocks administered (extreme aggression).

Contrary to expectations, Factor 1 demonstrated a positive relationship with aggressive behavior regardless of the condition in which it was elicited. Examination of correlation matrices within each condition and collapsed across conditions revealed positive relationships with nearly all indices of aggressive behavior. The only nonsignificant relationship for Factor

1 occurred when examining its relationship to flashpoint duration in the hostile/reactive condition. Further, tests of moderation provided statistical support for the lack of interactive effects between Factor 1 and the form of aggression for all seven indices of aggression. These results indicate that individuals who are highly emotionally detached would be likely to enact aggressive and violent behavior regardless of the presence of incentive to aggress. A possible explanation for this finding may be that because hostile/reactive aggression is commonly a form of retaliation, it may be viewed as more justified (Tyson, 1998) and, consequently, require less provocation to breach the threshold to engage in violent behavior. Accordingly, this more pervasive form of violent behavior (Cornell et al., 1996) may be evinced by provoked individuals, regardless of emotional experience and empathy. Instrumental aggression would not be considered retaliatory because it lacks the provocation that engenders the heightened arousal and negative affect seen in hostile/reactive aggression (Tyson, 1998). As the level of provocation decreases, perhaps, so too, does the ability to justify this behavior. Those individuals who experience more empathy and perspective taking (i.e., low on Factor 1) will inhibit aggressive behavior (Baron, 1976; Giancola, 2003; Richardson, Hammock, Smith, Gardner, & Signo, 1994) due to the diminished experience of anger and negative affect (Strayer & Roberts, 2004; Tyson, 1998). However, the emotionally detached individual would still enact aggressive behavior in the absence of provocation and negative affect (e.g., Cornell et al., 1996; Ellis, 1987) because they do not possess the dispositional traits that inhibit such behaviors. We theorize that hostile/reactive aggression is a more innate form of behavior that nearly all individuals could exhibit under the necessary conditions (i.e., heightened arousal, anger, and provocation) whereas instrumental aggression is a more pathological form of behavior that arises due to the individuals diminished affective/cognitive processes.

Factor 2 was not associated with aggressive behavior in the instrumental condition, but evinced significant positive relationships with mean shock intensity, proportion of highest shocks administered, and flashpoint intensity in the hostile/reactive condition. Statistical tests of moderation revealed the presence of interaction effects between Factor 2 and aggression form for flashpoint intensity and proportion of highest shock administered. This indicates that when monetary incentive to respond aggressively was not present, individuals with antisocial impulsive traits behaved more aggressively in terms of extreme aggression and the severity with which they first aggress. Although there was not a significant difference between the two conditions for the average intensity of shocks, it is noteworthy that analyses revealed results approaching statistical significance. These data provide support for the hypothesis that individuals who are elevated on Factor 2 are hypersensitive to the specific negative affects such as fear and anger and are more likely to aggress under conditions which they perceive to be an attack or threat. In the current study, these individuals were less aggressive when there was the presence of incentive. It is likely that these interpreted the presence of incentive as the cause for the confederate's aggression against them and did not personalize the act or perceive it as an attack. However, in the absence of incentive, these individuals were unable to rationalize their opponent's behavior and, therefore, responded aggressively to the provocation.

The final hypothesis of the study that Factor 1 carries the burden of prediction was verified via hierarchical regression analyses. When statistically controlling for Factor 1, the unique relationship between Factor 2 and violence was negligible and nonsignificant (all ΔR^2 <.005). Moreover, when the procedure was reversed and Factor 2 was statistically controlled for, Factor 1 proved to predict above and beyond that of Factor 2 on all indices of aggression. In fact, the main effects model containing only Factor 2 was nonsignificant for all indices except

the proportion of highest shock administered. This suggests that in this population, Factor 2 has limited utility in predicting aggression and when collinearity between the factors is controlled for, Factor 2 is inconsequential.

The literature based on forensic populations has yielded ambiguous findings indicating that scores on Factor 2 are often better predictors of violence (Gretton, Hare, & Catchpole, 2004; Quinsey et al., 1998) or that total scores of psychopathy offer the best prediction of violence (Hemphill & Hare, 1999; Salekin et al., 1996). Still further research has indicated the importance of the callous and unemotional traits of Factor 1 for predicting violence in samples of offending and nonoffending youths (Barry et al., 2000; Frick, Bodin, & Barry, 2001). These discrepancies in the literature may be attributable to differences in samples and methods of assessing psychopathic traits across samples. The current study indicates that in a non-forensic sample of adult males' emotional detachment is the best and only predictor of violence when compared to antisocial behavioral traits. This is in direct contrast to previous research that indicates that Factor 2 explains the majority of variance in predicting violence in non-forensic samples (e.g., Skeem & Mulvey, 2001).

The results of the present investigation contribute to the literature in several ways. First, psychopathic traits have been consistently allied with aggressive behavior (Douglas, Ogloff, Nicholls, & Grant, 1999; Hare & McPherson, 1984a; Harris, Rice, & Quinsey, 1993; Hart, Hare, & Forth, 1994; Porter, Drugge, Fairweather, Hervé, Birt, & Boer, 2000; Salekin, Rogers, & Sewell, 1996; Skeem & Mulvey, 2001). However, there has been little research measuring the effects of psychopathic traits on laboratory aggression. Second, the aggression paradigm implemented in the present study proffers the opportunity to assess direct physical aggression in a non-retrospective method. Third, the present investigation provides further support for the

contention that there are qualitative differences between instrumental and hostile/reactive aggression. Furthermore, those differences interact with intra-individual processes and traits to elicit aggressive behavior. Finally, the current research highlights the importance of emotional detachment in predicting violence in any form. Interestingly, although Factor 1 does not discriminate between predicting instrumental or hostile/reactive aggression it proved to be a better predictor of aggression than Factor 2. Moreover, although Factor 2 seems to interact with the form of aggression to elicit violent behavior, when Factor 1 is controlled for, the relationship between Factor 2 and violent behavior dissipates. Essentially, individuals with elevations on Factor 2 are likely to be aggressive regardless of incentive because the presence of Factor 1 appears to override potential aggression-inhibiting effects.

It is not the intent of this research to justify specific forms of aggression or to portray one type as more socially acceptable. However, one of the most important factors in the study of aggressive behavior is, understanding what motivates the perpetrator. In fact, it may be the first step in the effort to ameliorate a problem that has become ubiquitous in nearly all societies. Before we can prevent these aggressive behaviors, we must identify their causes and to do this we must identify the perpetrator's purpose in evincing aggression. For example, a soldier sent to war is distinctively different from the individual who kills to obtain money or who acts in a fit of anger. A mother who kills her abusive husband to protect her children could be considered qualitatively different from the woman who kills her husband upon discovering his infidelity. Although these disparate situational variables engender the same act, the goals' divergence indicates possible differences in personality and thresholds that predispose the perpetrators to aggression. A soldier kills because they must do so for self preservation and the preservation of others. Members of criminal organizations, gang members, spouse batters, sexual aggressors,

and those who use violence to intimidate do so merely for the purpose of benefiting themselves. These disparate forms of aggression may have different correlates important for identifying targets for future treatment, prevention, and research efforts (Connor, 2002; Vitiello & Stoff, 1997).

Several limitations of the present investigation merit discussion. First, the obtained sample of participants was relatively homogeneous, as a significant majority were single, Caucasian, and all were high school graduates enrolled in a university. Inclusion of non-university participants would have increased external validity of the present findings. Second, the obtained internal consistency of the Factor 2 scale on the LSRP was moderately low. This could indicate a qualitative difference between the present sample and the standardization sample. Third, in considering the mean level of psychopathic traits obtained in the present study, it can be argued that truly pathological levels of psychopathy were not represented. Finally, although Factor 1 explained a significant proportion of variance in aggression, the effect sizes are considered small to medium as prescribed by Cohen and Cohen (1983). Inclusion of a forensic population would likely increase the observed effect sizes and, in doing so, improve the ability of the present study to inform the relationship between psychopathy and violence. Nonetheless, violence within university communities is widespread and the present investigation makes a significant contribution to the understanding of how subclinical levels of psychopathic traits promote violent behavior.

Future research should seek to replicate and extend these findings to populations that are more diverse. Specifically, studies that examine the levels of psychopathic traits in women and children and their relationship to aggressive behavior are needed. Additionally, due to current discrepancies in the literature, replication of these findings using multiple assessment methods

for psychopathic traits would serve to elucidate the disparities in the relationship between the factors of psychopathy and violent behavior.

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APPENDIX A

TABLES

Table A.1

Means, Standard Deviation, and Inter-correlations of RCAP Indices and Psychopathy Scales for General Aggression (n = 127)

Measure	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. F1	32.17	6.8	--	.31**	.93**	.39**	.36**	.42**	-.23**	.42**	.23*	.28**
2. F2	18.06	3.3		--	.64**	.15	.15	.17*	-.01	.16	.04	.29
3. Total P	50.23	8.4			--	.37**	.35**	.41**	-.19*	.40**	.20*	.24**
4. MSI	4.52	2.6				--	.63**	.74**	-.71**	.72**	.46**	.58**
5. MSD[a]	984.12	932.8					--	.50**	-.52**	.70**	.77**	.60**
6. P10	0.15	0.22						--	-.22*	.61**	.30**	.22*
7. FP	6.57	8.7							--	-.49**	-.39**	-.80**
8. FPI	2.93	2.6								--	.54**	.52**
9. FPD[a]	852.53	1049.1									--	.42**
10. SF	0.47	0.3										--

Note. F1 = Factor 1; F2 = Factor 2; Total P = Total Psychopathy Score; MSI = Mean Shock Intensity; MSD = Mean Shock Duration; P10 = Proportion of Highest Shocks; FP = Flashpoint; FPI = Flashpoint Intensity; FPD = Flashpoint Duration; SF = Shock Frequency

[a] = measured in milliseconds; * $p < .05$; ** $p < .01$

Table A.2

Means, Standard Deviation, and Inter-correlations of RCAP Indices and Psychopathy Scales for Instrumental Aggression (n = 59)

Measure	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. F1	32.47	6.6	--	.12	.91**	.31*	.40**	.34**	-.16	.29*	.31*	.26*
2. F2	17.54	3.3		--	.53**	.-03	.06	-.01	.09	-.12	-.02	-.08
3. Total P	50.01	7.7			--	.25*	.37**	.29*	-.10	.19	.26*	.19
4. MSI	4.52	2.6				--	.64**	.73**	-.77**	.70**	.42**	.68**
5. MSD[a]	856.61	867.1					--	.56**	-.50**	.71**	.71**	.60**
6. P10	0.14	0.21						--	-.29*	.51**	.24†	.32*
7. FP	6.22	8.7							--	-.58**	-.37**	-.79**
8. FPI	2.83	2.4								--	.56**	.56**
9. FPD[a]	740.90	1022.3									--	.42**
10. SF	0.51	0.3										--

Note. F1 = Factor 1; F2 = Factor 2; Total P = Total Psychopathy Score; MSI = Mean Shock Intensity; MSD = Mean Shock Duration; P10 = Proportion of Highest Shocks; FP = Flashpoint; FPI = Flashpoint Intensity; FPD = Flashpoint Duration; SF = Shock Frequency

[a] = measured in milliseconds; * $p < .05$; ** $p < .01$; † = marginally significant.

Table A.3

Means, Standard Deviation, and Inter-correlations of RCAP Indices and Psychopathy Scales for Hostile/Reactive Aggression (n = 68)

Measure	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. F1	31.90	7.0	--	.48**	.95**	.46**	.35**	.48**	-.28*	.51**	.17	.29*
2. F2	18.51	3.2		--	.73**	.29*	.19	.34**	-.11	.36**	.06	.16
3. Total P	50.41	9.1			--	.46**	.34**	.49**	-.26*	.53**	.15	.28*
4. MSI	4.70	2.7				--	.61**	.74**	-.66**	.75**	.48**	.52**
5. MSD[a]	1094.83	979.1					--	.45**	-.55**	.70**	.82**	.66**
6. P10	0.16	0.23						--	-.17	.67**	.34**	.14
7. FP	6.87	8.8							--	-.43**	-.41**	-.81**
8. FPI	3.01	2.8								--	.52**	.50**
9. FPD[a]	949.38	1071.4									--	.45**
10. SF	0.44	0.3										--

Note. F1 = Factor 1; F2 = Factor 2; Total P = Total Psychopathy Score; MSI = Mean Shock Intensity; MSD = Mean Shock Duration; P10 = Proportion of Highest Shocks; FP = Flashpoint; FPI = Flashpoint Intensity; FPD = Flashpoint Duration; SF = Shock Frequency

[a] = measured in milliseconds; * $p < .05$; ** $p < .01$

Table A.4

Summary of Regression Analyses Testing Moderating Effects of Aggression Form on the Relationship between Factor 1 and Aggression

Dependent Variable	*b*	*t*	*p*
MSI	0.07	0.82	*ns*
MSD	-0.01	-0.17	*ns*
P10	0.07	0.81	*ns*
FP	-0.05	-0.59	*ns*
FPI	0.13	1.57	*ns*
FPD	-0.07	-0.83	*ns*
SF	-0.01	-0.09	*ns*

Note. MSI = Mean Shock Intensity; MSD = Mean Shock Duration; P10 = Proportion of Highest Shocks; FP = Flashpoint; FPI = Flashpoint Intensity; FPD = Flashpoint Duration; SF = Shock Frequency
ns > .10

Table A.5

Summary of Regression Analyses Testing Moderating Effects of Aggression Form on the Relationship between Factor 2 and Aggression

Dependent Variable	*b*	*t*	*p*
MSI	0.17	1.87	= .06
MSD	0.08	0.84	*ns*
P10	0.18	2.03	< .05
FP	-0.10	-1.06	*ns*
FPI	0.25	2.87	< .01
FPD	0.04	1.07	*ns*
SF	0.18	1.29	*ns*

Note. MSI = Mean Shock Intensity; MSD = Mean Shock Duration; P10 = Proportion of Highest Shocks; FP = Flashpoint; FPI = Flashpoint Intensity; FPD = Flashpoint Duration; SF = Shock Frequency
ns > .10

Table A.6

Summary of Hierarchical Regression Analyses with Factor 1 and Factor 2

Dependent Variable	Step 1		Step 2	
	ΔR^2 F1	*p*	ΔR^2 F2	*p*
MSI	.152	< .001	.001	> .10
MSD	.130	< .001	.002	> .10
P10	.175	< .001	.004	> .10
FP	.053	< .01	.004	> .10
FPI	.175	< .001	.001	> .10
FPD	.051	< .05	.001	> .10
SF	.077	< .01	.004	> .10

Note. F1 = Factor 1; F2 = Factor 2; MSI = Mean Shock Intensity; MSD = Mean Shock Duration; P10 = Proportion of Highest Shocks; FP = Flashpoint; FPI = Flashpoint Intensity; FPD = Flashpoint Duration; SF = Shock Frequency

APPENDIX B

FIGURES

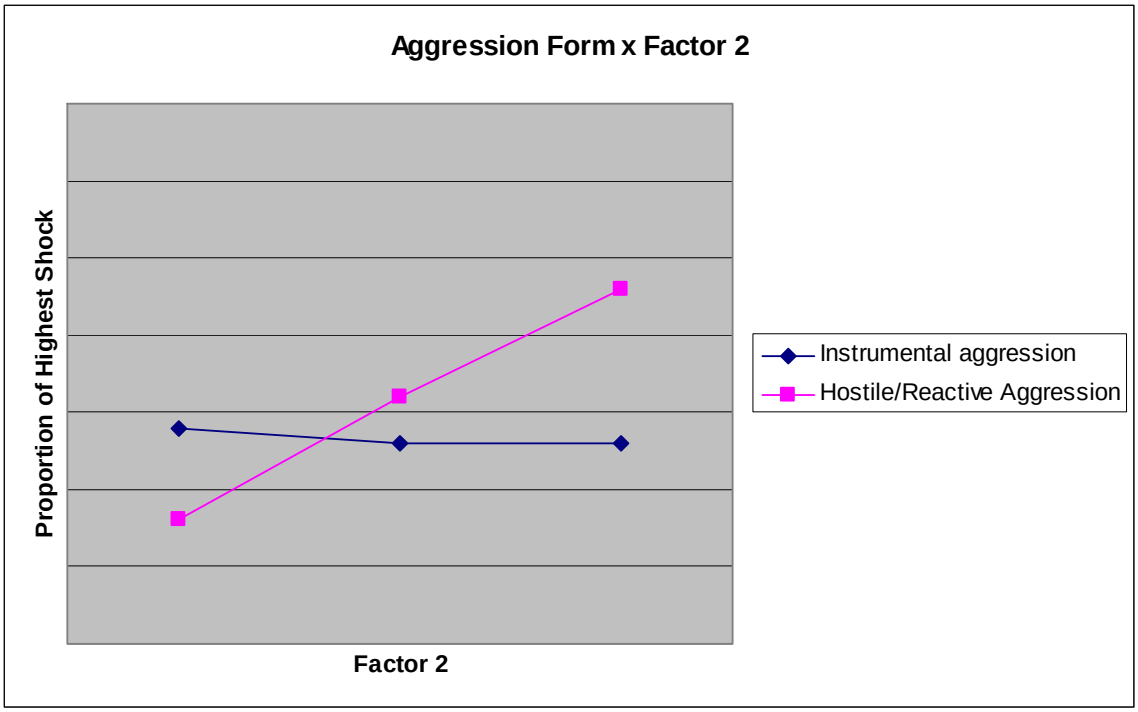

Figure B.1. Moderating effects of Aggression Form on the relationship between Factor 2 and the Proportion of Highest Shock.

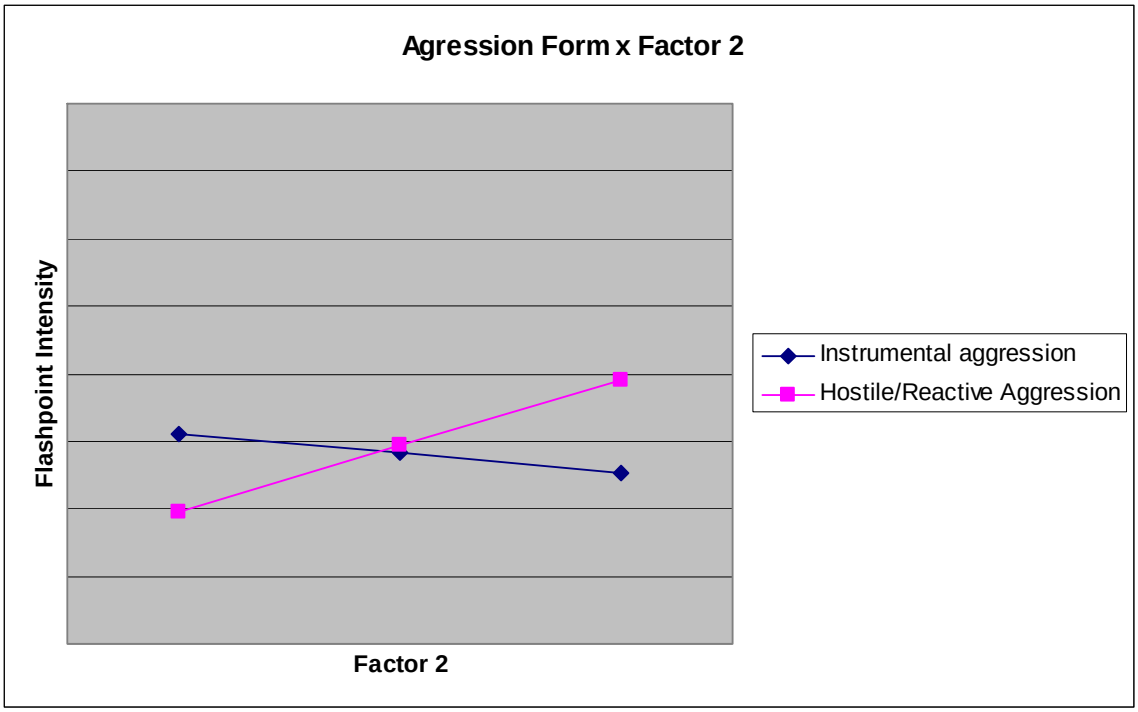

Figure B.2. Moderating effects of Aggression Form on the relationship between Factor 2 and Flashpoint Intensity.