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Cool Under Fire: Psychopathic Traits and Decision-Making in Law Enforcement-Oriented Populations

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Cool Under Fire: Psychopathic Personality Traits and Decision-Making in Law Enforcement-Oriented Populations

by

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Dedication

I dedicate this work to Joseph, Rosemary, Julianne, and Winnie McKinley. Without the unconditional love and endless encouragement that I have received from my family throughout my graduate school career, I would not be here completing this milestone in my education today. Thank you for being an incredible support system through the trials and tribulations of graduate school and giving me the opportunity and space to independently form my own professional identity and career path. I am so excited to embark on my next journey and to continue having you at my side through all of it. From the bottom of my heart and with much love: Thank you.

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Abstract

Law enforcement is an occupation that is typically characterized by high stress, physical danger, and potential for use of excessive force to subdue suspects of criminal activity. Compared to other jobs, the law enforcement profession is considered a high-stakes occupation that has the potential to greatly impact public safety, and officers must face daily dangers not experienced in other professions. While much research has focused on traditional models of personality and police performance (i.e., Big Five traits; Schneider, 2002; Twersky-Glasner, 2005), there may be utility in examining police officer performance through the lens of the triarchic psychopathy domains (Patrick, Fowles, & Krueger, 2009) due to the research that suggests many law enforcement officers exhibit varying degrees of these traits (Bakker & Heuven, 2006; Newman & Rucker-Reed, 2004; Pogarsky & Piquero, 2004). The current study employed criterion profile analytic approaches to elucidate optimal profile configurations in both law enforcement and undergraduate samples in relation to justification of use of force scenarios and decision-making in high-pressure situations (i.e., police officer dilemma shooter task). Results indicated that elevations in psychopathic traits and certain patterns of traits accounted for similar variance in performance criteria, with trait elevation in Meanness being most associated with ratings of unjustified use of force vignettes and Disinhibition with commission errors on the shooter task (although effect sizes were small for the latter). The findings of this study support the conceptual validity of the triarchic psychopathy model (Patrick et al., 2009) and substantiate

moderate utility of personality indicators in relation to problematic career performance in law enforcement (e.g., antagonism, difficulties with impulse control).

Chapter 1:

Introduction

Law enforcement is an occupation that is typically characterized by high stress, physical danger, and potential for use of excessive force to subdue suspects of criminal activity. Compared to other jobs, the law enforcement profession is considered a high-stakes occupation that can greatly impact public safety, and some officers must face daily dangers not experienced in other professions. Accordingly, research has found typical personality profiles in law enforcement marked by low anxiety, a compartmentalized emotional response to stressors, sensation seeking, and social dominance (Bakker & Heuven, 2006; Goma-i-Freixanet & Wismeijer, 2002; Hogan, 1971; Mills & Bohannon, 1980; Newman & Rucker-Reed, 2004). These traits, interestingly, are also observed among a subset of persons who regularly break the law, particularly those scoring high on psychopathic personality traits – a personality construct studied primarily in criminal offenders (Hare, 2003). Despite the traditional study of psychopathy in regard to criminality and violence, there is also a growing body of research that links certain psychopathic traits with adaptive outcomes and occupational success (Babiak & Hare, 2006; Lilienfeld et al., 2012; Benning, Venables, & Hall, 2018). For example, Babiak, Neumann, & Hare (2010) found that psychopathy was associated with creativity, strategic thinking, and communication skills in a corporate sample. Lilienfeld et al. (2012) found similarly adaptive outcomes associated with compound traits linked to psychopathy (e.g., fearless dominance) in a sample of U.S. Presidents. This seems to suggest that psychopathy encompasses

two sides of the same coin – the same trait manifestations may result in positive, adaptive outcomes on one hand and maladaptive antisocial or callous behavior on the other (Falkenbach, McKinley, & Larson, 2017), sometimes within the same individual. Further, the above occupational research suggests that psychopathy can be generalized to study job-related performance across multiple high-risk professions (i.e., surgeon, military, first responders; Dutton, 2010).

Despite a substantial literature on law enforcement personality (Adlam, 1982; Evans, Coman, & Stanley, 1992; Lefkowitz, 1975), there appears to be a lack of focus on how personality traits beyond the Five Factor model of personality, especially integrity/ conscientiousness, relate to quality of job performance (i.e., superior officers are high on conscientiousness, agreeableness, openness, extraversion, and emotional stability as with most jobs; Schneider, 2002; Twersky-Glasner, 2005). The extant research cannot fully explain why officers who otherwise pass psychological employment screenings using extant personality measures (e.g., the Minnesota Multiphasic Personality Inventory-2-Restructured Form [MMPI-2-RF] or the California Personality Inventory [CPI]; Ben-Porath & Tellegen, 2008; Hargrave & Hiatt, 1989) engage in excessive use force and "bad shooting" situations. To better address this issue, we use the psychopathy trait framework (Hare, 2003), particularly the triarchic conceptualization of psychopathy (Patrick, Fowles, & Krueger, 2009) to address personality risk and protection for excessive use of force. The triarchic model of psychopathy traits (i.e. Boldness, Meanness, & Disinhibition; Patrick et al., 2009; Patrick, 2018) is suited to the study of dispositions (e.g., constricted emotional response) that may predict law enforcement-specific behaviors, such as heroism in the face of danger as well as unfeeling treatment of potential suspects or citizens. Given the relatively little research that has examined psychopathic traits in

law enforcement (e.g., Falkenbach, Balash, Tsouakalas, Stern, & Lilienfeld, 2018; Falkenbach, Glackin, & McKinley, 2018), the proposed study seeks to establish evidence that the psychopathic personality construct can be employed to elucidate personality profiles of police officers that are associated with performance on tasks that serve as proxies for police officer use or justification of excessive force.

We focus specifically on excessive or inappropriate use of force for several reasons. First, excessive use of force is a poorly-understood and often tragic consequence of the law enforcement profession that has resulted in several high-profile cases (Garner, 2018) – outraging the public and influencing public trust and order (e.g., the Los Angeles riots following the beating of Rodney King; Cannon, 1997). Second, excessive use of force is an appropriate outcome to examine in relation to psychopathy. It is highly associated with "authoritarian" personality traits (e.g., cynicism, aggression, conventionalism; Balch, 1972), some of which are personality correlates of psychopathy (e.g., low Agreeableness; Heaven & Bucci, 2001; Hodson, Hogg, & MacInnis, 2009). Third, psychopathy has a robust connection with aggression in the literature, long being used as an indicator for violence risk assessment (Hare & Jutai, 1983; Porter & Woodworth, 2006); the shared connection with aggression between psychopathy and authoritarianism may suggest that studying excessive force using psychopathic traits may be particularly relevant.

Individual-Level Predictors of Law Enforcement Performance

Many studies have examined variables related to time on the job, quality of officer training, criminal history, and situational factors as indicators of an officer's level of performance and/or likelihood to use excessive force with suspects (Bolger, 2015; Kaminski et al., 2004; Rydberg & Terrill, 2010). Generally, these studies have found that higher education,

greater years of experience and female gender are negatively related to excessive use of force in law enforcement, although no effect of race/ethnicity has been found in previous studies (Engel & Calnon, 2004; Kop & Euwema, 2001; Johnson, 2011; Lawton, 2007; McCluskey et al., 2005; Morabito & Doerner, 1997; Paoline & Terrill, 2004, 2007; Rydberg & Terrill, 2010; Terrill & Mastrofski, 2002). While these studies have been useful in identifying sociodemographic risk for excessive use of force, many have not explored how personality plays a role in this indicator of excessive use of force. In the broader literature on workplace effectiveness, personality seems to have a moderate effect on performance and success; most of this work has been done in the context of the Five Factor model of personality, with traits like conscientiousness (Barrick, Mount, & Li, 2013; Pulakos et al., 2002), openness to new experiences (Grant, 2007; Nettle, 2006), and agreeableness (Nettle, 2006) positively linked with job performance. From a general performance standpoint, it stands to reason that individuals who are dependable, goal-oriented, persistent, and organized tend to do well in almost any profession; conversely, traits such as impulsivity, carelessness, irresponsibility, and low achievement motivation are often correlated with negative performance outcomes (Mount & Barrick, 1998). In fact, personality remains an important correlate of performance in certain occupations (*r*s = .1 - .45; Ones et al., 2007) – particularly where pathological personality traits could impact public safety – even above robust correlates of job performance like cognitive ability (*r* = .50; Schmidt & Hunter, 1998).

In the industrial-organizational psychology literature, there have been several studies that have focused on the identification of psychological characteristics of successful police officers. In such professions that involve heightened risk and high-stress situations, social competence and emotion management are key indicators for effective performance (Alvinius, Bostrom, & Larsson, 2015; Mencl, Wefald, & van Ittersum 2015), which significantly overlap with the Five

Factor traits of emotional stability and extraversion – two traits that are highly associated with job performance more broadly (Barrick & Mount, 1991). Further, consistent with literature that has examined personality and job performance more broadly, characteristics such as assertiveness, adaptability, intellectual ability, and emotional resiliency all are reflective of successful police officers (Aamodt, 2004; Detrick & Chibnall, 2013; Hargrave & Hiatt, 1989; Lorr & Strack, 1994). This same body of literature that speaks to adaptive personality traits in law enforcement also points to psychologically maladaptive characteristics associated with dysfunction in the profession; again consistent with the general work performance literature, problem officers have been found to exhibit more aggressiveness, antisocial tendencies, impulsivity, lack of empathy, and poor decision-making (Hargrave & Hiatt, 1989; O'Conner-Boes et al., 1997).

Beyond the typical physical fitness and intellectual functioning assessments administered to law enforcement candidates, police departments often administer self-report measures of personality as part of the pre-employment evaluation process. Several studies published to date substantiate the utility of the Multiphasic Personality Inventory – 2 (MMPI-2; Tellegen & Ben-Porath, 2008) and the Clinical Analysis Questionnaire (Krug, Cattell, & IPAT, 1980) in police officer selection. For example, Sellbom et al. (2007) found that the Clinical scales of the MMPI-2-RF predicted post-hire integrity problems and career misconduct in male police officers; further, the MMPI-2-RF scales pertaining to emotional problems and interpersonal functioning tend to be the best predictors of problem behaviors in police officers, consistent with the literature using differing measures of personality as pre-employment screening tools (Tarescavage, Brewster, Corey, & Ben-Porath, 2015; Tarescavage, Corey, & Ben-Porath, 2015; Lorr & Strack, 1994). As expected, elevations on the MMPI Lie scale (i.e. "faking good" or

responding in a socially desirable manner) are quite common in police officer candidates (Hays, 1997), which suggests a general tendency to present themselves in a positive light.

Another set of instruments widely-used in law enforcement personnel selection over the past decades are referred to as integrity tests – an umbrella term referring to personality tests designed to assess an applicant's honesty, trustworthiness, and dependability (Ones, Viswesvaran, & Schmidt, 1993). Ones and colleagues (1993) determined that the combination of the Five Factor traits of Conscientiousness, Agreeableness, and Emotional Stability can make up a holistic measure of "integrity" that is predictive of counterproductive workplace behaviors (i.e., theft, dishonesty, abuse of power). These integrity tests – both overt (directly assessing attitudes toward unethical behaviors) and covert (personality-based measures) – have been found to moderately predict counterproductive workplace behaviors in police officers (r = .33; Ones et al., 1993).

There are several issues with the personality and personnel selection literature. First, the body of work on these constructs is vast, disparate, and can be contradictory; for example, low socialization and responsibility have been found to be predictive of corruption among law enforcement in some studies (Sarchione et al., 1998) but not others (Cullen & Sackett, 2003). Such inconsistencies have led some to conclude that profiling the law enforcement personality is a fruitless endeavor (Lorr & Strack, 1994). We believe the current study may help in improving the quality of the literature by examining personality trait correlates of police officer performance within the context of a personality construct, psychopathy, that may be particularly fitting for the law enforcement occupation. Second, certain forms of integrity tests have been found to be susceptible to coaching and/or faking, and most covert integrity tests are simply measures of FFM Conscientiousness (which is not a sufficient predictor for an outcome such as

excessive use of force; Alliger, Lilienfeld, & Mitchell, 1996; Ones et al., 1993). Third, most studies focus on general counterproductive workplace behaviors (i.e. lying, stealing, corruption; Ones et al., 1993), rather than excessive use of force. Fourth, the MMPI-based research that is prevalent in this literature focuses on maladaptive traits, or traits that "weed out" potential officers not suited for the job (e.g., poor emotion management or interpersonal functioning, elevated clinical scales that would suggest maladjustment; Roberts, Tarescavage, Ben-Porath, & Roberts, 2018; Tarescavage et al., 2015). While it is true that integrity tests assess adaptive components of job performance (i.e., honesty, trustworthiness), these tests may have limited utility in terms of predicting excessive use of force. For example, highly publicized cases of excessive use of force have included officers ranging across the spectrum of job performance quality (i.e., the shooter of Philando Castile had no disciplinary record, while the shooter of Michael Brown had previously been fired from a police department for undisclosed reasons; Lopez, 2016). A more comprehensive personality model may be useful in assessing the likelihood of engagement in excessive force.

Indeed, we believe that triarchic psychopathy trait conceptualization is particularly salient to law enforcement and other first responder professions. For example, an officer high on trait Boldness and the emotionally callous component of Meanness may be an individual who is calm in the face of danger, able to interact with traumatized victims of crime, and engage in dangerous situations for the well-being of others. The same traits may not be ideal for someone in the teaching profession, for instance (i.e., occupations that require a degree of empathy and impulse control).

Adaptive/Maladaptive Personality Traits: Viewing Law Enforcement Through the Lens of Psychopathy

Psychopathy is a construct that is defined by a constellation of affective, interpersonal, and behavioral traits, typically characterized by a callous lack of empathy, shallow affective response, and interpersonal charm and manipulativeness (Cleckley, 1941/1976; Hare, 2003). The construct is popularly understood to encompass two main factors (sometimes four facets; Vitacco, Rogers, Neumann, Harrison, & Vincent, 2005): the *interpersonal and affective* facets (e.g., superficial charm, manipulativeness, shallow affect) and the *impulsive and antisocial* facets (e.g., irresponsibility, poor behavioral controls, antisocial behavior; Hare, 2003). Beginning with Hare's early work using samples of adult criminal offenders (Hare & Jutai, 1983; Porter, Birt, & Boer, 2001; Serin & Amos, 1995) assessed with the most-oft used measure of psychopathy, the Psychopathy Checklist – Revised (PCL-R; Hare, 2003), it is clear that psychopathic traits are associated with an increased risk for violent behavior and recidivism, above and beyond typical risk factors for violence (e.g., previous history of violence, male gender, young age). Overall, the research is clear that psychopathy, particularly measured by the PCL-R, seems to be an effective predictive tool in determining level of risk for violence in the criminal justice system.

Interestingly, there is a consistent finding in the literature that, after controlling for common variance, the interpersonal-affective and impulsive-antisocial factors appear to exhibit differential relations with external criteria. For example, interpersonal-affective traits have been found to negatively correlate with measures of anxiety, neuroticism, and negative affect; conversely, the impulsive-antisocial traits tend to positively associate with these same external criteria (Hicks, Markon, Patrick, Krueger, & Newman, 2004; Verona, Patrick, & Joiner, 2001). Furthermore, impulsive-antisocial traits are positively associated with impulsivity, sensation

seeking, and anger, but negatively associated with measures of conscientiousness and inhibition (Hare, 1991; Patrick, 1994; Verona et al., 2001). These differential findings seem to suggest that the interpersonal-affective and impulsive-antisocial components of the construct may be etiologically distinct; this notion is empirically substantiated by literature that focuses on subtypes of psychopathy that manifest in distinct ways (e.g., *emotionally stable* vs. *aggressive* psychopaths, *primary* vs. *secondary* psychopaths; Hicks et al., 2004; Skeem, Poythress, Edens, Lilienfeld, & Cale, 2003). Going even further, there may be reason to parse the factors into facet-level domains, given that some research suggests the interpersonal facet of psychopathy accounts almost entirely for the relationship between interpersonal-affective psychopathic traits and dominance, for example (Harpur et al., 1989). This subtyping and facet-level research demonstrates the need to consider psychopathy as a heterogeneous personality construct, with distinct etiological processes and configurations of personality traits resulting in distinct phenotypes.

Recent research suggests that the interpersonal and affective components of psychopathy could also be adaptive and potentially linked to success (non-incarceration *and* improved occupational performance) and resilience against emotional problems (Benning, Patrick, Hicks, Blonigen, & Krueger; Hall, Benning, & Patrick, 2004; Ullrich, Farrington, & Coid, 2008). Further, there is literature to suggest that the interpersonal-affective features of the PCL-R do not provide incremental utility in the prediction of violence using the PCL-R, after controlling for shared variance with the impulsive-antisocial features (Harris, Rice, & Quinsey, 1993; Hicks, Rogers, & Cashel, 2000; Serin, 1996; Skeem & Mulvey, 2001). Further, several studies have examined the psychopathy and aggression relationship in community samples; these studies often utilize self-report measures that are designed to assess psychopathic traits as they

commonly occur in the general population (i.e., they de-emphasize the role of criminality in the measurement of psychopathy; Levenson, Kiehl, & Fitzpatrick, 1995; Lilienfeld & Widows, 2005). Consistent with findings in forensic samples, these studies show positive associations between impulsive-antisocial traits and aggression, whereas the interpersonal-affective traits are frequently negatively associated with aggression and other negative outcomes, with some even finding that they may serve as a protective factor against reactive types of aggressive behavior (Reidy et al., 2011; Uzieblo, Verscheure, Van den Bussche, & Crombez, 2010).

Taken together, interpersonal-affective psychopathic traits tend to be less associated with negative outcomes than impulsive-antisocial traits, and potentially associated with resilience, including in the workplace. For example, Babiak et al. (2010) evaluated a sample of corporate executives using the PCL-R (Hare, 2003) and found that total scores were associated with communication skills, strategic thinking, and creativity/innovation. At the same time, psychopathy was negatively associated with being a team-player, management skills, and overall accomplishments. When examined at the facet-level, a majority of the zero-order correlations between psychopathy facets and performance variables were nonsignificant after accounting for shared variance among the facets; only the interpersonal facet had a specific and incremental effect on the responsibility/performance composite variable, indicating that this facet may be related to more adaptive outcomes than other facets of the construct. Further, Lilienfeld et al. (2012) found that psychopathic-like traits related to the interpersonal facet (i.e., fearless dominance) in U.S. presidents were associated with greater performance, leadership skills, communication, and persuasiveness, whereas psychopathic traits related to impulsivity and irresponsibility were associated with impeachment resolutions and unethical behavior. Based on these studies' findings, it appears that many of the positive outcomes associated with

psychopathy are largely attributable to the interpersonal-affective component (particularly the interpersonal facet; e.g., persuasiveness, communication skills, leadership skills, etc.; Hare, 2003). Further research is needed to solidify these differential relationships with workplace outcomes, and the proposed study would help identify personality profiles involving unique configurations of psychopathic traits that relate to analogs of police performance, particularly the use of excessive or unjustified force.

In sum, several themes have emerged that are central to the premise of this study. First, there is significant evidence to suggest that the impulsive, disinhibited component of the psychopathy construct is more robustly associated with aggression and violence. Second, the interpersonal-affective traits are only related to aggression and violence insofar as the variance that they share with the impulsive-antisocial traits. When assessments of interpersonal-affective traits capture more normative manifestations, these traits may be protective against aggression and other negative outcomes. Third, studies that have examined psychopathy in the workplace have found that the interpersonal facet of the construct map on to behaviors conducive to job success, such as good communication skills, leadership ability, and strategic thinking/innovation (Babiak et al., 2010; Lilienfeld et al., 2012). Hence, it appears that the interpersonal and affective features of psychopathy could lead to fewer detrimental outcomes (e.g., incarceration) and greater likelihood of life success (e.g., career advancement, agency). Another important piece when considering the study of nonforensic populations is the overemphasis on criminality in traditional psychopathy assessments; to study psychopathy in community samples, it is important to base the measurement of the construct on less pathological exhibitions of personality. Because Hare's conceptualization of psychopathy is so heavily focused on antisocial behavior and specifically normed on incarcerated populations, newer models have been proposed that better

delineate the potentially adaptive and maladaptive domains of the construct in more normative samples – one such model being the triarchic conceptualization of psychopathy (Patrick et al., 2009).

Personality and Law Enforcement Performance: A Triarchic Perspective

Rationale. Skeem & Cooke (2010) have derided Hare's conceptualization of psychopathy for focusing too heavily on antisocial behavior and being over-inclusive of individuals whose traits are not indicative of psychopathy (i.e., broad externalizing/antisociality), particularly considering the research that suggests the weak association between the unique variance associated with interpersonal-affective psychopathic traits and externalizing psychopathology (Blonigen, Hicks, Krueger, Patrick, & Iacono, 2005; Patrick, Hicks, Krueger, & Lang, 2005). Traditionally, psychopathy has been considered unidimensional in nature (i.e., psychopathic personality manifests as the combination of correlated traits: interpersonal-affective *and* impulsive-antisocial; Harris, Rice, & Quinsey, 1994). However, contemporary researchers have posited the *dual-process* model of psychopathy, which suggests that the interpersonal-affective and impulsive-antisocial components are etiologically distinct and driven by different neurophysiological deficits (Fowles & Dindo, 2009). Taking this idea one step further, Lilienfeld and colleagues (2015) propose the *differential configuration* approach to understanding the psychopathic personality, in which successful iterations of the construct may consist of distinct traits (i.e., emotional stability, boldness) than unsuccessful versions (i.e. impulsivity, callousness). In other words, it is possible to be high on primarily interpersonal-affective traits in the absence of impulsive-antisocial traits and vice versa; each would manifest in distinct ways but fall under the common nomological network of psychopathy.

Newer conceptualizations, like the triarchic model – a model posited by Patrick & colleagues (2009) – redefine the domains of the psychopathic personality based on relations to distinct neurophysiological processes. The triarchic model conceptualizes psychopathy into three distinct phenotypic constructs: Disinhibition (problems with impulse control); Boldness (social dominance, emotional resiliency, venturesomeness); and Meanness (aggressive resource seeking with no regard for others). The triarchic model was developed to reconcile and accommodate differing descriptions of the manifestation of psychopathy (given the variety of conceptualizations of psychopathy posited in the literature; Cleckley, 1941/1976; Hare, 2003; Lilienfeld & Widows, 2005), as well as provide a framework for research into the biobehavioral mechanisms that guide the development of varying presentations of the construct (Patrick & Drislane, 2015). We believe that differing levels of the triarchic personality domains may serve as both assets and hindrances to officer performance, depending on the unique configuration of traits and specific situation involved.

Boldness. Boldness is a theoretical domain that taps into the fearless dominance seen in prior conceptualizations of psychopathy; for example, the domain captures tendencies for fearlessness in emotional experience (resiliency, self-confidence, and optimism), interpersonal behavior (persuasiveness, social dominance), and venturesomeness (courage, tolerance for uncertainty; Patrick & Drislane, 2015). From a biobehavioral standpoint, Boldness primarily reflects a lack of sensitivity in the brain's defensive motivational system to threat cues; individuals who are high on Boldness have a higher threshold for activating this system (Ellis, Schroder, Patrick, & Moser, 2017; Esteller, Poy, & Molto, 2016; Patrick et al., 2009; Vaidyanathan, Patrick, & Bernat, 2009). On the one hand, Boldness has been associated with higher stress tolerance and greater social competence (Patrick et al., 2009), with some even

linking it to leadership abilities and measures of heroism (Lilienfeld, Watts, Smith, & Latzman, 2018). On the other hand, Boldness paired with other traits such as Meanness and Disinhibition could potentially create a phenotype characterized by confident engagement in indiscriminate antisocial behavior (e.g., individuals engaged in antisocial behavior who avoid criminal justice consequences; Holt & Strack, 1999). However, studies that have used the triarchic model of psychopathy (e.g., Craig, Gray, & Snowden, 2013; Stanley, Wygant, & Sellbom, 2013) have found only modest correlations between Boldness and Meanness (r = .2 to .3) and virtually no correlation between Boldness and Disinhibition (r = 0 to -.2). These findings, along with Boldness's relative freedom from the influence of externalizing psychopathology (e.g., antisocial behavior, disinhibition) and links to positive outcomes, may suggest that Boldness is etiologically distinct from the other domains of the triarchic model.

Traits associated with Boldness, such as interpersonal dominance and equanimity under pressure, may serve an officer well when it comes to taking charge of a potentially volatile situation (Lilienfeld, Watts, & Smith, 2015; Schaible & Gecas, 2010). In the broader job performance literature, extraversion (a component of Boldness) is often seen as a positive worker quality, related to positive response to stimuli and general sociability/happiness (Heller, Judge, & Watson, 2002). In fact, individuals high in extraversion tend to earn higher salaries, more promotions, and report more satisfaction in their careers (Heller et al., 2002). Translating these qualities to police work, one could see that interpersonal dominance, fearlessness, and low anxiety would serve an officer well in many situations (i.e. de-escalating altercations, crowd control; Beutler, Storm, Kirkish, Scogin, & Gaines, 1985). In support of this claim, several studies have shown that law enforcement officers who have achieved career success (i.e., federal officers, higher ranks) tend to exhibit lower anxiety and greater immunity to stress, suggesting a

reduced sensitivity to autonomic threat responses (Adlam, 1982; Anderson & Bauer, 1987; Newman & Rucker-Reed, 2004; Storch & Panzarella, 1996). Police personality literature also suggests that officers tend to exhibit self-confidence, social dominance, and fearlessness, traits all within the same nomological network as Boldness (Hogan, 1971; Mills & Bohannon, 1980). Furthermore, social boldness and vigilance have been broadly linked to emotional intelligence and effective leadership skills (Rosete & Ciarrochi, 2005), suggesting that these traits are indeed beneficial to job performance. The literature around feelings of power may also be relevant in the discussion of Boldness; there is evidence to suggest that higher feelings of power are negatively associated with many forms of aggression (i.e. physical, verbal; Murphy & Lilienfeld, 2016). Given that Boldness is guided by reduced sensitivity to threat cues (Patrick et al., 2009), it logically follows that the traits it engenders (i.e. self-confidence, stress tolerance, social dominance) would help officers perform their jobs more effectively and confidently. Further, Boldness's inherent optimism and tolerance for uncertainty in novel situations (Patrick et al., 2009) suggest that highly Bold individuals may be less callous/antagonistic on the job and less likely to impulsively shoot in a high-pressure situation.

Meanness. Meanness, in contrast, appears related to deficits in perception of others' pain and deficits in the affiliative reward system (pleasure from being with others) to create a phenotype characterized by lack of empathy, dishonesty, and thrill-seeking behavior; individuals with these deficits may experience low social connectedness, increased aggression, and low empathic response to others' pain (Decety et al., 2013; Patrick et al., 2009; Seara-Cardaso, Viding, Lickley, & Sebastian, 2015). Studies that map the Meanness domain onto Five Factor traits suggest robust negative correlations with agreeableness and conscientiousness, with modest correlations with all other FFM scales (Drislane, Patrick, & Arsal, 2014; Poy et al., 2014; Stanley

et al., 2013). In studies that have examined the predictive utility of Big Five traits on job performance, authors have theorized that excess agreeableness may not be conducive to success in the workplace; for example, more agreeable workers, while good team players, are often not assertive enough to earn promotions and stand out (Sanders, 2007). Conversely, excessively low agreeableness has been found to be related to more police misconduct (Black, 2000; Cuttler & Muchinsky, 2006). Many of the traits associated with low agreeableness (e.g., callousness, lack of regard for others) constitute the construct of Meanness, as per the Triarchic model.

All of this is to suggest that, especially in the law enforcement field, certain *aspects* of the Meanness scale (at moderate levels) could be beneficial to job performance. For example, the constricted affect piece of the Meanness construct could serve an officer well in certain circumstances (e.g., maintaining professionalism in emotionally-charged situations; shield officers from vicarious trauma symptoms; Alexander & Wells, 1991; Duckworth & Charlesworth, 1988) but perhaps not in others (e.g., inability to empathize with individuals whom they serve). Thus, the decreased emotional reactivity may also aid in decision-making under pressure (Alexander, Walker, Innes, & Irving, 1993; Bakker & Heuven, 2006) but may be problematic when interacting with members of the public on the job. If an officer exhibits low emotional reactivity (i.e., deficiencies in processing others' pain, inability to experience intense emotions in response to stimuli), they may not interact empathically with victims and elicit reduced trust from the community served. Interestingly, several researchers have found that more inexperienced police officers exhibit high levels of depersonalization, callousness, and inhibited emotional reaction (Kop & Euwema, 2001; Laguna, Linn, Ward, & Rupslaukyte, 2010; Maslach, 1993). This could translate to lower rates of burnout (Bakker & Heuven, 2006; Burke, 1994), but also potential dehumanization of others, resulting in cases of unjustified use of deadly force.

Disinhibition. Finally, Disinhibition is primarily related to deficits in cognitive control and executive functioning (Paison, Fernandes, Pereira, & Barbosa, 2017; Sadeh & Verona, 2008; Weidacker, Snowdon, Boy, & Johnston, 2017; Young et al., 2009); individuals with these deficits would have difficulty resisting aggressive urges, particularly under stress, and would likely experience poor behavioral controls (e.g., more likely to get into barfights, be provoked, etc.). While Boldness and (to a lesser extent) Meanness can lead to adaptive outcomes, lack of cognitive and behavioral control associated with Disinhibition has more clearly negative implications for the performance of police personnel. Given that the Disinhibition domain of the triarchic model measures fraudulence, boredom proneness, and impatient urgency (Patrick et al., 2009); one could see how these traits could manifest in unethical and potentially corrupt behavior. If an officer is more risk-taking and less likely to consider the consequences of his/her actions, then he/she may be more likely to take a bribe or skim off of illegal businesses (Arrigo & Claussen, 2003). Traits consistent with Disinhibition, paired with some of the antagonistic components of Meanness (i.e. lack of empathy, aggression), would also likely produce feelings of insecurity and hostility toward the public, creating an "us vs. them" mentality that could potentially have catastrophic results (e.g., Philando Castile, Alton Sterling, among many others). Further, a desire for power and dominance is consistent with the Disinhibition trait distribution and has been found to correlate with most forms of aggression (i.e. physical, verbal, hostility; Keltner, Gruenfeld, & Anderson, 2013; Lammers, Galinsky, Dubois, & Rucker, 2015; Murphy & Lilienfeld, 2016).

Despite this research suggesting Disinhibition contraindicates employment in law enforcement, the police literature has linked several Disinhibition traits with typical police personality profiles, such as impulsivity (Harper, Evans, Thornton, Sullenberger, & Kelly, 1999;

Pogarsky & Piquero, 2004), blame externalization (Dick, 2000; Violanti, Marshall, & Howe, 1983), and resistance to authority (Balch, 1972; Talarico & Swanson, 1982; Tyler & Wakslak, 2004). While it is ironic that some average police officers may express these quintessentially "bad" personality traits, it is important to consider that these traits rarely manifest in isolation. Aspects of Disinhibition may be necessary, in conjunction with other personality traits (e.g., courage), in order to perform effectively as a law enforcement officer. Rather than viewing these traits separately, we harken back to the *configural trait* perspective posited by Lilienfeld and colleagues (2015); different job performance outcomes are based on different patterns of personality clusters, which can relate to good *or* bad job performance. For example, a profile marked by high Boldness (resilience & self-confidence), moderate Meanness (affective deficits that protect from stressors/trauma), and moderate Disinhibition (able to overcome inhibitions in fear-inducing situations) may result in effective police work. Nonetheless, Scrivner's (1994) survey of 65 police psychologists who characterized officers who abuse force identified impulsive and antisocial tendencies and low frustration tolerance as particularly related to likelihood to engage in excessive use of force. The overall findings on Disinhibition, thus, suggest that individuals who are high on this domain may be more likely to engage in excessive force – perhaps more so if also paired with Meanness.

Current Study

In sum, identifying psychopathy-related personality traits in law enforcement may provide police departments with a better sense of what they are looking for in job candidates beyond the intuitively desirable Five Factor traits (Barrick et al., 2013). Whereas police departments do assess personality traits using the MMPI-2-RF and CPI, we believe that the literature mapping the triarchic model of psychopathy onto the Five Factor model shows us that

differing combinations of these traits could provide information that the FFM does not. For example, even though someone high on Meanness traits may score low on agreeableness, this individual may actually be suited to the law enforcement occupation in particular (due to less likelihood for emotional burnout and increased tolerance for risk).

Thus, the current study is unique in aiming to identify triarchic psychopathy model trait configurations that are linked to experimental proxies for justification or excessive use of force from undergraduate students interested in law enforcement careers (prior to them entering the work force) and current law enforcement officers. We believe that including undergraduates interested in law enforcement is a particular strength of this study, as they provide data on pre-existing traits among those who would self-select into the law enforcement profession. Analyses may detect differences between individuals who have not yet been exposed to the socialization of police department culture (law enforcement-interested undergraduate students) and those who had been steeped in it for some time (law enforcement officers); several studies suggest that both personality characteristics and socialization processes play a role in the development of officer job performance and how officers interact with the public (Griffin & Bernard, 2003). We also included a comparison group of undergraduate students who do not intend to pursue a law enforcement career, which will be useful in determining whether our findings generalize beyond law enforcement-oriented individuals.

Criterion profile analysis (CPA) was used to identify the triarchic psychopathy traits most closely related to proxy indicators of job performance related to excessive use of force. CPA is a statistical technique that identifies a pattern of elevations on predictor scores that most closely relate to a given criterion variable (Wiernik, Wilmot, Davison, & Ones, 2020). We used this

analysis in examining the role of TriPM configurations in predicting indicators related to police officer job performance.

The proxy measures of excessive use of force involve two tasks that assess potentially distinct aspects of risk for use of excessive force. First, we tasked participants with responding to vignettes that show participants several situations where varying levels of force were used that resulted in suspects being subdued, injured, or killed. This task measured an individual's threshold for justifying different severities of use of force. Each vignette, based on a true event, has a court-defined "justified" or "unjustified" legal outcome (Rodriguez, 2017), from which to reference participant responses. The intent with this task was to tap more into the callous dehumanization that could lead to excessive force (Kelman, 1973); with the ability to critically evaluate these use of force situations at their leisure, participants with lower empathy and higher callousness would be more likely to rate cases of unjustified use of force as acceptable (Patrick et al., 2009). The second task that was administered is based off of methodology devised by Correll, Park, Judd & Wittenbrink (2002), in which participants played a video game in which they are tasked with shooting their virtual firearm at armed suspects and avoiding civilian targets. This task is intended to measure participants' "trigger bias," or their level of discrimination in firing on targets. With this more time-limited task that requires finesse and a degree of inhibition, we predicted that a separate pathway to excessive use of force would be delineated in which individuals showing impulsive or emotionally reactive dispositions would be most likely to make shooting errors. This is consistent with body camera footage that shows some officers panicking and shooting in a situation where they may not have had malicious intent (e.g., shooting of Philando Castile).

Several studies that have used profiling methods with psychopathy scores have generally found between three and five distinct score patterns within samples, often extracting a "low scoring" and "high scoring" group, in addition to classes that have more differential subscale scores (Boduszek, Debowska, & Willmot, 2017; Krstic et al., 2017; Mokros et al., 2015). Expanding on the psychopathy subtyping literature (Hicks et al., 2004; McKinley, Patrick, & Verona, 2018; Skeem et al., 2003), we expected to observe the following, in terms of the patterns of relationships between psychopathic traits and performance on the above tasks:

1. **High Boldness, high Meanness, and low Disinhibition** would be most associated with unjustified use of force vignette ratings. We believe that Boldness and Meanness are the constructs that would be most likely to manifest in relation to assessing situations of excessive uses of force. Antagonism (Meanness) coupled with a high degree of confidence and comfort with making difficult decisions (Boldness) would engender a response pattern that may manifest in acceptability of use of force in officers, irrespective of legality. These predictions are supported by literature that links Boldness with assertiveness, discipline, and commitment to duty (Dotterer et al., 2017), while Meanness has been linked with dehumanization, hostility, and lack of empathy (van Dongen et al., 2017); together, these domains would intersect to create a "duty above all" mentality, with loyalty to fellow officers overcoming protection of the community. At the same time, we predicted low Disinhibition would be associated with unjustified use of force vignettes because low Disinhibition has been linked with lower neuroticism and a heightened adherence to duty, suggesting that this would coincide with high Boldness in creating a "duty above all else" mentality in these participants (Dotterer et al., 2017; Sica et al., 2015).

2. **Low Boldness, high Meanness, and high Disinhibition** would relate to more error commissions in the shooter task. Based on previous studies, it is likely that a TriPM profile pattern will emerge in relation to this performance-based task in which reduced emotional resilience and higher antagonism and impulsivity will be implicated. In fact, a recent study indicated that antagonism may be implicated in poor cognitive control, which would impact performance on the shooter task, while low Boldness is generally associated with greater internalizing psychopathology that may impede attentional capacity (Dotterer et al., 2017; Hall, Schreiber, & Allen, 2021). While Disinhibition is key to this prediction given the time-limited accuracy-based performance criterion, we predicted that this response pattern would also include the influence of high Meanness (antagonism) and low Boldness (lack of emotional resilience).

Chapter Two:

Method

Participants

Law enforcement sample. Police officer participants were recruited in two ways; first, in coordination with chiefs or other supervisors at police departments in a few metropolitan areas, departments disseminated information about the online protocol to their officers at daily roll call or via email. Prior experience suggests that if supervisors buy in and approve of the study and its contributions to law enforcement research, non-response rates may be reduced – even though officers are not being compensated for their participation. Second, law enforcement officers were recruited via mass email requests to professional law enforcement organization listservs (e.g., National Association of Police Organizations); these responses were screened carefully to ensure that respondents to the protocol were indeed associated with law enforcement. This second method allowed us to obtain more nationally representative law enforcement participants, overcoming limitations of geography and social climate that are inherent in recruiting from departments in only one a couple of areas (e.g., Falkenbach et al., 2018). All participants were at least 18 years of age and able to read fluent English.

The law enforcement sample consisted of 354 participants who completed at least a majority of the administered Qualtrics survey, up to and including the rating of the use of force vignettes. Of these 354 participants, 167 continued on to complete the first-person shooter task. The demographics of both the law enforcement and undergraduate samples are represented in

Table 1. The overall sample of law enforcement officers was mostly male-identifying (82.5%) White (83.3%), and non-Hispanic or Latinx (82.2%). The mean age of the law enforcement officers in our sample was 42.51 (*SD* = 8.83). Ages ranged from 23 to 63 years.

We also asked our sample of law enforcement officers questions related to time on the force, rank within the department, and other characteristics related to their department. These data are represented in Table 2. Our law enforcement sample was characterized by several years of service in urban police departments, mostly at the rank of sergeant or below (e.g., officer, detective). Most officers came from two large urban centers in the Southern regions of the United States. As a note, the fact that our sample has spent a great deal of time on the force with a high representation of the base rank of officer is not uncommon; in fact, a mail survey of law enforcement officers suggested that officers who do not seek promotion may be more internally motivated rather than the extrinsic rewards associated with upward mobility through the ranks (Whetstone, 2001).

Undergraduate student samples. In addition to law enforcement officers, we recruited undergraduate students at the University of South Florida (USF) using multiple means, including a research participant pool for course credit, listserv email communications, as well as direct communication with students in various undergraduate courses across the criminology and psychology departments. We recruited two subsamples of undergraduate students. First, we recruited undergraduates (particularly within the criminology department, with the largest percentage of students with law enforcement career goals) who intended to pursue a career in law enforcement upon graduation. We chose to define a "law enforcement career" narrowly to include either police or corrections officers, although other criminal justice-related fields were captured in our data collection (e.g., lawyer, paramedic, civilian law enforcement jobs). The law

enforcement occupation has been expected to grow by 7% from 2016-2026, and criminology is a very popular college major for individuals who go into the field (US Department of Labor, 2019). Thus, this sample was particularly advantageous because it was roughly analogous to examining "recruits" in a police academy. Second, those undergraduates *not* interested in law enforcement careers formed a control group to which comparisons can be made. All participants were at least 18 years of age and able to read fluent English.

As shown in Table 1, the average age for the undergraduate sample was 21.61 (*SD* = 4.52). Ages ranged from 18 to 54 years of age. A majority of our undergraduate sample was female-identifying (77.2%), White (73.2%), and non-Hispanic/Latinx (69.7%). We also observed a fairly even distribution of undergraduate program year, with the highest representation being that of college juniors (38.1%).

Procedure

Participants were recruited using the methods listed above, and participants were sent an email link that guided them to the online survey created using Qualtrics software. Before beginning the online study, participants underwent a consenting process, in which they were informed of the purpose of the study and what was expected of them. They were informed that they were completing this study either for course credit or for no compensation, and that the study was completely voluntary and confidential (no identifying information collected). Participants were informed that the surveys and tasks would take about 45-60 minutes to complete in total. All raw data were kept on a secure server and results were only reported at the aggregate level. No individual participant's data were disseminated in any way. Further, participants were informed that they need to complete the survey on a desktop or laptop computer with a keyboard (for the purposes of completing the online shooter task). They were

also encouraged to conscientiously complete each task, as there were manipulation checks (e.g., 2 + 2 = __) placed throughout the protocol to ensure attentiveness and validity of data.

Upon agreeing to the study, participants completed the self-report measures first (the demographics questionnaire and personality measures). Then, the participants were presented with the series of vignettes describing various scenarios in which law enforcement officers used forceful means to subdue suspects. For each vignette, participants were asked to use a sliding scale to rate the degree to which they believe the use of force was justified (from "completely unjustified" to "completely justified"). Finally, participants were administered the online shooter task, which required them to leave the Qualtrics survey and access the task within their browsers, in which they were instructed to shoot or not shoot in a series of 50 trials. At the conclusion of the study, the participants were provided space to enter thoughts and comments that they had about the administration and content of study materials. Participants were also encouraged to contact the principal investigator of the study if they had any concerns about any aspect of the study design.

Main Measures

Demographics. Demographic variables were assessed slightly differently for undergraduate and law enforcement samples. The undergraduate samples were administered questions pertaining to gender, age, relationship status, income independence, race/ethnicity, year in undergraduate program, and interest in pursuing a criminal justice-related career (e.g., police officer, attorney, correctional officer, probation officer). In determining who were in the "law enforcement-interested" group, we included participants who intend to pursue police officer or correction officer jobs. The law enforcement sample was administered questions pertaining to gender, age, relationship status, race/ethnicity, years on the force, current rank, whether they had

received merits/commendations of any kind, and whether they had ever received disciplinary action on the job (see Appendix A for both versions of the demographics questionnaire).

Triarchic Psychopathy Measure (TriPM; Drislane et al., 2014). The TriPM consists of 58 items, each rated on a 4-point Likert scale (from 0 = false to 3 = true), with reverse scoring for items worded in the direction of lower psychopathy. The items form three distinct subscales consistent with the triarchic theory of psychopathy: Boldness (19 items), Meanness (19 items), and Disinhibition (20 items). In a Dutch study conducted by van Dongen, Drislane, Nijman, Soe-Agnie, & van Marle (2017), the TriPM was validated in a community sample and a forensic psychiatric sample; the measure demonstrated good internal consistency for total scores in both samples (community: $\alpha = .87$; forensic: $\alpha = .88$). This measure was used as our predictor in the criterion profile analyses. The TriPM demonstrated good internal consistency in the current study (law enforcement: Boldness $\alpha = .74$, Meanness $\alpha = .86$, Disinhibition $\alpha = .72$; undergraduates: Boldness $\alpha = .83$, Meanness $\alpha = .86$, Disinhibition $\alpha = .85$). See Appendix B for a copy of this measure.

Police Use of Force Vignettes. Adapted from Rodriguez (2017), ten vignettes based on real cases where a police officer shot a suspect were presented, and participants indicated how acceptable the officer's use of force was. Each of the cases in the study involved an armed or perceived to be armed suspect and the use of a firearm by a police officer to subdue said suspect. A suspect was considered "armed" if they were in possession of an instrument that could cause deadly harm (e.g., bat, knife, gun, vehicle). Importantly, only cases with final dispositions by a court were used to develop these vignettes (one way to categorize vignettes as *justified* or *unjustified*). A total of 5 *justified* and 5 *unjustified* vignettes were presented to the participants. To rate each vignette, participants were asked to rate the situations on acceptability of force on a

sliding scale from 0 (completely unacceptable) to 100 (completely acceptable). These vignettes were also administered online for participants using Qualtrics. Our dependent variable was calculated by averaging participants' responses across the *unjustified* use of force vignettes; this provided an overall "acceptance of unjustified use of force" score. We also calculated a mean acceptability rating across the *justified* use of force vignettes for comparison purposes. The internal consistency for justified (law enforcement: $\alpha = .63$; undergraduate: $\alpha = .78$) and unjustified (law enforcement: $\alpha = .59$; undergraduate: $\alpha = .73$) vignette responses were acceptable, given low item quantity (five scenarios each) and expected variability of response to subjective scenarios. See Appendix C for the vignettes that were administered to participants in this study.

Police Officer's Dilemma First Person Shooter Task (FPST; Correll, Park, Judd, & Wittenbrink, 2002). Developed by Correll and colleagues (2002), the Police Officer's Dilemma First-Person Shooter Task (FPST) administers 50 trials consisting of target images of young men, half of whom are White and half of whom are Black, holding a gun or a non-lethal object (i.e. a camera, a cell phone, a wallet). The participant is instructed to place two fingers on two keys on the keyboard (indicating options to shoot or not shoot); they are then instructed to decide as quickly as possible whether the object the man is holding is a gun or not. If the man is holding a gun, the participant is instructed to press the "shoot" button; if the man is unarmed, the participant is instructed to press the "do not shoot" button. The game awards and deducts points on the basis of performance; a hit (correctly shooting a target with a gun) earns the participant 10 points, and a correct rejection (not shooting an unarmed target) earns 5 points. A false alarm (shooting a target holding a non-gun) deducts 20 points and a miss (not shooting a target holding a gun) deducts 40 points. To minimize nonresponses, the game uses a timeout penalty of 10

points if the player does not respond to a target within 850 milliseconds. This time window forces participants to respond relatively quickly. Each trial ends by giving participants feedback on whether they made the correct decision and showing the participant their cumulative score so far. Our dependent variable included the proportion of commission errors made on the task in relation to total trials administered for each participant (i.e., shooting in a "don't shoot" situation); this provided an indication of an individual's "trigger bias." See Appendix D for screenshots from the game.

Supplementary Measures

The following measures were administered to evaluate the extent to which our predictor score patterns most associated with use of force measures yielded correlations that align with our study hypotheses. That is, fewer tendencies toward excessive use of force in the study tasks should be associated with lower aggression, lower neuroticism, higher conscientiousness/integrity, and lower desire for power.

Aggression Questionnaire (AQ; Buss & Warren, 2000). The AQ is a 34-item self-report measure in which items are rated on a five-point scale (1 = *Not at all like me*, 5 = *Completely like me*). Factor analyses have revealed five dimensions—physical aggression, verbal aggression, anger, hostility, and indirect aggression. The AQ exhibits moderate to high internal consistency. In the current study, the AQ total score was used in analyses and demonstrated high internal consistency (law enforcement: $\alpha = .86$; undergraduate: $\alpha = .89$). See Appendix E for a copy of this measure.

The Big Five Inventory - 2 (BFI-2; Soto & John, 2017): The BFI-2 is a revised version of the original Big Five Inventory, consisting of 60 items that are rated on a 5-point Likert scale from "Disagree strongly" to "Agree strongly." Each domain of the Five Factor Model (FFM;

Neuroticism, Openness to Experience, Agreeableness, Extraversion, and Conscientiousness) is measured by 12 items and is equally represented by positively- and negatively-keyed items. For the current study, we utilized the Conscientiousness subscale of the measure. The BFI-2 exhibits good reliability, predictive validity, and convergent validity in validation studies conducted by Soto and colleagues (2017). The BFI-2 exhibits Cronbach's alphas exceeding .80 for each domain scale, and the test-retest reliability of the domain scale scores was .76 (Soto & John, 2017). In the current study, the Conscientiousness subscale of the BFI-2 demonstrated high internal consistency (law enforcement: $\alpha = .82$; undergraduate: $\alpha = .87$). The BFI-2 also demonstrates strong convergent validity with other FFM measures, such as the NEO-PI-R (Costa & McCrae, 1992) and the Big Five Aspect Scales (DeYoung et al., 2007). See Appendix F for a copy of this measure.

International Personality Item Pool – Cooperation Subscale (IPIP; Goldberg, 1999). The 10-item Cooperation subscale of the IPIP is an analogue of the Reliability subscale of the Hogan Personality Inventory (Hogan, 1995). This measure is intended to capture some the items related to integrity & conscientiousness that have been used in past pre-employment screenings for law enforcement officers (e.g., the degree to which individuals "act wild and crazy," "break rules," "oppose authority," etc.). The IPIP Cooperation subscale demonstrates adequate internal consistency ($\alpha = .76$). In the current study, the IPIP Cooperation subscale demonstrated high internal consistency (law enforcement: $\alpha = .82$; undergraduate: $\alpha = .87$). See Appendix G for a copy of this measure.

Feeling Powerful and Desiring Power Scales (Murphy et al., 2020) **& Sense of Power Scale** (Anderson, John, & Keltner, 2012). The 7-item Feeling Powerful scale from Murphy et al.'s Feeling Powerful and Desiring Power Scales was used to assess undergraduate participants'

attitudes tendencies toward dominance and power. The Feeling Powerful scale is a revision of Anderson et al.'s (2012) 8-item Sense of Power Scale (SOP), commonly used in studies of power (Anderson, Kraus, Galinsky, & Keltner, 2012; Kifer, Heller, Perunovic, & Galinsky, 2013). The SOP was used in the law enforcement sample for brevity (reducing from 13 items on Murphy et al.'s scales to 8 items). Participants are asked to rank their agreement with statements on a 5-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5). Both the Feeling Powerful scale ($\alpha = .85$) and Sense of Power scale ($\alpha = .82$) demonstrated good internal consistency. See Appendix I for a copy of this measure.

Data Analysis

Power Analyses and Sample Size Considerations. As criterion profile analysis is a multiple regression-based approach, we conducted power analyses to determine the required sample size to detect a medium effect size ($f^2 = .15$; power = 0.80; alpha = 0.05) in a multiple regression model with three predictors (the three subscales of the TriPM). The power analysis was conducted using G*Power (Faul et al., 2007), which is a common software that is used as a means of estimating sample size. Based on these analyses, at least 77 total participants are needed to achieve statistical power of 0.80 in observing small to medium effect sizes ($f^2 = .15$). Further, simulated criterion profile studies using samples of between 100 and 300 participants have yielded clear predictor patterns based on levels of the criteria (Davison, Davenport, Chang, Vue, & Su, 2015). With sample sizes ranging from 155 – 274 (across law enforcement and student samples), we achieved the required statistical power to detect anticipated main effects in our study.

Data Screening. We collected raw data from 511 law enforcement participants and 679 undergraduate participants. First, the raw data were reviewed for validity and deviations from

requirements. Participants who failed at least two attention check items were excluded from all analyses. Further, we screened for duplicate responses in Qualtrics; this occurred at times when participants forgot to click the link to the shooter task, thus going back into the survey a second time to navigate to the link. We determined duplicate cases based on demographic information, IP address, and completeness of survey data (i.e., if a case was largely blank). This screening eliminated 102 cases from the law enforcement data set and 86 cases from the undergraduate data set. Specifically, for the law enforcement data set, we identified 28 cases with failed attention checks and 74 cases that were missing a majority of data due to duplicate participant entries. For the undergraduate data, we identified 50 cases with failed attention checks and 36 cases that were largely missing data due to duplicate participant entries. Further, data were assessed for missingness; cases were retained if participants completed greater than 85% of the survey data: 55 cases from the law enforcement data set and 15 cases from the undergraduate data set were excluded due to excessive missingness. After these exclusions, we retained 354 law enforcement officers and 577 undergraduates for analyses.

After data were fully cleaned, negatively-worded items were reverse-scored and then each self-report measure was scored by averaging across items. Next, the distribution of residuals was analyzed to address concerns related to normality, homoscedasticity, and outliers (skewness, kurtosis, Levene's test, plots). We found that distributions of all study variables were within the realms of normality and appropriate for data analyses. There were several outliers identified (particularly with respect to error commission on the shooter task). We defined outliers as data points that fell beyond three standard deviations from the mean for each study variable. In the undergraduate sample, we identified an outlier on TriPM Meanness and Disinhibition; upon investigation, this outlier was due to invalid responding (i.e., rating all items the same

across measures). This case was excluded from analyses. A further two undergraduate participants and three law enforcement participants were identified as outliers on the shooter task commission error variable. Ultimately, the shooter task outliers were retained to preserve the integrity of the data and to represent the real-world individual differences that may exist in decision-making.

Primary Analyses. First, we conducted Pearson correlations between our study variables in each subsample (law enforcement, undergraduate students interested in law enforcement careers, control undergraduate students) to identify zero-order associations between study variables. This provided a sense of whether psychopathy associations were consistent with the prior literature, including with respect to the validity of the TriPM and its associations with the validation measures in our study (e.g., measures of Big Five traits, power, aggression). Second, we conducted linear regressions to examine the unique contributions of each TriPM subscale to our dependent variables (e.g., acceptability ratings of vignettes, commission errors on shooter task). To control for overall error rate as a result of inattentiveness or age-related slower performance decrements, we conducted supplemental analyses with the proportion of commission errors to overall errors made on the first-person shooter task. Results were largely similar for these analyses (with some notable exceptions mentioned in our Results), which are presented in Appendix I; thus, the original commission errors analyses are presented in the text. In our regression models, we chose to include age and gender as relevant covariates, given that women tend to be more empathetic (which could impact vignette ratings) and younger age is associated with impulsivity that may yield more commission errors in a decision-making task (Hoffman, 1977; Loeber et al., 2012). Further, we decided to include years on the force as a covariate for the law enforcement sample, as studies show that experience may moderate

performance and decision-making among law enforcement professionals (Falkenbach et al., 2018).

Our primary method of extracting predictor-level response patterns from our sample was criterion profile analyses (CPA), which is a multiple regression-based statistical method designed to identify patterns of subscale-level responses from a test or battery of tests that associate with differing levels of the criterion (i.e., responses to the use of force vignettes and shooter task). CPA is distinguished from latent profile analysis (LPA), which extracts profiles of varying predictor scores and categorizes individual participants into these profiles. CPA has been used extensively in identifying trait patterns associated with career interests and job performance (Kulas, 2013; Wiernik, Dilchert, & Ones, 2016). For our purposes, we used scores on the three TriPM scales as our predictor variables. The goal of this technique is to go beyond the predictive utility of total scores of particular measures (e.g., level effects) and instead identify a pattern of subscale scores that is associated with high scores on the criterion variable. In other words, we were able to generate a profile of TriPM scores that told us which levels of psychopathic traits are most related to commission errors on the shooter task more justification of unjustified instances of use of force from the vignettes. This analytic strategy is the most straightforward approach in answering our question of, "What combination of personality traits make a police officer less likely to engage in excessive use of force?"

In each subsample (law enforcement officers, law enforcement-interested undergraduate students, and non-law enforcement interested undergraduate students), we first used a statistical package in R (profileR; Bulut & Desjardins, 2015) that derived contributions of each predictor (TriPM subscale) to the optimal score on each dependent variable. CPA identifies a pattern of elevations on predictor scores that most closely relate to a given criterion variable (Wiernik,

Wilmot, Davison, & Ones, 2020). This pattern is referred to as the *criterion pattern*. Following this process, the strength of the association between the pattern and criterion variable is quantified in two ways: (1) the overall profile elevation and (2) the similarity of the participant's individual pattern to the optimal criterion pattern. These level and pattern scores were then entered in a new regression model to estimate the amount of variation due to predictor configurations (*pattern effect*) and the overall profile level (*level effect*). By parsing prediction from a set of variables into configural and simple accumulation effects, CPA allows us to uncover theoretical relationships to a criterion and informs assessment by indicating whether attention to predictor configurations is warranted. Simply put, criterion profile analysis allows us to see whether a specific pattern of traits explains variance in our outcome variable above and beyond the main effects of each entered predictor variable (similar to the inclusion of an interaction term in a regression model).

Finally, to test for between-group differences (law enforcement, law enforcement-interested undergraduate students, non-interested students) in personality-performance relationships, we generated 95% confidence intervals associated with each profile pattern's respective standardized beta weights from the CPA analyses. Inspection of these confidence intervals allowed us to determine whether group differences manifested between the sample profile patterns (i.e., non-overlapping error bars suggest meaningful differences between the samples). This strategy helped address the hypothesized characteristics among our recruited groups – namely, whether there is a difference in "trigger bias" and justification of use of force as a function of TriPM response patterns across a police officer sample, an undergraduate sample interested in law enforcement, and a control undergraduate sample not interested in law enforcement careers.

Table 1

Sample Demographics

Age	**Police Officers (*N*=354)**	**Undergraduates (*N*=577)**
Mean (SD)	42.51 (8.83)	21.61 (4.52)
Range	23-63	18-54
Gender		
Male	292 (82.5%)	118 (20.4%)
Female	56 (15.8%)	446 (77.2%)
Transgender	3 (0.8%)	2 (0.3%)
Other	2 (0.6%)	6 (1.0%)
Prefer not to answer	1 (0.3%)	2 (0.3%)
Race		
White	295 (83.3%)	423 (73.2%)
Black/African American	45 (12.7%)	80 (13.8%)
Asian	9 (2.5%)	43 (7.4%)
American Indian/Alaskan	5 (1.4%)	4 (0.7%)
Hawaiian/Pacific Islander	0 (0.0%)	4 (0.7%)
Other/Mixed	8 (2.3%)	47 (8.1%)
Ethnicity		
Hispanic/Latino	62 (17.5%)	168 (29.1%)
Non-Hispanic/Latino	291 (82.2%)	403 (69.7%)

Participants could select more than one racial identity; percentages do not sum to 100%.

Table 2

Law Enforcement Sample Characteristics

Time on the Force	**Police Officers (*N*=354)**
Under one year	2 (0.6%)
1-3 years	25 (7.1%)
4-7 years	45 (12.7%)
8-10 years	17 (4.8%)
10+ years	265 (74.9%)
Department Rank	
Recruit/Probationary Officer	2 (0.6%)
Officer	149 (42.1%)
Detective/Investigator	79 (22.3%)
Sergeant	86 (24.3%)
Lieutenant	25 (7.1%)
Captain	2 (0.6%)
Higher Rank (e.g., Chief, Commissioner)	9 (2.5%)
Department US Region	
Northeast	4 (1.1%)
Southwest	197 (55.6%)
West	4 (1.1%)
Southeast	63 (17.8%)
Midwest	22 (6.2%)
Other	64 (18.1%)
Department Environment Type	
Urban	324 (91.5%)
Suburban	25 (7.1%)
Rural	5 (1.4%)

Chapter Three:

Results

Law Enforcement Sample (*N* = 354)

Subsample Differences. Because a significant portion of the overall law enforcement sample (*N* = 180) did not complete the shooter task portion of the study protocol, we tested for differences on relevant demographic variables to see whether there was a biased representation of law enforcement officers who completed the shooter task vs. those who did not. Our study sample did not differ significantly in age or gender identity (χ^2 = 0.66, *p* = 0.42), as a function of whether participants completed or did not complete the shooter task (*t*[344] = -1.80, *p* = 0.07). Further, we conducted a chi-square test to determine whether there were significant racial differences between those who did and did not complete the shooter task; our analyses yielded no evidence of white vs. non-white racial difference between these two groups (χ^2 = 0.94, *p* = 0.33). Finally, we conducted t-tests to determine differences in TriPM scores between these subgroups; these analyses suggested that scores were consistent across groups (Boldness: *t*[351] = 0.79, *p* = 0.43; Meanness: *t*[351] = 0.63, *p* = 0.53; Disinhibition: *t*[352] = -0.21, *p* = 0.84). We can safely assume that these two groups are roughly analogous in demographic representation.

Zero-Order Correlations. See Table 3 for mean scores, standard deviations, and score ranges for all study variables across law enforcement and the two undergraduate samples. The zero-order correlations between study variables are presented in Table 4. The intercorrelations in the law enforcement sample demonstrate theoretical concurrence with the construct validity of

the TriPM, such as medium negative correlations between Boldness and Meanness and Boldness and Disinhibition and a small positive correlation between Meanness and Disinhibition (van Dongen et al., 2017). The TriPM subscales also correlated with external validation measures in a theoretically consistent manner. Boldness was positively correlated with measures of conscientiousness and feelings of power, whereas Meanness and Disinhibition positively correlated with aggression and negatively correlated with measures of conscientiousness, cooperation, and feeling powerful.

In terms of TriPM relationships with the dependent variables, Meanness but not Boldness moderately correlated with acceptability ratings on both the justified and unjustified use of force vignettes (r = .23 for both). Disinhibition had a small positive correlation with the unjustified use of force vignette acceptability ratings (r = .19). The relationships between Meanness, Disinhibition, and the vignette acceptability ratings are consistent with our hypotheses. In contrast, we did not observe significant zero-order correlations between the TriPM subscales and performance-based variables on the shooter task. Of note, the directions of certain effect sizes are consistent with what we had hypothesized (e.g., Meanness's and Disinhibition's small positive correlation coefficients with commission errors).

Regression Models. To control for some of the shared variance (particularly between Meanness and Disinhibition) among the TriPM psychopathy variables, we conducted linear regressions (along with relevant covariates of age, gender, and years on the force) with the unjustified use of force vignette rating and shooter task commission errors as our dependent variables. The regression models for all subsamples are presented in Table 5.

After controlling for age, gender, and years on the force (which suggested that younger age, male gender, and less time on the force are associated with greater acceptability of

unjustified use of force), Meanness was the only psychopathy variable that significantly, albeit at small-to-medium effect size, correlated with acceptability of unjustified use of force (b = .12, p = .05). The Disinhibition subscale was not significantly related to acceptability ratings, even though it was had a small correlation at the zero-order correlation level. We followed this regression model with a hierarchical model to determine whether Meanness alone or a combination of TriPM subscales explained the most variance in acceptability ratings of unjustified use of force scenarios. In this model, covariates were entered in the first step, Meanness was entered in the second step, and Boldness and Disinhibition were entered in the third step. From step one to step two, Meanness explained significantly more variance above covariates (first step: R^2 = 0.09; second step: R^2 = 0.12; ΔR^2 = 0.03, p = 0.004), and from the second to the third step, the other two TriPM subscale did not explain much variance above Meanness (second step: R^2 = 0.12; third step: R^2 = 0.13; ΔR^2 = 0.01, p = 0.07); thus, it appears that Boldness and Disinhibition did not account for much variance above and beyond Meanness.

Next, we conducted regressions with the proportion of commission errors made in the shooter task as dependent variable. As with the significant zero-order relationships, the TriPM subscales did not significantly relate to commission errors on the shooter task. However, age was found to be significantly associated with proportion of commission errors made (b = .28, p = .004), such that older age was associated with a higher proportion of commission errors. Our supplemental analyses that examined the proportion of commission errors to overall errors as our dependent variable yielded a nonsignificant regression coefficient for age (b = .12, p = .20). This suggests that our original dependent variable of commission error proportion may be capturing variance attributable to age-related performance decline, and results using this dependent variable should be interpreted cautiously.

Criterion Profile Analysis. To determine the degree to which a specific configural pattern of personality traits contributed to variance in dependent variables of interest, we conducted two criterion profile analyses (CPA) with the three TriPM subscales as our predictors, one for unjustified use of force acceptability ratings and one for proportion of commission errors made on the shooter task. Findings from these analyses are presented in Table 6, as well as Figures 1 and 2. CPA derives correlations between the individual effects and the criterion of interest, as well as the variance explained by the total model, the pattern effect (covariance between the criterion pattern and individual predictor scores), and the level effect (overall elevation of an individual's predictor score profile).

For the model regressing the unjustified use of force vignette ratings onto the TriPM subscales, we observed greater explanatory power for the pattern effect (r = 0.22, R^2 = 0.05, β = 0.18) than for the level effect (r = .19, R^2 = 0.04, β = 0.15). Despite the pattern effect explaining greater variance, it did not have a significantly greater change in R^2 of the overall model than the level effect, suggesting that the profile pattern does not explain above and beyond overall psychopathy trait elevations, and both explain about 4-5% of the variance in total. The positive correlation between the level and pattern coefficients (r = 0.25) substantiates this finding. The profile plot for this model indicated low Boldness, high Meanness, and moderate Disinhibition scores as the configuration most associated with higher ratings of unjustified use of force, which is consistent with what was hypothesized. For the model regressing the proportion of commission errors onto the TriPM subscales, we observed greater explanatory power for the level effect (r = 0.05, R^2 = 0.002, β = 0.06) than the profile effect (r = 0.01, R^2 = 0.003, β = 0.02), with neither accounting for much variance. Based on the profile plot and prior linear regression

models, it appears that high Disinhibition is related at very small effect size with greater proportion of commission errors on the first-person shooter task in this sample.

Undergraduate Sample (*N* = 577)

Subsample Differences. The undergraduate sample was collected with the intent of having two separate subgroups with which to run main study analyses: A subgroup interested in pursuing a law enforcement-related career (i.e., police, corrections officer) and those who are interested in non-law enforcement careers. We did not observe a statistically significant difference in age between our law enforcement-interested ($N = 165$) and our non-law enforcement career undergraduate samples ($N = 407$; $t[570] = -1.91$, $p = .06$). When considering gender, we observed a significant chi-square ($\chi^2 = 22.07$, $p < .001$), suggesting that non-females are more heavily represented in the law enforcement-interested group (see Table 3). Further, we observed differences in racial make-up between the groups; a significant chi-square test ($\chi^2 = 5.47$, $p = .019$) indicated a higher concentration of White-identifying individuals in the law enforcement-interested subgroup.

Zero-Order Correlations. Among the law enforcement-interested undergraduate sample ($N = 165$), we observed several relationships worth noting. First, we observed a moderate negative correlation between Boldness and Disinhibition and a small negative correlation between Boldness and Meanness; further, we observed a large positive correlation between Meanness and Disinhibition (consistent with TriPM intercorrelations in previous studies; van Dongen et al., 2017). As with the police officer sample, TriPM subscales correlated meaningfully with validation measures. Boldness was positively correlated with measures of conscientiousness and feeling powerful and negatively correlated with aggression. Meanness and

Disinhibition were positively correlated with aggression and negatively correlated with measures of conscientiousness, cooperation, and feeling powerful.

Second, we observed a small positive correlation between Meanness and acceptability ratings of unjustified use of force scenarios (r = .18), which is theoretically sound and consistent with our hypotheses. Finally, we observed a small positive correlation between TriPM Disinhibition and proportion of commission errors made (r = .23). Generally speaking, we observed similar correlation patterns between the law enforcement and the law enforcement-interested undergraduate samples, with some differences in the relationships between Disinhibition and our dependent variables (i.e., Disinhibition was related more to the unjustified use of force ratings in the police officer sample and more to proportion of commission errors on the shooter task in the undergraduate sample).

In the non-law enforcement interested undergraduate sample (N = 407), we observed similar intercorrelations between the TriPM subscales here as in other samples in the current study. We also observed similar correlation patterns between TriPM subscales and our validation measures as we did in the other samples (e.g., Boldness correlating positively with conscientiousness and feeling powerful, and Meanness and Disinhibition positively correlating with aggression and negatively correlating with conscientiousness, cooperation, and feeling powerful). As for the performance variables, we observed a small-to-moderate negative correlation between justified use of force acceptability ratings and TriPM Meanness and Disinhibition (r = -.12 & -.25, respectively). In contrast to the other samples, TriPM Boldness had a small positive correlation with acceptability ratings of unjustified use of force scenarios (r = .13). Consistent with findings in the law enforcement sample, commission errors on the shooter task did not correlate with TriPM subscales in this sample.

Regression Models. First, we conducted a series of regression models using the subsample of undergraduates who were interested in pursuing a career in law enforcement (N = 165). We included relevant covariates in the first step of the model (age and gender), and then included the TriPM subscales in the second step of the model. We then ran two iterations of this model – one with unjustified use of force vignette ratings as the dependent variable and one with the first-person shooter task commission error proportion as the dependent variable. In the unjustified use of force model, no variables were significantly associated with acceptability of unjustified use of force scenarios. In the shooter task commission error model, we observed a significant positive association between TriPM Disinhibition and proportion of commission errors made (b = .35, p = .007). We followed this regression model with a hierarchical model in which covariates were entered in the first step, Disinhibition was entered in the second step, and Boldness and Meanness were entered in the third step. We found that, from the first to the second step, Meanness accounted for a significant increase in explained variance (first step: R^2 = 0.003; second step: R^2 = 0.08; ΔR^2 = 0.08, p = 0.003), and from the second to the third step, the other two TriPM scales did not account for a significant increase in explained variance (second step: R^2 = 0.08; third step: R^2 = 0.09; ΔR^2 = 0.01, p = 0.74).

Second, we derived regression models using the same analyses on the subsample of undergraduates who were not interested in pursuing a career in law enforcement (N = 407). As in the law enforcement sample, we found that Meanness was associated with acceptability ratings of unjustified use of force scenarios (b = .15; p = .02). We followed this regression model with a hierarchical model in which covariates were entered in the first step, Meanness was entered in the second step, and Boldness and Disinhibition were entered in the third step. We found that, from the first to the second step, Meanness accounted for more explained variance (first step: R^2

= 0.001; second step: R^2 = 0.01; ΔR^2 = 0.01, p = 0.03), and from the second to the third step, the other two TriPM subscales explained an additional proportion of the variance (second step: R^2 = 0.01; third step: R^2 = 0.03; ΔR^2 = 0.02, p = 0.02), mostly due to the inclusion of Disinhibition to the model (b = -0.11, p = 0.07). For commission errors, we observed that female gender (b = .18, p = .007) was associated with greater commission errors made on the shooter task, but, like in the law enforcement sample but unlike the law enforcement-interested undergraduates, none of the TriPM scales were related to commission errors in this sample.

Criterion Profile Analysis. As with the law enforcement sample, we conducted criterion profile analyses (CPA) with the three TriPM subscales as our predictors to observe configural trait patterns in both undergraduate subsamples. Findings from these analyses are presented in Table 6, as well as Figures 1 and 2. For the model regressing the unjustified use of force vignette ratings onto the TriPM subscales in the law enforcement-interested undergraduate subsample, we observed similar explanatory power for the level effect (r = 0.16, R^2 = 0.02, β = 0.12) and the pattern effect (r = .15, R^2 = 0.02, β = 0.11), given the relative similarity of effect size, change in R^2, and the positive correlation between pattern and level effects (r = 0.34). Higher TriPM trait standing (with a focus on high Meanness) is associated with higher acceptability of unjustified use of force scenarios in this sample. This finding coincides with the law enforcement CPA model, emphasizing that trait level standing and profile pattern account for similar variance in unjustified use of force ratings across our samples. For the model regressing the proportion of commission errors onto the TriPM subscales, we observed greater explanatory power for the pattern effect (r = 0.19, R^2 = 0.04, β = 0.20) than the level effect (r = 0.13, R^2 = 0.02, β = 0.14). Despite the pattern effect explaining more variance than the level effect (4% vs. 2% of the variance), we found that the difference in these effect sizes was not significantly different.

Nonetheless, the profile plot derived from these analyses suggests moderate Boldness, low Meanness, and high Disinhibition to be the profile pattern most associated with high commission errors on the shooter task. This differs from the primarily level effect-driven results (mostly high Disinhibition) in the law enforcement sample, which had a very small effect size.

With respect to the non-law enforcement-interested undergraduate sample, we observed non-significantly greater explanatory power for the pattern effect ($r = 0.16$, $R^2 = 0.02$, $\beta = 0.15$) than the level effect ($r = 0.09$, $R^2 = 0.01$, $\beta = 0.08$) for the acceptability ratings on the unjustified use of force vignettes, accounting for 1-2% of the variance in acceptability ratings. Specifically, we observed moderate Boldness, high Meanness, and low Disinhibition to be the profile pattern most associated with high acceptability ratings of unjustified use of force scenarios. For the model regressing the proportion of commission errors onto the TriPM subscales, we also observed non-significantly greater explanatory power for the pattern effect ($r = 0.05$, $R^2 = 0.002$, $\beta = 0.06$) than the level effect ($r = 0.02$, $R^2 = 0.001$, $\beta = 0.04$). Of note, like the CPA models examining commission errors in the other samples, both the pattern and level effect sizes were quite small. With respect to profile configuration, moderate Boldness, low Meanness, and moderate Disinhibition appear to be the predictor profile associated with high commission errors on the first-person shooter task in this sample. However, it should be noted that the effect sizes at both the profile and level effect were small; therefore, the findings suggest that psychopathic traits as measured by the TriPM play minor role in performance on the shooter task in this and other samples.

Comparison of Profile Patterns Across Samples

To compare the predictive power of the profile patterns derived by criterion profile analysis on the dependent variables across samples, we examined the 95% confidence intervals

associated with each standardized beta weight (Boldness, Meanness, and Disinhibition for each of our three samples). The standardized beta weight for each subscale in the criterion profile analyses represents the quantification of the optimal predictor score in relation to the criterion variable of interest. Across all profile patterns, only one significant difference emerged. We found that the law enforcement sample and the non-law enforcement interested undergraduate sample differed significantly in profile configurations for unjustified use of force ratings, such that the beta weight for Boldness was significantly higher in the non-LEO undergraduate group ($\beta = 0.05$, 95% CI: [-0.03, 0.13]) than the law enforcement group ($\beta = -0.13$, 95% CI: [-0.21, -0.06]). No other significant differences in profile patterns emerged across the three samples for either unjustified use of force ratings or proportion of commission errors made on the shooter task.

Table 3

Means, SDs, and Range of Scores for Study Variables Across Samples

	Police Officers (1; *N*=354) M (SD), Range	**LEO-Interested Undergraduates (2; N=165) M (SD), Range**	**Non-LEO Undergraduates (3; N = 407) M (SD), Range**	**Differences b/w Groups (ANOVA)**
TriPM Subscales				
1. Boldness	57.11 (6.44), 31-75	55.87 (7.88), 35-75	48.95 (8.38), 28-71	*F*[2, 924] = 121.04, All samples sig. diff.
2. Meanness	32.49 (7.56), 19-56	31.33 (8.27), 20-61	29.58 (7.74), 19-64	*F*[2, 924] = 13.56, 1 & 3, 2 & 3 sig. diff.
3. Disinhibition	29.93 (5.20), 20-49	32.07 (8.98), 20-74	34.18 (8.02), 20-69	*F* [2, 924] = 33.81, All samples sig. diff.
Use of Force Vignettes				
4. Justified Vignettes	86.44 (14.64), 9-100	70.88 (20.51), 8.80-100	65.12 (20.52), 0-100	*F* [2, 857] = 113.69, All samples sig. diff.
5. Unjustified Vignettes	33.93 (18.20), 0-82	39.34 (21.32), 0-100	38.12 (19.53), 0-100	*F* [2, 857] = 5.64, 1 & 2, 1 & 3 sig. diff.
Shooter Task				
6. Commission Errors	0.08 (0.10), 0-0.79	.10 (.09), 0-0.52	0.12 (0.11), 0-0.82	*F* [2, 575] = 7.78, 1 & 3, 2 & 3 sig. diff.
Validation Measures				
7. Aggression	77.13 (15.72), 44-133	79.39 (20.79), 42-137	78.19 (17.97), 40-141	No difference b/w groups
8. FFM Conscientious	49.93 (7.14), 28-60	48.13 (8.55), 25-60	44.86 (8.74), 14-60	*F*[2, 908] = 36.95, All samples sig. diff.
9. Cooperation	37.86 (7.11), 14-50	35.58 (6.38), 16-49	33.92 (7.29), 17-50	*F*[2, 904] = 28.49, All samples sig. diff.
10. Sense of Power	28.70 (5.37), 15-40	55.15 (9.49), 30-71	50.57 (9.85), 12-71	2 & 3: *t*[570] = 5.09, $p < 0.001$

Sense of Power was measured by Anderson et al.'s (2012) Sense of Power scale in the police officer sample and by Murphy et al.'s (2020) Feelings of Power scale in the undergraduate samples. As such, the police sample was not compared with the other samples on this variable. LEO = law enforcement officer.

Table 4

Correlation Matrices: Zero-Order Relationships Between Study Variables

Police	1	2	3	4	5	6	7	8	9	10
1. Boldness	-									
2. Meanness	.09	-								
3. Disinhib.	-.24*	.41*	-							
4. Justified	.05	.23*	.004	-						
5. Unjustified	-.06	.23*	.19*	.31*	-					
6. Shooter	.02	.04	.04	-.03	-.02	-				
7. AQ Total	-.10	.56*	.63*	.19*	.22*	-.12	-			
8. Consc.	.34*	-.32*	-.47*	-.15*	-.13*	.003	-.41*	-		
9. Coop.	.04	-.44*	-.57*	-.06	-.18*	.07	-.65*	.42*	-	
10. Power	.52*	-.13*	-.23*	.01	-.20*	-.02	-.20*	.38*	.20*	-
LEO Interest Undergrad	1	2	3	4	5	6	7	8	9	10
1. Boldness	-									
2. Meanness	-.02	-								
3. Disinhib.	-.34*	.59*	-							
4. Justified	.19*	-.05	-.16*	-						
5. Unjustified	.03	.18*	.08	.39*	-					
6. Shooter	-.07	.08	.23*	-.05	.10	-				
7. AQ Total	-.20*	.51*	.64*	-.09	.15	.16	-			
8. Consc.	.43*	-.51*	-.63*	.24*	-.01	-.11	-.54*	-		
9. Coop.	.06	-.40*	-.48*	.03	-.05	-.13	-.66*	.47*	-	
10. Power	.71*	-.18*	-.35*	.25*	-.04	-.04	-.30*	.54*	.12	-

* indicates statistical significance at $p < .05$ or lower; LEO = law enforcement officer.

Table 4 (Continued)

Correlation Matrices: Zero-Order Relationships Between Study Variables

Non-LEO Undergrad	1	2	3	4	5	6	7	8	9	10
1. Boldness	-									
2. Meanness	.19*	-								
3. Disinhib.	-.16*	.49*	-							
4. Justified	.13*	-.12*	-.25*	-						
5. Unjustified	.13*	.11*	-.05	.48*	-					
6. Shooter	.05	-.02	-.001	-.01	.09	-				
7. AQ Total	-.03	.45*	.58*	-.07	-.04	.04	-			
8. Consc.	.27*	-.32*	-.56*	.20*	.09	-.02	-.35*	-		
9. Coop.	-.04	-.38*	-.52*	.14*	.05	-.03	-.55*	.43*	-	
10. Power	.66*	-.03	-.22*	.20*	.12*	.02	.002	.47*	.05	-

* indicates statistical significance at $p < .05$ or lower; LEO = law enforcement officer.

Table 5

Linear Regression Models

Police Officer Sample

Unjustified UoF (*N* = 301)

Step 1	*B*	*b*	*SE*	*p*	*adj. R^2= .08*
Age	-0.53	-0.25	0.16	**<0.001**	
Gender	-4.36	-0.09	2.80	0.12	
Time on Force	-1.53	-0.04	3.23	0.64	
Step 2	*B*	*b*	*SE*	*p*	*adj. R^2= .11*
Age	-0.45	-0.22	0.16	**<0.005**	
Gender	-3.22	-0.07	2.82	0.25	
Time on Force	-1.84	-0.04	3.17	0.56	
Boldness	-0.14	-0.05	0.17	0.43	
Meanness	0.29	0.12	0.15	**0.05**	
Disinhibition	0.40	0.12	0.22	0.07	

Shooter Task Errors (*N* = 161)

Step 1	*B*	*b*	*SE*	*p*	*adj. R^2= .05*
Age	0.003	0.27	0.001	**0.006**	
Gender	0.02	0.53	0.02	0.50	
Time on Force	-0.03	-0.11	0.03	0.23	
Step 2	*B*	*b*	*SE*	*p*	*adj. R^2= .06*
Age	0.004	0.28	0.001	**0.004**	
Gender	0.02	0.06	0.02	0.42	
Time on Force	-0.03	-0.11	0.03	0.24	
Boldness	0.001	0.04	0.001	0.64	
Meanness	0.001	0.08	0.001	0.39	
Disinhibition	0.00	0.03	0.002	0.79	

Table 5 (Continued)

LEO-Interested Undergraduate Sample

Unjustified UoF (*N* = 160)					
Step 1	*B*	*b*	*SE*	*p*	*adj. R^2 = .02*
Age	0.73	0.15	0.39	0.06	
Gender	-4.13	-0.10	3.53	0.24	
Step 2	*B*	*b*	*SE*	*p*	*adj. R^2 = .03*
Age	0.73	0.15	0.38	0.06	
Gender	-1.59	-0.04	3.73	0.67	
Boldness	0.04	0.01	0.23	0.87	
Meanness	0.48	0.18	0.27	0.07	
Disinhibition	-0.01	-0.002	0.26	0.99	

Shooter Task Errors (*N* = 110)					
Step 1	*B*	*b*	*SE*	*p*	*adj. R^2 = .003*
Age	-0.001	-0.03	0.002	0.75	
Gender	0.01	0.04	0.02	0.69	
Step 2	*B*	*b*	*SE*	*p*	*adj. R^2 = .10*
Age	-0.001	-0.04	0.002	0.69	
Gender	0.003	0.01	0.02	0.89	
Boldness	0.00	0.03	0.001	0.74	
Meanness	-0.001	-0.10	0.002	0.44	
Disinhibition	0.004	0.35	0.002	**0.007**	

Table 5 (Continued)

Non-LEO Interested Undergraduate Sample

Unjustified UoF (*N* = 392)					
Step 1	*B*	*b*	*SE*	*p*	*adj. R^2 = .001*
Age	0.11	0.02	0.23	0.63	
Gender	-0.26	-0.01	2.67	0.92	
Step 2	*B*	*b*	*SE*	*p*	*adj. R^2 = .05*
Age	0.09	0.02	0.23	0.71	
Gender	1.82	0.04	2.72	0.50	
Boldness	0.20	0.09	0.13	0.12	
Meanness	0.39	0.15	0.13	**0.02**	
Disinhibition	-0.27	-0.11	0.15	0.07	

Shooter Task Errors (*N* = 294)					
Step 1	*B*	*b*	*SE*	*p*	*adj. R^2 = .03*
Age	0.001	0.04	0.002	0.53	
Gender	0.05	0.19	0.02	**0.005**	
Step 2	*B*	*b*	*SE*	*p*	*adj. R^2 = .04*
Age	0.001	0.04	0.002	0.58	
Gender	0.05	0.18	0.002	**0.007**	
Boldness	0.00	0.01	0.001	0.90	
Meanness	0.00	-0.02	0.001	0.80	
Disinhibition	-0.001	-0.05	0.001	0.50	

LEO = law enforcement officer; gender was dichotomized 0 = non-female, 1 = female.

Table 6

Criterion Profile Analysis Models

Police Officer Sample

	Overall		Pattern Effect				Level Effect				
Unjustified Use of Force Ratings (*N* = 301)	*R*	R^2	*r*	r^2	$\sqrt{\Delta R^2}$	β	*r*	r^2	$\sqrt{\Delta R^2}$	β	$r_{lev,\ pat}$
TriPM scores	0.26 *[0.16, 0.36]*	0.07 *[0.02, 0.12]*	0.22 *[0.12, 0.32]*	0.05 *[0.00, 0.09]*	0.03 *[-0.02, 0.07]*	0.18	0.19 *[0.09, 0.29]*	0.04 *[-0.00, 0.08]*	0.02 *[-0.03, 0.07]*	0.15	0.25 *[0.16, 0.34]*
	Overall		Pattern Effect				Level Effect				
Shooter Task Commission Errors (*N* = 161)	*r*	R^2	*r*	R^2	$\sqrt{\Delta R^2}$	β	*r*	R^2	$\sqrt{\Delta R^2}$	β	$r_{lev,\ pat}$
TriPM scores	0.06 *[-0.10, 0.21]*	0.003 *[-0.01, 0.02]*	0.01 *[-0.19, 0.21]*	0.00 *[-0.00, 0.004]*	0.003 *[-0.02, 0.02]*	0.02	0.05 *[-0.1, 0.21]*	0.002 *[-0.01, 0.02]*	0.003 *[-0.01, 0.02]*	0.06	-0.13 *[-2.40, 2.14]*

Table 6 (Continued)

LEO-Interested Undergraduate Sample

	Overall		Pattern Effect				Level Effect				
Unjustified Use of Force Ratings (*N* = 160)	*R*	R^2	*r*	r^2	$\sqrt{\Delta R^2}$	β	*r*	r^2	$\sqrt{\Delta R^2}$	β	$r_{lev,\ pat}$
TriPM scores	0.18 *[0.03, 0.34]*	0.03 *[-0.02, 0.09]*	0.15 *[-0.01, 0.30]*	0.02 *[-0.02, 0.07]*	0.01 *[-0.04, 0.06]*	0.11	0.16 *[0.003, 0.31]*	0.02 *[-0.02, 0.07]*	0.01 *[-0.03, 0.06]*	0.12	0.34 *[0.06, 0.63]*
	Overall		Pattern Effect				Level Effect				
Shooter Task Commission Errors (*N* = 110)	*r*	R^2	*r*	R^2	$\sqrt{\Delta R^2}$	β	*r*	R^2	$\sqrt{\Delta R^2}$	β	$r_{lev,\ pat}$
TriPM scores	0.24 *[0.06, 0.42]*	0.06 *[-0.02, 0.14]*	0.19 *[0.01, 0.38]*	0.04 *[-0.04, 0.11]*	0.04 *[-0.03, 0.12]*	0.20	0.13 *[-0.06, 0.31]*	0.02 *[-0.03, 0.06]*	0.02 *[-0.06, 0.10]*	0.14	-0.06 *[-0.45, 0.33]*

Table 6 (Continued)

Non-LEO Interested Undergraduate Sample

	Overall		Pattern Effect				Level Effect				
Unjustified Use of Force Ratings (*N* = 392)	*R*	R^2	*r*	r^2	$\sqrt{\Delta R^2}$	β	*r*	r^2	$\sqrt{\Delta R^2}$	β	$r_{lev,\ pat}$
TriPM scores	0.18 *[0.08, 0.27]*	0.03 *[-0.00, 0.07]*	0.16 *[0.06, 0.26]*	0.02 *[-0.01, 0.06]*	0.02 *[-0.01, 0.05]*	0.15	0.09 [*0.00, 0.19]*	0.01 *[-0.01, 0.03]*	0.01 *[-0.02, 0.04]*	0.08	0.07 *[-0.13, 0.27]*
	Overall		Pattern Effect				Level Effect				
Shooter Task Commission Errors (*N* = 294)	*r*	R^2	*r*	R^2	$\sqrt{\Delta R^2}$	β	*r*	R^2	$\sqrt{\Delta R^2}$	β	$r_{lev,\ pat}$
TriPM scores	0.06 *[-0.05, 0.18]*	0.004 *[-0.01, 0.02]*	0.05 *[-0.06, 0.17]*	0.002 *[-0.01, 0.01]*	0.003 *[-0.01, 0.02]*	0.06	0.02 *[-0.1, 0.13]*	0.001 *[-0.00, 0.004]*	0.001 *[-0.01, 0.01]*	0.04	-0.28 *[-0.44, -0.12]*

R = total regression model multiple correlation; *r* = zero-order correlation between effect and criterion; $\sqrt{\Delta R^2}$ = signed square root of incremental R^2 (i.e., semipartial correlation) for effect beyond the other effect; β = standardized regression coefficient for model including both level and pattern effects; $r_{lev,\ pat}$ = correlation between level and pattern effects; values bracketed and in italics are 95% confidence intervals; LEO = law enforcement officer.

Figure 1

Unjustified Use of Force Vignette Ratings Profile Patterns – Comparison Across Samples

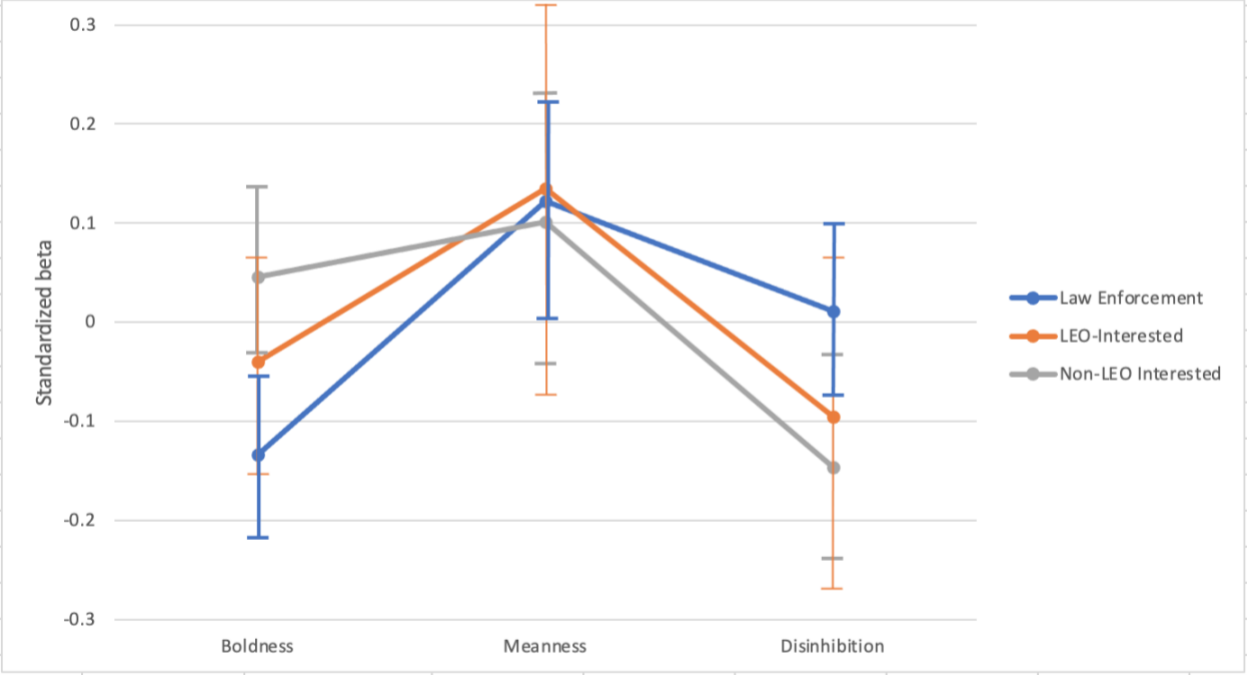
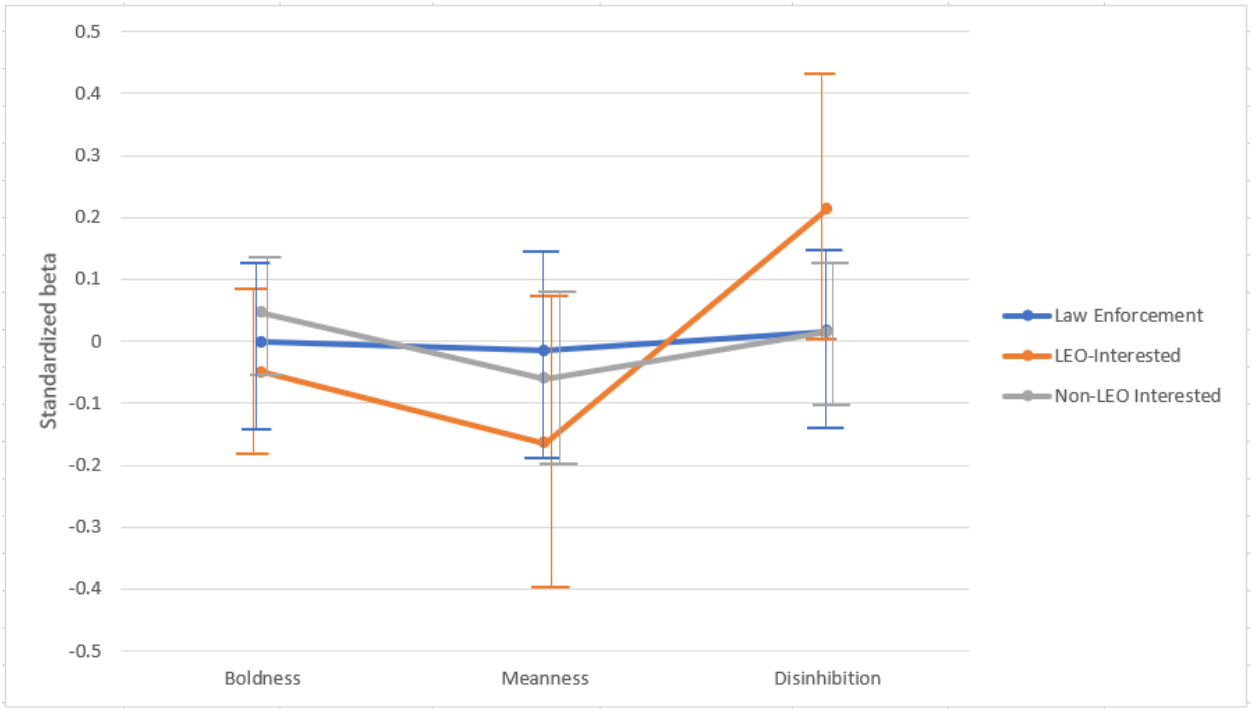


Figure 2

Shooter Task Commission Error Profile Patterns – Comparison Across Samples



Chapter Four:

Discussion

The purpose of the current study was to identify triarchic psychopathy model trait configurations that are linked to experimental proxies of justification for excessive use of force and reactive shooting scenarios from undergraduate students interested in law enforcement careers (prior to them entering the work force) and current law enforcement officers. We also included a comparison group of undergraduate students who did not intend to pursue a law enforcement career, which would be useful in determining whether our findings generalized beyond law enforcement-oriented individuals. Much police personality literature has focused on singular trait elevations that may contribute to or hinder job performance (e.g., through the use of such assessment tools as the CPI or the MMPI-2-RF; Barrick et al., 2013). This study utilizes a strategy that incorporates the *configural-trait* theory of psychopathic personality to better address differing *combinations* of personality traits in relation to police officer performance. In theorizing the differential outcomes associated with combinations of psychopathy traits, we predicted that high Boldness, high Meanness, and low Disinhibition would be associated with unjustified use of force vignette ratings; we also predicted that low Boldness, high Meanness, and high Disinhibition would be associated with commission errors on the shooter task. More broadly, we believed that the use of force vignettes would tap into the callous dehumanization associated with Meanness (Kelman, 1973; Patrick et al., 2009), whereas the shooter task would tap more into the "trigger bias" that is observed in situations involving panicked/impulsive

behavioral responses on the job, associated with Disinhibition traits. Our results saw these differential associations play out, with higher Meanness associated with acceptability of unjustified use of force and Disinhibition linked to commission errors on the shooter task (particularly in the law enforcement-interested undergraduate sample). However, evidence for configural trait profiles' importance in understanding analog performance on police-relevant behaviors was less consistent.

TriPM and External Criteria

As the main predictor tool in our study, it was important to corroborate the validity of the TriPM as conceptually consistent with prior literature, as well as demonstrate consistency across samples. Fortunately, we found that the intercorrelations between our TriPM subscales were largely consistent both across samples and with prior studies. We observed a weak correlation between Boldness and Meanness, a small negative correlation between Boldness and Disinhibition, and a moderate positive correlation between Meanness and Disinhibition – all consistent with prior literature examining TriPM intercorrelations (Salcido, Ray, Caudy, Viglione, & Walter, 2019; van Dongen et al., 2017). The one exception to note was a small statistically significant positive correlation between Boldness and Meanness in our non law enforcement-interested undergraduate sample, suggesting a stronger positive link between Boldness and Meanness unique to this sample.

To round out our conceptual validation of the TriPM subscales in the current study, we examined correlations between these subscales and external correlates in the literature that may relate to occupational performance (e.g., aggression, conscientiousness, cooperation, feelings of power). Consistent with what was predicted, we found that Boldness was positively correlated with conscientiousness and feeling powerful in all three samples, whereas Meanness and

Disinhibition were positively correlated with aggression and negatively correlated with conscientiousness, cooperation, and feeling powerful. These external correlates aided in demonstrating the implications of these subscales, with higher Boldness seeming to be more "desirable" in terms of occupational performance than Meanness or Disinhibition. While it appears that Meanness and Disinhibition exhibit significant conceptual overlap based on relationships with validation variables, we observed differential relationships between these two predictors when testing for associations with our dependent variables, suggesting some variance unique to the two constructs. This "similar but different" notion is supported by prior research in psychopathy that links both constructs to aspects of the *impulsive lifestyle* and *antisocial* facets of the Psychopathy Checklist – Revised (PCL-R; Hare, 2003), while Meanness appears to uniquely encapsulate *affective* traits of psychopathy (e.g., antagonism, lack of empathy, cold-heartedness; Hare, 2003; Patrick, 2010).

In terms of psychopathy relationships with main dependent variables, we found that our effect sizes were generally small-to-medium throughout, indicating that psychopathic traits explain only some variance in our criterion variables of interest. In our zero-order correlation matrices and regression models, effect sizes typically ranged from very small to medium, with Meanness consistently showing the most robust correlations with the unjustified use of force vignette ratings across all three samples (r = 0.11 – 0.23; b = 0.12 – 0.18). Thus, we have the most confidence in these results and their replicability. In most of our criterion profile analyses, the pattern and level effects did not differ significantly and showed small-to-medium effect sizes (unjustified use of force vignettes: b = 0.08 – 0.18; shooter task commission errors: b = 0.02 – 0.20), but there were several models in which the pattern configuration explained more variance than others. In light of these limitations, we offer discussion on several of our major findings,

with theoretical reasons for why we observed these phenomena, as well as suggestions for paths forward in future studies.

Unjustified Use of Force Acceptability Ratings

While a pattern profile of TriPM subscale scores was related to unjustified use of force ratings in the non law enforcement-interested undergraduate sample, we found that ratings of unjustified use of force were predominantly driven by Meanness alone across samples. While this was not consistent with hypotheses of the role of configural pattern of traits, the finding was consistent with the conceptual nature of Meanness, as well as literature documenting its characteristics (Decety et al., 2013; Patrick et al., 2009; Seara-Cardaso et al., 2015). A significant Meanness regression coefficient was revealed in regression analyses in the law enforcement and non-law enforcement interested undergraduate samples (b = 0.12 & 0.15, respectively), and hierarchical regressions showed a negligible increase in explained variance with the inclusion of the other TriPM subscales above Meanness. Across all three samples, zero-order correlations indicated that Meanness was related to unjustified use of force vignettes across (r = 0.11 – 0.23), and Meanness was prominent in CPA profile configurations for unjustified use of force ratings (b = 0.10 – 0.14).

Along with Meanness, our hypothesis was that high Boldness and low Disinhibition would relate to acceptability of use of force scenarios; this was based on prior research that suggests higher Boldness relates to more confidence and greater tolerance of stressful decision-making situations whereas low Disinhibition would be associated with a greater adherence to order and discipline, resulting in more calculated and loyal ratings of fellow officers, supporting the "blue wall of silence" even if the instances of use of force were not legally appropriate (Dotterer et al., 2017; Griffin & Ruiz, 1997). However, it appears that Boldness and

Disinhibition are less relevant to how individuals rate these use of force vignettes, except in the law enforcement sample (see below). One potential explanation for why we did not see stronger evidence for the roles of Boldness and Disinhibition is that the unjustified use of force vignettes involve ratings of acceptability of *aggressive behavior*; this point is emphasized by the positive zero-order correlation between ratings of unjustified use of force and our measure of aggression in the current study (r = 0.22). Thus, in thinking of this variable as a criterion related to aggressive behavior, it becomes clearer that Boldness may not strongly relate given the generally small association between Boldness and aggression in prior literature (Drislane et al., 2014; Wall et al., 2015) and in the current sample (r = -0.10 at the zero-order level, the directional relationship that was hypothesized). However, it is conceptually and hypothetically consistent with the current study that Meanness would account for much of the variance in this criterion, given the robust literature linking Meanness (e.g., antagonism, callousness) with aggression (Decety et al., 2013; Patrick et al., 2009; Seara-Cordoso et al., 2015).

In a similar way, impulse-driven behavior tied to Disinhibition did not manifest in a time-insensitive behavioral task (i.e. the vignette ratings). Disinhibition has been associated significantly with behavioral tasks related to financial risk-taking (Costello, Smith, Bowes, Riley, Berns, & Lilienfeld, 2019) and errors on attentional go/no-go experimental tasks (Paiva et al., 2021), but there is a dearth of evidence to support that deficits in impulse control would significantly influence vignette ratings. The conceptualization that led to our hypothesis of lower Disinhibition being associated with higher acceptability of unjustified use of force was largely driven by the police literature that substantiates a "blue wall of silence" among officers, in which they are loyal to each other over the good of the public (e.g., lying to cover up an officer's misdeeds; Balch, 1972). Such an act would require a strong code of conduct, adherence to

norms, and self-discipline – all of which are incongruent with an individual high on Disinhibition (Dotterer et al., 2017; Griffin & Ruiz, 1997). Despite this support for our conceptualization in the literature, our choice in methodology appears not to have captured Disinhibition in our samples. Therefore, in considering psychopathic traits from the triarchic perspective, it appears that the disaffiliative tendencies and lack of empathy associated with Meanness (Krueger et al., 2007; Sellbom, Laurinavicius, Ustinaviciute, & Laurinaityte, 2018) largely drove participants' overt decision-making relevant to how police officers may judge the excessive force used by their fellow officers.

Despite mostly parallel findings across samples, findings in the law enforcement sample supported the influence of a pattern level effect, although not as we expected. Specifically, in the CPA models for ratings of unjustified use of force, low Boldness, along with Meanness, showed a more prominent role in the profile configuration for law enforcement officers compared to non-law enforcement interested undergraduates (to a statistically significant degree; law enforcement: b = -0.13, 95% CI: [-0.21, -0.06]; non law enforcement-interested undergraduates: b = 0.05, 95% CI: [-0.03, 0.13]). Likewise, the beta weight for Boldness in the law enforcement sample was larger (albeit not significantly so) than the beta in the law enforcement-interested undergraduates (b = -0.04, 95% CI: [-0.16, 0.08]). In addition, the law enforcement sample had the *highest* mean Boldness score (consistent with police personality literature; Hogan, 1971; Mills & Bohannon, 1980). In the literature, Boldness is characterized by stress tolerance, leadership ability, and courageousness in high-risk situations (Lilienfeld et al., 2018; Patrick et al., 2009). It appears that use of force acceptability ratings are at their *highest* in our law enforcement sample when Boldness is low and Meanness is high (i.e., low stress tolerance and high proneness to callous dehumanization).

In considering why Boldness showed a significantly pronounced *negative* role in its profile configuration in the law enforcement sample, over the non law enforcement-interested undergraduates, the zero-order correlations may shed some light on the situation. In the law enforcement sample, Boldness and Meanness were nonsignificantly positively correlated (r = 0.09), whereas there was a larger positive correlation in the non law enforcement-interested undergraduate sample (r = 0.19). This finding suggests that Boldness and Meanness coincided to a greater degree in this undergraduate sample, including in what they predicted, as evidenced by their similar zero-order correlations with unjustified use of force ratings (r = 0.13 & 0.11, respectively); thus, in the regression analyses, they may have been attempting to account for the same variance in acceptability ratings. In contrast, Boldness and Meanness showed opposing relationships to unjustified use of force ratings in the law enforcement sample (r = -0.06 & 0.23, respectively). Notably, the smaller relationship between Boldness and Meanness in the law enforcement sample is more typical in the literature (Craig et al., 2013; Stanley et al., 2013), while the relationship between Boldness and Meanness in the undergraduate sample has been seen in other populations, particularly among youths with callous-unemotional traits (Goffin, Boldt, Kim, & Kochanska, 2018; Waller et al., 2016). The fact that we saw differential relationships between Boldness and ratings of unjustified use of force across our samples suggests that Boldness may have differing correlates depending on the makeup of a population; this is supported by literature that has found differing Boldness associations across multiple samples (Lilienfeld et al., 2016). Future research can explore the consistency of Boldness's role in maladaptive behavior across distinct populations (Collison, Miller, & Lynam, 2021; Wall et al., 2015).

Holistically, our results indicate the concurrent importance of trait-level and profile-level effects in association with unjustified use of force ratings, consistent with existing conceptualizations of psychopathy in the literature that envision psychopathy as a cluster of related attributes that coalesce to form a variety of phenotypes based on specific combinations of traits (e.g., literature that supports the existence of psychopathy subtypes; Brinkley et al., 2004; Skeem et al., 2003). That is, use of force attitudes relate to trait Meanness in multiple populations (including potential recruits), at the same time that a certain pattern across TriPM traits are important for understanding use of force acceptance – namely, low Boldness and high Meanness – in a law enforcement sample.

It should be noted that age was negatively associated with use of force vignette ratings *only* in our law enforcement sample ($b = -0.22$, $p < 0.005$). This indicates that younger police officers were more likely to be accepting of unjustified use of force scenarios. It makes sense that this age covariate did not replicate in our other two samples, given that the undergraduate sample was made up of a truncated age range in the early 20's (undergraduate mean age = 21.61; law enforcement mean age = 42.51). Interestingly, we did not observe a significant effect of time on the force in relation to unjustified use of force ratings in our law enforcement sample, despite a significant negative effect of age. The former may involve the fact that most of our officers (74.9%) indicated that they had served for 10 years or more and almost all of them reported receiving training on use of force policies and de-escalation (97.8% and 92.7%, respectively); thus, the variability of time on the force and training experiences was likely limited. As such, we may not have seen an effect of time on the force because there were not sufficient participants at different stages of their career in law enforcement. Future research that is less dependent on

convenience sampling should ensure that a law enforcement sample is more representative of a range of experience.

Shooting Commission Errors

Unlike our predictions, we did not find evidence to support the validity of profile configurations above and beyond psychopathy trait standing in relation to the commission of errors on the first-person shooter task, except in the law enforcement-interested sample. In fact, psychopathy factors seemed to account for very little variance in shooter task performance across samples (R^2 = 0.004 – 0.06), especially in comparison to the variance accounted for in unjustified use of force ratings by the TriPM (R^2 = 0.03 – 0.07). Indeed, Disinhibition was only meaningfully related to commission errors on the shooter task in one of the samples – the law enforcement-interested undergraduates (law enforcement-interested undergraduates: r = 0.23; law enforcement: r = 0.04; non law enforcement-interested undergraduates: r = -0.001) – whereas the role of Meanness for ratings of use of force was consistent across samples. Nonetheless, results indicating that Disinhibition played the largest role in commission errors on the shooter task are consistent with prior literature that links behavioral tasks related to attention and risk-taking with TriPM Disinhibition (e.g., go/no-go experimental paradigms, financial risk-taking games; Costello et al., 2019; Paiva et al., 2021). Despite our hypotheses that theorized a configural pattern in connection with performance on the shooter task, we did not observe this relationship in the current study; theoretically, this may be because Boldness and Meanness traits tend to be more interpersonal and affective in nature (Patrick et al., 2009; Drislane et al., 2014) and less related to motor behavior. In other words, an individual who experiences difficulties with impulse control would likely suffer in performance on a task that requires rapid and accurate decision-making; in contrast, whether or not an individual is bold or callous may be

largely irrelevant to performance on this task. Correll et al. (2002) designed the task in such a way that misfires result in "point losses" and correct decisions are "congratulated." Thus, it is easy to see individuals treating this task more as a competitive "game" than a real-world simulation of an active shooter situation. If future research uses a more ecologically valid measure of "trigger bias" that taps into the emotional ramifications of this decision, we believe that additional personality domains beyond simply Disinhibition may be involved.

One explanation for the small effect sizes across samples and lack of evidence for profile configurations in relation to commission errors is a methodological one; namely, there was not much variance in commission errors to begin with. Most participants performed rather well on the shooter task, with the mean error proportion being 0.08. Alternatively, the lack of association between personality traits and commission errors on the shooter task could mean that performance on the task may be related to a different concept/phenomenon that we did not measure. We attempted to account for this by including relevant covariates (age, gender, time on the force for law enforcement officers). We did find that age was associated with commission errors on the shooter task in our law enforcement sample only (b = 0.27). This age-related finding suggested a need to explore alternative conceptualizations of commission errors in the event that proportion of commission errors could be capturing mostly proneness to errors and less so "trigger bias." To that end, we ran additional analyses using the proportion of commission errors to total errors and found that age was no longer related to commission errors (b = 0.16, p = 0.10) when taking into account overall error rate. This would indicate that our measure of commission error proportion may be capturing age-related declines in general performance on such tasks. In future research, perhaps susceptibility to "trigger bias" could be measured in an immersive video game design, as used in the study conducted by Blacker and colleagues (2020).

In this study, participants took part in a virtual shooting simulator, and a sensitivity index was derived that mathematically incorporates both hit rate (i.e., shooting accuracy) and false alarm rate (i.e. shooting of nonhostile targets). Using signal detection theory, the development of this statistic (also known as $d^{'}$) combines *sensitivity* (what we want to capture) and *bias* (what we want to screen out). The sensitivity index, then, is a measure of the difference between the standardized transformations of the "Correct Hit" rate and the "False Rejection" rate. This may better assess "trigger bias" because it is more of a ratio of how *well* an individual performed in relation to their error rate, rather than looking at error rate in isolation – as we did in the current study. Future research could employ this method in law enforcement samples to capture a more detailed representation of performance in a shooting simulation.

Unlike the other samples, the law enforcement-interested undergraduate sample had a pattern effect in the CPA analyses (R^2 = 0.04, b = 0.20) that explained more variance than the level effect (R^2 = 0.02, b = 0.14). Upon inspection of the predictor pattern profile most associated with shooter task errors in this sample, we observed a pattern of lower Meanness and higher Disinhibition. As mentioned above, higher Disinhibition was both consistent with our hypotheses and makes conceptual sense given what we know about the relationship between Disinhibition and attention-related performance tasks. The finding of *low* Meanness (i.e. higher emotional reactivity, empathy) was contrary to hypotheses. One explanation is that low Meanness translates into higher emotionality or more reactivity to the task, which may have resulted in more errors, especially if they were thrown off by their previous mistakes; the concept of "compounding errors" is one often cited in sports psychology as a performance inhibitor in response to psychological pressure (Harris, Vine, Eysenck, & Wilson, 2021; Roberts, Jackson, & Grundy, 2017). Although speculative, future research could focus on the role of Meanness in decision-

making tasks to observe whether this is a replicable effect that can be substantiated and interpreted more concretely.

The pronounced role of Disinhibition in the law enforcement-interested undergraduates presents an interesting opportunity to further explore mean levels of traits in this sample, separate from their performance on the tasks. The mean level of TriPM traits in the law enforcement-interested undergraduate sample is reminiscent of the "recruit personality" described in the police personality literature (i.e., those whose personality traits coincide with a law enforcement career without the influence of department socialization; Bennett, 1984). As per Laguna et al. (2010), police recruits are more likely to have an inflated sense of competence (incongruent with experience) and exhibit higher levels of antisocial traits than their more experienced counterparts. These characteristics are conceptually consistent with what we observe in our law enforcement-interested sample, as evidenced by mean elevations in unjustified use of force ratings and Disinhibition compared to the law enforcement sample (see Table 3 for tests of mean differences). Further, Laguna et al. (2010) found that more experienced officers tend to possess fewer problematic traits (e.g., antisocial traits, impulsivity), which is associated with greater time on the force, mentoring, and learned experience; this coincides with lower Disinhibition and higher conscientiousness in our law enforcement sample vs. our law enforcement-interested undergraduate sample. The law enforcement-interested sample, as hypothesized, possesses traits that are unique to the mindset of an individual intent on pursuing a career in law enforcement who has not yet experienced the effects of law enforcement socialization. What will become of these individuals once they join and are socialized by a police department? The research is mixed. Some studies suggest that more experience leads to a more cautious and well-adjusted attitude (Laguna et al., 2010), while others suggest that the

organizational climate of police departments is one that prioritizes officer safety above all else, justifying the harming of citizens in the name of maintaining personal safety/well-being (i.e. shooting a suspect out of fear for safety when imminent threat was not immediately clear; Sierra-Arevalo, 2021). Regardless, this finding poses interesting questions about the longitudinal trajectory of law enforcement recruits and implications for trait stability across the occupational lifespan.

Limitations

Limitations of our study include the use of self-report and online methodology. Using an online survey, it was difficult to know when individuals were conscientiously responding. We utilized attention checks to ensure data validity, but ideally the inclusion of other forms of information (e.g., collateral report, supervisor ratings, clinician-conducted assessments) would provide richer and more ecologically valid data than a battery of self-report measures (Brett & Atwater, 2001; Carey & Simons, 2000). There were also several characteristics of our sample that limited our ability to generalize some of our findings. Most police officers in the current study came from two urban centers in the Southern United States, and most of them were 10+ year career veterans of the police force. As such, it is difficult to generalize these findings to the wider police officer population; this is unfortunate, as many instances of police violence are perpetrated by those with less experience than the officers in the current sample (Stinson, Liederbach, Lab, & Brewer, 2016). However, our findings may be able to hint at the changes associated with experience on the job as a law enforcement officer. Namely, the law enforcement officers in our study (most of who were seasoned department employees) exhibited the lowest commission errors on the shooter task, less acceptability ratings on the unjustified use of force vignettes, and highest Boldness scores (typically associated with positive occupational

performance; Lilienfeld et al., 2018; Patrick et al., 2009). These very well could be attributable to other factors (e.g., individual differences, lack of diversity in department representation, demand characteristics), so future research should examine the moderating role of psychopathic traits on the benefits of training and organizational culture while comparing across a variety of police departments. For example, a longitudinal study that focuses on the relationship between psychopathic traits and performance indicators – as measured by archival employee performance data (supplemented with supervisor ratings; Band & Manuele, 1987; Beutler et al., 1985; Tarescavage et al., 2015) – in a wide range of police departments while stratifying sampling across years of experience and types of training, could help answer some of the questions that came out of this study. While the feasibility of conducting such a study is quite complicated (i.e., requires a great deal of buy-in from multiple government agencies), a study that focuses on the relation between psychopathic personality traits and more ecologically valid indicators of police performance could bear major societal implications.

Another limitation to note for the current study is the nature of the first-person shooter task. Particularly with respect to commission errors on the shooter task, it may be that we did not observe much variance explained by psychopathic traits due to our operationalization of "trigger bias" and how commission errors were measured (i.e., proportion of commission errors to total trials administered). Future research should focus on more precise methods of determining accuracy in high-risk decision-making scenarios; perhaps this would help yield findings more consistent with the *configural-trait* conceptualization of psychopathy if we can tap into more than one construct (as we did with the unjustified use of force vignette ratings in law enforcement officer sample). Further, this task was originally developed by Correll and colleagues (2002) in order to assess the role of implicit racial bias in high-stakes decision-

making as it relates to the law enforcement profession (also referred to as the "police officer's dilemma"; Correll et al., 2002). For the purposes of the current study, we utilized this task with a broader intent of examining overall commission errors and "trigger bias." However, our results may have been affected by implicit racial bias, as the trials randomly assigned a black or white target that the participant was tasked with shooting or not shooting. Our rationale was that if we were not examining racial bias in relation to the task, this bias would essentially be controlled for across study participants. However, it remains an important limitation that may moderate our findings. We also do not have a way of knowing whether implicit bias differentially impacted our samples. A more straightforward task that is explicitly designed for reaction time and/or commission errors may be more appropriate for future studies.

Conclusions and Future Directions

In sum, a majority of our findings suggest that TriPM subscales in isolation accounted for much of the variance explained in our criteria of interest. At the same time, there were several instances where the configural-trait approach aided in interpretation. First, a low Boldness/high Meanness combination in our law enforcement sample was most related to unjustified use of force ratings, while Disinhibition and low Meanness in the law enforcement-interested undergraduate sample was most related to commission errors on the shooter task. It remains to be seen whether there is greater incremental value in understanding psychopathology-related behavioral outcomes in terms of configural pattern of multiple traits, but this study brought us one step closer to understanding the phenomenon in a highly specialized, difficult-to-access population.

Based on our findings, it appears that psychopathic traits of Meanness and Disinhibition drive a good amount of problematic behavior that can potentially be translated to real-world

attitudes and behavior in police departments across the country. On a more positive note, the law enforcement sample actually had the most promising attitudinal responses to use of force scenarios and the least amount of commission errors on the shooter task. Our data, although not necessarily generalizable to real-world performance does suggest that, despite the indisputable existence of a subgroup of police officers who are a threat to public safety (particularly the safety of individuals of color; Dowler & Zawilski, 2007; Riter, 2019), police officers seem to have the ability to differentiate good from bad police behavior. It is important to note that criterion profile analysis aggregates data across individuals to develop trait profiles that are *most consistent* with elevated dependent variable scores, but this approach does not identify the presence of separate personality-behavior clusters of individuals. It was interesting, though, that the law enforcement sample showed the highest levels of Boldness traits, lowest approval ratings of unjustified uses of force, and fewest errors on the shooter task, which hints at the idea that differences in mean levels of traits across populations may have implications for job performance.

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Appendix A

Demographics Questionnaire – Law Enforcement

You must be at least 18 years of age to participate in the study. Your responses are anonymous and will only be seen by the study team. Your responses will not be shared with anyone not affiliated with this study.

1. What is your age?

2. What is your gender?
Male
Female
Transgender
Prefer not to answer
Other

3. Which Race best describes you? Please choose all that apply.
American Indian or Alaskan Native – Specify: _____
Asian – Specify: _____ (e.g., Chinese, Korean)
Black or African American
Native Hawaiian or Pacific Islander
White or Caucasian
Other – Specify: _____

4. Which Ethnic group best describes you?
Hispanic – Specify: _____(e.g., Mexican, Cuban)
Non-Hispanic

5. How many years have you been serving as a law enforcement officer?
Under one year
1-3 years
4-6 years
8-10 years
More than 10 years

6. What is your current rank?
Recruit/probationary officer
Officer
Detective/investigator

Sergeant
Lieutenant
Captain
Rank beyond Captain (i.e., inspector, chief, commissioner)

7. Have you ever served in the military?
Yes
No

IF YES: Which branch and for how long?
_____

8. Have you ever received any departmental awards/commendations for your performance?
Yes
No

If yes, please specify: _____

9. Have you ever been subjected to disciplinary action from your supervisors in the department?
Yes
No

If yes, please specify: _____

10. What kinds of trainings have you been required to complete during your time as a police officer, including academy training? (Please check all that apply):
- Legal training (e.g., rules of evidence, constitutional law, use of force policy, criminal offenses, legal considerations)
- Basic firearms training (e.g., pistol, shotgun)
- Advanced firearms and/or weapons training (e.g., carbine, flash bang grenades semi-automatic weapon)
- Defensive tactics (e.g., physical defensive techniques, tactical driving)
- Tactics training (e.g., arrest and search procedures, room clears, officer tactics)
- Advanced tactics training (e.g., SWAT training, hostage and rescue team)
- Community policing
- Intelligence-led policing and/or crime analysis
- Advanced crime analysis (e.g., social network analysis, ARC GIS, etc.)
- Forensic evidence collection (e.g., fingerprinting, photographing crime scenes, evidence collection procedures)
- Crisis intervention team (CIT) training (e.g., mental health first aid, diverting from the criminal justice system if appropriate)
- De-escalation training
- Other specialized training – If so, please specify unit: _____

11. Briefly, describe why you decided to enter the law enforcement profession:
_____

Demographics Questionnaire – Undergraduates

You must be at least 18 years of age to participate in the study. Your responses are anonymous and will only be seen by the study team. Your responses will not be shared with anyone not affiliated with this study.

1. What is your age?

2. What is your gender?
Male
Female
Transgender
Prefer not to answer
Other

3. Which Race best describes you? Please choose all that apply.
American Indian or Alaskan Native – Specify: _____
Asian – Specify: _____ (e.g., Chinese, Korean)
Black or African American
Native Hawaiian or Pacific Islander
White or Caucasian
Other – Specify: _____

4. Which Ethnic group best describes you?
Hispanic – Specify: _____(e.g., Mexican, Cuban)
Non-Hispanic

5. What is your major in your undergraduate program?
_____

6. What year are you in your undergraduate program?
Freshman
Sophomore
Junior
Senior
Other (please specify): _____

7. Are you/have you been in the Reserve Officer Training Corp (ROTC)?
Yes
No

8. Do you have any other military service history?

IF YES: Which branch and for how long did you serve?

_____

9. What is your view of law enforcement in the United States?
Very Favorable
Somewhat Favorable
Neutral
Somewhat Unfavorable
Very Unfavorable

10. Do you have any family or friends in law enforcement?
Yes
No

11. Are you interested in pursuing one of the following criminal justice-related professions?
Sworn law enforcement (e.g., police, sheriff, federal)
Civilian law enforcement
Law (e.g., paralegal, clerk, attorney)
Corrections (e.g., corrections officer, probation/parole officer)
Firefighter/EMT
Other (please specify): _____
I am not interested a criminal justice-related profession

12. If you are not interested in a criminal justice-related profession, please indicate your intended occupation after graduation: _____

13. If you are interested in a criminal justice-related profession, briefly describe why you decided on this career:
_____

Organizational Justice Measure (administered to LEOs ONLY)

Please read the following statements and rate the degree to which you agree with them.

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

1. Managers do not listen to the views of their staff in this organization.
2. Senior managers are open to differing views.
3. In my department, my opinions are valued and taken into account.
4. In my department, good performance is recognized and rewarded.
5. In my department, training and development is provided according to need.
6. The force acts fairly regarding career progression and promotion.
7. My department is a good place to work.
8. My department is a good organization to work for.
9. Overall, my department is a good place to work.
10. Neighborhood policing is not “real” policing.

11. Police community support officers have a very important role to play in policing.
12. Trying to work in partnership with other agencies is a waste of time.
13. Some victims of crime are more deserving of a good service than others.
14. It's a waste of time trying to help some people.
15. There are certain communities that do little to deserve the respect of the police.

Appendix B

TriPM

Directions: This questionnaire contains statements that different people might use to describe themselves. Each statement is followed by four choices: □ □ □ □. The meaning of these four different choices is as follows:

□ = True □ = somewhat true □= somewhat false □= False

For each statement, fill in the bubble for the choice that describes you best. There are no right or wrong answers; just choose the answer that best describes you.

Like this: ● Not like this: ✓ ✗ /

Remember: Fill only one bubble per item. If you make a mistake cross out the incorrect answer with an X and fill in the correct option. Answer all of the items. Please work rapidly and do not spend too much time on any one statement.

1. I'm optimistic more often than not.
2. How other people feel is important to me.
3. I often act on immediate needs.
4. I have no strong desire to parachute out of an airplane.
5. I've often missed things I promised to attend.
6. I would enjoy being in a high-speed chase.
7. I am well-equipped to deal with stress.
8. I don't mind if someone I dislike gets hurt.
9. My impulsive decisions have caused problems with loved ones.
10. I get scared easily.

11. I sympathize with others' problems.
12. I have missed work without bothering to call in.
13. I'm a born leader.
14. I enjoy a good physical fight.
15. I jump into things without thinking.
16. I have a hard time making things turn out the way I want.
17. I return insults.
18. I've gotten in trouble because I missed too much school.
19. I have a knack for influencing people.
20. It doesn't bother me to see someone else in pain.
21. I have good control over myself.
22. I function well in new situations, even when unprepared.
23. I enjoy pushing people around sometimes.
24. I have taken money from someone's purse or wallet without asking.
25. I don't think of myself as talented.
26. I taunt people just to stir things up.
27. People often abuse my trust.
28. I'm afraid of far fewer things than most people.
29. I don't see any point in worrying if what I do hurts someone else.
30. I keep appointments I make.
31. I often get bored quickly and lose interest.
32. I can get over things that would traumatize others.
33. I am sensitive to the feelings of others.
34. I have conned people to get money from them.
35. It worries me to go into an unfamiliar situation without knowing all the details.
36. I don't have much sympathy for people.
37. I get in trouble for not considering the consequences of my actions.

38. I can convince people to do what I want.
39. For me, honesty really is the best policy.
40. I've injured people to see them in pain.
41. I don’t like to take the lead in groups.
42. I sometimes insult people on purpose to get a reaction from them.
43. I have taken items from a store without paying for them.
44. It's easy to embarrass me.
45. Things are more fun if a little danger is involved.
46. I have a hard time waiting patiently for things I want.
47. I stay away from physical danger as much as I can.
48. I don't care much if what I do hurts others.
49. I have lost a friend because of irresponsible things I've done.
50. I don't stack up well against most others.
51. Others have told me they are concerned about my lack of self-control.
52. It’s easy for me to relate to other people’s emotions.
53. I have robbed someone.
54. I never worry about making a fool of myself with others.
55. It doesn’t bother me when people around me are hurting.
56. I have had problems at work because I was irresponsible.
57. I’m not very good at influencing people.
58. I have stolen something out of a vehicle.

Appendix C

Police Use of Force Vignettes

Please read the following vignettes and rate the degree to which you believe the use of force depicted in the scenario was justified.

Vignette 1

Two plain clothes police officers (not in uniform), A and B overheard two friends that were leaving a night club, may be planning a drive by shooting. Believing one of the friends had a gun, the officers intervened to stop the two friends from driving off. Officer A identified himself as a police officer. The car holding the two friends, tried to run over officer A twice. Officer A started firing while yelling to the car's occupants: "Let me see your hands." Other officers responding to the scene, perceived they were being attacked and fired their weapons at the vehicle. During the shooting, officers fired 50 bullets. The individual driving the vehicle was shot and later succumbed to injuries sustained as a result of the police shooting.

Justification rating: 0 (not justified at all) to 100 (completely justified)

Vignette 2

Four officers responded to a 911 call at a residence. The call involved a family member chasing the children with a knife. When the officers arrived, they observed outside the residence, an older man and younger man at opposite ends of a vehicle in the driveway. The older man ran into the backyard and returned a few seconds later with a metal rake held over one shoulder. The older man walked towards officers A and B. Police officer A and B backed up and drew their weapons. Officer B backed into the car in the driveway and was no longer able to retreat. The man raised the rake over his head, ready to swing it down on officer B. Officer A fired twice at the older man. The older man later succumbed to his injuries as a result of the police shooting.

Justification rating: 0 (not justified at all) to 100 (completely justified)

Vignette 3

Officers responded to a 911 call about a man with a knife. Six officers arrived on scene at the entrance of a business to find an individual wielding a knife. Employees at the business were in the building at the time officers arrived. The individual wielding the knife stated, “I’m going to kill him; you can’t stop me”. The individual wielding the knife backed into the building where employees were present. After repeated verbal attempts from the police officers to drop the knife, the individual lunged towards officer A approximately 8 to 10 feet away. Officer A fired twice and Officer B fired three times. The individual succumbed to injuries sustained as a result of the police shooting.

Justification rating: 0 (not justified at all) to 100 (completely justified)

Vignette 4

Seven officers were dispatched to assist another officer who had encountered an individual on the street wielding a machete and tire iron. The individual was moving to a populated area and refused to put down his weapons. Several officers used their TASER but were unsuccessful. The individual ran into a mall parking lot and officers deployed their TASERs several more times but the TASERs were unsuccessful. Armed and swinging the machete, the individual charged several officers who retreated into their patrol cars. The individual charged several more officers: A, B and C who all gave verbal commands to put down the individual’s weapons. The individual refused to put down his weapons. Officers A, B, and C, fired at the individual. The individual succumbed to injuries sustained as a result of the police shooting.

Justification rating: 0 (not justified at all) to 100 (completely justified)

Vignette 5

Officer A attempted to stop a vehicle for not stopping at a red light. The driver refused to pull over and led officers A, B and C on a pursuit. After the pursuit, the driver pulled into a gas station, got out of his vehicle, and walked towards officer A using a two-handed shooting stance and pointed a silver object at officer A. Officer A dove behind officer A’s cruiser. The driver then pointed the same object at officer B who retreated backwards away from the driver. Officer C gave verbal commands to the driver to “get down”. The driver turned and pointed the object at Officer C. Officer C crouched down believing the object to be a gun. Officer B and C fired their weapons until the driver was on the ground. The driver succumbed to injuries sustained as a result of the police shooting.

Justification rating: 0 (not justified at all) to 100 (completely justified)

Vignette 6

An officer responded to a school parking lot to a call involving a suspicious person. The officer contacted the suspicious person who was in the driver's seat of a vehicle. The officer asked for identification. The officer attempted to grab the identification card but the driver refused. The officer and driver tugged back and forth for the identification card. The driver, still in the vehicle, manually began to roll the window up. The officer's arm was still inside the vehicle, attempting to obtain the identification. The driver began to gradually drive away. The officer jumped onto the running board of the vehicle while shouting to the driver to "stop". The officer jumped off the running board and shot twice hitting the driver. The officer ran alongside the vehicle and shot five more times. The driver succumbed to injuries sustained as a result of the police shooting.

Justification rating: 0 (not justified at all) to 100 (completely justified)

Vignette 7

Police officer A attempted to stop a vehicle driving the wrong way on a city street. The driver refused to stop and led police on a pursuit. During the pursuit, several officers joined the chase. Several officers shot 16 times at the vehicle while in pursuit of the driver. The pursuit ended with the vehicle crashing and being pinned against a wall by officer A's patrol car. Officer A and other officers shot into the vehicle 35 times. The driver succumbed to injuries sustained as a result of the police shooting.

Justification rating: 0 (not justified at all) to 100 (completely justified)

Vignette 8

Police officer A assisted officer B in apprehending an individual with warrants for the individual's arrest. A foot pursuit ensued after the individual observed officers A and B getting out of their unmarked vehicle. After a short foot pursuit, the chase ended with the individual giving up and complying with officer A's command. While arresting the individual, Officer A was standing over the individual, while the individual was laying with hands out of view officer A. Officer A claims the individual made a sudden movement. Officer A fired once. The individual succumbed to injuries sustained as a result of the police shooting.

Justification rating: 0 (not justified at all) to 100 (completely justified)

Vignette 9

Police officers conducted a search warrant on a warehouse. An individual inside the warehouse began running. A plain clothes police officer (not in uniform) gave chase while shouting “police, don’t move”. The plain clothes police officer (not in uniform) cornered the individual. The individual walked towards and came close to the plain clothes police officer in a threatening manner. The plain clothes police officer (not in uniform) fired five times. The individual succumbed to injuries sustained as a result of the police shooting.

Justification rating: 0 (not justified at all) to 100 (completely justified)

Vignette 10

A police officer attempted to stop a car suspected of driving drunk and was led on a pursuit on rural highway. After several minutes, the vehicle crashed and was temporarily disabled. The pursuing officer exited his patrol car. The officer went behind the individual’s vehicle as the driver reversed towards the officer. The officer shot six times into the vehicle. The driver succumbed to injuries sustained as a result of the police shooting.

Justification rating: 0 (not justified at all) to 100 (completely justified)

Appendix D

First Person Shooter Task

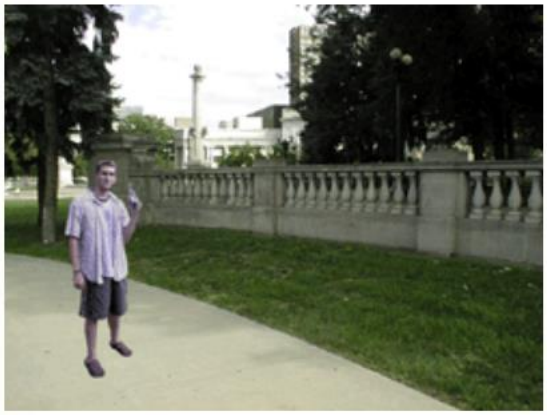
In this video game, your task is to shoot any person holding a gun (the bad guys) by pressing the "L" key. If a person is holding something other than a gun, he is a good guy – so you should press the "A" key.

You will have less than a second to make each decision.

You will receive points based on your performance.

The first round of the game is for practice.

When you are ready to begin the practice round, please press the SPACE bar.



Appendix E

Aggression Questionnaire

Instructions:

Using the 5 point scale shown below, indicate how uncharacteristic or characteristic each of the following statements is in describing you. Place your rating in the box to the right of the statement.

1 = extremely uncharacteristic of me

2 = somewhat uncharacteristic of me

3 = neither uncharacteristic nor characteristic of me

4 = somewhat characteristic of me

5 = extremely characteristic of me

1.	Some of my friends think I am a hothead	A
2.	If I have to resort to violence to protect my rights, I will.	PA
3.	When people are especially nice to me, I wonder what they want.	H
4.	I tell my friends openly when I disagree with them.	VA
5.	I have become so mad that I have broken things.	PA
6.	I can't help getting into arguments when people disagree with me.	VA
7.	I wonder why sometimes I feel so bitter about things.	H
8.	Once in a while, I can't control the urge to strike another person.	PA
9.*	I am an even-tempered person.	A
10.	I am suspicious of overly friendly strangers.	H
11.	I have threatened people I know.	PA
12.	I flare up quickly but get over it quickly.	A
13.	Given enough provocation, I may hit another person.	PA
14.	When people annoy me, I may tell them what I think of them.	VA
15.	I am sometimes eaten up with jealousy.	H
16.*	I can think of no good reason for ever hitting a person.	PA
17.	At times I feel I have gotten a raw deal out of life.	H
18.	I have trouble controlling my temper.	A
19.	When frustrated, I let my irritation show.	A

20.	I sometimes feel that people are laughing at me behind my back.	H
21.	I often find myself disagreeing with people.	VA
22.	If somebody hits me, I hit back.	PA
23.	I sometimes feel like a powder keg ready to explode.	A
24.	Other people always seem to get the breaks.	H
25.	There are people who pushed me so far that we came to blows.	PA
26.	I know that “friends” talk about me behind my back.	H
27.	My friends say that I’m somewhat argumentative.	VA
28.	Sometimes I fly off the handle for no good reason.	A
29.	I get into fights a little more than the average person.	PA

Appendix F

Big Five Inventory – 2

The Big Five Inventory–2 (BFI-2)

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others?* Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

1 Disagree strongly	**2** Disagree a little	**3** Neutral; no opinion	**4** Agree a little	**5** Agree strongly

I am someone who...

1. ___ Is outgoing, sociable.
2. ___ Is compassionate, has a soft heart.
3. ___ Tends to be disorganized.
4. ___ Is relaxed, handles stress well.
5. ___ Has few artistic interests.
6. ___ Has an assertive personality.
7. ___ Is respectful, treats others with respect.
8. ___ Tends to be lazy.
9. ___ Stays optimistic after experiencing a setback.
10. ___ Is curious about many different things.
11. ___ Rarely feels excited or eager.
12. ___ Tends to find fault with others.
13. ___ Is dependable, steady.
14. ___ Is moody, has up and down mood swings.
15. ___ Is inventive, finds clever ways to do things.
16. ___ Tends to be quiet.
17. ___ Feels little sympathy for others.
18. ___ Is systematic, likes to keep things in order.
19. ___ Can be tense.
20. ___ Is fascinated by art, music, or literature.
21. ___ Is dominant, acts as a leader.
22. ___ Starts arguments with others.
23. ___ Has difficulty getting started on tasks.
24. ___ Feels secure, comfortable with self.
25. ___ Avoids intellectual, philosophical discussions.
26. ___ Is less active than other people.
27. ___ Has a forgiving nature.
28. ___ Can be somewhat careless.
29. ___ Is emotionally stable, not easily upset.
30. ___ Has little creativity.
31. ___ Is sometimes shy, introverted.
32. ___ Is helpful and unselfish with others.
33. ___ Keeps things neat and tidy.
34. ___ Worries a lot.
35. ___ Values art and beauty.
36. ___ Finds it hard to influence people.
37. ___ Is sometimes rude to others.
38. ___ Is efficient, gets things done.
39. ___ Often feels sad.
40. ___ Is complex, a deep thinker.
41. ___ Is full of energy.
42. ___ Is suspicious of others' intentions.
43. ___ Is reliable, can always be counted on.
44. ___ Keeps their emotions under control.
45. ___ Has difficulty imagining things.
46. ___ Is talkative.
47. ___ Can be cold and uncaring.
48. ___ Leaves a mess, doesn't clean up.
49. ___ Rarely feels anxious or afraid.
50. ___ Thinks poetry and plays are boring.
51. ___ Prefers to have others take charge.
52. ___ Is polite, courteous to others.
53. ___ Is persistent, works until the task is finished.
54. ___ Tends to feel depressed, blue.
55. ___ Has little interest in abstract ideas.
56. ___ Shows a lot of enthusiasm.
57. ___ Assumes the best about people.
58. ___ Sometimes behaves irresponsibly.
59. ___ Is temperamental, gets emotional easily.
60. ___ Is original, comes up with new ideas.

Please check: Did you write a number in front of each statement?

Appendix G

IPIP – Cooperation Subscale

Cooperation (HPI: Reliability) [.76]

+ keyed	Rarely overindulge.
– keyed	Resist authority.
	Oppose authority.
	Act wild and crazy.
	Feel that people have a hard time understanding me.
	Break rules.
	Enjoy wild flights of fantasy.
	Swim against the current.
	Look for hidden meanings in things.
	Suspect hidden motives in others.

Appendix H

Feeling Powerful & Desire for Power Scales

Please indicate the degree to which you agree with the following statements, on a scale from 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me).

1. My ideas and opinions are often ignored.
2. I feel like a powerful person.
3. I feel like a weak person when I express myself to others.
4. I don’t have much power compared to other people.
5. I wait for others to take the lead.
6. I have a lot of confidence in my ability to make things happen.
7. I am more of a follower than a leader.
8. I can get others to listen to what I say.
9. I usually feel in charge of the situation.
10. Even if I voice my views, people don't pay attention to them.
11. I am very timid around others.
12. I am very confident in my ability to accomplish my goals.
13. I am not afraid to argue.
14. I am very effective in dealing with other people.
15. I am not easily intimidated or defeated.
16. I have a strong drive to get power.
17. I like to have power over other people.
18. I would enjoy having authority over people.
19. When I am in a group, I try to have more influence than other people.
20. I like to tell people what they should do.
21. I work to control others more than they control me.
22. I really don't want to be the boss.
23. I am more powerful than other people.

24. I like to compete with others.
25. I am willing to put pressure on other people to get things done.
26. I think I have a great deal of power.
27. When I work with others, I like to take the lead.
28. I do not like to be a "follower."

Appendix I

Models with Proportion of Commission Errors to Total Errors as Dependent Variable

Table 1A

Regression Models with Proportion of Commission Errors to Total Errors as Dependent Variable

Law Enforcement Sample

Proportion of Commission Errors (*N* = 161)

Step 1	*B*	*b*	*SE*	*p*	*adj.* R^2 *= .02*
Age	0.004	0.12	0.003	0.20	
Gender[1]	0.05	0.07	0.05	0.40	
Time on Force	-0.02	-0.03	0.06	0.74	
Step 2	*B*	*b*	*SE*	*p*	*adj.* R^2 *= .05*
Age	0.005	0.16	0.003	0.10	
Gender[1]	0.05	0.08	0.06	0.31	
Time on Force	-0.02	-0.03	0.06	0.76	
Boldness	-0.001	-0.03	0.003	0.76	
Meanness	0.008	0.21	0.003	**0.02**	
Disinhibition	-0.003	-0.06	0.004	0.54	

Table 1A (Continued)

Regression Models with Proportion of Commission Errors to Total Errors as Dependent Variable

LEO-Interested Undergraduate Sample

Proportion of Commission Errors (*N* = 110)

Step 1	*B*	*b*	*SE*	*p*	*adj. R^2= .01*
Age	0.001	0.002	0.005	0.98	
Gender[1]	0.04	0.08	0.04	0.39	
Step 2	*B*	*b*	*SE*	*p*	*adj. R^2= .01*
Age	0.001	-0.004	0.005	0.96	
Gender[1]	0.03	0.07	0.05	0.51	
Boldness	0.001	0.05	0.003	0.62	
Meanness	-0.002	-0.07	0.004	0.62	
Disinhibition	0.003	0.11	0.004	0.42	

Non LEO-Interested Undergraduates

Proportion of Commission Errors (*N* = 294)

Step 1	*B*	*b*	*SE*	*p*	*adj. R^2= .03*
Age	0.005	0.10	0.003	0.10	
Gender[1]	0.09	0.15	0.03	**0.01**	
Step 2	*B*	*b*	*SE*	*p*	*adj. R^2= .04*
Age	0.005	0.10	0.003	0.09	
Gender[1]	0.08	0.14	0.03	**0.02**	
Boldness	-0.001	-0.04	0.002	0.52	
Meanness	-0.001	-0.04	0.002	0.50	
Disinhibition	-0.002	-0.08	0.002	0.24	

LEO = law enforcement officer; [1] Gender was dichotomized 0 = non-female, 1 = female

Table 2A

Criterion Profile Analysis Models – Proportion of Commission Errors to Total Errors on Shooter Task

	Overall		Pattern Effect				Level Effect				
LEO Sample (*N* = 294)	*R*	R^2	*r*	r^2	$\sqrt{\Delta R^2}$	β	*r*	r^2	$\sqrt{\Delta R^2}$	β	$r_{lev,\ pat}$
TriPM scores	0.15 *[0.04, 0.26]*	0.02 *[-0.01, 0.06]*	0.14 *[0.03, 0.25]*	0.02 *[-0.01, 0.05]*	0.01 *[-0.02, 0.05]*	0.12	0.09 *[-0.02, 0.20]*	0.01 *[-0.01, 0.03]*	0.002 *[-0.03, 0.03]*	0.05	0.28 *[0.21, 0.35]*
	Overall		Pattern Effect				Level Effect				
LEO-Interested (*N* = 110)	*r*	R^2	*r*	r^2	$\sqrt{\Delta R^2}$	β	*r*	r^2	$\sqrt{\Delta R^2}$	β	$r_{lev,\ pat}$
TriPM scores	0.02 *[-0.17, 0.21]*	0.003 *[-0.01, 0.008]*	0.08 *[-0.11, 0.27]*	0.02 *[-0.02, 0.04]*	0.01 *[-0.02, 0.04]*	0.05	0.02 *[-0.17, 0.21]*	0.001 *[-0.01, 0.008]*	0.002 *[-0.03, 0.03]*	0.05	-0.28 *[-0.81, 0.26]*
	Overall		Pattern Effect				Level Effect				
Non LEO-Interested (*N* = 294)	*r*	R^2	*r*	r^2	$\sqrt{\Delta R^2}$	β	*r*	r^2	$\sqrt{\Delta R^2}$	β	$r_{lev,\ pat}$
TriPM scores	0.13 *[0.02, 0.24]*	0.02 *[-0.01, 0.05]*	0.07 *[-0.06, 0.20]*	0.004 *[-0.01, 0.02]*	0.002 *[-0.02, 0.03]*	0.04	-0.12 *[-0.24, -0.01]*	0.01 *[-0.01, 0.04]*	0.01 *[-0.02, 0.04]*	-0.11	-0.23 *[-0.74, 0.28]*

R = total regression model multiple correlation; *r* = zero-order correlation between effect and criterion; $\sqrt{\Delta R^2}$ = signed square root of incremental R^2 (i.e., semipartial correlation) for effect beyond the other effect; β = standardized regression coefficient for model including both level and pattern effects; $r_{lev,\ pat}$ = correlation between level and pattern effects; values bracketed and in italics are 95% confidence intervals. LEO = law enforcement officer.