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Perpetration-Induced Traumatic Stress and Moral Injury in Adult Male Incarcerated Individuals

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Walden University

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Cyrelah J. Raynor

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Walden University
2025

Abstract

Perpetration-Induced Traumatic Stress and Moral Injury in Adult Male

Incarcerated Individuals

by

Cyrelah J. Raynor

MSc, University of Leicester, 2009

BA, University of Maryland, Baltimore County, 2005

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Clinical Psychology

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Abstract

Underutilizing trauma-informed approaches in correctional rehabilitation has had detrimental consequences, particularly for gang-involved populations. Theories of personality, responsivity, and stress suggest that gang-affiliated individuals, shaped by coercive environments, may develop psychological reactions such as fear, guilt, and moral shame that contribute to posttraumatic stress disorder (PTSD) and moral injury (MI). This study examined whether gang role, psychopathy, and perpetration predicted PTSD and MI among 70 incarcerated adult males. Participants completed the Moral Injury Outcome Scale (MIOS), the PTSD Checklist for DSM-5 (PCL-5), and the Levenson Self-Report Psychopathy Scale (LSRP). Two hierarchical regressions were conducted. In the PTSD model, only education level significantly predicted PTSD symptoms ($B = 3.28, p = .04$), with higher education associated with greater symptom severity. The full model explained 17% of the variance; gang role, perpetration, and psychopathy were not significant. The MI model accounted for 33% of the variance and was statistically significant. Gang leadership ($B = -6.50, p = .05$), perpetration ($B = 12.01, p = .03$), and intervention history ($B = 5.74, p = .03$) emerged as significant predictors. These findings suggest that moral injury in gang-involved incarcerated individuals is influenced more by social context, coercion, and role pressure than by dispositional traits such as psychopathy. Integrating trauma-focused assessments and interventions that address moral shame, guilt, and external coercion may strengthen rehabilitation outcomes, support successful community reentry, and reduce recidivism.

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Dedication

First and foremost, I give thanks to God for the strength, guidance, and fortitude that enabled me to complete this journey. I dedicate this dissertation to my husband, my children, and my parents, whose unwavering support carried me through every challenge. Together, we have sacrificed precious family time and resources to reach this milestone, making this achievement truly ours. To my daughters, thank you for inspiring me in your quiet way each time you mocked me doing homework alongside me; you reminded me what this work means for our future. May this accomplishment honor God's faithfulness and the legacy we continue to build as a family.

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I extend my sincere gratitude to the study site for providing access to participants essential to this study. I am deeply grateful to the brave participants for sharing their life histories through surveys and for offering readers a richer understanding of the traumatic experiences faced by this population—insights that can help clinicians and policymakers improve assessment, intervention, and support for their broader social needs. I would especially like to thank Dr. Matthew Geyer and Dr. Benita Stiles-Smith, my second chairs, for their invaluable academic guidance and support. In particular, I would like to acknowledge Dr. Delinda Mercer, my committee chair, who has been by my side from the very beginning.

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Chapter 1: Introduction to the Study

Introduction

There is a consensus among the gang literature that gangs' structure, purpose, and general culture vary widely, yet what is widespread is their propensity for criminal activity and the detrimental impact of these behaviors on the surrounding community. Accordingly, there has been extensive research on why gangs develop and their developmental, social, emotional, and psychological consequences. Research outcomes were proven primarily through community adolescent samples with a family or community history of their direct victimizations or, secondarily, through exposure to violence.

Kelly's (2010) integrative review of the literature cited findings of external behaviors and internal symptoms such as physical aggression towards a family member or friend, rule-breaking, alcohol and drug use, anxiety, intrusive thoughts, and lack of purpose, to name a few, as psychological consequences of gang membership. Similarly, Kirk and Hardy (2014) asserted that their exposure to crime and violence had several acute effects but also discovered enduring posttraumatic stress symptoms and posttraumatic stress disorder (PTSD). Other psychological responses that have captured research attention are the associations between callous-unemotional (CU) traits, posttraumatic stress symptoms, anxiety, and traumatic experiences (Bennett & Kerig, 2014; Sharf et al., 2014).

There is unanimity in the literature that gang members are more often at higher severity levels of lifetime exposure to violence and atrocities (Hughes et al., 2015) and

exhibit higher violent behavior rates (Connolly & Jackson, 2019). This exposure's societal and personal detriment has encouraged more research on psychological responses to cumulative trauma. Research findings have revealed that compared to nongang incarcerated individuals and community samples, gang members more often developed mental health illnesses (Hughes et al., 2015) and posttraumatic stress symptoms, meeting the criteria for PTSD diagnosis and paranoia (Wood & Dennard, 2017). There is also growing empirical support for posttraumatic stress symptoms experienced by gang members from their observations and participation in violent acts (Kerig et al., 2016). MacNair (2002) coined the term perpetration-induced traumatic stress. Consequently, studies on combat killing revealed that killing versus witnessing increases susceptibility to posttraumatic stress symptoms (Pitts et al., 2013).

While PTSD is widespread with an extensive research base, its variant, perpetration-induced traumatic stress, is ostensibly rare. So far, the construct has empirical support from a small sample of military veterans (Pitts et al., 2013), child soldiers (Wainryb, 2011), and animal workers (Hill et al., 2020). Researchers have only recently begun to extend the perpetration-induced traumatic stress construct to an adolescent sample of gang members (Kerig et al., 2016). This advancement is vital to treatment because the etiology differs from standard or complex PTSD and can include MI (Kerig et al., 2016). Similarly, understanding the association between psychopathy and perpetration can help differentiate which gang members will be responsive to treatment through proper pre-treatment interventions that decrease agitated affective states for optimal functioning in criminogenic risk core interventions.

This chapter will describe a brief background of the study. It will outline the problem and frame the study's purpose. It will list the research questions and hypotheses. It will discuss the theoretical framework and the nature of the study. It will expand on definitions and contradistinctions, such as having symptoms of both PTSD and psychopathy and being able to commit an offense yet still experience trauma from it. These explanations are essential for eliminating the rationale that past trauma is an excuse for future violence or trivializing victimization. It will source assumptions. It will explore the scope and delimitations and offer limitations. Finally, it will implore its significance and provide a summary.

Background

A small island jurisdiction experienced its first alleged gang shooting in 2003 (Strangeways, 2011). It was a further 10 years of denial before law officials finally acknowledged the sporadic killings were gang-related murders rather than the preferred credulous 'loosely organized groups' (Island Newspaper, n.d.). Still, another decade later, hoping to eradicate gang violence and its effects, the island government sought advice from international gang experts who suggested that the solution is through trauma treatment (Lagan, 2018). The island is a self-governing territory with strong ties to larger nations such as the United States and Canada, from which it heavily relies on a vast number of resources, including policy, best practices, research, and recruitment, among other resources.”

There has been a long-held consensus on the complex cycle of trauma, PTSD, and antisocial behavior, where trauma and antisocial behavior are reciprocal. More

specifically, childhood trauma is a risk factor for later antisocial activity, and antisocial activity increases exposure to more traumatization (see Holloway et al., 2018; Wood & Dennard, 2017). Contemporary theoretical models exploring the origins of this complex cycle have revealed two distinct psychopathy pathways that can lead to the same antisocial outcome (Bennett & Kerig, 2014; Sharf et al., 2014). It is plausible to assume that psychopathy and PTSD are contradistinctions. Whereas theorists characterize psychopathy as lacking guilt, empathy, manipulation, shallow affect, and violent behavior, PTSD is fear-based. Hence, several gang studies highlighting the mediating and moderating role of psychopathy in the relationship between PTSD and trauma are conflictual. Numerous studies have proven the comorbidity of PTSD and psychopathy at alarming rates in forensic samples. However, a greater focus has been on the antisocial behavior construct (Factor 2) of psychopathy. More research is emerging, examining the association of interpersonal/affective or CU traits (Factor 1 psychopathy) with trauma and PTSD. Two preliminary research results from incarcerated boys demonstrated that CU traits are significantly associated with trauma and PTSD (Bennett & Kerig, 2014; Sharf et al., 2014).

Notwithstanding, several studies examining the association between CU traits and gang membership have conflicted. For instance, Thornton et al. (2015) and Woodfield et al. (2016) found an association between CU traits in crime and incarcerated samples, respectively. Conversely, a study by Mallion and Wood (2018a) found no link between the role of CU traits and gang membership. Further, unlike prior research, gang members with elevated levels of CU traits in these recent studies demonstrated elements of

dominance and taking leadership roles, alluding to protection against PTSD. The potential impact of CU traits or the role of Factor 1 psychopathy traits on the relationship between gang members and PTSD is still unclear. Understanding this association has many implications for managing these individuals within the correctional setting and treatment planning. Some gang members have a genetic predisposition for psychopathy (primary pathway), while others acquire it (secondary pathway) over time. Studies have shown that individuals who have acquired features frequently use moral disengagement (see Dhingra et al., 2015), emotional numbing, and dissociation (see Kerig et al., 2016) as adverse survival coping strategies. Treatment providers should implement techniques to resolve these responsivity factors before or during core rehabilitation interventions for incarcerated individuals, making them more amenable to treatment. Alternatively, correctional staff should implement more supervision elements for those identified with primary psychopathy and who are less amenable.

A primary concern found in the forensic literature is that, despite meta-analysis revealing increased rates of PTSD among those incarcerated and, to that end, gang members, researchers have also identified decreased rates of PTSD identification and treatment during the initial screening process (McCormick et al., 2017). One thought for this is that elements such as emotional numbing, dissociation, and other CU traits (desensitization and apathy) mask the presence of posttraumatic stress symptoms (Kerig et al., 2016), cultivating ambiguity to start a trauma assessment on intake. The lack of identifying posttraumatic stress symptoms on initial assessment is troubling because there is a prerequisite for forensic practitioners to adhere to the fundamental principle of

responsivity and account for those individual factors that decrease treatment responsiveness, such as mental illnesses (McCormick et al., 2017). Accordingly, studies have revealed that practitioners' underutilization of the responsivity principle is a common phenomenon. They do not isolate those individual internal attributes that obstruct treatment engagement and completion. The inability to mitigate responsivity factors is concerning. It reduces the opportunity to address core crime-causing factors that are pivotal to antisocial attitudes and behavior patterns. This negligence has a rippling effect that increases the risk to civilian safety.

A plausible explanation for this deficiency is that, historically, researchers approached PTSD from a victim stance. Researchers have contextualized trauma as one-dimensional and solely victimized or seen violence within the community or family (Mohamed, 2015). For example, in Kelly's 2010 literature review on the psychological consequences of exposure to community and gang violence, the 17 selected articles focused on adolescents in the context of being targeted or witnessing violence. Similarly, Wallace et al.'s (2011) investigative approach to PTSD used male and female justice-involved individuals, contextualized as victims with historical exposure to trauma within their communities, families, and inside the prison system. Hence, while agencies like The National Center for Trauma-Informed Care set up regulations to ensure incarcerated individuals received integrated trauma-informed interventions and evidence-based, trauma-focused assessments, to my knowledge, this is victim-based. This traditional culture of trauma, and by extension, PTSD, has inadvertently placed significant resource value on victims of interpersonal trauma compared to perpetrators (see Bailey et al.,

2014), who can similarly experience posttraumatic stress symptoms resulting from antisocial behavior. To that end, despite extensive research on the psychological consequences of interpersonal violence as a victim, there is room for expansion on the psychological implications of perpetrating violence and its sequelae, MI. Accordingly, PTSD and MI measures are primarily normed using military samples and lack generalizability to the general offending and, specifically, gang populations.

Researchers have recently found several critical predictors for PTSD among several different populations. Briere et al. (2016) found that cumulative rather than isolated traumatic events and interpersonal rather than non-interpersonal violent conflicts predicted PTSD in their incarcerated sample. Using a military sample, Pitts et al. (2013) suggested that the number of enemy engagements predicted PTSD. This finding expanded the generalizability of cumulation. This study also found killing and attempting to kill to be significant predictors of PTSD, while witnessing and other combat-exhibiting behaviors did not. Like military combatants and child soldiers, gang members are entrenched in street wars with increased levels of direct perpetration, witnessing, and victimization within their gang and rival gangs. Prior meta-analyses in prison populations consistently reveal elevated rates of PTSD linked to this trauma. Compared to their nongang justice-involved and community counterparts, the rate significantly increases for justice-involved gang members (see Baranyi et al., 2018; Rosenberg et al., 2014).

Research on the association of perpetration among gang members is a novel concept and, as such, has a scant literature base. One seminal study using a group of incarcerated adolescent gang members confirmed that violent perpetration predicts

posttraumatic stress symptoms and mediates the relationship between posttraumatic stress symptoms and gang membership (Kerig et al., 2016). Curiously, these findings were not moderated by gender despite Baranyi et al.'s (2018) meta-analysis asserting that the presence of PTSD in justice-involved females (12% - 38%) is disproportionately higher than in males (1% - 27%). Notwithstanding, Baranyi et al.'s study had several limitations, including the restricted age of the sample, which was pooled from a minimum classification facility, and the method of gang identification. More specifically, the facility's status suggests that it handles less severe offenses. Earlier studies found disparate outcomes despite the validity of self-nomination as a method of admittance to gang membership (Decker et al., 2014) in later studies. For instance, Chu et al. (2013) verified self-reported gang affiliation using official gang intelligence records and found no relationship between CU traits and gang membership. In contrast, Thornton et al. (2015) and Kerig et al. (2016), who relied solely on self-nomination, reported a significant association.

Kerig et al.'s (2016) study has advanced our understanding of how gang members' perpetration can influence the onset of PTSD. However, where gender had no moderating effects, the present literature alludes to gang membership status and CU traits. So far, scholars have not determined which gang members are at higher risk for PTSD after perpetration. Risk factors for gang membership (see Pyrooz, 2014; Raby & Jones, 2016) and membership rank (see Dmitrieva et al., 2014; Jones, 2016; Thornton et al., 2015; Wood et al., 2017) have received some research attention. There is limited research on the protective features of gang membership. An exhaustive review of the

available clinical literature reveals that no study has focused on the association between gang membership rank and psychopathy as a protective factor for PTSD and MI. More specifically, I hypothesize that gang members' inherent role differences can predict the unique psychological consequences of their perpetrating behavior.

Several empirical outcomes support this assertion, despite some disparities. In their study, Dmitrieva et al. (2014) revealed that gang members had an increased level of psychopathic traits and significantly elevated levels of self-worth and grandiosity, with decreased levels of empathy, impulse control, and moral disengagement. In their study, Thornton et al. (2015) also asserted that gang members had an increased rate of callousness and unemotionality. Whereas Dmitrieva et al. found support for only grandiose-manipulative psychopathic traits predicting gang leadership, Thornton et al. found elevated levels of CU traits were associated with gang membership, endorsing a leadership role in group crime and instigating an index offense. Dmitrieva et al.'s longitudinal study on the consequences of gang membership status showed increased psychopathic traits over time for both gang leaders and low-level members. However, gang leaders had increased grandiose-manipulative and impulsive-irresponsible features, while long-term low-level membership predicted increased CU traits. Gaps in the current research make way for a slightly different conclusion. It is plausible that significant levels of CU traits can potentially serve as a protective factor for gang members. However, some short-term, low-level members may not yet have an opportunity to develop it. Hence, the level of CU traits can serve as a risk or protective factor for PTSD in the aftermath of violence perpetration.

Problem Statement

The effects of perpetration and its specific posttraumatic reaction, MI, have received scant international research attention, with no local island-based contribution. Perpetration-induced traumatic stress, a variant of PTSD, has only recently been applied to the forensic population and, even more recently, to a sample of offending juvenile gang members. Now that forensic researchers acknowledge this new variant, practitioners must become more informed and responsive, mainly because research suggests that perpetration-induced traumatic stress may respond better to alternative trauma-focused therapies (MacNair, 2015). However, a barrier is that observable antisocial-like behavior, such as displaying CU traits, among other adverse reactions, often precludes or masks typical PTSD symptoms.

Further, the antisocial stigma of gang offending behavior may inhibit the display of empathy and impair staff perception during assessment and treatment, therefore imposing inadequate forensic assessment and management. Hence, assuming incarcerated gang members have distress or MI from violent perpetration does not seem to occur to many, as it goes against political, social, and individual moral values. However, these reactive features may be cries for help from a specific vulnerable group of short-serving, low-level gang members compelled to take orders versus their more calculative and satisfying long-term members and gang leaders. The latter are physiologically adapted with elevated levels of psychopathy that protect them. Still, another barrier to understanding and assessing psychopathic traits is the lack of diverse assessments. Kahn et al. (2013) asserted that while extensive research supports CU traits

predicting future violent offending in adolescents, a lack of self-report measures devoted solely to CU traits for adults is lacking. To expand our knowledge, we need to understand when CU traits are a risk or protective factor for PTSD and MI in the aftermath of perpetration in gang members to determine proper forensic assessment, treatment, and management.

Purpose of the Study

In line with a government initiative to combat gang violence through trauma treatment (Lagan, 2018), this study unpacked the metrical extent of perpetration-induced trauma among incarcerated individuals within the island's forensic population, namely, the correctional system. Additionally, this study explored psychological dynamics influenced by the implicit significance of membership level within the gang structure. The primary aim of this study was to determine whether psychopathy functions as a risk or protective factor for PTSD and the specific posttraumatic response of MI when a perpetrating act is self-reported. The independent variables included psychopathy (operationalized as primary/secondary), perpetration status (operationalized as yes/no), and gang membership level (operationalized as a low-level gang member and a gang leader). The dependent variables were a provisional PTSD diagnosis (operationalized as an outcome score where lower numbers are not indicative of PTSD) and MI based on assessment scores (operationalized as an outcome score where a lower number is not indicative of MI).

Research Questions and Hypotheses

Research question (RQ)1: To what extent do gang membership level, psychopathy, and history of perpetration predict PTSD among incarcerated individuals?

H₀₁: Gang membership level, psychopathy, and a history of perpetration will not significantly predict PTSD among incarcerated individuals.

H₁₁: Gang membership level, psychopathy, and a history of perpetration will significantly predict PTSD among incarcerated individuals.

RQ2: To what extent do gang membership level, psychopathy, and history of perpetration predict MI among incarcerated individuals?

H₀₂: Gang membership level, psychopathy, and a history of perpetration will not significantly predict MI among incarcerated individuals.

H₁₂: Gang membership level, psychopathy, and a history of perpetration will significantly predict MI among incarcerated individuals.

Theoretical Framework

Principle of Risk-Need-Responsivity

The risk-need-responsivity (RNR) principle is the best practice model that dominates the forensic domain and, as such, tries to account for mental health impairments and features of antisocial personality/psychopathy through the construct of responsivity. Application of the "specific" responsivity factor would be identifying client characteristics that influence or hinder their ability to learn and apply treatment concepts (Andrews et al., 2011), such as the distressing symptoms of PTSD or MI and indications of psychopathy.

Theory of Trauma Proliferation and Stress Generation

Second, trauma proliferation and stress generation theories posit that independent traumatic stressors induce vulnerability to future stressors, such as further victimization or perpetration through impaired thinking, attitude, and behavior. Based on work expanding continuous trauma theories, Kira et al. (2018) suggested considering ongoing and cumulative trauma rather than a single traumatic event. Hence, when combined with the principle of specific responsivity, the trauma proliferation and stress generation approach can inform more of the utility of trauma assessment and treatment design and practice.

Nature of Study

This study addressed the main RQs using a nonexperimental, quantitative design. Nonexperimental designs are necessary when participants cannot be randomly assigned or when it is not possible to manipulate the independent variable. The participants in this study had preexisting attributes and could not be randomly assigned. The study described the psychological profile of the current population, which required descriptive approaches. The study then employed a series of statistical analyses, including correlation, linear regression, analysis of variance, and post hoc tests, to determine if there was a predictable relationship between the independent and dependent variables and whether the means differed significantly.

Definition of Terms

Gang: “Unlawful gang” means a group, however organized, that is composed of three or more persons and has as one of its purposes or activities the facilitation or

commission of one or more offenses that, if committed, would likely result in the direct or indirect receipt of a material benefit (including a financial benefit), by the group or by one of the persons who constitute the group” (*Criminal Code Act 1907* section 70JA, p.54).

Gang membership level: Refers to the hierarchical rank within a gang structure, categorized as either gang leader or low-level member.

Moral injury: The psychological response of shame, guilt, and spiritual struggle in response to traumatic events, where an individual may have had to react with behavior opposing their moral standards (Jinkerson, 2016).

Perpetration-induced traumatic stress: The symptoms of PTSD initiated by one's instigation and participation in a traumatic event, such as extreme violence (shooting or stabbing another person) (MacNair, 2002). It is often used interchangeably with PTSD.

Posttraumatic stress disorder (PTSD): A set of symptoms that anyone can develop after going through or seeing a life-threatening event. Some factors can increase the chance of developing PTSD. Symptoms usually start soon after the traumatic event, but may not appear months or years later. They also may come and go over many years. Symptoms include feeling on edge or keyed up (also known as hyperarousal); having more negative thoughts and feelings than before the event; avoiding things that remind you of the event; and reliving the event (also referred to as re-experiencing symptoms). The symptoms must last longer than four weeks, cause significant distress, or interfere with daily activities at work or home. It can also be inferred as perpetration-induced traumatic stress when integrated with perpetration indications.

Psychopathy: A disorder characterized partly by shallow emotional responses, Callous-unemotional traits, lack of empathy, impulsivity, and an increased likelihood of antisocial behavior (Cleckley, 1951; Hare, 1991).

Risk-need-responsivity (RNR) principle: The RNR is a core theoretical construct within the field of forensic psychology that guides the assessment and treatment of justice-involved. It is the best practice model based on matching the incarcerated individual's risk level with program intensity, targeting criminogenic needs during evaluation, identifying personal characteristics that impede successful treatment, and implementing strategies to counter these deficits and enhance learning and treatment outcomes (Andrews et al., 2011).

The Levenson Self-Report Psychopathy scale (LSRP): A self-report 26-item, 4-point Likert scale based on the 2-factor psychopathy approach used to measure primary and secondary psychopathy. Accordingly, *Primary Psychopathy* is characterized by affective and interpersonal traits, including but not limited to a lack of empathy, callousness, and manipulation. Alternatively, *Secondary Psychopathy* is characterized by lifestyle traits including but not limited to impulsivity, antisocial behavior, and a lack of long-term goals (Levenson et al., 1995).

The Moral Injury Outcome Scale – Research Form: This is a self-report measure developed by the Moral Injury Outcome Consortium (Litz, 2022). The MIOS is designed to capture potentially morally injurious events and related outcomes. It includes three parts: (a) screening for events that violate an individual's moral code, (b) assessment of whether the worst event meets DSM-5 trauma criteria and PTSD screening using the PC-

PTSD-5, and (c) a 14-item moral injury scale rated on a 5-point Likert scale. It includes two sub-scales, shame-related and trust-violation-related. With total scores ranging from 0-56, where higher scores indicate greater MI severity (mild = 14 -28, moderate = 29 - 42, and severe = 43 – 56).

The PTSD Checklist for DSM-5 (PCL-5) (Weathers et al., 1993): This 20-item self-report measure assesses the 20 *DSM-5* symptoms of PTSD. It can be used as a screening tool and provide a provisional diagnosis of PTSD. It can be totalized in different ways, including but not limited to giving a total symptom severity score.

Trauma proliferation and stress generation: This theory posits that researchers should approach the idea that stress and trauma are cumulative. The theory asserts that when stress and trauma occur, it increases vulnerability and causes more behaviors that incite trauma and its related stress (Kira et al., 2018).

Assumptions

The first assumption of the present study was that each participant completed test measures with integrity and to the best of their abilities. Another assumption was that the participants accurately understood the nature and significance of the study. It was also assumed that the instruments were used correctly and measured the characteristics they were designed to assess. It was assumed that the sample was representative of the broader adult male forensic population within the island jurisdiction and that the data collection procedures were implemented consistently and without bias on my part. Finally, it was assumed that the data met the basic statistical assumptions needed for the analysis conducted.

Scope and Delimitations

This study investigated whether psychopathy predicted gang status distinction and whether psychopathy functioned as a risk or protective factor for PTSD or the posttraumatic symptom of MI based on the perpetration of violent acts. The study was delimited to a small island jurisdiction and focused exclusively on adult males incarcerated for indictable offenses within the island's correctional services (ICS).

While gang membership exists within the broader community, generalizations to non-incarcerated individuals cannot be assumed. The population was limited to adult males incarcerated within the small island's correctional system. Incarcerated females, juveniles, and individuals on probation or parole were excluded. This decision aligned with the RNR model and supported the study's focus on the high-risk, high-need forensic population.

Purposive sampling was employed to select participants with relevant characteristics, including gang affiliation, criminal conviction, and local residency. Foreign nationals were excluded to reduce the confounding effects of differing sociocultural contexts, legal systems, or access to correctional services. The research design used a cross-sectional, quantitative design approach and relied on standardized self-report instruments. This method enabled statistical modeling of the relationship between psychopathy, gang level, perpetration, PTSD, and MI. However, the design did not allow for causal inferences or in-depth analysis of subjective experience as qualitative methods were intentionally excluded.

Gang status, including membership level, was measured using self-nomination and current affiliation. While widely used in forensic research, this method may not have fully captured informal affiliations or nuanced ranking dynamics.

The study was further bound by its conceptual approach. It emphasized psychological constructs, such as trauma, psychopathy, and MI, within a clinical-criminology framework. Broader sociological factors, such as neighborhood violence, racial profiling, or socioeconomic status, were outside the study's scope. These boundaries were deliberately set to maintain a focused inquiry aligned with clinical psychological practice and the operational realities of the island's correctional institutions.

Finally, although the study acknowledged that PTSD and MI are influenced by a combination of individual, interpersonal, and systemic factors, it did not attempt to isolate or quantify them each. The design assumed their contribution as part of the complex background in which trauma symptoms manifest.

Limitations

This study acknowledges several factors that may have limited the scope of the results and the conclusions that could be drawn. Overall, there may be limitations to the validity, generalizability, and applicability of the findings, which makes forming conclusions about the broader population challenging. Although highly validated measurements were used, some test measures were normed on non-forensic samples, which may affect relevance. Another challenge included collecting data while maintaining confidentiality within a secure environment and addressing the concerns of a

population that may be wary or distrustful. The use of self-report measures also posed the risk of participants over- or under-reporting sensitive information. Moreover, gang membership was self-reported rather than formally verified by security intelligence due to Institutional Review Board (IRB) constraints.

The island jurisdiction's small geographical size and relatively small population (about 62,000) resulted in a limited forensic sample. This small sample size may have decreased statistical power and increased the risk of a Type II error. Finally, because there is no published research specific to the island jurisdiction's forensic or general population, cultural differences may have influenced responses and contributed to potential inference errors.

These limitations underscore the need for future research with larger samples, culturally relevant instruments, and broader community representation to enhance generalizability and deepen the understanding of this population's psychological needs.

Significance

Perpetration-induced traumatic stress is a new construct with little application beyond populations politically and socially sanctioned to harm or kill, such as war veterans, law enforcers, executioners, and medical physicians. Only recently has it been applied to the forensic field, where killing has been viewed as more appetitive, compelling, and socially and politically unacceptable. Kerig et al.'s (2016) forensic study had several limitations, including the use of a juvenile sample in a short-term detention center, briefer gang membership tenure, reliance on single self-report measures, lack of distinction between appetitive and forced perpetration, and no link to MI.

This research advanced knowledge in this area by examining the relationship between CU traits, gang membership status, PTSD, perpetration-induced traumatic stress, and MI among a sample of self-identified gang members. Although the original design was intended to include formal classification by security intelligence, the IRB did not approve this. Incorporating a formal classification of gang rank into future research would strengthen the validity of gang membership distinctions and improve the accuracy of findings in this area. This study was unique in being the first to use an incarcerated adult gang sample from the island jurisdiction, which helped broaden and contextualize the construct for a population with distinct sociocultural factors.

The findings should help inform the ICS's development gang guidance aligned with the responsivity principle, ensuring that this offending population is readily identifiable and receives appropriate resources for assessment and intervention. Additionally, custody personnel may gain a clearer understanding of the behavioral and psychological dynamics of gang-related trauma, allowing for more therapeutically responsive approaches rather than solely punitive measures. Finally, these results may encourage policymakers to implement nonviolent prevention strategies to disrupt community-based gang violence and reduce the cycle of violence. Ultimately, this information can reduce recidivism.

Summary

Researchers have expanded the PTSD construct beyond cases of interpersonal and witnessed acts of violence to include trauma resulting from having committed a violent act. Despite this expansion, research on perpetration remains in its infancy among

the gang population, with limited practical utility. This population is associated with higher levels of psychopathic personality features and increased exposure to interpersonal and perpetration-related trauma. Consequently, these individuals are often underdiagnosed, which undermines effective intervention and poses challenges to broader public safety goals.

This quantitative, nonexperimental study determined whether psychopathic personality features, such as CU traits, acted as a risk or protective factor for PTSD and MI in the aftermath of violent perpetrating among offending gang members. The variables were measured using several standardized assessments and analyzed using SPSS. The results were interpreted, with conclusions drawn and thoroughly discussed.

This research contributes to the mission of promoting positive social change by providing forensic service providers with more precise clinical targets for assessing and treating individuals involved in gang activity. These findings may ultimately help address unresolved psychological symptoms, supporting rehabilitation and reducing the risk of continued violence, thereby contributing to a safer and more productive community.

Chapter 2: Literature Review

Introduction

Perpetration-induced traumatic stress and MI have been highlighted in the literature to be extremely debilitating (Jones, 2020; Kerig et al., 2016), yet they have received scant international research attention with no local small island-based contribution. This study will determine when psychopathy acts as a risk or protective factor for PTSD and the specific posttraumatic reaction of MI when a perpetrating act is self-reported. This literature review aims to comprehensively analyze the most recent research on the implications of gang members' violent perpetration. This chapter will begin with a summary of the literature search strategy. I will then introduce the theoretical foundations of this study. In the subsequent sections, I will discuss CU traits (psychopathy), PTSD, perpetration-induced traumatic stress, MI, general associations, and their associations with gang membership. Each segment will highlight study findings, identify gaps, and offer expansions. I will also highlight the literature on the methodology to support the use of specific psychological measures and analyses.

Literature Research Strategy

I employed multiple search techniques to find research on this topic. I initially reviewed all source varieties to thoroughly examine the issue. Later, only peer-reviewed scholarly articles were selected. I acquired most of the literature through the online Walden University library database. Databases included Thoreau Multi-Database Search, PsycINFO, PsycARTICLES, PsycEXTRA, PsycBOOKS, ProQuest, PTSDpubs, and PsycTESTS. I also used information from my library of books and a local online

newspaper. The U.S. Department of Veterans Affairs National Center for PTSD website was additionally incredibly beneficial.

I performed a broad search using the following keywords, phrases, and Boolean identifiers in the databases mentioned above: *gang members, gang status, gang offenders, gangs in the small island jurisdiction, posttraumatic stress disorder, moral injury, gang trauma, perpetration-induced traumatic stress, risk-need-responsivity, specific responsivity, psychopathy and gang members, PTSD and gang members, responsivity and gang members, Callous and unemotionality in gang members, psychopathy in gang members, and therapeutic alliance and psychopathy*. The available research does not primarily focus on perpetration-induced traumatic stress or MI in gang members. Hence, where appropriate, I used childhood soldiers as a comparison. In most instances, I used publications within the last 10 years and cited relevant seminal publications.

Theoretical Foundations

Brief History of Correctional Rehabilitation

Forensic psychologists and criminologists have devoted considerable effort to exploring the underlying causes of criminal behavior and identifying specific treatments that can counteract it. Despite implementing various therapeutic interventions to decrease criminal behavior, prison overcrowding impeded treatment quality, resulting in high recidivism rates (Cullen et al., 2012). Subsequently, researchers conducted a surge of studies throughout the 1970s and 1980s that examined assessments and interventions that reliably targeted the causes of criminal behavior and promoted positive change. By 1974,

Robert Martinson, a leading critic of correctional rehabilitation, published one of the first meta-analyses of treatment efficacy. This article's results showed little to no change after completing offense-specific treatment and other skill development services. This finding disparaged pro-rehabilitationists. It subsequently fueled the long-standing "Nothing Works/What Works" debate on reducing recidivism among justice-involved individuals. Rehabilitation scholars made a concerted effort to re-examine the existing data using new methodological strategies, which proved that recidivism decreased by 30%. This reduction refuted the pessimistic view that treatment was ineffective (see Andrews & Bonta, 2010b). Paradoxically, Martinson himself could not contest those new findings.

In response to Martinson's "Nothing Works" viewpoint, Canadian colleagues James Bonta, Don Andrews, Robert Hodge, Paul Gendreau, and Stephen Wormith wrote various responses to rehabilitation narratives. These narratives led to the development and formalization of the RNR model (Andrews & Bonta, 2010a). Still, decades later, the model remains internationally recognized as the principle of effective correctional treatment and the one that small island jurisdiction penal system utilizes. It is a leading framework used for case management of justice-involved individuals to ensure an ongoing decrease in recidivism (Looman & Abracen, 2013; Polaschek, 2012; Prendergast et al., 2013).

Theoretical Underpinnings of the RNR Model

The late 1980s witnessed a conceptual shift in focus from the social structure of crime to the individual criminal's psychology. Influenced by Don Andrews, James Bonta, and Robert Hodge, the psychology of criminal conduct emerged under the premise that

crime had biological, psychological, and social components. They termed it the General personality and cognitive social learning (GPCSL) theory of criminal conduct (Bonta et al., 2014). More specifically, people learn about crime in a social context accompanied by a cognitive-behavioral component related to criminality. This concept established the tone for Canadian-based researchers to develop their theory into a practical model that enhances treatment efficacy and reduces recidivism.

The RNR Model

Three evidence-based principles delineate the RNR model, which provisionally guides service providers during the case management process. The RNR model aims to ensure that justice-involved individuals achieve an optimal rehabilitative outcome, have a decreased chance of recidivism, and experience increased public protection. The model identifies who requires treatment (risk), what the treatment needs are (need), and how to achieve this best (responsivity). Risk and risk assessment refers to the indeterminate potential or likelihood of someone causing harm within a specific timeframe. The risk principle emphasizes that an individual's identified risk to cause harm should match the same level of program intensity (Andrews & Bonta, 2015), namely, low, moderate, or high. It also postulated intervention for those with a higher risk of reoffending. The concept of need and needs assessment refers to those unmet needs that would ordinarily foster optimal psychological well-being and fulfillment, but where deficient, would incite compensation through potentially harmful acts in the future (Andrews & Bonta, 2015). The need principle, therefore, implores service providers to address the eight factors empirically linked with criminal behavior, commonly termed the "Central 8"

criminogenic risk/needs factors, rather than non-criminogenic needs. Namely, a history of antisocial behavior, antisocial personality, antisocial cognitions, antisocial associates, substance abuse, weak family/marital relationships, and deficient performance in school/work. Finally, the responsivity principle focuses on the interaction or exchange between the incarcerated individual and their learning environment. More specifically, the responsivity principle proposes identifying the incarcerated individual's personal factors that hinder learning during treatment, implementing appropriate strategies to enhance learning outcomes, and determining the best treatment modality for the individual to learn (Andrews & Bonta, 2015). Systematic, general, and specific are the three segments of responsivity, with the latter being the focus of this research.

The RNR model certainly had flaws and criticisms during the earlier days of use. Ward et al. (2007), Laws and Ward (2011), and Ward et al. (2012) were some of the leading critics of the model. They suggested it was a compilation of weak concepts rather than a formal theory of rehabilitation. Even Andrews (2006) admitted that the concepts' vagueness fostered a significant disconnect between theory and practice, resulting in low and inappropriate adherence. However, this was less about the strength of the theory. Empirical studies began demonstrating that many agencies had operational and best practice conflicts.

Additionally, their practitioners had misinterpretations and misuses that significantly impaired adherence, causing residual outcomes (Polaschek, 2012). In essence, it was challenging to transition the model into a practical setting. Subsequently, the model progressed by thoroughly explaining the concepts and providing an

interpretive guide and manual. However, even recent adherence studies suggest that practitioners range from low-moderate to high adherence (Miller & Maloney, 2013).

Notwithstanding, critics could no longer deny what the risk and need meta-analyses had suggested. Consistently, empirical support for adhering to all three principles has demonstrated the highest reduction in recidivism, with a mean effect size of .28 for institutional settings and .35 for community-based settings. In contrast, limited or no adherence often increases recidivism rates (see Polaschek, 2015). Appropriate adherence to the responsivity principle produced the most significant effect size of all the principles and accounted for a substantial amount of the overall effect of all three principles combined (Andrews & Bonta, 2015; Marshall & Marshall, 2012). A growing body of research also found the model robust enough to generalize to several subtypes of incarcerated individuals (such as mentally disordered) and settings (Bonta et al., 2014; Campbell et al., 2015; Prendergast et al., 2013).

The Forgotten R

The appeal for adherence, combined with the robust theory of the risk/need principles and the straightforwardness of conducting risk/need studies (Viljoen et al., 2018), resulted in an extensive risk/need research base. However, evidence of the underutilization and underdevelopment of the responsivity principle emerged (O'Brien & Daffern, 2016; Skeem et al., 2015). A robust analysis of responsivity became challenging due to a commonly practiced vulnerability. Practitioners had consistently failed to document the strategies implemented to address client responsivity issues, such as the type of delivery or quality of intervention, which correlated with an incarcerated

individual's treatment completion (see Campbell et al., 2015; Dyck et al., 2018). One study demonstrated that juvenile probation officers failed to identify responsivity factors on case plans in 30% of the sample (Holloway et al., 2018). Fundamentally, the studies implied practitioners had compromised adherence to the responsivity principle. Still, other studies, such as Drawbridge et al. (2019), should have included it. Accordingly, these studies further discussed the implications of such oversights and proposed future research on why specific individuals succeeded in a program while others did not and needed further responsivity training.

The Principle of Responsivity

It was no coincidence that adherence to the responsivity principle carried the most significant recidivism effect size among the three principles. Responsivity considers all matters related to an individual's ability to engage and respond to treatment interventions. It emphasizes that the same intervention may not be equally effective for everyone. It requires tailoring and matching the treatment to meet the individual's specific needs, ensuring that identified factors do not moderate the effectiveness of the treatment (O'Brien & Daffern, 2016). Accordingly, irrespective of an individual's criminogenic risk/need level, sequelae will occur without the right person-environment combination and reduce treatment success (completion and reoffending). This practice, however, is distinct from treatment related to offending. Prior research examining the link between the treatment of responsivity factors and recidivism has consistently reported that it does not predict reoffending, but moderates treatment engagement and completion (O'Brien & Daffern, 2016). At a minimum, they functioned as an intermediary for motivation and

access to address criminogenic needs (McCormick et al., 2017). Hence, focusing on responsivity factors alone does not reduce recidivism. Service providers should address responsivity factors before the individual engages in interventions targeting criminogenic needs.

Systemic Responsivity

Since the initial development of the RNR model, the principles have expanded. Systemic responsivity, coined by Faye Taxman, is the most recently developed and least scholarly examined of the factors. It considers the interventions that the forensic setting offers to individuals. It urges the organization to be responsive by ensuring that all incarcerated individuals have fair access to appropriate evidence-based intervention intensities and types, upholds best practices, and adheres to the RNR principles. It deems an organization systemically responsive when its programs align with its clients' criminal profiles (Miller & Maloney, 2020). It also advocates for interventions targeting core risk factors such as violent or sexual offending, trade and academic programs, and avenues for securing housing and employment.

General Responsivity

General responsivity considers the type and structure of treatment. Treatments should be from a cognitive-behavioral approach and structured to include opportunities for prosocial skill-building, prosocial modeling, reinforcement strategies, and problem-solving (Voorhis et al., 2013). Social learning theory is the primary source of these behavioral techniques (Davis et al., 2017), which also drives cognitive-behavioral therapies (CBT). Consequently, meta-analyses have demonstrated that CBT is a more

effective therapy for incarcerated individuals than other punitive or nonbehavioral/relationship-oriented models (Voorhis et al., 2013). It is worth mentioning that researchers often overstate the effectiveness of CBT, and where appropriate, practitioners can use different types of evidence-based interventions. Treatment responsiveness is another factor impacted by the therapeutic alliance.

Specific Responsivity

Specific responsivity emphasizes tailoring an intervention to fit the individual's needs. This principle assumes that no two incarcerated individuals are alike, and each has personal characteristics (internal) that can present as barriers to treatment. Researchers have highlighted various forms of specific responsivity factors in the literature. They are clinical syndromes, impairments, and social incompetence commonly identified in risk assessments as impairments in motivation, denial/minimization, interpersonal anxiousness, gender-specific issues, cultural and ethnic issues, low intelligence, communication barriers, mental health disorders, and personality.

Despite the purported impact on treatment effectiveness, research has slowly emerged regarding the moderating effects of specific responsivity factors on treatment (McCormick et al., 2017), which can prevent content comprehension, attention, attrition, or the ability to change. There remains little empirical investigation on them (Voorhis et al., 2013) and their interaction with differing forensic subgroups beyond their role in recidivism outcomes. The specific responsivity variables highlighted in the literature, which are sparse and limited to psychopathy, motivation, and readiness to change, are often misunderstood due to methodological limitations and have yielded mixed

outcomes. These literature gaps assume their importance to effective treatment outcomes and an overall goal in the forensic industry to decrease recidivism.

Similarly, this research gap has possibly had a trickle-down effect in practice. Existing studies reveal that practitioners' underutilization of the responsivity principle is a common phenomenon. They fail to isolate those individual internal attributes that obstruct treatment engagement and completion. For example, one meta-analysis study on incarcerated gang members revealed increased rates of PTSD but decreased PTSD identification and treatment rates during the initial intake screening process (McCormick et al., 2017). The inability to mitigate responsivity factors is very concerning. It reduces the opportunity to alleviate those core criminogenic risk factors pivotal to antisocial attitudes and behavior patterns. This negligence has a rippling effect that ultimately increases the risk to civilian safety. Bailey et al. (2014) found that unrecognized PTSD was associated with significant setbacks in a gang-based behavioral employment intervention. Specific psychopathy traits moderated treatment effectiveness (O'Brien & Daffern, 2016). They also found that the accumulation of factors, rather than a single factor, increased treatment ineffectiveness and the risk of recidivism. Hence, mental health challenges often go unnoticed despite the RNR model insisting on identifying all responsivity factors for an optimal treatment outcome (Beresford & Wood, 2016), resulting in deleterious effects.

To prevent this mishap, assessment officers should identify destabilized mental health conditions such as post-traumatic stress symptoms and implement pre-requisite measures to resolve these responsivity factors before or during the engagement of core

rehabilitation interventions. These mechanisms could be various applications, including medical referrals for psychotropics, the suggestion of content modifications or aids, or any mechanism fostering more amenability to treatment. Hence, in practice, identifying and targeting a mental disorder before treatment is necessary because stabilizing mental health would improve the individuals' overall quality of life and has been found to increase treatment engagement (see Campbell et al., 2015). One potential reason for this consistent mishap is that emotional numbing, dissociation, and other CU traits (desensitization and apathy) can simultaneously mask the presence of post-traumatic stress symptoms (Kerig et al., 2016). This duality can cultivate ambiguity of trauma symptoms, particularly in individuals with psychopathic traits who present with impulsive, aggressive, or violent presentations.

Responsivity and Psychopathy

The RNR literature has acknowledged psychopathy as a risk and responsivity factor. As noted above, responsivity concerns internal and external factors that can hinder treatment engagement and completion, ultimately affecting recidivism. The government spends an estimated \$460 billion annually (Haneveld et al., 2018) due to individuals with psychopathic destructiveness in society and within the prison institution, suggesting the importance of treatment completion and behavior change.

Traditionally, evidence indicated that incarcerated individuals with psychopathic traits did not benefit from treatment for various reasons. They had deficits in emotional bonding, negatively impacting the development of the therapeutic alliance. The therapeutic alliance is critical in intervention engagement, completion, change, and

program attrition (Haas & Spence, 2017; Kozar & Day, 2012; Polaschek & Ross, 2010).

The debate on treatment amenability among individuals with psychopathy remains.

However, an improved research methodology helped streamline the identification of psychopathy clusters. Identifying psychopathic trait clusters can help practitioners and custodial staff implement more rigorous security measures in prisons. It also helps to determine which psychopathic profiles are amenable to treatment, appropriately target treatment tasks, and use appropriate therapist-client interaction approaches.

Polaschek and Ross (2010) conducted a 3.5-year longitudinal study examining the strength of the therapeutic alliance and its relationship to motivation, stage of change, and treatment outcome among 70 incarcerated adult individuals with violent psychopathic traits using the Working Alliance Inventory. The results demonstrated that the therapeutic alliance was strong in the second week and continued to increase throughout the program. The men who identified with the highest increase in therapeutic alliance also exhibited the most significant behavior change, and the pre-program stage of change and motivation to change predicted an 83% completion rate. However, one limitation of Polaschek and Ross's study was the failure to identify psychopathy clusters. They disclosed that most participants reported overall anxiousness and distress, which the theory suggests is typical in individuals with low-level or secondary psychopathy and inadvertently might have contributed to a higher completion rate.

A later study by DeSorcy et al. (2020) used the Working Alliance Inventory to examine the impact of psychopathy in a sample of 111 incarcerated individuals with sexual offense history. Similarly, while they found no significant overall main effect

involving psychopathy and working alliance on recidivism outcomes between high and low psychopathy subgroups, there was a substantial difference in weaker bonding scores for the high psychopathy subgroup (high Factor 1 scores) and lower scores on in-therapy task agreements with the low psychopathy subgroup (high Factor 2 scores). They asserted this struggle to be typical of both subgroups based on theories of primary and secondary psychopathy variants.

Working Alliance Inventory meta-analyses and analyses formulating the Core Correctional Practices have shown empirical support for increased client engagement, behavior change, lowered attrition, and recidivism for most psychopathy clusters based on several therapist qualities. These therapist qualities included being warm, empathetic, rewarding, directive, nonconfrontational, modeling pro-social behavior, aware of social rules, and disapproving of antisocial behavior. Notwithstanding, this is based on external factors rather than internal features of the client.

Research on the link between psychopathy and reoffending risk (recidivism) has received moderate attention and extensive support. However, limited research is dedicated to its function as a treatment barrier or responsivity factor (O'Brien & Daffern, 2016; Polaschek, 2018). Emerging evidence suggests that specific psychopathic features may hinder content comprehension, attention, and the capacity for change during treatment. Olver et al. (2013) found that Factor 1 (CU) traits, particularly affective elements, were stronger predictors of violent reoffending and were linked to poor treatment response. In contrast, O'Brien and Daffern (2016) reported that while Factor 2

scores predicted reoffending, Factor 1 scores were more closely associated with treatment outcomes.

Theory of Trauma Proliferation and Stress Generation

The trauma proliferation and stress generation theory (Kira et al., 2013) combines and expands trauma proliferation (Pearlin et al., 2005) and stress generation theory (Kira et al., 2013). Essentially, the theory suggests that one trauma can snowball, where independent life stressors can increase a person's inclination to stressors for and within themselves. For example, childhood sexual abuse can lead to maladaptive thinking and divorce later in life. The theory encourages researchers and practitioners to approach stress and trauma cumulatively rather than independently.

Seminal works from stress generation theorist Kira et al. (2013) first linked and expanded the psychological impacts of stress and trauma beyond victims to include perpetrators. They posited, "Perpetration-induced trauma is a self-stressor that can generate further stressors." (p 397). Hence, when combined with the principle of specific responsivity, the trauma proliferation and stress generation approach can inform the utility of trauma assessment and treatment design in practice.

Psychopathy

There is no doubt that the psychopathy construct is intricate and complex, with various components remaining a mystery. Consequently, this section will discuss psychopathy variants in depth, highlighting two significant subtypes: individuals with primary psychopathy and those with secondary psychopathy.

Generally, psychopathy is a personality disorder characterized by varying levels of interpersonal, affective, and behavioral impairments. More specifically, contemporary descriptions of psychopathic features include "egocentricity; impulsivity; irresponsibility; shallow emotions; lack of empathy, remorse, and guilt; pathological lying; manipulation; and the persistent violation of social norms and expectations" (DeSorcy et al., 2020, p. 1740). The *DSM-5* does not list it as a disorder despite researchers operationalizing psychopathy as specific personality traits and behavioral deficits. Traditional and contemporary psychopathy conceptualizations share common themes and features despite a trajectory of variability in approaches used to examine it. Taxonomic versus dimensional approaches to conceptualizing and measuring it created a conflict of differing emphasis on different symptomatic features, either necessary or sufficient to be present (Wright, 2009). Despite this debate, each approach has its strengths and weaknesses, pending the unique RQ, and has significantly contributed to the understanding and advancement of the psychopathy construct.

Hervey Cleckley's (1951) conceptualization of psychopathy is the foundational referent for contemporary concepts and psychopathy measures. His occupation as a psychiatrist in an inpatient mental health facility caring for moderate to high socioeconomic residents was pivotal for his observed psychopathic features. In particular, he observed that these individuals exhibited remarkable deficits in affect, social attachment, and deviant behavior, which were often masked by seemingly well-adjusted presentations, including charm, confidence, sociability, and, in many cases, overall career success (see Patrick et al., 2009).

Alternatively, psychopathy has also been theorized within criminological frameworks, with developmental perspectives linking antisocial behavior to broader social and environmental contexts (Moffitt, 1993) and criminological accounts situating psychopathy within socioeconomic disadvantage and persistent justice involvement (DeLisi, 2009). Hence, harmful environmental influences, including the psychological consequences of childhood trauma and its links with dissociation, aggression, detachment, persistent violence, impulsivity, CU traits, and Antisocial Personality Disorder (Hicks & Drislane, 2018; Yildirim & Derksen, 2015a) were a pivotal contribution to their theory. Consequently, while much of the differentiation between the two observations arose from the individual researchers' unique work environments (Yildirim & Derksen, 2015a), it would also support the primary and secondary psychopathy variant theories, respectively. Hence, the literature refers to primary psychopathy as innate, while secondary psychopathy is acquired.

Psychopathy is measured using numerous assessment tools, including taxometric and dimensional item questions. Robert Hare pioneered the psychopathy construct by developing the Psychopathy Checklist and its associated versions, which researchers revered as the gold standard for measuring psychopathy. Accordingly, the Hare inventories have dominated the extant research literature and copiously operationalized the construct for decades. Despite its good validity and reliability, further scrutiny of the measure revealed issues with the item criterion measures (Swogger & Kosson, 2007), insufficient positive adjustment features (Patrick et al., 2009), and an overemphasis on criminal violence (Polaschek, 2018).

Similarly, Hare's background in criminal psychology contextualized the development of his measure to emphasize the criminal lifestyle. Hare operationalized the construct through a two-factor model, distinguishing two components: Interpersonal/Affective (Factor 1) and Antisocial/Lifestyle (Factor 2). Several researchers have criticized the overemphasis on Factor 2 items, including Polaschek (2015), who further asserted that forensic researchers have heavily relied on them for recidivism studies, leading to conflation and inadvertently dominating research attention and interpretation of the construct. Opponents contended that an antisocial lifestyle is unnecessary but a sufficient component of psychopathy and, more accurately, an excellent predictor of violent reoffending (Polaschek, 2015). Factor 1 traits (callous-unemotionality, shallow affect, and reduced empathy) distinguish psychopathic personality disorder from other violent, antisocial, and criminal behavior (Polaschek, 2015; Sethi et al., 2018). Additionally, the Hare inventories underrepresent treatment variables that could help determine a more robust treatment regimen, and, as such, should have a decreased reliance on them. The Hare Psychopathy Inventory's traditional utility has facilitated confusion about the measure and its predictive utility in relation to construct validity (see Skeem & Cooke, 2010).

Researchers developed alternative analyses and measurement tools in response to the feudal emphasis on symptom features. Consequently, researchers have also proposed three and four-factor structures. One instrument, the Triarchic Psychopathology Measure (TriPM) (Patrick et al., 2009), uses a three-factor structure approach and considers the constructs of disinhibition, boldness, and meanness to harmonize prior alternative factor

structure concepts into a unified framework. The triarchic model describes psychopathy as the interaction between a high score on disinhibition scales and high scores on either the meanness or boldness scales or both (Polaschek, 2015). The model characterizes disinhibition as characterized by poor impulse control, poor emotion regulation, and increased negative emotions. Cruelty, cold-heartedness, excitement-seeking, power and control, and a lack of empathy and emotional bonding are phenotypically described as the characteristics of the meanness construct. Researchers have linked this trait with early experiences of poor parenting and low socioeconomic status. Of the three, boldness is considered an adaptive feature (positive adjustment) characterized by calmness under pressure or lack of anxiety, tolerance of danger, quick recovery from a stressful situation, dominance, and adventurousness.

Patrick et al. (2009) and Moffett et al. (2020) asserted that boldness is a distinguishing factor of true psychopathy. First, despite being the primary feature of Cleckley's theory, boldness is a weak and secondary feature of the Psychopathy Checklist-Revised items. Hence, they further asserted that it was an essential feature of those individuals with psychopathy who are socially and professionally successful, such as political, military, and corporate leaders. Boldness also shares commonalities with the grandiose manipulative factor of the Youth Psychopathic Traits Inventory used in a study by Dmitrieva et al. (2014), linked to establishing leadership roles within gang membership. It also shares commonalities with the Fearless Dominance factor of the Psychopathic Personality Inventory. According to Sellbom (2015), it was correlated with resilience to PTSD among a non-forensic community student sample. However, they

could not replicate this outcome using a male prison sample in the Woodfield et al. (2016) study.

This section has highlighted the fundamental origins, features, and complexities of the psychopathy construct. There remains an open-ended debate on whether taxonomic or dimensional approaches are more efficient in conceptualizing and measuring the construct. Both methods have their strengths and weaknesses, pending the RQ, yet both have equally advanced what researchers and practitioners know about psychopathy. Various assessments measure psychopathy, and despite overreliance on their use, the Hare measures remain the gold standard in forensic practice. However, other measures, such as the TriPM, are more clinically effective. Measures like this align with the initial observed primary deficit features and can more efficiently recommend intervention targets. Amidst the various features asserted to operationalize psychopathy, the level of anxiety remains an empirically preferred characteristic, alluding to its heterogeneity. Boldness and fearlessness have also received considerable research attention that has helped further investigate variants of psychopathy.

Psychopathy Subtypes

Clinicians established theories of differentiation within psychopathy through clinical case studies long ago. Later, the introduction of various statistical techniques provided empirical support for this variant theory. An in-depth understanding of the cause and phenomenology of psychopathy is worthwhile, specifically among forensic professionals. Estimates of 15-30% of the prison population have psychopathy traits, with 65% meeting the criteria for antisocial personality disorder (Muñoz-Negro et al.,

2018; Yildirim & Derksen, 2015a) and 1% of the general population (Gao & Raine, 2010). Moreover, using a dimensional approach offers the ability to generalize about true psychopathy rather than criminality. More specifically, individuals with certain types of psychopathy tend to commit more severe crimes in the community and prison (Wright, 2009), start offending earlier than their non-psychopathic trait criminal counterparts, and are more likely to re-offend violently sooner after release. Alternatively, other subtypes of individuals with psychopathy have more adaptive and protective features, are less inclined to engage in criminality, tend to be highly successful, and are often found in leadership roles (Gao & Raine, 2010). Hence, moving beyond identifying the risk of recidivism and understanding the differentiation within psychopathy in the forensic population has infinite value, such as establishing intervention targets (Skeem et al., 2003), examining responsivity considerations, and understanding those protective factors that may eradicate or decrease the disorder.

This section provides a historical and contemporary overview of the literature examining psychopathic variants. It will also introduce plausible links between trauma and genetics with psychopathy variants. The latter section will then provide researched outcomes that support a unique profile for each variant. It is essential to recognize that more recent studies focus on and support within-group differences, which I highlighted briefly.

Two psychopathic etiological mechanisms have received substantial empirical support. These subtypes originate from the biopsychological theory of personality and constitutional and environmental background. Similarly, Skeem et al. (2003) asserted

five dimensions that have steadily supported the presence of psychopathic variants, including genetic versus environmental pathways; differences in affect, such as empathy, guilt, and love; neuroticism or level of anxiety; and borderline and narcissistic personality disorders.

The contemporary dimensional approaches, using cluster and latent profile analysis, as well as structural equation modelling, among other techniques, have consistently distinguished psychopathy as heterogeneous (Lilienfeld et al., 2015; Skeem et al., 2003) and on a continuum (Prado et al., 2016; Yildirim & Derksen, 2015a, 2015b). Despite the consistency of these distinctive clusters, several earlier studies had presented various limitations, which, according to Swogger and Kosson (2007), included self-report measures, criterion contamination, and weak clustering methodologies. Swogger and Kosson's study aimed to replicate these findings while addressing previously identified limitations. Consequently, their research identified primary and secondary clusters through outcome measures, similar to other studies that used self-report measures in both child and adult samples.

Cluster analytic studies have also reliably confirmed a distinction of a trait anxiety feature (Newman et al., 2005), which supports theories of secondary psychopathy, initially conceptualized by Benjamin Karpman and his contemporary Ronald Blackburn. A meta-analysis by Yildirim and Derksen (2015a) revealed empirical support for differences in anxiety levels in Psychopathy Checklist-Revised studies. However, several studies, such as Neumann et al. (2013), revealed discrepancies in the link between anxiety levels, asserting that the Psychopathy Checklist-Revised is

unrelated to other self-reported measures of anxiety. Similarly, in their 2012 study, Visser et al. used the Stress Immunity Subscale of the Psychopathy Personality Inventory-Revised (PPI-R) to identify individuals with low anxiety and compared these scores with those obtained from the PPI-R and the Self-Report Psychopathy Scale III (SRP-III). The analysis revealed that low anxiety was unrelated to psychopathy, measured by the PPI-R and SRP-III.

Gray's reinforcement sensitivity theory is a biopsychological framework often applied to the study of psychopathy subtypes. His theory that human behavior was motivated by the activation of three neurophysiological reward and punishment responses had similarly found some differentiated support for primary and secondary subtypes. Several study outcomes using the traditional reinforcement sensitivity theory evidenced preliminary support for one group of psychopathy with a decreased Behavioral Inhibition System (BIS) sensitivity that tended to demonstrate low or absent affective or anxiety traits and, therefore, were classified as individuals with Primary Psychopathy. Another group with an increased Behavioral Activation System (BAS) sensitivity showed high affective or anxiety features and was classified as individuals with Secondary Psychopathy. Comparably, in their cluster analytic study, Newman et al. (2005) found two distinct psychopathy clusters: one primary cluster with high psychopathy scores, low anxiety, and low BIS, and a secondary cluster with high psychopathy scores, increased anxiety, and high BAS.

Later, many studies began to explore the difference between fear and anxiety. The theory was revised to include a Fight-Flight-Freeze System (FFFS), which is responsible

for detecting a threat and initiating avoidance (Johnson et al., 2014). Hughes et al. (2015) investigated the role of BIS (anxiety), FFFS (fear), and BAS (reward and drive) in psychopathy in one hundred and ninety-two college students. The results indicated that BIS (low anxiety) negatively correlated with primary and secondary psychopathy. FFFS (low fear) negatively correlated with primary psychopathy. BAS (reward and drive) correlated positively with primary psychopathy, and Fun-Seeking was positively correlated with secondary psychopathy and negatively correlated with primary psychopathy. Their finding that low anxiety was present in both subtypes eliminated the possibility of a distinction between subtypes.

Further, FFFS (low fear) was characteristic of primary psychopathy, while BAS (fun-seeking) was characteristic of secondary psychopathy. Yildirim and Derksen (2015a) described fear rather than anxiety. Similarly, they concluded that the findings aligned with earlier theoretical perspectives, indicating that primary psychopaths exhibit reduced fear and punishment sensitivity. In contrast, secondary psychopaths display greater impulsivity, hedonism, and short-term focus.

Johnson et al. (2014) expanded on the preliminary findings of the revised reinforcement sensitivity theory to determine whether the three constructs mediated the relationship between psychopathy and various externalizing behaviors using a sizable adult offending sample. Their analysis also linked FFFS (low fear) rather than BIS (low anxiety) with psychopathy, aggression, and substance abuse. Further, BAS was not associated with secondary psychopathy; higher psychopathology scores were generally associated with decreased FFFS scores, resulting in increased antisocial behavior and

substance abuse. Consequently, Derefinko (2015) reiterated that the disparate link between low anxiety and psychopathy resulted from generalizing the anxiety construct to include fear and inhibition. After examining them separately, each construct varied with psychopathy, concluding that anxiety level is better viewed as sufficient but not necessary for either subtype.

Studies of genetics, neurobiology, and neurophysiology have also evidenced strong support for variations within psychopathy through a heavy research concentration on the fear variable, brain structure, and various neurotransmitters. For example, using fMRI, Sethi et al. (2018) investigated neurocognitive differences in response to others' fear or distress in the presence or absence of anxiety between primary and secondary variants. Results indicated the groups differed in internalizing symptoms, including whole brain and specific structure reactivity, anxious symptoms, and a diagnosis of generalized anxiety disorder. Congruent with an earlier cluster study using the Psychopathy Checklist-Revised in addition to an anxiety measure, Poythress et al. (2010) identified primary, secondary, and unexpected fearful clusters, with the primary cluster significant for the lowest anxiety level and scores on the Harm Avoidance scale and the fearful cluster with significantly elevated scores on harm avoidance. In their 2015 meta-analytic review, Lilienfeld et al. similarly asserted a trend in increased boldness or fearless dominance among successful psychopathy variants. This successful group was synonymous with a primary psychopathy profile at the extreme end of the continuum.

Researchers have identified a trend in several neurocircuitry pathway deficits resulting in abnormal externalizing and internalizing processing and behavior. For

example, comparable to previous findings, Fanning et al. (2014) linked the neurotransmitter serotonin (5-HT) and increased aggression and violent behavior in primary versus secondary clusters. Research also linked this neurotransmitter with empathy, moral judgments, and aversive sequelae in samples with decreased amounts. Similarly, variations in the mesocorticolimbic DA (dopamine) system and corresponding genes have provided empirical support for psychopathic variants. The dopamine system regulates risk-taking, instrumental aggression, and criminal behavior (Yildirim & Derksen, 2015b). Finally, various studies investigating the biobehavioral pathways between primary and secondary psychopathy have noted differences in brain structure reactivity, such as the amygdala and prefrontal orbital cortex, among other brain structures.

Despite some disparities, there is considerable support for psychopathy subtypes. Despite some consensus, at best, this area remains underdeveloped and equivocal and is affected by various study limitations; therefore, ongoing empirical support for its distinction is required. Frazier et al. (2019) highlighted some critical issues within the extant body of research. They asserted that while genetics and neurobiology have dominated the mechanisms of psychopathy origin, environmental influences play an equally important role and have been under shadowed, calling for a more central approach. Variations in methodological issues, including the use of techniques that examine within-individuals versus across-individuals, different population samples (such as individuals incarcerated versus community or university students), research measures,

and construct definitions, have further complicated the generalizability of psychopathy's heterogeneity.

Primary and Secondary Psychopathy

Researchers have established that the core distinction between primary and secondary psychopathy is reflected in Factors 1 and 2 on the Psychopathy Checklist-Revised, respectively, with some inconsistent overlap in Factor 2 among primary variants. Similarly, a core feature of psychopathy is emotional deficits or disturbance. Theorists conceptualized that this emotional deficit develops from different originating pathways, resulting in distinct phenotypical presentations in the two variants. While these emotional deficits tend to foster maladaptive behaviors in both subtypes, growing empirical evidence suggests that they can also serve as a protective factor for the primary variant (Prado et al., 2016). However, the developmental pathway for secondary variants predisposes them to more severe abnormal and externalizing behaviors. More specifically, researchers hypothesized that, unlike the genetic predisposition linked to primary psychopathy, secondary psychopathy develops maladaptive behaviors and emotional disturbance due to childhood adversities, among other traumatic experiences. Hence, previous research has determined that primary and secondary psychopathy is identifiable in adolescent samples (Docherty et al., 2016).

Researchers have spent considerable time examining specific neuropathways, neurotransmitters, and brain areas that affect emotion. Neuropsychological assessments and imaging studies have reliably evidenced under- or over-responsive brain activity during biological-behavioral tasks. Researchers theorized that these brain activity

differences stem from constitutional and environmental predispositions, causing the unique phenotypic presentation between individuals with primary and secondary psychopathy. This technological approach has also concluded that individuals with psychopathy are neurologically different from their non-psychopathic trait counterparts and between and within variants. Hence, there is increasing empirical support for a continuum of internalizing and externalizing behaviors from mild to absent in extreme cases, specifically within the primary subtypes. This continuum may have been the contributing factor to earlier study discrepancies.

For example, as noted above, deficits in fear (threat) were hypothesized as a core distinction of true psychopathy and heavily examined. Del Gaizo and Falkenback (2008) noted several inconsistencies among studies examining deficits in vocal and facial processing and the experience of tasks for fear, sadness, anger, happiness, and disgust. They were among the earliest researchers to employ methodologies incorporating the heterogenetic approach to investigate these inconsistent findings and expand on theories of emotional processing and experiences in samples of individuals with psychopathic traits. In congruence with their hypothesis, they found that individuals with primary and secondary psychopathy perceived and experienced positive and negative affect differently, accounting for earlier studies' likely discrepancies. Since then, studies using cluster and latent profile analysis consistently and reliably distinguished personality traits and behaviors that uniquely characterized primary and secondary variants of psychopathy (Moffett et al., 2020). Further, several studies have expanded on these findings, revealing that emotional deficits can also disrupt moral development (Del Gaizo & Falkenbach,

2008), similarly leading a unique group of individuals with psychopathy to acquiesce to anti-social behavior. Alternatively, others on the extreme end of the continuum have less aggressive, more cautious, and calculative traits.

As previously highlighted, the clinical and managerial implications of understanding psychopathy traits and behavioral distinctions are also important. The latter section will elaborate on these implications by providing a detailed description of each variant's unique attributes, thereby dispelling common myths perpetuated by the media and even academic research that inadvertently skew and bias a homogeneous view of psychopathy for practitioners. Despite strong evidence suggesting heterogeneity, myths include their perceived lack of amenability to treatment, charm, manipulation, guiltlessness, and callousness. However, research has mainly observed this in a small, unique primary cluster. In contrast, studies like Poythress et al. (2010) described a second variant with increased emotional sensitivity or neuroticism fostering opportunities for self-harm, physical aggression, increased risk of (re)offending, and, when incarcerated, more general infractions and aggressive misconduct. This bias can be very damaging to the latter psychopathic but vulnerable traits groups with underlying trauma, who are overlooked for treatment due to misinformation about their treatment amenability and reprimands imposed that may preclude them from necessary treatments.

Researchers have increasingly investigated psychopathy through various neuroimaging tools, resulting in two meta-analyses with differing outcomes. The first study used a whole-brain approach using fMRI and Activation Likelihood Estimate (ALE) as the meta-analytic method. Results from Poepl et al. (2018) indicated that

psychopathy was negatively related to task-based activity in the prefrontal cortex, specifically in the back and side regions, as well as in the left posterior and midline cortex, and the right amygdala. Conversely, psychopathy was positively related to activity in the bilateral anterior insula. However, in attempts to overcome the limitations resulting from the use of the Activation Likelihood Estimate, Deming and Koenigs (2020) employed Multilevel Kernel Density Analysis, which identified increased striatum activity, along with decreased activity in the insula, amygdala, ventromedial prefrontal cortex, and anterior and posterior cingulate cortex, as neurobiological correlates of psychopathy. Additionally, psychopathy was negatively related to neural activity in the dorsal anterior cingulate cortex. In contrast, total psychopathy was positively associated with neural activity in a large, bilateral portion of the medial parietal and occipital cortex (including the posterior cingulate cortex and precuneus), bilateral prefrontal midline cortex, right inferior frontal gyrus, right posterior orbitofrontal cortex, right medial temporal cortex (including the amygdala), right hippocampus, and right parahippocampal gyrus. Despite these different outcomes, these studies highlight the use of other brain structures and pathways, verifying the complexity of the brain's role in psychopathy.

Primary Psychopathy

The extant literature has denoted primary psychopathy as idiopathic, true, core, essential, and inherent, among other terms. Regardless of the preferred term by researchers, there is a consensus that it is a genetic deficit in interpersonal and affective traits. The literature depicts primary variants as having a range of shallow emotions to

absent neurosis, including low anxiety, a lack of remorse and empathy, detachment, difficulty forming meaningful relationships, increased agency, and superficial charm. Theories suggest that these interpersonal and affective deficit traits lead to increased callous and manipulative behavior, while their boldness fosters a grandiose sense of worth, attracting them to high-risk occupations and leadership roles (Del Gaizo & Falkenbach, 2008; Lilienfeld et al., 2015; Prado et al., 2016).

To illustrate, when compared to their non-psychopathic trait and secondary cluster groups, Lilienfeld et al. (2015) found that individuals with primary psychopathy traits tended to score highest on Factor 1 traits and scored higher on the factor structures of boldness (fearless dominance), but lower on disinhibition and emotion. Similarly, in their study of juvenile detainees, Moffett et al. (2020) found that primary variants scored highest on boldness (although not significantly different) and meanness scales and low on guilt and anxiety/depression scales compared to a secondary cluster. Further, the primary cluster did not differ in psychopathology symptoms compared to the non-psychopathic trait groups. These findings support earlier theories of an “under-socialized” antisocial adolescent group with remarkable deficits in guilt, empathy, and attachment (Thornton et al., 2015) that steadily remain into adulthood.

In their study, Thornton et al. (2015) investigated the association between CU traits and juvenile detainees’ reports of leadership roles and instigating of in-group crimes, regardless of whether they were formally charged or not. They also investigated this link in identified gang members. Logistic regression analyses demonstrated that the instigation or leadership role of index and group offenses was associated with the level of

CU traits. Zero-order correlates are also linked with the endorsement of gang membership. Thornton et al. concluded that justice-involved juveniles with increased CU trait deficits significantly influence their peers' antisocial behaviors because they have innate manipulative and exploitative skills. Alternatively, they tend to have elevated levels of narcissistic traits and perceive themselves as leaders or have a false assumption of their social status and importance. They further asserted a need for more causal research.

With emotional deficits at the core of primary psychopathy, most research has investigated potential etiological mechanisms. Consequently, the integrated emotions system theory and the response modulation hypothesis have received staunch statistical support. In contrast, Munneke et al. (2018) only partially supported the notion of emotion-processing abnormalities.

However, in their study on the difference in neural activity on the emotional processing of fear in a face match-to-sample, Seth et al. (2018) revealed brain imaging scans that showed decreased activity in the amygdala and anterior insula among an identified primary psychopathy cluster in response to others' fear compared to the secondary psychopathy cluster and control groups. The amygdala, anterior insula, and orbitofrontal cortex play a crucial role in processing emotions and affective stimuli. According to the integrated emotions system (IES) Theory, this system is diminished or absent in individuals with psychopathy, resulting in an impairment in the formation of aversive stimulus-reinforcement associations, which extends to the expressions of fear and anger. In essence, a diminished capacity to process or experience fear leads to a lack

of regard for punishment, increased risk-taking, and social fearlessness, resulting in greater social dominance and less socially acceptable behavior. This inability to internalize punishment also reduces opportunities to experience guilt, leading to an increase in immoral acts.

Del Gaizo and Falkenbach (2008) investigated differences in perceptual abilities and emotional experiences among 175 undergraduate college students. Using the Psychopathic Personality Inventory, Positive and Negative Affect Schedule, Diagnostic Analysis of Nonverbal Accuracy Form 2-AP (voice), and the Diagnostic Analysis of Nonverbal Accuracy Form 2-AF (facial), they hypothesized that scores would negatively correlate with facial and vocal computer tasks and negative affective emotions and positively correlate with positive affective emotions in identified primary variants. Overall, results on emotional experience indicated that as primary psychopathic traits increased, negative affective emotions decreased (specifically shame, fear, distress, irritability, nervousness, scared, and upset). Also, positive affective emotions increased across all PA subscales as follows: active, alert, attentive, determined, enthusiastic, excited, inspired, interested, proud, and strong. Results for emotional perception indicated no significant correlation between primary psychopathic traits and vocal tasks. Additionally, a significant correlation was found for recognizing fearful facial expressions, but not for other emotions (happy, sad, or angry). This suggests that individuals with psychopathy may be better able to decipher fear when conveyed through facial cues rather than vocal expressions.

In another study, Takamatsu and Takai (2019) investigated the impact of emotional deficits, psychopathy, and alexithymia on the moral judgments of 325 undergraduate students. Results indicated that primary psychopathic trait variants had more difficulty identifying distressing emotions that ordinarily inhibit harmful aversive actions toward others. To that end, there is clear and accumulating support that deficits in neurocognitive systems involved in experiencing and processing emotions (particularly fear) are a core feature of the primary psychopathic phenotype profile (Marsh, 2013; van Honk & Schutter, 2006) notwithstanding, a deficit in fear response and processing results in increased risk-taking, guiltlessness, and a propensity to sacrifice others in a moral dilemma.

One of the limitations of these studies is their use of non-clinical samples, which may not accurately represent clinical or forensic samples or those at the end of a continuum, where fewer hypothesis discrepancies are expected. Subsequently, evidence of psychopathic heterogeneity research has focused on explanations for within-group differences. Benjamin Karpman long ago alluded to distinctions within the primary subtype, positing an aggressive/predatory type with high antisocial facet scores and a passive/parasitic type with high interpersonal facet scores, which several studies have similarly distinguished. Accordingly, this continuum etiology could also explain how primary traits can run along a continuum, ranging from diminished to absent ability to experience or process distinctive emotional feedback in response to social prompts. Additionally, threats that preclude natural aversion include risk, punishment, empathy, guilt, and shame, as well as moral judgment and decision-making, among others.

Studies using latent profile analysis have repeatedly identified a continuum of primary traits. For example, Mokros et al. (2015) employed latent profile analysis and identified a primary variant characterized by manipulative and aggressive behaviors. The manipulative subtype scored high on interpersonal factors but low on antisocial factors, and the opposite was true for the aggressive subgroup. Latent profile analysis has also replicated two primary groups in other studies, which were termed prototypical and callous-conning subtypes (Haneveld et al., 2018; Krstic et al., 2018).

Comparably, Yildirim and Derksen (2015a) theorized three distinct variants of primary psychopathy based on a continuum of control (controlled to disinhibited). They asserted that while all three variants share core features of low empathy, elevated boldness, fearlessness, and interpersonal traits (manipulativeness, superficial charm, narcissism, and frequent lying), they differ in their self-control ability. The first socialized group is fearless, bold, narcissistic, and has good interpersonal skills. They are not mean or have an antisocial lifestyle. They are seldom referred to as pathological because they possess the skills and personality traits of boldness and high self-esteem, which are deemed acceptable and necessary by society for roles such as military leaders, presidents, lawyers, and surgeons. A second group classified as controlled has core emotional deficits, high fearlessness, boldness, and meanness scores, and tends to have adverse childhoods but lacks impulsiveness and antisocial behaviors. They can adjust to social feedback, plan appropriately to achieve long-term goals, think rationally and strategically, be cunning, and resort to violence when necessary. The third disinhibited group tends to score high in all domains. They are impulsive, irresponsible, aggressive,

have deficient executive functioning, and are stimulation-seekers. They also lack long-term goals, unrealistic ambitions, and a sense of loyalty.

Secondary Psychopathy

A fundamental distinction between primary and secondary psychopathic trait variants is that the latter are prone to psychological turmoil, remorse, and fear (Dean et al., 2013; Vaughn et al., 2009), where they experience a full range of emotions, leaving them highly emotionally reactive and often deficient in emotion regulation. Accordingly, they consistently display lower Factor 1 scores compared to primary clusters. Secondary psychopathy is also remarkable for high Factor 2 behaviors on the Psychopathy Checklist-Revised, otherwise known as impulsive-antisocial behavior. While empirical research has begun to investigate, dispel, and substantiate these assumptions, it is not without study limitations, resulting in mixed outcomes that are sometimes inconclusive. Studies using the distinction of secondary psychopathy as an independent variable have consistently replicated findings of various externalizing, internalizing, and neurotic symptoms (high negative affect). These symptoms included anxiousness, a diagnosis of generalized anxiety disorder, overall sensitivity, higher substance abuse rates, poor communication, low constraint, impulsiveness, antisocial behaviors, and proneness to guilt. Furthermore, research suggests that they are more likely to engage in self-harming and other harmful behaviors and are perceived as more antagonistic overall.

Accordingly, Dean et al. (2013) found that only secondary psychopathic features were associated with risky decision-making and impulsiveness. Secondary psychopathy was significantly associated with risky deck selections on the Iowa Gambling Task

during the stabilization phase but not the learning phase. This observation suggests that secondary psychopathy was not associated with a failure to learn which decks were risky but, instead, failure to avoid them once the contingencies were known. Individuals with secondary psychopathic features tend to make risky choices despite considerable exposure to risk/reward outcomes. This finding suggests that individuals classified as secondary variants are more likely to engage in risky behaviors without prompting due to impulsiveness.

Early studies, such as those by Del Gaizo and Falkenbach (2008), have revealed a positive association between secondary variants and negative emotions. Participants indicated experiencing shame, irritability, guilt, distress, hostility, fear, jitteriness, and disappointment. Vaughn et al.'s (2009) sample of justice-involved juveniles with violent traits revealed that their secondary variant group $N = 68$, scored higher than the primary $N = 64$, and non-psychopathic trait groups $N = 135$, on internalizing behaviors. Other behaviors include suicidal ideation, phobic anxiety, depression, interpersonal sensitivity, obsessive-compulsive disorder, paranoia, generalized anxiety, and somatization problems. Sethi et al. (2018) replicated these findings. They demonstrated elevated levels of depressive and anxiety symptoms, a diagnosis of depression, generalized anxiety, bipolar disorder, heightened risk of suicide, aggression, anger, and impulsivity.

Similarly, Poythress et al. (2010) and Eisenbarth et al. (2019) examined the interaction of psychopathy and psychopathology. As predicted, externalizing behaviors were positively associated with secondary but not primary variants. Eisenbarth et al.'s study expanded on this association by examining whether stressful life events moderated

psychopathology. They found that the number of stressful life events (cumulative) was positively associated with internal and externalizing behaviors in each developmental stage (childhood, adolescence, and adulthood) among secondary rather than primary variants. Another distinguishing empirical factor that Poythress et al. revealed was that secondary variants tended to have higher motivation to engage in treatment with fewer absences.

Notwithstanding, they also had higher rates of aggressive institutional misconduct and general infractions than their primary counterparts. However, post-treatment recidivism remained similar for both variants. These findings support previous studies, despite limitations unique to each study, including small sample sizes and the use of limited internalizing measures. This research concludes that a distinguishing feature of secondary psychopathy is the presence of both internalizing and externalizing behaviors.

While researchers have moderately explored internalizing and externalizing symptoms, this research arena has often overlooked the presence and variability of Factor 1 or interpersonal-affective behaviors among secondary variants. The lack of remorse, empathy, and deceitful display is a prominent feature of their primary counterparts. However, research on secondary variants frequently reported low levels. Secondary variants, similarly, but to a lesser extent, have displayed CU traits. For example, Takamatsu and Takai's (2019) study revealed that secondary ($r = -.15, p < .001$) and primary ($r = -.43, p < .001$) psychopathy variants were negatively correlated with empathic concern. However, as predicted, only secondary variants maintained increased rates of anxiety after a high-conflict dilemma task. Sethi et al. (2018) coined this a

“behavioral phenocopy” of the CU traits in primary variants, which they conceptualized better as an adaptive rather than a genetic feature. Here, internalizing, externalizing, and the presence of (low) Factor 1 traits are considered a response to trauma rather than intentional or appetitive aggression, as seen in antisocial personality disorder samples. This distinction has important implications for treatment approaches.

Research has also revealed that secondary variants have increased acknowledgment of antisocial actions, including gang involvement, carrying weapons (Vaughn et al., 2009), substance use, and cumulative trauma. Many theorists assert that individuals with secondary psychopathy acquire such traits in childhood and adolescence from adversities such as parental abuse and neglect, rejection, sexual abuse, and exposure to various forms of community violence (Seth et al., 2018). Accordingly, a prominent causal explanation posited by researchers is that recurrent exposure to dysfunctional environments often coincides with vulnerable developmental periods (Andersen et al., 2008). Where conventional conditions would promote adaptive emotional coping and problem-solving skills, these adverse environments are a risk for the development and sequelae of negative affective traits and antisocial behavior. To that end, unlike their genetically emotionally deficient primary counterparts, research indicates that individuals with secondary psychopathy can experience and process emotions, leaving them at risk for clinical distress under adverse environmental conditions. To eliminate this distress, these individuals learn to acquire callous traits to dissociate from these traumatic experiences (Moffett et al., 2020). Their aggressive behavior is considered retaliation to this trauma (Yildirim & Derksen, 2015).

Consequently, neurological research on child sexual abuse extends emotional dysregulation to secondary psychopathy. Andersen et al. (2008) and Dallman and Hellhammer (2011) asserted that the brain undergoes various vulnerable periods during the developmental years. However, exposure to acute and chronic stress can induce physiological changes within the brain and body that may lead to permanent damage or alter brain structures and functions, ultimately decreasing the ability to cope appropriately. Further, Lalor and McElvaney (2010) asserted that several factors contribute to more severe psychological trauma (dissociation, sexual dysfunction, aggression), including the degree of exposure and variability in the nature/type. For example, exposure to penetrative versus non-penetrative or intrafamilial versus extrafamilial types. The duration of childhood sexual abuse is also a factor. Notwithstanding, participants who indicated sexual abuse during ages 3-5 and 11-13 had decreased hippocampal volume. However, if CSA occurred during ages 9–10 or 14-16, differences were noted on the corpus callosum and frontal cortex, respectively. The prefrontal cortex is associated with mood, and damage is likely to result in some degree of emotion dysregulation. Hence, based on differences in damage to various brain regions, individuals may be more susceptible to chronic disorders and variants of psychopathology later.

Studies exploring psychopathy through a neural etiological lens, including neuroimaging, have similarly supported differences within the brain. Yildirim and Derksen (2015) found evidence suggesting variations in development and activity within cortical and subcortical brain regions due to adverse environmental factors. More

specifically, the ventromedial prefrontal cortex, which oversees self-control, foresight, self-regulation, and self-awareness, among other skills, relies heavily on an optimal gene-environment interaction for healthy development and function. This healthy development depends on pro-social experiences, such as attachment, early in development. Exposure to cumulative trauma and abuse compromises autoregulatory tone in these cortical and subcortical regions, ultimately impacting robust socio-emotional development. Studies on individuals with brain damage in this region evidenced similar implications (Takamatsu & Takai, 2019).

Sethi et al.'s (2018) study also demonstrated neural activity differences between primary and secondary variants. A facial match-to-sample task was used to measure participants' fear processing. Secondary variants showed reduced activity in the superior temporal sulcus/inferior parietal lobe, pallidum, and thalamus. In contrast, the primary variants had blunted activity in the amygdala and anterior insula. Additionally, the secondary group demonstrated decreased neural activity in the bilateral anterior cingulate cortex in response to angry facial expressions compared to the primary group. As noted above, the distinction between fear and anxiety and their association with secondary psychopathy was initially explored through the RST theory. Subsequently, several studies, including those by Poythress et al. (2010), Yildirim and Derksen (2015), and Docherty et al. (2016), have identified a distinct fearful cluster characterized by scores similar to those of secondary clusters but reporting higher rates of neuroticism. Unfortunately, neurological studies have yet to isolate differences in brain activity and development specific to this cluster.

The presence or absence of anxiety and fear are two negative emotions highly regarded as core distinguishing factors for primary and secondary psychopathy. Takamatsu and Takai's (2019) study indirectly linked these core emotions with harm aversion and morality. Secondary variants did not have difficulty identifying the feelings of others or describing the feelings of others, unlike the primary variant group. In turn, they had more anxiety when given a highly conflicting moral dilemma. Individuals with higher secondary psychopathy traits have high trait anxiety and poor emotional regulation skills (Burns et al., 2015), and they might have forgone the practical option as a strategy to alleviate emotional distress.

One reason posited in the research is that secondary variants may experience more significant anxiety at the distress of others because they may be better at perceiving others' distressing emotions. They also have the propensity to have a greater capacity for empathy, which likely allows them to understand the affective states of others. While having a greater tendency to experience empathy is an adaptive trait necessary for moral judgment, it also leaves individuals vulnerable to feelings of distress when exposed to traumatic situations.

Morality, Moral Disengagement, and Moral Injury

Morality

Morality is another complex construct that has been explored since the 1800s through various theoretical approaches, including behavioral, cognitive-developmental, learning, social-psychological, cultural, neuroscience, evolutionary, and primatology (Haidt & Kesebir, 2010), as well as philosophy, questioning how humans understand

right and wrong. In its most basic form, morality is the attempt to determine and outline standards of right and wrong thoughts and behaviors. It is the explicit or implicit expectations of how one ought to or should act and how things should be. Subsequently, morals are the existing values and codes that are accepted and implemented by society. This section provides a general overview of the morality construct by denoting theoretical approaches, definition challenges, and psychological and neurobiological links to emotion. These themes include more complex sub-constructs such as moral self, moral judgment, moral disengagement, and their relationship with psychopathy. This section will conclude with a relatively new concept of MI by highlighting its origins, traditional approach, and latest expansion into gang literature.

Right and wrong, fairness, justice, compliance, cooperation, ethics, and virtue are recurring research themes from various fields related to or synonymous with morality, making it challenging to achieve a consensus definition. According to Molendijk et al. (2018), an acceptable definition of morality encompasses a comprehensive set of values and norms relevant to a specific socio-historical context. In a recent article, Molendijk et al. (2022) cited the definition provided by a theologian and a psychologist as the most comprehensive.

Carey and Hodgson (2018) defined MI as follows:

Moral injury is a trauma-related syndrome caused by the physical, psychological, social, and spiritual impact of grievous moral transgressions, or violations, of an individual's deeply-held moral beliefs and/or ethical standards due to:

(i) an individual perpetrating, failing to prevent, bearing witness to, or learning about inhumane acts which result in the pain, suffering or death of others, and which fundamentally challenges the moral integrity of an individual, organization or community, and/or (ii) the subsequent experience and feelings of utter betrayal of what is right caused by trusted individuals who hold legitimate authority. (p. 2)

Morals are specific to a particular religion, culture, or legal system. Litz et al. (2009) defined morals “as the personal and shared familial, cultural, societal, and legal rules for social behavior” (p. 699). Central to morality is the concern for society's greater good or, minimally, people other than oneself, governed by conventional communal expectations. Hence, from an evolutionary perspective, instinctual moral drives served the purpose of group cohesion and survival, elicited through both self-oriented and other-oriented moral emotions.

Ellemers et al. (2019) asserted that the role and profound implications of morality in social order contributed to its entry into the psychological domain. Social order refers to the adherence to social rules and norms (Janoff-Bulman & Carnes, 2016), which requires the psychological elements of empathy, fairness, discerning right from wrong, altruism, and compliance. Therefore, it is also linked to the concepts of deviance and social justice in clinical criminology.

Consequently, these psychological mechanisms prompted critical analysis to connect broader constructs, and Killen and Smetana (2015) outlined eight traditional theoretical approaches that have been used to do this. Freud’s psychoanalytic theory emphasizes the parent-child relationship as the foundation for moral development,

positing that children acquire proper conduct and a sense of caring for others from their parents. Once they can control their natural selfish desires and lower regard for the values of crucial others, they will act morally. Like Freud, Skinner's behaviorist approach also emphasizes the influence of external forces or socialization. However, he argued that social learning principles, as well as punishments and rewards, offer a more effective explanation for moral development in children. Piaget and Kohlberg employed a constructivist approach, suggesting that people develop their morals through their own experiences rather than what authoritarians prescribed or did, which is unique to each person. Carmona-Perera et al. (2015) employed this approach to explore morality, defining it as an internal consciousness of one's beliefs about right and wrong. Definitions and research based on this theoretical model highlight how individuals perceive morality.

Psychologists using early developmental approaches investigated empathy development and repression, while simultaneously exploring how people determine right from wrong and what they ought to do in a particular situation, commonly referred to as moral reasoning. A core theme in moral reasoning literature is that having a moral belief does not mean one will always act morally. That is, reasonable people can do bad things.

A meta-analysis of the literature used to explore the psychology of morality found an exhausted empirical preference for understanding how individuals think about morality (moral reasoning and moral judgments) ($\chi^2 = 502.19$, $df = 4$, $p < .001$) (Ellemers et al., 2019). Abend (2013) found similar trends, challenged what morality is not, and declared that much of contemporary research's conclusions had confounded

morality with types of moral judgments, asserting that approaches to understanding moral judgment cannot be overemphasized or extended to general conclusions about morality. Similarly, differences in research motives and approaches prompted Ellemers et al. (2019) to provide a comprehensive overview of the psychological aspects of morality. They cited the underutilization of various methodologies, an overreliance on self-reports, and a need for more robust evidence through physiological measures to counter bias and self-defensiveness as reasons for discord and weak empirical support. Hence, there remains room to explore the complex aspects of morality, such as moral judgments. This research can have significant implications for intervention design on at-risk groups such as gang members, who have historically struggled with emotion regulation.

Notwithstanding, moral judgment is a critical function in morality or ethical behavior. However, the traditional basis for moral judgment had received little empirical exploration and disparate support until more recent studies using neurobiological approaches (Ellemers et al., 2019). Historically, researchers have consistently debated whether cognitive or emotional mechanisms drive moral judgments and, thus, behavior, specifically whether deciding to act morally is fully cognitive-based or emotion-based. Cognitive-based proponents often used conflict dilemmas to choose between two conflicting scenarios, while emotion-based proponents used scenarios to elicit and record emotional reactions. Alternatively, through neurobiology's functional magnetic resonance imaging (fMRI), Helion and Ochsner (2018) hypothesized a cognitive-emotion interaction in which emotion is present in both scenario types. Drawing on neurobiological studies, they hypothesized that emotions elicited by either moral scenario

type undergo both automatic and controlled processes in the brain. While past researchers have established that emotions are automatic and reflexive, they have also asserted that there is a controlled cognitive process that influences the individual's attention to the stimulus and its meaning and coordinates the monitoring and reporting of it. This determines how it is perceived, how much value the individual places on it, and how the individual will categorize it for future behavior. They asserted that in earlier theories, the determination that a moral response is primarily cognitive or emotional is based on the perception of what information is more present. If a scenario “automatically” elicits a strong emotion such as disgust, it may dominate the usable information available, versus a situation that may elicit a more controlled emotional response. Hence, Helion and Ochsner (2018) noted that “together, controlled and automatic processes both create and change affect, and the meaning derived from a situation, and subsequent emotional responses are the product of these processes working in tandem” (p. 5). They have provided compelling hypothetical assertions of a cognitive-emotional interaction in the role of emotion regulation on morality, using prior neuroimaging studies that show overlapping and non-overlapping brain regions for controlled and automatic processing.

Moreover, extant research has consistently linked moral behavior with affect tolerance, emotional experience, and processing despite disparities in identified cognitive and emotion-based pathways, brain structures, and functions. However, these disparities might be due to the emotion I elicited. For example, in an early 2012 study, after viewing several films depicting accidental and deliberate bodily harm, unintentional harm was

associated with increased activation in the anterior cingulate cortex, anterior insula, and other regions involved in experiencing pain. In contrast, observing intentional harm was associated with increased activation in the medial prefrontal cortex, the posterior superior temporal sulcus, and the orbitofrontal cortex (Decety et al., 2012). Takamatsu and Takai (2018) and Muñoz-Negro et al. (2018) highlighted the crucial role of empathy in developing morality, asserting that individuals are innately motivated to avoid inflicting harm on others through the development of empathy. Empathy triggers an adaptation to the victim's aversive response emotions, which elicits moral emotions in the perceiver necessary to alleviate the victim's suffering. Empathy is one of several moral emotions, including disgust, shame, guilt, anger, embarrassment, contempt, and fear (Haidt & Kesebir, 2010). Studies have shown that when elicited by a phenomenological experience or event that is responsive to a moral violation or motivates moral behavior, these emotions elicit some physiological change or alteration in facial expression, at least in non-clinical samples. The integrated emotion systems model posits that observing aversive emotions, such as fear or sadness, in others serves as a natural punishment reinforcer, enabling the perceiver to distinguish between good and bad behavior over time, a process commonly referred to as reinforcement learning (Pletti et al., 2017). Subsequently, the anticipation of the perceiver experiencing their aversive emotional state during a transgression elicits moral engagement that prevents harmful or criminal conduct.

Accordingly, Ellemers et al. (2019) study found that most people are intentional in their efforts to uphold their morals, at least in the eyes of their significant others.

However, this was with exceptions. Several of their studies demonstrated otherwise. These studies posited that participants with weak moral values often succumbed to negative social pressure (particularly with teams or leaders), which further tempted them to be more corrupt or conform to their within-group norms. The situational action theory (SAT) can support this finding. The SAT asserts that one's belief in right and wrong, and therefore, one's self-control, influences moral action. It further proposes that immoral, injurious behavior, or crime is worthwhile and can be deliberately carried out when moral forces are weak (Wikström, 2020). Hence, an individual may participate in socially immoral behavior when they do not consider themselves to be doing anything morally wrong (Gallupe & Baron, 2014).

Hirtenlehner and Kunz (2016) similarly concluded that the strength of one's moral values influences offending behavior. Using an adult sample to determine when individuals are likely to engage in immoral behavior, they surveyed over 3,000 50-year-old incarcerated individuals to investigate the interaction between self-control ability and morality. Employing linear regression analysis, they found that low morality and low ability to exercise self-control increased the likelihood of offending. Specifically, low self-control ability was associated with decreased morality, and when personal morals were well-developed, self-control ability did not influence offending behaviors. These findings demonstrate the role of morality in developing one's identity, conscience, self-regulation, and resistance to temptation (Killen & Smetana, 2015).

Meta-analytic studies have also explored the role of emotion regulation on moral reasoning. Specifically, life experience, family roles, and societal position impact moral

reasoning, where abuse, family dysfunction, age, parental status, war, and religious status can impair emotional regulation and inhibit moral reasoning (Simpson et al., 2016).

The study of psychopathy has paradoxically contributed significantly to the discovery of moral emotions, where true psychopaths have diminished experience, understanding, or recognition of empathy and emotions such as fear, diminished capacity to learn the consequences of their actions, and an inability to differentiate between illegal and immoral transgressions (Muñoz-Negro et al., 2018). Due to ethical implications, the traditional research method for understanding intense adverse emotional states, such as fear, was through animals. While this preferred method has been valuable for understanding emotions, it has prevented the communication of subjective experiences. Consequently, the well-established naturally occurring altered emotions among individuals with psychopathy provided the ideal natural experiment, allowing researchers to investigate the specific emotion pathways (Marsh, 2013). Hence, researchers have extensively explored the impact of psychopathy on morality in clinical and community samples. Notwithstanding, amoral behavior findings between psychopaths and non-psychopath samples remain mixed, precipitated by methodological differences, sample type, psychopathy measures, moral judgment measures, and a homogenous versus heterogeneous approach.

The prominent integrated emotion systems model has widely encouraged researchers to accept the hypothesis that psychopathy limits recognition and the ability to empathize with others' emotional distress, affecting moral judgments. More specifically, individuals high in psychopathy or primary variants have consistently evidenced an

inherent deficiency of affect tolerance and an inability (or diminished capacity) to experience or recognize various emotions necessary for moral judgments, decision-making, and punishment judgments (Pletti et al., 2017). Koenigs et al. (2012) were the first to employ more methodological scrutiny using primary and secondary subgrouping and chi-square follow-up tests. They found that psychopaths (primary and secondary variants) favored impersonal harm (indirect or remote, such as using a switch or violating a rule) to reach a desirable outcome over non-psychopaths. Further, low anxious or primary psychopathic trait variants were more likely to endorse personal harm (direct physical harm to another, such as directly hitting) to reach a desirable outcome than high anxious or secondary and non-psychopathic trait variants.

Similarly, in a study on the impact of psychopathy on moral judgments in fear and physical harm, participants read about several moral dilemmas with a victim experiencing harm, fear, both, or neither. Researchers asked participants to assess the moral acceptability of the behavior. Results showed that those with increased levels of psychopathy did not judge causing fear differently from not causing fear and thought it was morally acceptable to cause fear rather than physical harm (Cardinale & Marsh, 2015). In contrast, participants low in psychopathy believed it was not morally permissible to cause fear over no fear or harm over no harm. They judged all dilemma scenarios as less morally acceptable than those high in psychopathy. Luke et al. (2021) extended these findings by using a four-factor model (interpersonal, affective, lifestyle, and antisocial facets) to distinguish the three aspects of moral dilemma judgments, as outlined in the CNI model (sensitivity to consequences, sensitivity to moral norms, and

preference for inaction over action). Their study also accounted for prior limitations, including the use of relative rather than absolute preferences and confounding specific action behaviors. Using the traditional dilemma vignette approach, they found support for earlier findings. Specifically, an association of psychopathy's interpersonal and affective facets with a distinct preference for utilitarian judgments suggests that people with high psychopathic traits were less sensitive to moral norms in their responses to ethical dilemmas. However, the alternative CNI model found that people with elevated psychopathic traits showed robust and consistent moral judgment deviations in conformity to ethical norms, duties, and deontological judgments. Those with high psychopathy endorsed harmful actions that promoted the greater good or selected the harm of a few to save more. These callous and unemotional tendencies may be attributed to dysfunction in the ventromedial prefrontal cortex and amygdala, leading to a reinforcement-learning problem (Blair, 2007). Although individuals with psychopathy may have affective reactions, they may fail to update their moral representations accordingly (Helion & Ochsner, 2018). Moral reasoning and the learning of moral rules, therefore, require the coordination of multiple cognitive processes and brain regions, including those involved in automatic and controlled emotional processing.

These findings support the role of emotion in moral judgments. However, there is limited research on the implications of the well-being of those low in psychopathy who do not have the intrinsic ability to escape emotionally aversive states when confronted with highly conflicting moral dilemmas, particularly prevalent among gang members. Gang members develop their unique moral code. A moral is a moral regardless of how

narrowly defined the definition is. That is, if a moral is a set of values and codes that incorporate elements of social and historical context, it applies to any individual within a cultural context, and therefore, to the rules and norms of gang culture. Hence, this line of thought can infer that “bad” morals exist.

Researchers have built a compelling case for the view that primary psychopathy is a protective factor, and secondary psychopathy is a risk factor when linked with the literature integrating psychopathic heterogeneity and morality. More specifically, how emotional development interacts with moral disengagement and injury. Moral disengagement is a set of eight mechanisms that individuals use to engage in immoral acts without experiencing negative emotions. In contrast, MI is a phenomenon that entails experiencing shame or guilt due to performing, ignoring, witnessing, or learning about a transgression that contradicts deeply held moral beliefs and expectations.

Moral Disengagement

Researchers have observed moral disengagement in various populations as a mediating process of immoral behavior and a moderating trait that impacts how other elements lead to moral or immoral behavior. Forensic population samples have shown a heightened recorded usage of moral disengagement, and studies examining it as a moderator have found it to be a strong predictor of gang involvement (DeLisi et al., 2013; Frisby-Osman & Wood, 2020). Subsequently, researchers have extensively explored the associations between justice-involved gang members, moral disengagement, psychopathy, and aggressive criminal behavior, with diverse associations reported between these constructs. Alleyne and Wood (2010) were instrumental in first identifying

an increased rate of using euphemisms and blame mechanisms among gang members compared to non-gang members. Niebieszczanski et al. (2015) expanded on these findings by manipulating the degree of gang membership, which included a street gang, street gang-affiliated, and group offending, and factoring in age as a variable. The mean overall score for street gang members ($M = 82.45$, $SD = 25.80$) was significantly higher compared to nongang members, who more often employed the use of “moral justification, advantageous comparison and use of euphemistic language; diffusion of responsibility; and attribution of blame for behavior” (p. 597). Additionally, adolescents (aged 16-21) were more likely to employ these mechanisms compared to adults (aged 22 and older). Concluding, street gang members were more likely to use moral disengagement to justify offending behavior than all other group levels.

Niebieszczanski et al. (2015) were also the first to employ a between-group approach to gang membership to understand the implications of group structure dynamics more thoroughly. However, in this comprehensive review of the current literature, no researcher has explored moral disengagement associated with within-group rank structure or hierarchy. However, longitudinal studies, such as those by Mazzone et al. (2019), indirectly resembled this concept and allowed for conjecture. Their gang study found a reciprocal association. Moral disengagement mechanisms predicted increased aggressive behavior, and repeated aggression increased moral disengagement over time. Also, continued engagement of moral disengagement decreased moral emotions and increased aggressive behavior over time. More specifically, guilt and shame were reduced through the reported repeated belief that immoral or aggressive behavior is

justified or necessary when provoked. This assertion lent support to findings that gang members are more likely to justify and report violence as acceptable under certain circumstances when compared to non-gang members. Hence, a significant implication of length of time or gang membership tenure is crucial for practical assessment and treatment planning, where longer-serving members tend to be more violent, requiring different intervention targets. This indirect assertion also parallels Dmitrieva et al.'s (2014) earlier findings of higher psychopathic traits in longer-serving gang members, albeit with no distinction between primary and secondary variants.

Dmitrieva et al. (2014) prefaced their study with the belief that gang members have increased psychopathic traits and elevated levels of self-worth, grandiosity, and moral disengagement. They also had decreased empathy and impulse control. While their longitudinal study did not specifically examine moral disengagement, it explored the associations between gang membership role, self-esteem, psychopathy, and psychosocial maturity. The latter two influence the use of moral disengagement. Results showed increased psychopathic traits over time for gang leaders and low-level members. However, gang leaders also had increased levels of grandiose-manipulative and impulsive-irresponsible features, while long-term low-level membership predicted increased CU traits. It is plausible that CU traits can potentially serve as a protective factor for PTSD or related syndromes, specifically in the aftermath of violent acts among gang leaders and long-term low-level members, but not for new low-level members.

Factoring psychopathy, DeLisi et al. (2013) identified a direct relationship between high psychopathy levels and increased criminal behavior among justice-

involved juveniles. These researchers observed that moral disengagement mediated lower psychopathy levels and criminal behavior in youth. Dhingra et al. (2015) compared incarcerated youth gang members to non-gang members. Multiple regression analysis identified five independent variables, gang membership, age, gender, exposure to violence, and psychopathy, that together contribute to 13% of the variance in moral disengagement. Similarly, high Factor 1 and 2 psychopathy scores were related to moral disengagement in both samples. However, Factor 1 ($\beta = 0.19$) was the strongest predictor of moral disengagement. Also relevant is the recurring evidence that moral disengagement declines with age, a phenomenon that research has shown is more pronounced in studies comparing juvenile samples. Notwithstanding, it remains a present feature in incarcerated adults compared to their nonforensic counterparts (see Petrucci et al., 2017).

Moral Injury

While moral disengagement has proven to be a mechanism for switching off morality to justify harmful behavior, MI can occur in those who commit harmful acts in direct opposition to their morals and values. Core features of MI can include the following, the activation of painful moral emotions such as shame, disgust, and guilt; moral cognitions that include spiritual/existential conflict, loss of or questioning the meaning of life, or loss of trust in self, others, or a higher being, and self-blame; urges to disconnect or attack, due to an inability to resolve moral dissonance in the aftermath of perceived violations of deep moral beliefs by oneself or trusted individuals; and physiological responses including but not limited to nausea and elevated heart rate

(Borges et al., 2022; Jinkerson, 2016; Litz et al., 2009). Quantitative and qualitative symptomology research supports MI as a recognized syndrome (Jinkerson, 2016; Purcell et al., 2018) with a severity spectrum (McEwen et al., 2021). However, the *Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5)* (American Psychiatric Association [APA], 2013) does not consider this a mental health disorder. Nevertheless, meta-analysis suggests it affects mental health and can contribute to and often co-occur with PTSD (McEwen et al., 2021; Murray & Ehlers, 2021), notwithstanding remarkable etiological and physiological differences between the two. That is, while MI may share some symptom overlap, it is a distinct construct from PTSD, albeit historically, it has been used as an approach to explore the moral aspects of military trauma, likely because secondary MI features often share similarities with PTSD, including anger, anxiety, depression, self-harm, reexperiencing, and social problems. Jones (2020) explicitly asserted similarities of criterion D PTSD symptoms. Jinkerson (2016) identified three core criteria for a diagnosis of MI, namely, (a) history of morally injurious event exposure, (b) guilt, and (c) any combination of at least two core or secondary features that lead to functional difficulties including engaging in meaningful work activities, platonic or romantic relationships, spiritual practice, and other daily living activities. For these reasons, conducting research, identifying, and treating MI is essential.

Researchers have explored MI in a limited population and phenomenologically conceptualized it primarily through veteran populations that routinely experienced killing/harming others or failing to protect innocent bystanders. As noted above, recent research has expanded and confirmed its occurrence in other professional groups,

including but not limited to police, veterinarians, medical staff, and journalists.

Subsequently, through their private clinical practice, Murray and Ehlers (2021) observed MI extending beyond specific professions and affecting many individuals who excessively negatively appraised a transgressive experience that conflicted with their moral code. For example, injuring or killing someone in a road traffic accident, or rape survivors who did not report a perpetrator, and the perpetrator raped another person.

Simultaneously, Atuel et al. (2021) published research that broadens the scope of the construct through a character domain lens, in addition to its traditional clinical pathway framework. They assert that the two conditions have different etiologies, pathways, symptoms, and outcomes. More specifically, where the clinical pathway begins with a traumatic event that generates PTSD symptoms, the character pathway begins with a moral transgression that produces distress internalized as a dislike of oneself.

Researchers assert that using a character domain broadens the scope beyond veterans and is a better framework for any typical individual who encounters a potentially morally injurious event, as well as for future research and practice.

Nevertheless, the morality of MI is complex, and based on the two meta-analyses conducted, there is a consensus that it is both mentally and physically debilitating if left untreated; hence, it requires further development and interdisciplinary conceptualization to be understood for better treatment outcomes and prevention. Jones's (2020) assertions that more than half of a military sample maintained PTSD symptoms after treatment lend support to this suggestion, further explaining that it is either a symptom of PTSD not effectively addressed in treatment or one that hinders treatment effectiveness. For this

reason, researchers are encouraged to continue exploring it more broadly, beyond military and veteran samples (McEwen et al., 2021), as well as other categorical population samples, and to move beyond PTSD approaches. It is well documented that moral conflict is a significant element of the suffering of many soldiers, where moral emotions such as survivor's guilt are linked to traumatic events. Historically, these moral struggles are often treated as a symptom or consequence of PTSD, not as a stress source. PTSD is fear-based. Treatment is, therefore, based on fear, which overshadows other emotions such as shame and guilt.

Hence, MI is a broad phenomenon, and contextualism is a primary consideration during assessment, treatment, and research. If not always, potentially morally injurious events often occur under unusual conditions where context influences behavioral responses. Traditional examples of context narrowly included samples of veterans. There was empirical support showing that killing was more likely to elicit cognitive dissonance leading to MI than their combat without-killing or combat-exposure counterparts (Jinkerson, 2016). Similarly, in their meta-analytic review, McEwen et al. (2021) found that samples indicating a negative appraisal of a potentially morally injurious event, compared to mere exposure to it, increased the risk of a MI outcome and its sequelae. Consequently, more contemporary contextual factors are being considered for developing MI, including samples beyond those of veterans and social elements, such as gender, sex, sexual orientation, race, ethnicity, homelessness, childhood environment, and justice involvement. Exploring the latter two has scratched the surface of the gang culture, which often includes elements of physical deprivation, pain, torture, killing, and

coercion, among other no-win situations that increase the likelihood of using cognitive dissonance that could lead to MI.

Kerig et al. (2013) conducted research comparing the experiences of child soldiers from various countries, including but not limited to Colombia, Sierra Leone, Uganda, and Congo, to United States gangs. They hoped to advance the understanding of how context influences the psychosocial outcomes of gang members after noticing that child soldiers and gang members had various parallel lifestyle experiences and resulting observed psychological trauma symptom outcomes. They provided the following assertions from their empirical work that may apply to gang members. Child soldiers with a degree of forced recruitment have a degree of agency. They make daily decisions, express some degree of pleasure and satisfaction in some activities they participate in, and use their morals and values to evaluate their choices. Hence, researchers must recognize moral agency to understand and conceptualize MI and its psychological outcomes, including perpetration-induced trauma. Secondly, adult soldiers who participated in acts of atrocities identified more severe and long-term psychosocial consequences, even when under force or threatened for their own lives. Thirdly, the burden of stigma for committing these atrocities included what soldiers believe in others' negative appraisals of them and coming to terms with how they negatively think of themselves. In 2016, Kerig et al. extended their research by evaluating the relationship between perpetration and trauma in gang members. However, they only highlighted a need to include the broader construct of MI in future research. Kerig et al. (2016) concluded that studying MI, "among those involved in gangs may help to elucidate how

victimization and perpetration interact in the context of serious antisocial behavior and its psychological affect-effects” (p. 647). It also aimed to broaden the narrow definition and inclusion of *DSM-IV* traumatic events and more comprehensive measures of violent acts and victimization. Pleasure in doing an act of harm does not prevent later remorse, and shame and guilt are not acceptable for the perpetrator to endure if it hinders functioning and rehabilitation.

In a different vein, like the warrior mythology of soldiers, gang members are groomed to harm, kill, and protect. During incarceration or other encounters where they are encouraged and receive interventions to transform into productive civilians, to understand that the gang war is pointless and successfully stripped of its false ideology, they can undergo moral identity confusion. This conflict can lead to prior opposing beliefs (Molendijk et al., 2018). Remorse and guilt can later ensue despite understanding the need to and pleasure in past perpetration.

Researchers traditionally purported conceptualization, development, and maintenance models of MI through three individual-based approaches. The first is Litz et al.’s (2009) working causal framework of an individual's inability to overcome cognitive dissonance through persistent self-negative appraisal attributes. The second model by Farnsworth et al. (2017) used a functional-contextual lens, suggesting moral pain results from dysphoric moral emotions and cognitions handled maladaptively. The Stress Injury Model of MI is the third model theorized to elicit MI. It is conceptually like the Trauma Proliferation and Stress Generation theory, where the individual, despite attempts at rest, cannot cope with the demands of repeated exposure to severe moral stressors (Nash,

2019). Subsequently, Ter Heide (2020) recently made a case for amalgamating these models and expanding them to include the role of empathy as an interpersonal feature of potentially morally injurious events. Ter Heide suggested using De Waal and Preston's (2017) perception-action mechanism of empathy. Here, individual A's capacity for attention, emotion regulation, familiarity, and similarity to a second individual B impacts their ability to respond empathically and ultimately determines if a MI will develop. This latter model supports theories of incapacity for those with psychopathy and is used to frame this current research.

The scope of a potentially morally injurious event is broad. Ideally, the contemporary description is anything negatively appraised in opposition to one's moral code. The research also alludes to various potentially morally injurious events (perpetration, witnessing, or betrayal) that lead to varying severities of MI outcomes and specific psychological symptoms. While distinction descriptions are sparse, it is crucial and can affect assessment and treatment regimes. For example, Jordan et al. (2017) and Thomas et al. (2022) assert that betrayal-type events, which are potentially morally injurious, tend to elicit anger. Perpetration tended to elicit guilt, shame, and depression, and still, witnessing elicited PTSD, while the research linked suicide with only exposure to potentially morally injurious events. There is convincing trajectory evidence of several pathways that lead to different potentially morally injurious events for gang members. Common pathways or contexts include frequent in-group conflict, across-gang abuse, and transgenerational transmission encounters, whether through recruitment, retaliation, or lesson learning/punishments, to name a few. Wood et al. (2017) asserted that gang

members are three times more likely to assault friends or fellow gang members and four times more likely to assault a rival gang. Bresford and Wood (2016) asserted that they are ten times more likely to kill. Based on these statistics, gang members are expected to encounter potentially morally injurious events frequently and are at increased risk for a MI outcome. Gang members frequently encounter conflicts that can cause disenchantment with their gang's moral code, and internal members frequently disenfranchise them, for example, being unable to aid a partner who was shot or hurt during perpetration in fear of being caught. This can be a devastating betrayal and eventual loss of a meaningful future in a world where they already feel mistrust in others and feel helpless.

A core feature of MI development is an urge to disconnect or attack, resulting from an inability to resolve moral dissonance after experiencing perceived violations of deeply held moral beliefs by oneself or trusted individuals. Researchers liken this reaction to the phenomenon of pluralistic ignorance. Pluralistic ignorance most often occurs in peripheral and new gang members who, through lack of exposure, can feel extreme discomfort in participating in these violent acts and privately reject this norm but feel simultaneously coerced or compelled to join in appeasing other group members (Wood, 2014). If one pathway to relieve cognitive dissonance is achieved through methods of moral disengagement, it becomes easier to activate over time. It is plausible that new, less experienced gang members and those at an increased risk of experiencing trauma are more likely to experience MI. Unfortunately, limited research links the psychological effects of pluralistic ignorance to gang members' possible experience of

MI. Gang members are groomed to harm, kill, and protect. However, after treatment due to incarceration or otherwise, they are expected to be transformed into productive civilians. To understand the gang war is pointless, and successfully stripped of the false ideology, they can undergo moral identity confusion. Remorse and guilt can later ensue despite understanding the need to and pleasure in past perpetration.

Despite the exponential growth of MI research, most studies are cross-sectional in design, which unfortunately limits a more in-depth understanding of its correlates, moderators, and predictors (Koenig & Al Zaben, 2021). Hence, it is challenging to understand what factors increase the risk of developing a MI. Most studies also remain generalized to a limited population. Koenig and Al Zaben (2021) found empirical support for the following. In war and combat, younger age, greater combat exposure, and poor social support or quality relationships, among several other elements, increase the experience of MI. They further alluded that personality, temperament, prior trauma, and culture also add to the risk for MI; specifically, an “emotionally and morally sensitive individual is probably more likely to experience a moral injury than the individual with an antisocial personality disorder or with psychopathy” (p. 2999). Based on primary and secondary psychopathy literature, their findings that depression and anxiety disorders correlated with MI among all populations sampled are appropriate.

Consequently, the potential role of MI in gang culture is in its infancy and requires further exploration. There is agreement that gang members have a higher lifetime exposure to violence and atrocities (Hughes et al., 2015). They also exhibit higher violent behavior rates (Connolly & Jackson, 2019) and have intrinsic personalities

and temperaments that increase their risk of developing a MI. As such, MI in this population is worth an in-depth exploration. Congo soldiers had increased rates of trauma symptoms, including core and secondary features of MI, if recruited by force and acts of perpetration violated their self-concept or moral code (Hecker et al., 2013b). Similarly, new and forced gang members who initiate acts of violence are emotionally and morally sensitive to the risk of experiencing a MI. However, there is a lack of knowledge about this novel phenomenon and its relationship with gang culture. Coupled with the frequent practice of failure to adhere to the responsivity principle on assessments (Holloway et al., 2018), a ripe disaster for overlooking a MI precludes the opportunity for trauma-informed treatment (Jinkerson, 2016), resulting in enduring mental health and discord within the prison.

Researchers and practitioners have made significant efforts to develop assessments for evaluating MI, and most have demonstrated good validity and reliability. The Moral Injury Events Scale (Nash & Litz, 2013) and the Moral Injury Questionnaire-Military version (Currier et al., 2015) were the first published. However, they are not without practical and methodological limitations. For example, Frankfurt and Frazier (2016) assert that both assessments used questions on exposure to potentially morally injurious events and outcomes, as well as psychological symptoms, which confounds the outcome (MI) with the act (potentially morally injurious event). Another major limitation is that most MI assessments are normed on military and veteran samples. Consequently, researchers have used statistical analysis to isolate these two constructs for newer assessments and have begun to extend norms resulting in additional assessments beyond

military veterans to healthcare professionals (The Moral Injury Symptom Scale Healthcare Professional) and civilians (The Moral Injury Events Scale Civilian) and Expressions of Moral Injury Scale-Military (Currier et al., 2018; Thomas et al., 2022). The Moral Injury Outcome Scale (MIOS) is the latest tool developed by a group of researchers and clinicians to redress validity and reliability issues (Litz et al., 2022). The 14-item assessment is highly reliable and has a robust two-factor structure, entailing shame-related and trust-violation-related items (7 items each).

Researchers modified the wording in most abbreviated assessment versions to make them appropriate for use with other populations or settings. However, these are still in the pilot testing phase; they do not capture the full range of the MI construct, and there remains no gold standard for these newer assessments despite the initial good reliability and validity of MI symptoms and events (see Koeing et al., 2019; Mantri et al., 2020; Nieuwsma et al., 2021). The Moral Injury Event Scale is the most statistically credible at this time.

Perpetration-Induced Traumatic Stress

In its most basic and traditional psychological definition, trauma is an emotional response to a distressing event. Following this event, the individual can experience a range of reactions, including short-term, mild forms of shock, fear, confusion, tension, and withdrawal, to more long-term and severe responses such as intrusive thoughts, re-experiencing symptoms, hopelessness, and panic attacks (U.S. Department of Veterans Affairs, nd.). Trauma can be experienced at any age or result from many things, but

commonly researched events of its development include childhood abuse and neglect, sexual assault, war, disaster, and death.

Traditionally, the term trauma has often been used interchangeably with PTSD. However, they are not synonymous; an individual can experience trauma without necessarily developing the more severe symptoms associated with PTSD. Conversely, after realizing the fallacy that trauma symptoms should quickly resolve, researchers developed the term PTSD for trauma symptoms lasting longer than six months. Post traumatic stress disorder is a group of prolonged adverse symptoms experienced after a traumatic event or set of circumstances. Holistically, a traumatic event is experienced differently through each of the five senses. As such, symptoms can include somatosensory flashbacks, intrusive memories, hyperarousal, nightmares, and other olfactory, visceral, auditory, and kinesthetic symptoms.

Much of the development and research of trauma and PTSD stemmed from war research, where researchers and medical practitioners used a medical model approach to understand and cure symptomology. However, a more recent psychological approach defined trauma as a wound of the soul (Mohamed, 2015). Hence, where incidents of killing in combat were the only consideration, now exposure to killing, pre- and post-deployment psychosocial influences, among other factors, are considered to increase the risk of developing trauma symptoms (Vogt & Tanner, 2007). The concept that trauma cannot distinguish between victim or perpetrator, good or bad, among empirical evidence, fostered a definition change in the latest version of the *DSM-5* to PTSD, where the phenomenon extended to include actual or threatened death, witnessed or experienced

(see APA, 2013). The latter allowed consideration of trauma caused by trauma or trauma resulting from perpetration (see MacNair, 2015). Accordingly, perpetration-induced traumatic stress “involves any portions of the symptomatology of PTSD, at clinical or subclinical levels, which result from situations that would be traumatic if someone were a victim, but situations for which the person in question was a causal participant” (MacNair, 2002, p.7).

Victimization as a precursor to trauma has dominated the extant trauma literature, and only in the last two decades has trauma due to perpetration entered the research scene (MacNair, 2002). Despite this introduction, perpetration-centered trauma research has lagged, is scant, and is still somewhat of a novel concept. Since extracting and extending the theory to populations beyond veterans, researchers and practitioners now see post-traumatic symptoms in police officers, executioners, doctors performing abortions, butchers, veterinarians, child soldiers, refugees, and gang members (Bennett & Rohlif, 2005; Hill et al., 2020). This section will focus on the risks of developing traumatic symptoms that can lead to a disorder.

There has been a long-held consensus on the complex cycle of trauma, PTSD, and antisocial behavior, where trauma and antisocial behavior are reciprocal. The trauma proliferation and stress generation theory posits that independent traumatic stressors induce vulnerability to future stressors, such as further victimization or perpetration through impaired thinking, attitude, and behavior. Neurobiological studies have consistently supported this theory of cumulative trauma. Interestingly, the human body and mind can withstand a great deal of trauma, and many of these symptoms are short-

lived. However, several risk factors prevent some individuals from being resilient. One prominently researched factor is the degree of exposure during and after a traumatic event. In contrast, according to Bonanno et al. (2010), the main factor is the occurrence of other preexisting weaknesses. Both factors likely contribute to enduring symptomology. Studies on childhood trauma consistently show a causal relationship with the potential development of PTSD. It has been identified as a risk factor for later antisocial activity, and antisocial activity increases exposure to more traumatization (Holloway et al., 2018; Wood & Dennard, 2017). Giotakos (2020) similarly asserted that neuroimaging studies on early childhood abuse and neglect have shown developmental impairments in their neurobiological system that have permanently altered gene expression and brain activity in various regions, resulting in an inability to regulate emotions in response to future stressful events, effectively leading to later problems. These abused and neglected individuals later find themselves in similar high-risk environments as adults because they develop cognitive distortions and deregulation, among other impaired executive functioning. More specifically, according to Giotakos (2020), studies have shown that abused children become hypervigilant, scanning for threatening cues, focus on body language with a particular emphasis on facial expressions, overlook verbal cues, are not able to regulate, and have an exceptional intolerance for unpleasant behavior emotionally. Prolonged exposure to stressors can also lead to memory impairments, where the continued release of stress hormones damages the hippocampus and orbitofrontal cortex, preventing the encoding of episodic and

semantic memory events. Moreover, childhood abuse and neglect can develop negative self and other schemas, causing an information-processing bias for negative stimuli.

Research has found that a significant percentage of adult-onset PTSD stems from the impact of childhood sexual abuse (Ehring et al., 2014). For several reasons, children process traumatic experiences differently than the typical adult, and a range of factors contribute to more severe psychological outcomes. Studies have found that age at exposure, length of exposure, severity of sexual trauma, variability in the nature/type (penetrative vs. non-penetrative, intra vs. extrafamilial) sex, and genetics (Lalor & McElvaney, 2010) increase the risk of later PTSD.

First, according to James and Gilliland (2017), younger children are at a greater risk of sexual assault. In their sample, 10-20% of males had been sexually assaulted at some point over their lifespan. Second, there is a consensus that exposure to acute or chronic stress levels during vulnerable developing brain periods can alter brain structures and functions. An early 2008 study found that victims of sexual abuse that occurred during the ages 3 through 5 and 11 through 13 had decreased hippocampal volume. However, if it occurred during ages 9 through 10, differences were noted in the corpus callosum (Andersen et al., 2008). Between the ages of 14 and 16, differences in the prefrontal cortex were observed. Since the prefrontal cortex is associated with mood and emotion regulation, these functions are likely to be compromised as the child matures into adulthood and faces increasingly emotionally charged situations. This area is also responsible for inhibiting acquired fear responses (Manthey et al., 2021), making individuals more susceptible to certain symptomology and later disorders. In the same

meta-analysis, Manthey et al. reported structural and functional differences in the medial prefrontal cortex, the amygdala, and the hippocampus in adults with PTSD.

In a similar organic, though pathologically distinct, vein, recent research has identified genetic predispositions through single-nucleotide polymorphism (SNP) genotyping, where the presence of the FKBP5 gene, as opposed to those who do not have it, was more likely to display symptomology of PTSD following childhood stressors/abuse (Wang et al., 2018).

Other contributing factors included severity and duration of abuse, where coercion or use of violence and long rather than shorter periods of assaults increase risk. Finally, prolonged secrecy, shame, guilt, and self-blame all induce stress and impact the ability to cope. Hence, many CSA survivors have psychological maladjustments, including but not limited to substance abuse, dissociation, sexual dysfunction, aggression, borderline personality disorder/emotion dysregulation, suicide, and PTSD. There is some consensus among studies of resilience factors. Domhardt et al. (2015) conducted a systematic literature review of resilience after CSA studies. Their results indicated that after childhood sexual abuse, there was a range of 10%-53% resilience rate. These statistics align with the general trauma literature, which asserts that resilience is more common than not. In their study, Marriott et al. (2014) found that internal factors, such as problem-focused coping, positive reappraisals, and high self-esteem, along with social supports, including good family relationships, friendships, and access to available community resources, and certain abuse-related factors, such as older age at onset, contribute to increased resilience. Domhardt et al. reported similar findings in their

review. They also found additional protective factors, which included an internal locus of control, hope, optimism, problem-focused coping, trust, ability to manage emotions, externalizing blame, attachment to one's family/parents, academic engagement, self-concept and worth, high religious and spirituality, lack of deviant behavior, sports, leisure, and cultural activities, high socioeconomic status, and both parents living in the home among other protective factors.

Nevertheless, when thoughts, feelings, and memories of a traumatic event do not go away, they may lead to post-traumatic stress symptoms or worsen to a disorder (PTSD). This disorder can seriously disrupt a person's ability to regulate emotions and maintain healthy relationships. Perpetration-induced traumatic stress, a subcategory of PTSD, is associated with anxiety and depression, among other psychologically distressing symptoms. It also has a core component of guilt and moral agency, which increases the development of MI and comorbidity (Kerig et al., 2013; Kira et al., 2013). Consequently, the person must perceive the event as a moral problem and the perpetrating act as a violation of their moral code (Hecker et al., 2013b).

Forensic meta-analytic studies have identified a significant challenge that has stifled PTSD expansions. The evidence suggests that the relationship between problem behaviors, comorbid mental health, and PTSD is not fully understood, resulting in low diagnosis and treatment of PTSD among incarcerated individuals (Baranyi et al., 2018). Hence, despite meta-analysis revealing increased rates of PTSD among those incarcerated and, to that end, gang members, researchers have also identified decreased rates of PTSD identification and treatment (McCormick et al., 2017). One thought for

this is that elements such as emotional numbing, dissociation, and other CU traits (desensitization and apathy) mask post-traumatic stress symptoms (Kerig et al., 2016) and cultivate ambiguity to initiate a trauma assessment on intake. The lack of identifying post-traumatic stress symptoms on initial assessment is troubling because there is a prerequisite for forensic practitioners to adhere to the fundamental principle of responsivity and account for those individual factors that decrease treatment responsiveness, such as mental illnesses (McCormick et al., 2017). Accordingly, studies reveal that practitioners' underutilization of the responsivity principle is a common phenomenon. They fail to isolate those individual internal attributes that obstruct treatment engagement and completion, such as PTSD. More concerning is that the inability to mitigate these responsivity factors reduces the opportunity to alleviate those core criminal risk factors pivotal to antisocial attitudes and behavior patterns. This negligence has a rippling effect that ultimately increases the risk to civilian safety.

Subsequently, research on the association of perpetration trauma among gang members is a novel concept and, as such, has a scant literature base. One seminal study using a group of incarcerated adolescent gang members confirmed that violent perpetration predicts post-traumatic stress symptoms and mediates the relationship between post-traumatic stress symptoms and gang membership (Kerig et al., 2016). Curiously, these findings were not moderated by gender despite Baranyi et al.'s (2018) meta-analysis asserting that the presence of PTSD in incarcerated females (12% - 38%) is disproportionately higher than in males (1% - 27%). Notwithstanding, Baranyi et al.'s study had several limitations, including the restricted age range of the sample, which was

drawn from a minimum classification facility, and the method of gang identification. More specifically, the facility's status suggests that it handles less severe offenses. This suggests a more robust relationship among incarcerated individuals with a higher classification; that is, they are at higher risk, due to longer and greater severity of trauma risk factors or experiences.

Kerig et al. (2013) have identified the gangs' structure, purpose, and general culture as comparable in nature and outcome to war child soldiers and refugees. There is a reasonable international empirical examination of child soldiers, and therefore, it is also reasonable to infer their issues and outcomes to the gang phenomenon. Accordingly, what is widespread is their proclivity for criminal activity, exposure to and perpetration of violence, and this behavior's detrimental impact on self, others, and the surrounding community. Hence, like child soldiers and refugees, gang members experience childhood violence, including but not limited to domestic abuse, sexual abuse, and various forms of community violence exposure and perpetration, which serve as critical predictors for PTSD. Thus, researchers have applied the continuous understanding and empirical support of cumulative trauma and its negative implications in child soldiers to gang members (Kerig et al., 2016).

Further, Briere et al. (2016) found that cumulative rather than isolated traumatic events and interpersonal rather than non-interpersonal violent conflicts predicted PTSD in their sample of incarcerated individuals. Using a military sample, Pitts et al. (2013) suggested that the number of enemy engagements predicted PTSD. This finding expanded the generalizability of cumulation. This study also found that killing and

attempting to kill were significant predictors of PTSD, whereas witnessing and other combat-exhibiting behaviors were not. Like military combatants and child soldiers, gang members are entrenched in street wars with increased levels of direct perpetration, witnessing, and victimization within their gang and rival gangs. Prior meta-analyses in prison populations consistently reveal elevated rates of PTSD linked to this trauma. Compared to their nongang incarcerated and community counterparts, the rate significantly increases for justice-involved gang members (see Baranyi et al., 2018; Rosenberg et al., 2014).

However, Pitts et al. (2013) found that killing and attempting to kill were significant predictors of PTSD, whereas witnessing and other combat-exhibiting behaviors were not. Like military combatants and child soldiers, gang members are entrenched in street wars. This activity increases direct perpetration, witnessing, and victimization within their gang and rival gangs. However, to date, only inferences have been made.

Broadly, meta-analyses on forensic samples, including gang members, consistently reveal elevated rates of PTSD, other mental health co-morbidities, and trauma-related behavioral problems. One such study, Baranyi et al. (2018), included 56 samples from over 20 countries. The point prevalence of PTSD for males was 6%, 10% over one year, and lifetime was 18%. Of 10.3 million prisoners worldwide, they asserted that 750,000 likely have a clinical diagnosis of PTSD, and those who do are at increased risk of having a comorbid mental health disorder such as anxiety or related affective disorders. Facer-Irwin et al. (2019) expanded on this and conducted a meta-analytic

review of PTSD prevalence in prison and its resulting mental health sequelae. Of 36 samples and roughly 9,594 incarcerated individuals, they similarly found a significant rate of PTSD and suggested that, overall, PTSD is more prevalent among prisoners than in the community. Of the 36 studies that met the criteria for inclusion, none found a statistically significant elevated rate of PTSD among prisoners with primary psychopathy compared to those without psychopathy. One study found a negative association; however, two studies examining CU traits (a contributing factor of primary psychopathy) yielded mixed findings, which may have been due to a lack of a heterogeneous approach. Finally, there was a negative relationship between PTSD, antisocial personality disorder, and psychopathy, which supports the psychopathy literature that suggests that individuals with primary and secondary psychopathy perceive and experience positive and negative affect differently, and a case for the identification of primary psychopathy variants. In studies identifying heterogeneity, Moffett et al. (2020) found that primary variants scored highest on boldness and meanness scales and lowest on guilt and anxiety/depression scales compared to a secondary cluster.

Similarly, regarding comorbidity, depression and anxiety disorders had the strongest association with PTSD, which was more robust in adults. Finally, one study found that reactive versus proactive aggression was associated with PTSD. These findings suggested that aggressive behavior in PTSD may be contextualized in arousal and reaction to a perceived threat, as opposed to callousness or lack of empathy. These findings support the notion that secondary psychopaths are prone to psychological turmoil, remorse, and fear (Dean et al., 2013; Vaughn et al., 2009). Additionally, they

can experience a full range of emotions, leaving them highly emotionally reactive, often deficient in emotion regulation, and at risk of developing PTSD and MI.

Summary

Researchers derive best practices from a thorough investigation of a phenomenon. Where there is a lack of knowledge due to gaps in the literature, clients ultimately suffer; however, in this case, community safety also suffers. The research clearly states that identification and trauma-informed treatment are necessary for optimal recovery from PTSD and MI, regardless of whether they acquired it as a victim or perpetrator. However, the forensic domain has lagged in consensual research outcomes, identification, and treatment of PTSD and MI, which has harmed how individuals incarcerated receive and respond to treatments. This negligence is unfortunate because at least 750,000 incarcerated individuals worldwide have a clinical diagnosis of PTSD (Baranyi et al., 2018).

Gang members are a significant proportion of the incarcerated population, with high prevalence rates of factors predisposing them to post-traumatic stress symptoms. Accordingly, they have a considerable prevalence rate of PTSD (Baranyi et al., 2018). A fundamental reason gang members are underdiagnosed is the mischaracterization of problem behaviors as proactive aggression. Proactive aggression is stereotypical of primary psychopathy traits rather than high emotional arousal, anxiety, anger, or reactive aggressive violence, more commonly seen in secondary psychopathy (Dean et al., 2013). The concept of psychopathy heterogeneity is relatively new, with mixed findings, and has not yet been applied in the practical field.

Perpetration-induced traumatic stress and MI often co-occur if guilt accompanies trauma from the perpetration. Both phenomena are novel, with a limited normed population that theorists have only recently extended to gang members. This expansion has drawn inferences and conclusions from similarities between traumatic lifestyle exposures and experiences in child soldiers. Researchers have heavily explored force as a risk factor (Vermetten & Jetly, 2018) in addition to betrayal by leaders. However, to date, there has been no research on the structure and roles of this militant group.

Conversely, researchers have sparsely explored the predictors and consequences of gang member roles/status heterogeneity, namely, gang leaders and lower-level members. Dmitrieva et al. (2014) and Thornton et al. (2015) examined associative aspects of psychopathy (temperance and CU traits) with mixed outcomes. Dmitrieva et al. conducted a 7-year longitudinal study, which found that long-term involvement in gangs, particularly for leadership and low-level status, increased in grandiose manipulation and impulsive-irresponsible domains, and decreased in temperance. However, the grandiose-manipulative domain predicted gang leadership status as assessed by the Youth Psychopathic Traits Inventory (Andershed et al., 2002, as cited in Dmitrieva et al., 2014) compared to low-level gang members. A short-term consequence of low-level membership was an increased temperance capacity as they aged, which was not observed in identified gang leaders. This finding is significant because prior research found that higher levels of psychosocial maturation (including temperance) are associated with lower levels of psychopathy (McCuish & Gushue, 2022). However, long-term low-level membership also predicted increased levels of CU traits. The findings

demonstrate the importance of investigating gang membership at low and high levels as two separate variables and that psychopathy can be both a predictor and a consequence of these two types of gang affiliation.

Thornton et al. (2015) found that elevated levels of CU traits were associated with gang membership, endorsing a leadership role in group crime, and instigating an index offense. More specifically, logistic regression analyses revealed that the instigation or leadership role of index and group offenses was associated with the level of CU traits. Zero-order correlates are also linked with the endorsement of gang membership. Thornton et al. concluded that incarcerated juveniles with increased CU traits significantly influence their peers' antisocial behaviors because they have innate manipulative and exploitative skills.

Another critical element of the Dmitrieva et al. (2014) study is the impact of age and gang duration variables. Their study identified several differences in behavioral patterns when accounting for age and duration. Thornton et al. (2015) and Dmitrieva et al. sampled youth. Recognizing this limited feature of previous research encourages exploration into adult populations where aspects of psychosocial maturity change and can impact the tolerance of adult gang members' precarious situations. Adult gang members may be at greater risk for perpetration-induced traumatic stress and MI if psychosocial maturity improves with age.

The literature has shown that youth gang members experience increased trauma from perpetration. This trauma often goes unnoticed due to the muting of emotions (Kerig et al., 2016) and the guise of pleasure during violent acts. Notwithstanding,

appetitive aggression is associated with a reduced risk of PTSD (Crombach & Elbert, 2014; Hecker et al., 2013b; Weierstall et al., 2013). However, this is not the case for all. Now is an opportune time to expand the literature and close gaps by linking the role of membership with the psychological outcomes of acts of perpetration. Employing a quantitative method using official documentation to determine gang status in an adult forensic population serving long convictions can overcome the limitations of Kerig et al.'s (2016) study.

Chapter 3: Research Method

Introduction

The small island jurisdiction has lagged in applying best practice principles for addressing the psychological effects of gang violence. Only recently has it become understood that the path forward is through trauma-informed assessment and treatment (Lagan, 2018). The trauma proliferation and stress generation theory asserts that independent traumatic stressors provoke vulnerability to future stressors. These stressors can induce further victimization or perpetration through impaired thinking, attitudes, and behaviors. Trauma is a complex, reciprocal cycle involving one or more traumatic events, PTSD, and antisocial behavior. For example, childhood trauma is a risk factor for later antisocial activity, and antisocial activity increases exposure to more traumatization (see Holloway et al., 2018; Wood & Dennard, 2017). As these children grow into adolescents and adults, psychopathic traits may emerge, adding to the complexity and exacerbating enduring psychological and mental health outcomes.

Therefore, this study sought to gain greater insight into the psychological impact of traumatic experiences on incarcerated gang members within the forensic population of a small island jurisdiction, using a sample from ICS comprising individuals who had committed violent offenses. The study's primary aim was to assess the association between the psychological outcomes of PTSD and MI based on implicit gang membership level, type of psychopathy, and perpetration of a violent offense(s). The study objectives included quantifying PTSD, perpetration-induced traumatic stress, and MI statistics among the adult Bermudian forensic population, primarily of incarcerated

individuals within the island's correctional system, and comparing symptom rates among incarcerated gang and nongang members. A second objective was to determine whether psychopathy functioned as a risk or protective factor for perpetration-induced traumatic stress and the specific post-trauma reaction of MI when an act of perpetration is self-reported. A unique objective of this study was to challenge and help eradicate the false stigma that gang violence is centrally appetitive aggression akin to the stereotypical and narrowly defined perception of psychopathy that persists even among some frontline therapists, rather than being understood as trauma-induced. The aim was to encourage service providers to recognize trauma symptoms and foster a culture of viewing perpetrators as potential trauma victims.

This study addressed two main research questions: *(a) To what extent do gang membership level, psychopathy, and perpetration predict PTSD among incarcerated individuals? and (b) To what extent do gang membership level, psychopathy, and perpetration predict MI among incarcerated individuals?*

Finally, this chapter describes the research methods by detailing the research design and rationale, the sample population and demographics, recruitment and participation procedures and requirements, selected measures, data analysis, threats to validity, and the ethical procedures followed.

Research Design and Rationale

The psychological effects of perpetration and its often co-occurring posttraumatic reactions to perpetration-induced traumatic stress and MI have received reasonable growing interest and support in the United States and European research. These efforts

support deductive research to enrich and advance the scant international research on this topic. Researchers have only recently begun to apply the concept of perpetration-induced traumatic stress to the global forensic population and, more recently, a sample of offending juvenile gang members. While the current DSM-5 definition includes acts of perpetration, it is limited to a military context (MacNair, 2015). Outcome data from an adult forensic population sample can help advance the generalization of the construct to broader incarcerated populations. Dmitrieva et al. (2014) increased understanding by showing that CU traits predict gang membership, and Thornton et al. (2015) found that they influenced taking leadership or instigating roles in group crime among youth. Kerig et al. (2016) advanced an understanding of how youth gang members' perpetration can influence the onset of PTSD.

Subsequently, the rationale for this study was to integrate these findings into a single investigation, address prior methodological limitations, and expand the scope of the MI and perpetration-induced traumatic stress constructs.

The two main RQs aimed to identify associations between variables to predict the values of continuous outcome variables based on one or more independent variables. Both outcome variables, PTSD and MI, were measured as continuous variables using total scale scores. Accordingly, this study employed a quantitative, non-experimental, correlational design, utilizing independent-samples *t* tests, ANOVA, Spearman's rank-order correlations, and multiple linear regression analysis (see Creswell, 2009). The variables within this study were intrinsic and, as such, did not allow for manipulation of the independent variable or random assignment of participants, making it impossible to

meet the criteria for an experimental study (see Frankfort-Nachmias & Nachmias, 2015). Nonparametric correlations were used to examine bivariate relationships where normality assumptions were violated.

Creswell (2009) asserted that quantitative studies use data from surveys and other predetermined measuring tools to generate statistical data that can predict, explain, or confirm an idea. This study employed a 5-week cross-sectional timeframe with hard-copy, self-administered surveys. This approach was practical in a forensic environment because it enabled the collection of essential data within a shorter period than structured interviews (see Creswell, 2009) while accommodating security demands, restrictive schedules, and ethical requirements. Participation in the study was entirely voluntary. In line with ethical best practice, all participation decisions were fully respected, and participants were informed that no ICS staff would treat them differently based on their decision to participate or not. Participation did not influence parole, transfer, or work release decisions.

Primary and secondary subtypes of psychopathy were distinguished using the highly validated LSRP. This information was then used to test inferences from existing research suggesting that primary variants may be inoculated against experiencing trauma (Hecker et al., 2013a). In contrast, those with secondary psychopathy features are at greater risk of experiencing trauma symptoms, including MI, after committing violent acts (Yildirim & Derksen, 2015).

Although the original design proposed using a collateral data collection approach to address the limitations of response exaggeration often seen in self-report-only studies

(see Dmitrieva et al., 2014; Thornton et al., 2015), this component was not implemented due to restrictions imposed by the IRB.

Post-traumatic stress symptoms/perpetration-induced traumatic stress symptoms were measured using the PTSD Checklist for DSM-5 (PCL-5; Weathers et al., 2013). This measure aligns with the revised *DSM-5* criteria, which include acts of perpetration as qualifying trauma. An index of perpetration will be developed. The single question was: “Is your current offense or one in the past one where you seriously injured, harmed, or caused death to someone?” Examples provided included murder, various forms of assault, sexual offending, and firearm charges. MI was measured using the Moral Injury Outcome Scale (MIOS research version; Litz et al., 2022).

Methodology

Population

All participants were male incarcerated within the ICS. Participants recruited from Site 1 were classified into three categories based on their institutional risk level: maximum, medium, or minimum security. In contrast, participants recruited from Sites 2 and 3 had transitioned from Site 1 and, therefore, were classified as having a minimum-security risk. A substantial percentage of the participants were serving a sentence, while a small percentage were remanded into custody awaiting trial or sentencing. To participate, these individuals had a previous incarceration. The male participants ranged in age from 18 to 71 years old. Consistent with the demographics of the island jurisdiction, participants were primarily Black individuals, along with a limited combination of other racial and national backgrounds.

Sampling and Sampling Procedures

An a priori power analysis was conducted using G*Power 3.1.9.4 (Faul et al., 2007) to determine the minimum sample size required for analyses. Initially, the required sample size exceeded 100 participants, which was deemed unrealistic. After consulting with the Office of Research for a statistical tutorial, it was determined that increasing the effect size to a large effect ($f^2 = 0.35$) would significantly reduce the required sample size, $N = 63$, thereby improving the feasibility of data collection while preserving statistical rigor. An α level of .05 and a statistical power of 0.95 were used, which was considered an acceptable minimum standard within the field of statistics. The final sample size, $N = 70$, exceeded this requirement

This study's methodology and resulting sampling drew heavily on the RNR model, which provides the theoretical underpinnings for assessing, treating, and managing individuals in prison-based settings. The literature review highlights the common underutilization of the responsivity principle by correctional staff during assessment. This principle emphasizes the importance of treatment providers identifying, accommodating, and, if possible, addressing psychological distress, learning disabilities, and other challenges or personal characteristics that may hinder optimal treatment response (Andrews & Bonta, 2010b). By addressing these barriers, treatment outcomes can be improved. Therefore, it was critical to select from a forensic population and setting where these principles could be rigorously applied and observed.

Research has consistently shown that incarcerated populations, in comparison to other community-based counterparts, have higher rates of psychopathy, trauma, and

PTSD, often exacerbated by the prison environment. These factors significantly influence behavioral patterns during incarceration and influence responsiveness to standard rehabilitation programs (McCormick et al., 2017). Studies have shown that when trauma symptoms are not recognized and untreated, rehabilitation engagement is hindered. Incarcerated individuals are, therefore, a critical population for studying the interplay of trauma and responsivity due to their high need and high potential to observe treatment effectiveness under controlled conditions.

There are limitations to using a non-forensic or community-based forensic sample. Individuals on parole or probation often do not represent the same level of complexity in terms of perpetration trauma symptoms. Many community-based probationers have committed less severe offenses or have already received significant intervention due to better access to treatment and support. Additionally, justice-involved community-based individuals and their extensive external settings present a broader range of confounding variables that I cannot control, such as varying levels of community support and external stressors. There is also variability in the type and quality of in-community treatment settings. This can potentially dilute and skew the applicability of the results.

By contrast, correctional settings provide a uniquely regulated environment that enhances internal validity. The impact of psychological traits, trauma history, and treatment responsivity can be examined without the interference of uncontrolled external variables. Although correctional environments are not identical, incarcerated individuals tend to share common institutional exposures, such as regimented routines, imposed

restrictions, and peer dynamics, that limit some of the variability present in community-based samples. Importantly, incarceration provides access to individuals who have recently perpetrated acts of violence or experienced morally injurious events, creating a unique opportunity to examine the psychological consequences of such behavior prior to reintegration.

This control is vital for maintaining the research's integrity and ensuring that the findings are as accurate and reliable as possible. Therefore, conducting rigorous research with incarcerated individuals in a prison setting provides a practical advantage in terms of accessibility to a more accurate and diverse pool of participants who have recently experienced potentially morally injurious events and perpetration of crimes that induce trauma, whose post-release environmental variables have not yet been influenced. This provides a clearer picture of the RQs in line with the RNR theoretical foundation of prison-based research. Mirroring the conditions under which the RNR model and interventions are designed to operate enhances the generalizability and applicability of the findings.

Selecting incarcerated individuals as the focus of rehabilitation studies was essential for advancing understanding of effective correctional assessment, treatment, and management. It aligns with the theoretical foundations of the RNR model, addresses a population with a critical need for effective intervention, and leverages a controlled environment for rigorous research. This approach enhances the validity of findings and supports broader correctional goals, including reducing recidivism through improved treatment responsiveness, contributing to safer communities.

Purposive sampling was used to select participants with specific characteristics relevant to the RQs intentionally. This approach is appropriate in quantitative research when studying a specific subgroup of interest that is not easily accessible through random sampling methods. (Palinkas et al., 2015). Foreign nationals (prisoners who are not ordinarily resident on the island) were excluded from this study. The inclusion criteria required participants to be island nationals (or ordinarily resident on the island), adult males with a history of a criminal conviction who were currently in the forensic system at the time of the study period.

Procedures for Recruitment, Participation, and Data Collection

Recruitment began with posting flyers (see Appendix A) in common areas throughout each Site, including administration offices, dining halls, libraries, classrooms, and recreational spaces. The flyers described the study and provided information about the dates and locations of information sessions. Presentations were held in each Site's chapel one week after the flyer was posted, using a prepared script and a question-and-answer segment (see Appendix A) that lasted approximately 30 minutes. These group presentations explained the study in detail and provided participants with opportunities to ask questions. Consent was treated as an ongoing process. During each presentation, the consent form was distributed, read aloud, and discussed with the participants. Participants could ask questions or raise concerns, and common consent-related questions were addressed in the Q&A segment. Participants then had three to five days to review the consent details and decide whether to participate.

Flyers, consent materials, and presentations were provided in English, using accessible language. While accommodation was offered, none were requested. The materials included instructions for selecting a unique number token (1-140) (see Appendix C) and scheduling a survey appointment in the facility library. Participants chose a convenient date and time and wrote their token number next to their selected slot on the sign-up sheet (see Appendix C). Survey times were scheduled for Mondays, Wednesdays, and Saturdays for 2 weeks at Sites 2 and 3, with slots available between 9:00 a.m. and 11:30 a.m. and 1:30 p.m. and 3:30 p.m. to accommodate times when incarcerated individuals could discreetly access program services. For Site 1, the following three weeks were scheduled from Monday through Friday with the same time slots, in line with the facility's preference.

At the start of each scheduled survey appointment, the second stage of the consent process took place. The consent form was reviewed again, read aloud if needed, and participants could ask final questions or opt out. Completion of the survey packet (see Appendix D) served as informed consent.

Surveys were administered individually in a designated quiet room with standard monitoring windows, ensuring privacy while maintaining safety. Each participant completed demographic questions and three core surveys, each lasting approximately 10–15 minutes, for a total of about 45 minutes. Participants had the right to decline to answer any portion of the survey and were encouraged to take breaks as needed. The survey packet remained anonymous, marked only with the participant's unique number on each page. I used a designated area on the first page for scoring. Completed surveys

were stored securely in a locked case and later secured at my home office. The dataset was stored on password-protected devices accessible only to me.

Participation was entirely voluntary. Incarcerated participants were reminded that choosing to participate or decline would not affect their status, treatment by correctional staff, or eligibility for parole, transfer, or work release. If participants chose to withdraw at any time, they could do so without penalty. Missed appointments could be rescheduled within four weeks using the same token number.

There was potential for minimal emotional distress, such as triggering traumatic memories or increased anxiety, which could have impacted preexisting mental health conditions or caused discomfort with disclosure. To address this, participants were reassured that their responses would remain confidential and anonymous, and that no identifiable information would be linked to their participation. The survey area was isolated, with transition breaks between sessions to prevent fatigue. Access to mental health support was available, and a qualified professional was on-site or available by phone throughout the data collection period. Participants could skip any questions they found distressing and could pause or stop at any time.

To reduce any perceived risk of retaliation related to gang membership, the invitation to participate was open to all incarcerated individuals, ensuring diverse representation and avoiding the targeting of any specific group. The study was communicated as an academic research project unrelated to prison administration or law enforcement. All materials emphasized confidentiality and made clear that no gang-related questions would be asked in a way that could reveal an incarcerated individual's

affiliation. Data collection procedures ensured that gang status remained private and that responses were not identifiable to others.

The study was conducted in a manner that blended with routine facility schedules to minimize attention to individual participants, thereby further reducing the risk of social isolation or reprisal.

This study offered no direct personal benefit but aimed to help correctional staff, policymakers, and rehabilitation professionals better understand how committing violent acts can cause psychological distress, supporting a trauma-informed approach. Participants' honesty, time, and vulnerability were greatly appreciated. As a small token of thanks, each participant received a chocolate bar or a bag of potato chips upon completing the survey. Once the analysis was complete, a summary of the results was shared through a brochure left in each Site's library. I affirm that I have no personal interests with local agencies regarding publication; this study was completed solely to fulfill the requirements of the doctoral program.

Instrumentation and Operationalization of Constructs

Demographics

Participants were asked to complete demographic information, including age, educational attainment, current sentence length, conviction history, prior rehabilitation treatments, and psychopharmacotherapy. These variables were included as potential confounds (control variables) in line with earlier research (see Decker et al., 2014).

Gang Membership Status

Disclosure of gang membership was an important variable in this study. Decker et al. (2014) concluded that self-nomination met criterion validity in distinguishing between current, former, and non-gang members. In line with Decker et al.'s self-nomination study as a valid data collection method to operationalize gang membership, respondents were asked the following: (a) Were you ever involved in a gang inside or outside of the correctional facility? (yes/no), (b) Were you accused by any official (police, lawyer, judge, correctional staff) during your trial of being involved in a gang inside or outside of the correctional facility? (yes/no), (c) Was your alleged offense related to or accused of being gang-related? (yes/no), (d) Do people assume you are gang-related based on the people you associate with, in your opinion? (yes/no). An affirmative response to any of these questions was recorded as indicating current or former gang membership. Participants who responded "no" to all four questions were recorded as non-gang members.

Gang membership level was a primary independent variable in this study. Consistent with prior research (e.g., Dmitrieva et al., 2014), gang status was assessed by asking the following question and answer selections, as follows: "If it has been alleged or if you have been accused, even if you deny the allegation that you were part of a gang or involved in gang activities, how would you describe your role, or how would the officials?" (Please select the option that best describes your alleged involvement.) (a) I am recognized as the main decision-maker or in planning activities within the group. (b) I go with the flow and participate in the group's activities if I feel like it, or when asked,

but do not have a role in planning or decision-making. (c) I am associated with the group but have minimal participation in its core activities. (d) I have not been accused of being involved in any activities of this nature. Although the original design proposed supplementing self-reports with institutional intelligence confirmation of status, this was not implemented due to IRB restrictions; only the self-report was used to categorize membership level.

Perpetration

Perpetration trauma was the second independent variable. An index of perpetration was developed using question sixteen of The Life Events Checklist portion of the PTSD Checklist for DSM-5, which asked the following: “Is your current offense or one in the past where you seriously injured, harmed, or caused death to someone (yes/no)?”

The Levenson Self-Report Psychopathy Scale (LSRP)

Psychopathy was the third independent variable. Psychopathy type was identified through the LSRP, which is a 26-item measure created in 1995 by Michael R. Levenson. Unlike the Psychopathy Checklist-Revised, the LSRP is a research tool rather than a diagnostic instrument. Notwithstanding, it is compatible with and shares the same two-factor structure as the gold standard PCL-R (Psederska et al., 2020), making it one of the most widely used self-report measures of psychopathy (Garofalo et al., 2019). The LSRP comprises two subscales: sixteen items measure primary psychopathy (psychopathic emotional affect), while the remaining ten measure secondary psychopathy (psychopathic lifestyle). The LSRP items are rated on a 4-point Likert scale (1= *strongly disagree*; 2 =

disagree; 3 = *agree*; 4 = *strongly agree*) based on the degree to which a personality/behavior matches the item description. The LSRP generated separate continuous scores for primary and secondary psychopathy traits. These were analyzed independently to distinguish their unique predictive effects, in line with Hecker et al. (2013b) and Yildirim and Derksen (2015). Administration and scoring were brief, taking approximately 15 minutes to complete. Scoring generated dimensional scores that reflect the severity of psychopathic primary traits (range: 16-64), secondary traits (range: 10 - 40), and a total score (range: 26-104), where higher scores indicated a higher self-reported level of psychopathy. Although established cut-offs exist (Brinkley et al., 2001), scores were treated as continuous variables for all analyses in this study.

The LSRP has been used across various cultures and has maintained high internal convergent and discriminant validity (Shou et al., 2016). Internal validity had a Cronbach's α of .84, indicating good test-retest reliability and convergent reliability with other psychopathy measures. It has also been validated across prison and non-prison samples (Sellbom, 2011).

The PTSD Checklist for *DSM-5* (PCL-5)

The PTSD Checklist for DSM-5 is a 20-item self-report measure that assesses the 20 *DSM-5* symptoms of PTSD. The PTSD Checklist for DSM-5 has a variety of purposes and is best used for screening individuals for PTSD and making a provisional PTSD diagnosis. The PTSD Checklist for DSM-5 is a self-report measure that individuals can complete in a waiting room before a session or by participants as part of a research study. It takes approximately 5-10 minutes to complete. The self-report rating

scale descriptors are as follows: 0 = *not at all*, 1 = *a little bit*, 2 = *moderately*, 3 = *quite a bit*, and 4 = *extremely*, for each symptom. Psychometric properties of the PTSD Checklist for DSM-5 were examined. Scores demonstrated strong internal consistency ($\alpha = .94$), test-retest reliability ($r = .82$) (Bovin et al., 2016), and good convergent ($r_s = .74$ to $.85$) and discriminant ($r_s = .31$ to $.60$) validity (Belvin et al., 2015).

Moral Injury Outcome Scale (Research Version)

The Moral Injury Outcome Scale – Research version is a 15-item self-report measure designed to assess MI as an outcome. An international group of researchers and clinicians working with active-duty military service members and Veterans in the US, the United Kingdom (UK), Israel, Australia, and Canada developed the measure.

The research version requires the completion of an exposure classification, which is a dichotomous yes/no, to determine if a potentially morally injurious event occurred, making the following statement:

This questionnaire asks about experiences you may have had after a very stressful experience in which you: (A) did something (or failed to do something) that went against your moral code or values; or (B) you saw someone (or people) do something or fail to do something that went against your moral code or values; or (C) you were directly affected by someone doing something or failing to do something that went against your moral code or values (e.g., being betrayed by someone you trusted).

Persons who answered “no” were instructed not to complete the moral injury outcome scale. For those who answered yes, the second section contained the core 14-

item Likert scale questions. They are comprised of two subscales, measuring shame-related outcomes with a total possible scoring range of 0-28, and trust violation-related outcomes with a total possible scoring range of 0-28. The total score range is 0-56. Higher scores indicated greater levels of current MI. There are currently no proposed scoring categories or cutoffs in place.

Researchers have only partially examined the psychometric properties of the Moral Injury Outcome Scale, and further research is needed to test its discriminant and incremental validity. In their inaugural attempt to validate the Moral Injury Outcome Scale, Litz et al. (2022) reported the following metrics. The test-retest reliability falls within the acceptable range of 8.62 to 9.12. The Moral Injury Outcome Scale's total and subscale scores demonstrated consistently strong convergent validity, although they only partially confirmed the differential convergent validity predictions. Similarly, so was cross-country content validity.

Data Analysis Plan

The two RQs and corresponding hypotheses were as follows:

RQ1: To what extent do gang membership level, psychopathy, and a history of perpetration predict PTSD among incarcerated individuals?

*H*₀₁: Gang membership level, psychopathy, and a history of perpetration will not significantly predict PTSD among incarcerated individuals.

*H*₁₁: Gang membership level, psychopathy, and perpetration will significantly predict PTSD among incarcerated individuals.

RQ2: To what extent do gang membership level, psychopathy, and a history of perpetration predict MI among incarcerated individuals?

H₀₂: Gang membership level, psychopathy, and a history of perpetration will not significantly predict MI among incarcerated individuals.

H₁₂: Gang membership level, psychopathy, and a history of perpetration will significantly predict MI among incarcerated individuals.

All analyses were conducted using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics summarize the demographic characteristics of the sample and key study variables. Tables reported means, standard deviations, frequencies, and percentages where fitting.

Pearson correlation coefficients were calculated to examine bivariate relationships between the following independent variables: gang membership level, perpetration, and psychopathy subscale scores, and the dependent variables of PTSD and MI.

These RQs were best addressed using multiple regression analysis because they involved multiple independent variables (gang membership status, psychopathy, and perpetration) being investigated for their predictive power on two dependent variables (perpetration-induced traumatic stress/PTSD and MI). Multiple regression analysis allowed for the examination of how each independent variable affected the dependent variable while controlling for the influence of the other predictors. This approach enabled an understanding of the relative contribution of gang membership level, psychopathy,

and acts of perpetration to the variance in PTSD and MI symptom levels, accounting for their simultaneous effects.

Multiple linear regression analyses were conducted to assess the unique and combined contributions of these predictors to PTSD and MI outcomes. The dependent variables were treated as continuous measures, while gang membership level and perpetration were coded as binary dummy variables. Psychopathy was included as continuous primary and secondary subscale scores.

Data preparation included coding “yes/no” responses as 1/0 for gang membership and perpetration status. Continuous scores for primary and secondary psychopathy and MI were entered directly. Cases with missing data were excluded listwise.

Before conducting regression analyses, the model's assumptions were tested. Linearity was assessed using scatterplots, normality of residuals was evaluated with histograms and Q–Q plots, homoscedasticity was examined through residual plots, and multicollinearity was assessed using the Variance Inflation Factor (VIF) values. The Durbin–Watson statistic was used to check the independence of residuals.

Key regression outputs included R-squared values, the ANOVA F statistic within the regression output to test whether the overall model significantly predicted the dependent variable, unstandardized regression coefficients (B), and associated p -values. A p -value less than .05 indicated a statistically significant relationship, supporting rejection of the null hypothesis for that predictor. If the p -value exceeded .05, the null hypothesis for that predictor was not rejected. If the F -test p -value was less than .05, the overall model was considered to predict the dependent variable significantly.

Threats to Validity

Correlational research, such as this study, does not allow for proper random assignment of participants. I cannot manipulate the independent variable because it is impossible, impractical, or unethical, which may result in the inability to control various significant confounding variables. Hence, by design, the correlation study has weaker internal and external validity when compared to true experimental designs.

Consequently, throughout various sections of this and previous chapters, threats to validity were addressed by referencing evidence from previous research that established the validity and reliability of the measurement tools, as well as their criterion validity cut-off points. Criterion validity is the operationalization of a construct, such as a test, which relates to or predicts a theoretical representation of the construct. The analysis phase employed regression adjustment to mitigate threats to internal validity, consistent with the recommendations by Handley et al. (2018).

Concurrently, a correlation study that lacks internal validity tends to have higher external validity (Maciejewski, 2020). Most research goals aim to generalize a construct to the broader population, certifying that the information under study applies to real-world people, situations, and environments. This phenomenon is known as external validity. Two main threats and limitations to external validity were the relatively small sample size and the localization of the dataset. The sample was drawn exclusively from Bermudian forensic settings, which limits the generalizability of the findings to other geographical regions or broader correctional populations.

Additional limitations should be acknowledged. First, the study relied entirely on self-report measures, which can introduce response bias through overreporting or underreporting of sensitive information. Second, gang membership status and level were self-reported rather than verified by security intelligence due to IRB restrictions, which may have affected classification accuracy. Third, the cross-sectional design precludes any causal conclusions and limits findings to observed associations only. Fourth, the study focused solely on adult incarcerated males within a single jurisdiction, which further limits generalizability to females, justice-involved youth, or community-based gang members. Finally, while the instruments used have demonstrated validity and reliability, some were normed primarily on non-forensic or non-Bermudian populations, which may affect their applicability in this context.

Another limitation of this study was the small sample size. A larger sample size would increase external validity and strengthen generalizability; however, the housing state was limited, with approximately 100-150 incarcerated individuals, which restricted the pooling of the sample during the data collection period. This constraint limited the ability to draw broader inferences beyond the current sample and generalize to all incarcerated individuals within the island jurisdiction, community-based justice-involved individuals, or to populations outside the island jurisdiction. Alternatively, it is harder to confidently assert that PTSD and MI differed by gang role, offense severity, and sentence length, for example.

Ethical Procedures

Researchers must keep high ethical standards during their research to avoid harm to participants, based on a realistic assessment of the potential benefits and risks to the study's participants (Clark & Walker, 2011). The Walden IRB, along with other local ethical boards, approved the design of this study.

The primary ethical concerns involved recruitment and data collection related to the mental wellness of a vulnerable population. To mitigate these concerns, participants self-select into the study without coercion by staff or researchers. A chocolate bar or a bag of chips was provided to each participant as a token of appreciation for their time and effort. Surveys were administered in isolation from the general population, in private rooms that balanced participant privacy with standard safety monitoring measures appropriate for face-to-face surveying in a forensic setting.

Total anonymity was not possible due to the nature of the setting; however, confidentiality was maintained by using unique participation codes on all questionnaire materials. Participants were informed that their decision to participate and their responses would not affect their management or standing within the correctional system. Departmental custom limits to confidentiality were upheld (e.g., for security breaches, disclosure of other offenses, violations of prison rules during the survey, or threats to harm self or others).

Completed questionnaires were stored in a locked case and secured in my home office, protected by password access, and were accessible only to me and the dissertation

committee. The raw data remain my property, and a copy of the final composite result of the study was offered to be placed in the library for all to review.

Finally, this study did not diagnose individuals with PTSD; however, completing the surveys could have triggered distress for some participants. To mitigate this risk, participants were provided with clear information about potential psychological symptoms and were given instructions on whom to contact for support. Psychological feedback and information on available resources were shared at the beginning and end of each session to ensure participant safety and access to help if needed.

Summary

This quantitative correlation study determined the associations between the psychological outcomes of PTSD and MI and the predictors of implicit gang membership status, type of psychopathy, and perpetration of a violent offense in a forensic adult male sample in a small island jurisdiction. Threats to validity were mitigated, along with clear ethical safeguards in place. The outcome variables were measured using the Moral Injury Outcome Scale total score (Litz et al., 2022) and the PTSD Checklist for DSM-5 total score (Weathers et al., 1994) and analyzed through linear regression in SPSS. The results are presented in Chapter 4, and their implications are discussed in Chapter 5.

Chapter 4: Results

Introduction

This study explored the psychological effects of traumatic experiences among incarcerated adult males sampled within the institutional forensic population of a small island jurisdiction. Specifically, it investigated the relationship between trauma-related psychological outcomes, PTSD, and MI, and three primary predictors: gang membership rank, psychopathy type, and the perpetration of harmful offenses. This study had several objectives: (a) to describe the prevalence and severity of post-traumatic stress and MI symptoms among a high-risk incarcerated population, (b) to examine how gang membership level, self-reported perpetration, and psychopathy type are associated with these trauma outcomes, and (c) to test whether psychopathy functions as a risk or protective factor between violent perpetration and its psychological consequences.

Male participants aged 18 and older voluntarily completed a structured, quantitative survey using the MIOS (Litz et al., 2022), the PCL-5 (Weathers et al., 2013), and the LSRP (Levenson et al., 1995). The survey was designed to address the following RQs:

RQ 1: To what extent do gang membership level, psychopathy, and a history of perpetration predict PTSD among incarcerated individuals?

*H*₀₁: Gang membership level, psychopathy, and a history of perpetration would not significantly predict PTSD among incarcerated individuals.

*H*₁₁: Gang membership level, psychopathy, and a history of perpetration would significantly predict PTSD among incarcerated individuals.

RQ2: To what extent do gang membership level, psychopathy, and a history of perpetration predict MI among incarcerated individuals?

*H*₀₂: Gang membership level, psychopathy, and a history of perpetration would not significantly predict MI among incarcerated individuals.

*H*₁₂: Gang membership level, psychopathy, and a history of perpetration would significantly predict MI among incarcerated individuals.

Chapter 4 presents the statistical results that address the study's two main RQs. The analyses included descriptive statistics, assumption tests (normality, homogeneity, and regression diagnostics), Spearman correlations, independent-samples *t* tests, one-way ANOVAs with Games–Howell post hoc tests where appropriate, and hierarchical multiple regressions assessed the unique contribution of each predictor while controlling for covariates. Results were interpreted with attention to effect sizes and confidence intervals, not statistical significance alone, to provide a nuanced understanding of trauma-related outcomes in this incarcerated population.

The remainder of this chapter is organized into five main sections. First, a summary of key data collection procedures is presented. Second, the descriptive statistics and assumption checks section provides an overview of the sample's demographic, criminogenic, and psychological characteristics, along with diagnostic tests that verified the appropriateness of the statistical procedures used. Third, results for RQ1 examine whether gang membership status, psychopathy, and perpetration predict perpetration-induced traumatic stress (PTSD). Fourth, RQ2 investigates whether the same predictors are associated with MI. Finally, the chapter concludes with a summary that synthesizes

the main findings and transitions to a discussion of limitations, recommendations, and the study's theoretical and practical implications, concluding Chapter 5.

Data Collection

Data collection took place between January 6, 2025, and February 14, 2025, at a secure forensic institution within a small island jurisdiction, following full approval from the Walden University IRB (#08-26-24-0481708) as well as relevant local ethical review and site bodies. Eligible participants were incarcerated adult males who volunteered to complete a structured assessment battery under conditions ensuring confidentiality and informed consent. All procedures adhered to rigorous ethical and data protection standards. A total of 70 complete response packets were collected and reviewed; no cases required removal due to missing data, ensuring that the final analytic sample accurately reflects the entire eligible volunteer pool during the six-week recruitment window. The following section presents the sample characteristics and descriptive statistics that contextualize the inferential results that follow.

Descriptive Statistics and Assumptions Checks

The analytic sample consisted of 70 incarcerated adult males, all of whom were at least 18 years old. All were either local citizens or ordinarily resident on the island and were either currently remanded (with a prior history of incarceration) or serving a custodial sentence.

Participant ages ranged from 18 to 55 years and older, with the modal cohort falling between 25 and 34 years (see Table 1). Just over one-third of respondents (37.1%, $n = 26$) were in the young-adult bracket, whereas only 12.9% ($n = 9$) were 55 years or

older. The remaining participants were distributed evenly across the 18–24 (14.3%), 35–44 (15.7%), and 45–54 (20.0%) categories.

This spread provided sufficient variability to examine age both categorically and, when recoded, as an ordinal covariate in the inferential models.

Table 1

Age Distribution of Participants

Age category	<i>n</i>	%
18 – 24 yrs	10	14.3
25 – 34 yrs	26	37.1
35 – 44 yrs	11	15.7
45 – 54 yrs	14	20.0
55 + yrs	9	12.9

Note. $N = 70$.

Although Table 1 highlighted the age distribution, it is also notable that the cohort was overwhelmingly Black (95.7%, $n = 67$), with only three participants identifying as Mixed (2.9%) or White (1.4%). This racial profile is consistent with national census estimates, reinforcing the ecological validity of the findings within the local correctional context.

The sample also demonstrated substantial variation in formal schooling, as shown in Table 2. Education levels ranged from incomplete elementary schooling to university completion. Nearly half of the respondents (45.7%, $n = 32$) had graduated from high school, while a further 30.0% ($n = 21$) had left school before completing their education.

This underscores the heterogeneous human capital background typical of correctional populations.

Table 2

Highest Education Level Completed

Education level	<i>n</i>	%
Incomplete elementary	2	2.9
Some high school	21	30.0
Completed high school	32	45.7
Post-secondary certificate/training	9	12.9
Some college	4	5.7
Completed university	2	2.9

Note. $N = 70$.

Turning to criminogenic variables, 57.1% ($n = 40$) of the men acknowledged current or past gang ties, while 42.9% ($n = 30$) denied such affiliation. Within the affiliated subsample, more than one-third were low-level members (37.1%, $n = 26$), and one-fifth self-identified as leaders (20.0%, $n = 14$). Table 3 shows that nearly half of the sample (48.6%, $n = 34$) had been convicted of violent crimes, followed by contact (25.7%), sexual (11.4%), drug-related (7.1%), firearm-related (4.3%), and civil offenses (2.9%). This pattern reinforces the relevance of trauma-related outcomes in a population heavily skewed toward serious interpersonal harm.

Table 3*Index Offense*

Offense type	<i>n</i>	%
Violent	34	48.6
Other contact	18	25.7
Sexual	8	11.4
Drug-related	5	7.1
Firearm-related	3	4.3
Civil	2	2.9

Note. $N = 70$.

Offense severity, coded on a four-point ordinal scale, is summarized in Table 4. Most participants fell at the upper end of seriousness: 37.1% ($n = 26$) were classified as serious and 48.6% ($n = 34$) as severe, leaving only 14.3% in the minor-to-moderate range. This distribution underscores the high-risk nature of the cohort and provides empirical justification for examining trauma outcomes

Table 4*Offense Severity Level*

Severity level	<i>n</i>	%
Minor	7	10.0
Moderate	3	4.3
Serious	26	37.1
Severe	34	48.6

Note. $N = 70$.

Table 5 presents the frequencies for self-reported perpetration history and prior psychiatric diagnosis. The majority (85.7%) reported a history of perpetration, and 15.7% indicated having received a psychiatric or psychological diagnosis or care.

Table 5

Frequencies for Perpetration History and Psychiatric Diagnosis

Variable	<i>n</i>	%
Self-reported perpetration	60	85.7
Psychiatric diagnosis	11	15.7

Note. Yes responses $N = 70$.

Psychopathy type, derived from the LSRP, showed that 41.4% ($n = 29$) of incarcerated individuals met the criterion profile for primary psychopathy and 58.6% ($n = 41$) for secondary psychopathy. Figure 1 displays these proportions visually, matching the SPSS bar chart exactly. The prominence of secondary traits, characterized by impulsivity, social deviance, and negative affect, helped contextualize subsequent regression findings, where secondary psychopathy emerged as a stronger predictor of trauma outcomes.

Figure 1

Proportion of Participants Meeting Criteria for Primary Versus Secondary Psychopathy

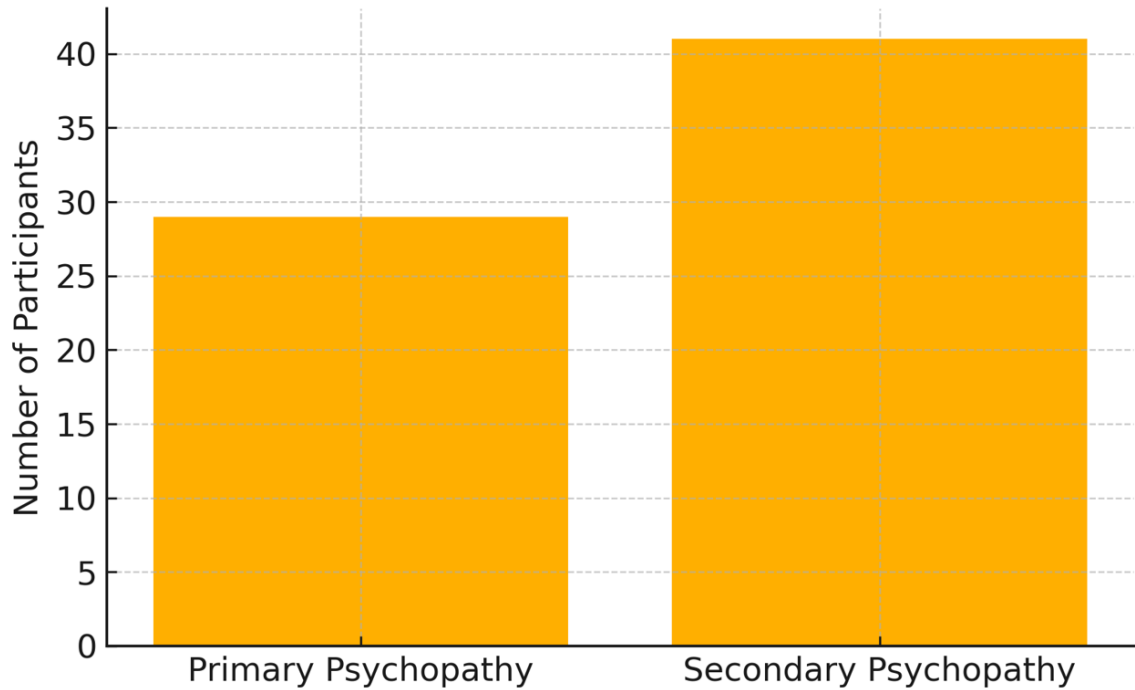


Table 6 presents the means, standard deviations, and observed score ranges for the study's continuous variables. PTSD symptom severity (PTSDraw) averaged 7.70 ($SD = 12.44$) on the 0–80 PCL-5 scale, indicating that most respondents reported low overall levels of post-traumatic stress; however, the large standard deviation suggested substantial individual differences, with a small proportion scoring in the clinically elevated range. Moral injury distress (MIraw) averaged 9.13 ($SD = 10.17$) on the 0–96 MIOS, showing a similar pattern of generally low but variable distress related to moral transgressions.

The primary psychopathy scores had a mean of 33.34 ($SD = 9.27$), and the secondary psychopathy scores averaged 24.80 ($SD = 6.28$). When rescaled to the original 1–4 response metric, the mean item score was 2.08 ($SD = .58$) for primary psychopathy and 2.48 ($SD = .63$) for secondary psychopathy, underscoring the relatively greater impulsivity and emotional instability reflected in the secondary subscale. The combined psychopathy composite (primary + secondary) ranged from 37 to 82 ($M = 58.14$, $SD = 9.94$), confirming the data had sufficient range and variance for the inferential analyses that follow.

Contextual covariates varied in distribution. Offense-severity levels clustered at the upper end of the four-point ordinal scale ($M = 3.24$, $SD = .94$), reinforcing the predominance of serious or violent crimes in the dataset. On average, participants fell into the mid-range categories of the incarceration sentence length served ($M = 3.49$, $SD = 1.35$), indicating that most had been in custody for 1–10 years, and had a categorical age index of 2.80 ($SD = 1.28$), placing the modal incarcerated individual in the 25–34 age bracket. Educational level centered just below the “completed high school” anchor ($M = 3.97$, $SD = 1.02$). Binary variables were dummy coded. The mean for psychiatric diagnosis ($M = 0.16$, $SD = .37$) indicates that 16% of participants reported a diagnosis. The mean for prior intervention history ($M = .60$, $SD = .49$) shows that 60% had previously received intervention services, which reflected expected proportions (most participants had no psychiatric diagnosis, while over half reported prior intervention).

Taken together, these descriptive results confirm that the sample consisted mainly of young adult males serving sentences for serious or violent offenses, with high rates of

self-reported perpetration and gang involvement. Among those with gang ties, most were low-level members, with a smaller proportion identifying as leaders, a distribution that aligns with the study's focus on different gang roles. While average PTSD and MI scores were low, the broad range indicates that a meaningful minority experienced substantial trauma-related distress. The psychopathy profile was marked more by secondary traits, such as impulsivity and emotional dysregulation, than by primary affective coldness. This criminologically diverse, high-risk cohort, with varied trauma exposure and personality traits, supports the rationale for examining how gang role, psychopathy type, and perpetration history may predict PTSD and MI. Hence, this descriptive profile reveals a heterogeneous correctional cohort with low-to-moderate trauma scores, elevated secondary-psychopathy traits, and generally high offense severity. These descriptive findings establish the empirical backdrop for the assumption testing summarized in the next section.

Table 6*Descriptive Statistics for Continuous Study Variables*

Variable	<i>M</i>	<i>SD</i>	Min	Max
PTSD symptoms (PTSDraw)	7.70	12.44	0	61
Moral injury (MIraw)	9.13	10.17	0	39
Primary psychopathy total	33.34	9.27	17	55
Secondary psychopathy total	24.80	6.28	10	40
Offense severity level	3.24	0.94	1	4
Sentence stage (time served)	3.49	1.35	1	6
Age category (1 = 18–24 → 5 = 55+)	2.80	1.28	1	5
Education level (1 = less than elementary → 6 = completed university)	3.97	1.02	1	6
Psychiatric diagnosis (0 = no, 1 = yes)	.16	.37	0	1
Intervention history (0 = no, 1 = yes)	.60	.49	0	1

Note. $N=70$.

Assumption Checks

Before interpreting inferential results, diagnostic tests were conducted to verify the assumptions underlying *t* tests, one-way ANOVAs, and hierarchical regressions. A significance level of .05 was used for all tests. Results indicated that, although normality assumptions were frequently violated, the combination of sample size, robust test options, and satisfactory residual behavior supported proceeding with the planned analyses.

Tests of Normality

Table 7 displays the normality of the two continuous dependent variables, which was evaluated with Kolmogorov–Smirnov and Shapiro–Wilk statistics. Both PTSD symptom severity (PTSDraw) and moral-injury distress (Mlraw) deviated significantly from a normal distribution, warranting the use of Welch corrections (or nonparametric follow-ups) when cell sizes were small or variances were unequal.

Table 7

Tests of Normality for Continuous Dependent Variables

Variable	Kolmogorov–Smirnov D	p	Shapiro–Wilk W	P
PTSDraw	.27	< .001	.68	< .001
Mlraw	.20	< .001	.85	< .001

Note. $N = 70$.

Homogeneity of Variance for Key t Tests

Levene’s tests (Table 8) reveal heteroscedasticity for the PTSDraw comparison by perpetration history and, more strongly, by gang-leadership status; Welch’s t was therefore substituted in these two tests, while equal-variance procedures were retained elsewhere.

Table 8*Levene's Test for Equality of Variances, PTSDraw Independent-Samples t Tests*

Grouping factor	F	df ₁	df ₂	P
Perpetration (Yes/No)	4.12	1	68	.04
Gang leadership (Leader/Other)	9.26	1	68	< .001

Note. df = degrees of freedom. $p < .05$.

Regression Diagnostics, PTSD Model

Table 9 summarizes residual and influence statistics for the hierarchical regression predicting PTSDraw. Although one case produced a large standardized residual (3.96), Cook's $D = .48$ remained well below the conventional 1.00 cutoff. Therefore, all data points were retained.

Table 9*Residuals Statistics. Hierarchical Regression Predicting PTSDraw*

Statistic	Minimum	Maximum	Mean	SD	N
Predicted Value	-7.62	19.04	7.70	5.07	70
Std. Predicted Value	-3.02	2.23	0.00	1.00	70
Residual	-16.95	48.69	0.00	11.36	70
Std. Residual	-1.38	3.96	0.00	.93	70
Cook's Distance	0.00	.48	.02	.06	70

Regression Diagnostics, Moral-Injury Model

Parallel diagnostics for the M_{raw} regression (Table 10) revealed no influential observations (Cook's $D \leq .11$) and acceptable leverage values; therefore, residual assumptions were considered met.

Table 10*Residuals Statistics, Hierarchical Regression Predicting M_{raw}*

Statistic	Minimum	Maximum	Mean	SD	N
Predicted Value	-2.90	25.79	9.13	5.81	70
Std. Predicted Value	-2.07	2.87	0.00	1.00	70
Residual	-15.80	22.71	0.00	8.35	70
Std. Residual	-1.75	2.51	0.00	.93	70
Cook's Distance	0.00	.11	.02	.02	70

Note. Std. = standardized.

Collectively, the diagnostics indicate that (a) nonnormality is pervasive but expected in correctional data; (b) heterogeneity of variance affected only a few key comparisons and was handled with robust procedures; and (c) regression residuals showed no undue influence or multicollinearity (all VIFs ≤ 2.88) while maintaining independence. Consequently, the inferential analyses that follow can be interpreted with confidence, with an emphasis on effect sizes and confidence intervals rather than relying solely on p -values.

Bivariate Correlations

This section evaluates zero-order relationships among psychopathy traits, offense severity, and the two trauma outcomes. Each analysis is introduced in a narrative paragraph, followed by an APA-formatted table (and figure, where helpful). All coefficients were reproduced exactly as they appeared in the original SPSS output.

Correlational Relationships Between Psychopathy Traits, PTSD, and Moral Injury

Table 11 reflected the relationship between psychopathy traits and trauma-related symptoms. Spearman's rank-order correlations were conducted between primary psychopathy (PrimAve) and secondary psychopathy (SecondAve) with both PTSD symptom severity (PTSDraw) and MI scores (MIraw). Spearman's ρ was used due to the significant non-normality of the trauma outcome variables and the ordinal–interval nature of the psychopathy composites. A statistically significant negative correlation emerged between primary psychopathy and PTSD symptoms, $\rho(70) = -.24, p = .05$, suggesting that individuals with higher levels of affective detachment and lack of remorse reported lower PTSD symptoms. No significant correlation was found between primary psychopathy and MI, $\rho(70) = -.13, p = .29$. Similarly, secondary psychopathy, characterized by impulsivity and emotional dysregulation, was not significantly associated with PTSD, $\rho(70) = .05, p = .66$, or MI, $\rho(70) = .14, p = .25$. These results suggest that while affective traits (primary psychopathy) may buffer against PTSD symptoms, neither psychopathy subtype showed a strong linear relationship with MI in this sample.

Table 11

Spearman Correlations Between Psychopathy Traits, PTSD Symptoms, and Moral-Injury Scores

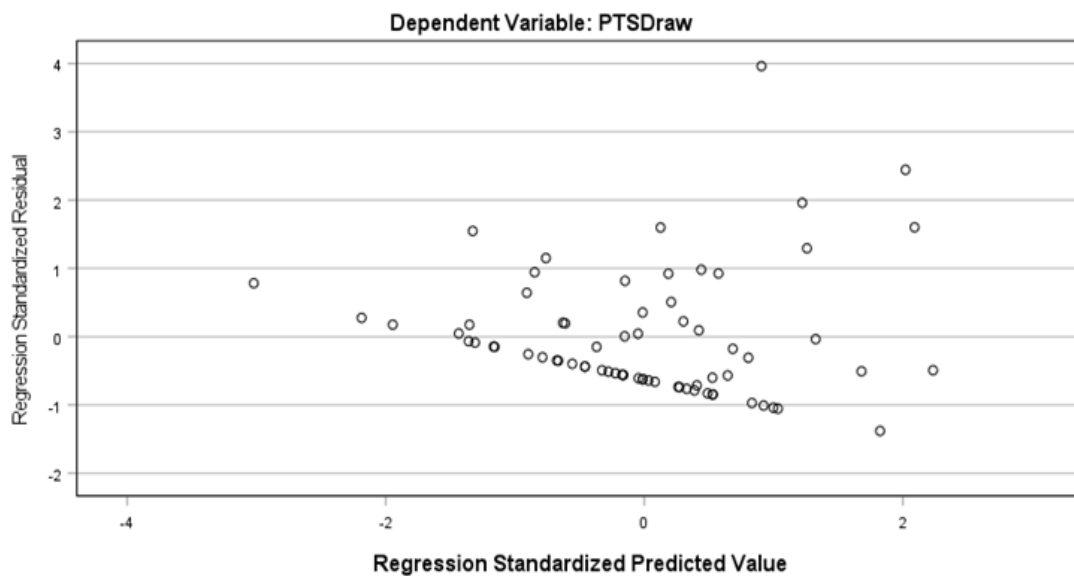
Predictor	Outcome	ρ	P
Primary psychopathy (PrimAve)	PTSD symptoms (PTSDraw)	-.24	.05 *
	Moral injury (MIraw)	-.13	.29
Secondary psychopathy (SecondAve)	PTSD symptoms (PTSDraw)	.05	.66
	Moral injury (MIraw)	.14	.25

Note. $N = 70$.

To visualize the lone significant association, Figure 2 plots PTSDDraw against PrimAve. Although the cloud of points was diffuse, a subtle downward trend confirmed the negative direction identified in the correlation matrix.

Figure 2

PTSDDraw Against PrimAve



Exploratory Correlations With Offense Severity

Because offense severity represented an ordinal ranking of criminal seriousness, Spearman's ρ was again used as the appropriate effect-size estimate when testing its relationship with trauma outcomes. Prior assumption checks showed that both PTSD and MI violated normality, further justifying the non-parametric approach. As summarized in Table 12, neither correlation reached statistical significance; offense severity showed a negligible positive association with PTSD ($\rho = .12, p = .34$) and an equally trivial negative association with MI ($\rho = -.06, p = .61$). These results indicated that the level of offense seriousness was not meaningfully related to either trauma measure in this sample.

Table 12

Spearman Correlations Between Offense Severity and Trauma Outcomes

Predictor	Outcome	ρ	p
Offense severity level	PTSD symptoms (PTSDraw)	.12	.34
	Moral injury (MIraw)	-.06	.61

Note. $N = 70$.

In summary, the bivariate analyses identified only one statistically reliable zero-order relationship. Higher primary psychopathy traits were modestly associated with lower PTSD symptoms, suggesting that individuals with greater affective detachment and interpersonal coldness reported fewer trauma-related symptoms overall. Neither psychopathy subtype showed a significant correlation with MI, and offense severity was not meaningfully related to either trauma outcome. Additional categorical predictors, including gang membership and a history of perpetration, were not examined through

correlations but are assessed through group comparisons and hierarchical regressions in the sections that follow. Overall, these preliminary results provide context for interpreting the specific tests that directly address RQ1 (predictors of PTSD) and RQ2 (predictors of MI)

Predictors of Perpetration-Induced Trauma

RQ1 asked whether gang membership status, psychopathy, and perpetration predict PTSD among incarcerated individuals. The corresponding null hypothesis proposed no relationship between these predictors and PTSD, while the alternative hypothesis proposed that significant associations would be found. As shown in the bivariate correlations above, primary psychopathy displayed a modest negative association with PTSD symptoms, while offense severity did not show a meaningful link. The following group comparisons and hierarchical regression address whether gang membership status, perpetration history, and psychopathy predict PTSD when other contextual factors are also considered.

Independent-Samples *t* Tests

To determine whether key categorical variables were associated with differences in post-traumatic stress symptoms, a series of independent-samples *t* tests was performed (Table 13). The first comparison focused on perpetration history and revealed a statistically significant effect. Incarcerated individuals who reported having perpetrated harm scored higher on PTSD ($M = 8.39, SD = 13.07$) than those who had not perpetrated ($M = 3.00, SD = 5.07$). The Welch correction was applied because Levene's test showed unequal variances, and the resulting $t(27.78) = -2.27, p = .03, 95\% CI [-10.27, -0.52]$,

corresponded to a small-to-moderate effect ($d = -.44$). In contrast, psychopathy type did not differentiate PTSD scores; primary-psychopathy participants scored slightly lower than their secondary-psychopathy counterparts, but the difference was negligible ($p = .56$). Gang role produced a meaningful contrast: low-level members reported numerically higher PTSD than non-affiliates. However, the difference was not significant ($p = .16$), whereas gang leaders reported markedly lower PTSD than all other incarcerated individuals, $t(67.40) = 3.30$, $p = .002$, Glass's $\Delta = 1.85$. Finally, a non-significant trend suggested somewhat higher PTSD among those with a prior psychological-intervention history. However, the effect was small ($p = .35$). Together, these tests indicate that direct perpetration and hierarchical gang status, especially leadership, are the clearest categorical correlates of PTSD in this cohort.

Table 13*Independent-Samples t Tests for PTSD Symptoms*

Grouping Variable	Group 1 (<i>M</i> ± <i>SD</i>)	Group 2 (<i>M</i> ± <i>SD</i>)	<i>t</i> (<i>df</i>)	<i>P</i>	95 % <i>CI</i>	Effect Size
Perpetration history	8.39 ± 13.07	3.00 ± 5.07	-2.27 (27.78)	.03	-10.27, -52	<i>d</i> = -.44
Psychopathy type	6.66 ± 12.20	8.44 ± 12.71	-.59 (68)	.56	-7.84, 4.27	<i>d</i> = -.14
Gang affiliation (none vs low-level)	6.09 ± 12.23	10.42 ± 12.57	-1.42 (68)	.16	-10.35, 1.73	<i>d</i> = -.35
Gang leadership (leader vs other)	2.29 ± 3.67	9.05 ± 13.48	3.30 (67.40)	.002	2.68, 10.86	Glass Δ = 1.85
Intervention history	8.83 ± 13.41	6.00 ± 10.84	-.93 (68)	.35	-8.90, 3.23	<i>d</i> = -.23

Note. *N* = 70.

One-Way ANOVA

To examine PTSD differences across gang status groups (none, low-level, leader), Welch's one-way ANOVA was conducted because Levene's test indicated heterogeneity of variances. The omnibus test was significant, $F(2, 42.77) = 5.92, p = .005$, confirming that PTSD scores varied by gang status (see Table 14). Games–Howell post-hoc comparisons pinpointed the source of the effect. Low-level members scored significantly higher than gang leaders ($p = .01$). In contrast, the nonaffiliated group did not differ significantly from either subgroup, indicating that their PTSD scores were

statistically similar and fell between those of low-level members and leaders. The result underscores a curvilinear pattern in which occupying a low-level gang position is associated with a peak in PTSD symptoms and a decline among leaders. The effect size ($\eta^2 = .08$) is modest yet meaningful in a correctional context, suggesting that gang role may influence both direct exposure to and processing of traumatic events, which in turn relates to symptom severity.

In contrast, no significant differences in PTSD symptoms were found across education level, sentence length, offense type, or offense severity. A post hoc Games-Howell test found that individuals with moderate offenses had significantly lower PTSD scores than those with serious ($p = .01$) and severe ($p = .003$) offenses. The effect size was small ($\eta^2 = .04$).

Table 14

Welch ANOVA for PTSD by Gang Level

Statistic	df_1	df_2	P
Welch F	5.92	42.77	.005

Hierarchical Regression

A two-block hierarchical regression tested whether psychopathy, gang role, and perpetration predicted PTSD when controlling for demographic and contextual covariates (Table 15). The first block, including offense severity, age, education, mental-health diagnosis, intervention history, and time served, was not significant, $F(6, 63) = 1.20, p = .32$, accounting for 10.3% of the variance in PTSD. Adding the primary predictors in

Block 2 increased R^2 from 10% to 17%. However, the change was not significant ($\Delta F = 1.18, p = .33$). In the complete model, only education level emerged as a significant positive predictor ($B = 3.28, p = .04$), indicating that higher educational attainment was paradoxically associated with higher PTSD scores. Neither gang role, psychopathy type, nor perpetration contributed uniquely once covariates were controlled. Overall, the model explained a modest 16.6% of the variance in PTSD, with education emerging as the sole significant predictor, a finding that warrants further exploration in Chapter 5. Given the overall non-significant model and the lack of unique contribution from the main predictors, the null hypothesis (H_{01}) was retained, indicating that gang membership level, psychopathy, and perpetration did not significantly predict PTSD symptoms in this sample.

Table 15*Hierarchical Regression Predicting PTSD Symptoms*

Block / Predictor	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Block 1 ($R^2 = .10$)					
Offense severity	2.57	1.64	.19	1.57	.12
Age	.29	1.31	.03	.22	.83
Education	2.65	1.47	.22	1.80	.08
Mental-health dx	-.33	4.13	-.01	-.08	.94
Intervention hx	3.12	3.45	.12	.90	.37
Time served	-1.29	1.34	-.14	-.96	.34
Block 2 ($\Delta R^2 = .06$; total $R^2 = .17$)					
Secondary psychopathy	-.69	3.38	-.03	-.20	.84
Low-level gang	5.91	4.10	.23	1.44	.16
Gang leader	-3.13	4.39	-.10	-.71	.48
Perpetration	1.91	7.44	.05	.26	.80
Education (covariate)	3.28	1.53	.27	2.15	.04*

Note. *B* = unstandardized regression coefficient; *SE* = standard error; β = standardized regression coefficient; dx = diagnosis; hx = history. $p < .05$.

Predictors of Moral Injury

RQ2 asked whether gang membership status, psychopathy, and perpetration predict MI among incarcerated individuals. The corresponding null hypothesis proposed no relationship between these predictors and MI, while the alternative hypothesis

proposed that significant associations would be found. The earlier bivariate correlations indicated that neither primary nor secondary psychopathy traits were significantly associated with MI at the zero-order level, and offense severity showed no meaningful simple relationship. The following tests, therefore, examine whether gang membership status, perpetration history, and contextual covariates predict MI scores when tested in group comparisons and hierarchical regression.

Independent-Samples *t* Tests

Independent-samples *t* tests were used to examine differences in MI scores across key categorical variables (Table 16). The perpetration comparison yielded a small, non-significant difference ($\rho = -.19, p = .60$), while psychopathy type again showed no effect. Gang role, however, displayed a distinct pattern. Low-level members reported significantly higher MI than non-affiliates, $t(68) = -2.57, p = .01, d = -.64$. Conversely, gang leaders scored dramatically lower than the rest of the sample, $t(44.18) = 4.16, p < .001$, Glass's $\Delta = 1.61$. A marginal trend suggested higher MI among incarcerated individuals with previous psychological interventions, but it did not reach significance ($p = .09$).

Table 16*Independent-Samples t Tests for Moral-Injury Scores*

Grouping Variable	Group 1 (<i>M</i> ± <i>SD</i>)	Group 2 (<i>M</i> ± <i>SD</i>)	<i>t</i> (df)	<i>p</i>	95 % CI	Effect Size
Perpetration history	9.38 ± 10.60	7.44 ± 6.78	−.53 (68)	.60	−9.22, 5.36	<i>d</i> = .19
Psychopathy type	9.10 ± 10.57	9.15 ± 10.02	−.02 (68)	.99	−5.01, 4.92	<i>d</i> = .00
Gang affiliation (none vs low level)	6.82 ± 9.73	13.04 ± 9.87	−2.57 (68)	.01	−11.05, −1.39	<i>d</i> = .64
Gang leadership (leader vs other)	2.64 ± 5.05	10.75 ± 10.51	4.16 (44.18)	<.001	4.18, 12.03	<i>d</i> = .84
Intervention history	10.76 ± 10.68	6.68 ± 9.00	−1.72 (64.20)	.09	−8.93, .44	<i>d</i> = .41

Note. *M* = mean; *SD* = standard deviation; *CI* = confidence interval; *d* = Cohen's *d*.

Values in parentheses are degrees of freedom. $p < .05$.

One-Way ANOVA

A standard one-way ANOVA was conducted to test for differences in MI (MIraw) across the three-group comparison by gang status (non-affiliated, low-level, leader) (Table 17). The effect was significant, $F(2, 67) = 5.39$, $p = .01$, mirroring the PTSD pattern but with a modest to moderate effect size $\eta^2 = .14$. Games–Howell post-

hoc analyses showed that low-level members reported significantly higher MI than leaders ($p = .02$). However, nonaffiliates did not differ significantly from either of the two subgroups. This pattern mirrors the PTSD ANOVA and reinforces the notion that gang hierarchy exerts a nonlinear influence on trauma outcomes.

Table 17

One-Way ANOVA for Moral Injury by Gang Level

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P</i>
Between groups	990.3	2	495.15	5.39	.007
Within groups	6151.54	67	91.81		
Total	7141.84	69			

Note. SS = sum of squares; df = degrees of freedom; MS = mean square. $p < .05$.

Hierarchical Regression

A two-block hierarchical regression assessed whether psychopathy, gang role, and perpetration predicted MI (MIraw) after controlling for the same covariates used in the PTSD model (Table 18). Block 1, which included offense severity, age, education, mental health diagnosis, intervention history, and time served, explained 14.4% of the variance but did not reach statistical significance, $F(6, 63) = 1.77, p = .12$. Introducing the primary predictors in Block 2 significantly improved the model ($\Delta F = 2.85, p = .006$), thereby increasing the total R^2 to .33. In the full model, three variables emerged as significant predictors: gang leadership ($B = -6.50, p = .05$), offense severity ($B = -4.37, p = .03$), and intervention history ($B = 5.74, p = .03$). The effect of gang leadership, however, was borderline at the .05 threshold and should be interpreted with caution.

Psychopathy again failed to contribute uniquely, echoing the null findings above. These results suggest that moral injury distress in this sample was explained more by behavioral and contextual variables than by psychopathy traits. Because the full regression model significantly improved with the addition of primary predictors, specifically perpetration and gang leadership, the null hypothesis (H_{02}) was rejected. This supports the conclusion that these variables significantly predicted MI outcomes, although the effect of gang leadership was borderline and should be interpreted with caution.

Table 18

Hierarchical Regression Predicting Moral-Injury Scores

Block / Predictor	<i>B</i>	<i>SE</i>	<i>B</i>	<i>T</i>	<i>P</i>
Block 1 ($R^2 = .14$)					
Offense severity	-4.37	1.95	-.40	-2.24	.03*
Age	-.95	1.02	-.10	-.93	.36
Education	1.32	1.18	.15	1.12	.27
Mental-health dx	-2.68	3.30	-.09	-.81	.42
Intervention history	5.01	2.45	.24	2.05	.05*
Time served	.87	1.05	.10	0.83	.41
Block 2 ($\Delta R^2 = .18$; total $R^2 = .33$)					
Secondary psychopathy	-.48	2.94	-.02	-.16	.87
Low-level gang	4.81	3.56	.19	1.35	.18
Gang leader	-6.50	3.24	-.26	-2.01	.05*
Perpetration	12.01	5.45	.40	2.20	.03*
Intervention history	5.74	2.57	.28	2.24	.03*

Note. *B* = unstandardized regression coefficient; *SE* = standard error; β = standardized regression coefficient. R^2 = proportion of variance explained. ΔR^2 = change in explained variance with the addition of predictors in Block 2. dx = diagnosis. $p < .05$.

Summary

Across both trauma outcomes, gang hierarchy emerged as the most consistent categorical discriminator. Low-level members experienced the most significant distress, whereas leaders reported the least. Perpetration history predicted PTSD at the bivariate level and MI in the multivariate context, while intervention history and offense severity offered additional explanatory power for MI only. Psychopathy showed limited direct influence once other factors were controlled. These findings set the stage for the Discussion chapter, where the hierarchical regression results are examined in greater depth and interpreted in light of the study's theoretical framework.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

In line with a recent government initiative to address gang violence through targeted trauma treatment (Lagan, 2018), this study examined the extent of perpetration-induced trauma and MI among incarcerated adult males within the forensic institutional population of a small island jurisdiction. Specifically, the study explored whether the psychological impact of trauma differed according to an individual's position within a gang hierarchy and assessed whether psychopathy functions as a risk or protective factor for PTSD and MI when a violent act is self-reported. The independent variables were psychopathy (measured as primary and secondary psychopathy), perpetration history (yes/no), and gang membership level (low-level member or leader). The dependent variables were PTSD symptom severity and MI distress, each measured as continuous outcome scores. From a practical and social change perspective, this study aimed to challenge the persistent false stigma that gang violence is driven solely by appetitive aggression stemming from purely CU traits, ignoring the contextual and structural factors that shape perpetration and trauma, factors that can contribute to a cycle in which trauma begets further violence and moral conflict within the unique context of gang hierarchies.

This study had two RQs: (a) RQ1 asked whether gang membership status, psychopathy, and (b) perpetration predict PTSD among incarcerated individuals. The corresponding null hypothesis proposed no relationship between these predictors and PTSD. In contrast, the alternative hypothesis proposed that significant associations would be found. RQ2 asked whether gang membership status, psychopathy, and perpetration

predict MI among incarcerated individuals. The corresponding null hypothesis proposed no relationship between these predictors and MI, while the alternative hypothesis proposed that significant associations would be found.

The remainder of this chapter will summarize the key findings related to the RQs and hypotheses, interpret these results through the lens of relevant theory, and compare and contrast these findings with prior research. It will describe the limitations of the results, followed by recommendations for policy, and then theoretical, practical, and social change implications.

Interpretation of the Findings

Structured according to each RQ, this section summarizes the main findings, followed by their interpretations and an explanation of how they relate to the current research literature. Since detailed statistics were provided in Chapter 4, this section will highlight the broader patterns and significant results that frame the discussion that follows.

RQ1: Predictors of PTSD

The fact that the regression showed that gang level influenced PTSD symptoms highlights how the power of rank within a gang can shape who carries the burden of traumatic stress. Low-level members reported the highest PTSD levels, possibly because they face more direct exposure to violence, threats of coercion, and victimization, all while having less control over their perpetrating tasks. In contrast, the low PTSD scores in identified leaders suggest that leadership may protect them physically from frontline violence and its mentally distressing sequelae. Furthermore, this rank structure

perpetuates a mentality that allows them to justify violent acts as necessary for maintaining order. This pattern reinforces the idea that social status and perceived control reduce trauma vulnerability or at least help to mask it. Importantly, non-gang participants' PTSD scores were not significantly different from either gang subgroup, indicating that trauma exposure and its psychological effects are not exclusive to gang members. This suggests that individuals outside of gang structures may still face comparable risk from other sources of violence or incarceration-related stressors, underscoring the need for universal trauma screening and intervention across the entire incarcerated population.

Relationship of Findings to Existing Literature

More specifically, the strong link between gang hierarchy and PTSD symptoms expands and clarifies the limited available evidence. Chapter 2 asserted that there is scant empirical evidence that an individual's rank within a gang affects trauma outcomes. Kerig et al. (2016) demonstrated that violent perpetration among adolescent gang members predicted PTSD, but they did not test whether gang level moderates this effect. These results fill this gap by showing that low-level members carry the highest PTSD burden, whereas leaders reported the lowest. This suggests that power and rank can protect against trauma (Hecker et al., 2013a). Furthermore, this also aligns with Thornton et al. (2015) and Dmitrieva et al. (2014), who observed that gang leadership is associated with elevated grandiose-manipulative psychopathic traits. These traits enable leaders to maintain their position through power and control, providing a physical distance from frontline violence, psychological detachment from its effects, and justification for being

perceived as calm and maintaining control. Hence, these findings also extend the notion that structural position within a gang may moderate how individuals experience and internalize violent perpetration, reinforcing the view that hierarchy and social power shape risk and resilience in incarcerated populations.

When measured on its own, a history of perpetrating harm was linked to higher PTSD symptoms, suggesting that harming others can produce a stress reaction, broadly referred to as trauma-begets-trauma. However, when the other covariates, including gang level, were considered in the model, this effect disappeared, implying that doing harm was not an independent factor and correlated with gang position among the other broader risks in these participants. Practically, in addition to low-level gang members being expected to carry out violence to prove they belong or to keep their place, the real stress comes from doing the violence and having little choice or power to say no. Hence, this result demonstrates that trauma is not just about the act alone; it is also about being stuck in a risky role where violence and threats are part of everyday survival.

From an evidence-based perspective, this result aligns with Kira et al.'s (2013) trauma proliferation and stress generation theory discussed in Chapter 2. This theory asserts that harming others does not merely create a single traumatic event; instead, it sets off a chain of stressors such as increasing the risk of retaliation, deepening involvement in violent situations, and adding moral and psychological burdens that can multiply over time. Later research by Kerig et al. (2016) similarly found that perpetration predicted PTSD among their youth gang-involved sample. Where their focus was not on gang level, this study adds the structural context of gang hierarchy nuance by showing

the low-level membership placement limits choice or the ability to refuse violence, placing them directly in harm's way (Dmitrieva et al., 2014; Raby & Jones, 2016). The combination of powerlessness, force, and repeated exposure influences who carries the most significant trauma risk.

When measured independently, participants with higher primary psychopathy scored lower on PTSD symptomology, suggesting that men with more CU traits feel less guilt, less fear, and have fewer emotional reactions, implying they are likely less affected by violent events. This fits with the idea that CU traits can blunt feelings of remorse or distress. However, in this cohort, it was weakened once other factors were controlled for, suggesting that the other factors, such as the level of direct exposure to violence, offense severity, or a person's role within the gang, may be stronger or equally important in shaping trauma risk. In other words, simply being emotionally detached does not fully act as a protective factor for someone when they are still exposed to repeated violence or threats.

This weak protective pattern at the zero-order level but not the multivariate level is consistent with the long-held research debate about whether certain psychopathic traits, such as boldness, affective detachment, and fearlessness, can buffer individuals from trauma symptoms (Sellbom, 2015; Skeem et al., 2003). Sellbom (2015) and Woodfield et al. (2016) had mixed results, where the former study found that boldness appeared to reduce PTSD risk in community samples. However, the latter did not find a significant difference within their male prison sample. This highlights that exposure to and participation in a constant threat of violence may overwhelm any dispositional buffering.

The present findings align with this ambiguity. If an individual has no other factors but primary psychopathy in the presence of violence, it appears that it can act as a small buffer; however, if other broader structural and behavioral factors are present or persistent, primary psychopathy is a sufficient buffer from the psychological burden of repeated exposure, low status, or forced perpetration. This supports the conclusion that dispositional psychopathy traits, while relevant to how individuals process or suppress fear and guilt, do not fully explain who carries the weight of trauma within violent group structures where power and status shape exposure and control.

Interestingly, higher education predicted greater PTSD scores. A plausible explanation for this is that participants with more education may have a greater capacity for emotional insight and expression, meaning they are more able and willing to recognize and report psychological distress, rather than suppress it. Through their academic progression, they may have also developed ethical reasoning skills for the individual and social impact of their violent acts, which highlights that personal awareness and reflection can amplify the psychological cost of perpetration. This can increase feelings of guilt, shame, or moral conflict, all of which are closely tied to PTSD symptoms. This finding suggests that education level may shape how trauma is processed and expressed, rather than how much violence was experienced. Broadly, these findings align with research showing that MI and PTSD are not only about what happens externally but also how people interpret and judge their actions afterward.

The new link relating the level of education to increased levels of PTSD symptoms adds to the current literature body. Where previous research emphasizes

environmental and personality factors, this result suggests that insight, awareness, or a greater willingness to acknowledge psychological distress may help explain why more highly educated individuals showed higher PTSD symptoms. This finding aligns with the broader theme that moral reasoning and self-reflection can intensify the impact of trauma (Helion & Ochsner, 2018; Kira et al., 2018; Pletti et al., 2017). Higher psychosocial maturity has been shown to heighten moral conflict following violence (Kerig et al., 2016; McCuish & Gushue, 2022), and this result supports this possibility.

Overall, the results for PTSD symptoms within this forensic sample were mixed, with some results predictable while others were surprising. As stated above, this too was predictable, as PTSD and the other variables are complex constructs with mixed research findings. These results suggest that exposure, power, role, insight, and awareness shape PTSD risk in this group more than dispositional psychopathy does on its own. It also highlighted that structural components such as education may add to how violent perpetration is internalized and experienced through increased self-awareness and ethical reasoning, decreasing any would-be buffering factors. These key findings reinforce that context and behavior are central in understanding perpetration-induced trauma. More specifically, the imbalance of power and control in gang culture is a double burden for low-level gang members, as they are more exposed to the physical and psychological risks of frontline violent perpetration. This study demonstrated that gang hierarchy highlights how position and power within the group influence who is most directly exposed to violence, who has the least ability to avoid it, and how this contributes to psychological vulnerability, with low-level members facing the brunt of this.

The unexpected role of education suggests that greater self-awareness or moral reflection may add to how trauma is experienced, reminding us that personal insight can increase rather than buffer stress. Overall, these findings partially support the hypothesis that gang role and perpetration status predict PTSD, while providing only limited evidence that psychopathy traits by themselves act as a strong protective factor. They underscore that in this setting, the burden of trauma is shaped more by social structure and exposure than by personality traits alone.

Taken together, these findings extend what is known by showing that PTSD risk is shaped not only by individual traits but also by structural position, power dynamics, and awareness of moral harm. This directly addresses the research gap highlighted in Chapter 2 and contributes new empirical evidence that the burden of trauma within gangs is unequally distributed according to hierarchy and context.

RQ2: Predictors of MI

Gang level was a robust variable in this study; similarly, it showed that it also linked to MI risk, where low-level gang members reported the highest MI scores. In contrast, leaders reported the lowest. This mirrored finding suggests that participants in lower positions likely face greater moral conflict because they are directly involved in violent acts and have less control to avoid them, and the resulting moral distress. In contrast, holding leadership status emerged as a unique factor linked to lower MI in the full model. This may be because leaders can justify violence as necessary for control or protection, reducing the internal conflict that drives MI.

Relationship of Findings to Existing Literature

Despite the limited research body, there is consensus that one's perceived wrongdoing and betrayal shape MI, and the differences between the ranking results align with Bandura's (1990) theory of moral disengagement. The theory posits that people can cognitively "turn off" their morality and justify or rationalize harmful behavior to reduce guilt or shame. Subsequently, Bandura's 1999 study focused on socially desirable populations, such as military, institutional, and political leaders, who may need to disengage morally for the perceived greater good. These findings expand on this concept in several ways. First, Kerig and Becker (2015) highlighted that their youth gang sample used moral disengagement for survival, but they did not isolate hierarchy in the same way this study does. Higher levels of MI in low-level gang members are likely because their lack of power and control in direct harm cognitively precludes them from morally disengaging. This confirms the insight that MI is not just about the act but rather encompasses the perceived loss of moral integrity when individuals feel compelled into violence due to rank or loyalty expectations (Kerig et al., 2016).

In contrast, where Hyde et al. (2010) and Kimonis et al. (2008) found that high levels of CU traits and moral disengagement were associated with reduced guilt in gangs, hence, the low MI scores in this study's leaders may stem a reduced biological capacity to experience or understand morality or from the utilization of moral disengagement through justification of retaining power, control and survival which reduces the internal conflict resulting in lower MI.

This study demonstrated that a history of perpetration did not produce remarkable differences when examined alone, but it emerged as a unique predictor when compared with the other variables. This is an important highlight and suggests that in this forensic sample, the act of harming someone alone, that is, regardless of one's gang rank or their dispositional psychopathology, or type of offense, among other factors, is enough to induce some degree of moral dissonance. Hence, doing harm leaves a unique mark on conscience, reinforcing the idea that MI is not just about exposure but about violating personal moral standards through one's own actions.

This finding ties to prior research and supports the perpetration-induced trauma concept by Kerig et al. (2016), who argued that actively inflicting harm rather than witnessing violence alone often triggers profound guilt, shame, and moral conflict. This finding also confirms Jinkerson's (2016) study, which found that killing is more likely to create moral dissonance than just exposure to it. It broadens this generalization from combat military samples to forensic gang populations. McEwen et al. (2021) similarly further emphasized that it is negative appraisals of one's own actions, rather than passive exposure, which increase the risk of MI. In this study, direct perpetration was found to predict higher MI once other factors were controlled for, supporting the idea that MI is intensified when an individual perceives themselves as directly responsible for harm.

In this study, MI was sensitive to several variables, gang level and perpetration, namely, offense severity and prior intervention history, which were uniquely associated with higher symptomology. This may have emerged because, in contrast to lower-severity crimes, individuals who commit more serious offenses are more likely to

contend with the greater harm they have caused, making it harder for them to distance themselves from their actions emotionally. Similar to education, a history of psychological intervention likely fosters deeper self-reflection and self-awareness, resulting in the ability and increased willingness to confront uncomfortable emotions, which can heighten awareness of guilt, shame, or moral conflict related to their offending. Therapeutic interventions, even more so than general education, explicitly promote social-emotional skills like empathy, perspective-taking, conflict resolution, problem-solving, among other skills, including ethical decision-making and social responsibility.

According to Litz et al. (2009), MI arises when deeply held moral beliefs are violated through serious acts of wrongdoing. In this study, the findings that MI scores were significantly higher for more serious offenses versus lower-level crimes suggest that the more profound the violence, the bigger the moral breach and the greater the moral dissonance. This supports the idea that the intensity of harm directly influences the severity of MI. In a similar vein, Pletti et al. (2017) asserted that self-reflection on perpetrating harm also amplifies internal moral discord, further reinforcing the idea that both the severity of the offense and self-reflective processes, fostered through psychological interventions, contribute to increased levels of MI symptoms, as seen in this sample.

It is important to clarify why offense severity and psychological intervention history were significant predictors of MI but not predictors of PTSD in this sample. Currently, the literature asserts that MI and PTSD overlap in many areas. For example,

they both share neurocognitive and emotional instability, particularly in areas responsible for emotional regulation, such as the amygdala, medial prefrontal cortex, and anterior cingulate cortex (Litz et al., 2009; Williamson et al., 2021). However, PTSD is triggered by fear, while violations of moral values trigger MI. As such, PTSD is less influenced by whether an individual committed a serious offense and more by the experience of any personal threat, exposure, coercion, or victimization, whether mild or extreme, because it centers on fear, helplessness, and a survival threat rather than on moral conflict alone. For example, a more serious offense, such as extreme violence or killing, may not evoke fear. However, it can lead to profound moral conflict, particularly when the individual reflects on the moral implications of their behavior. This helps explain why MI scores were higher among those with more severe offenses, while PTSD scores were not in this study.

Similarly, PTSD and MI both stem from exposure to violence and share symptoms such as emotional numbing, hyperarousal, and intrusive memories, which makes it challenging to diagnose on symptomology alone (Currier et al., 2015; Drescher et al., 2011). Despite these similarities, engaging in past psychological interventions may foster self-awareness and emotional insight, increasing the likelihood of confronting guilt, shame, and regret, emotions central to MI and less relevant to the etiology of PTSD. Therefore, while both outcomes develop from exposure to violence, their distinct psychological underpinnings, threat-based fear in PTSD and moral dissonance in MI, help explain why specific predictors uniquely affect one but not the other. This distinction is crucial in forensic settings, where symptom overlap can obscure underlying

causes. The findings in this study, where intervention history was uniquely linked to MI but not PTSD, underscore the importance of assessing not just symptoms, but also the moral and cognitive context of violent behavior.

In this study, psychopathy traits showed no significant effect on MI at either level. This suggests that having CU traits (Factor 1 / primary) or impulsivity traits (Factor 2/ secondary) did not protect individuals from experiencing moral conflict in this context. In other words, whether someone tends to be colder and manipulative or more impulsive and emotionally unstable does not, by itself, explain who will experience more guilt or struggle over the harm they have done; structural or environmental vulnerabilities, such as rank or perpetration, may override dispositional protective traits.

This finding aligns with the mixed results in the literature. Some researchers, such as Skeem et al. (2003) and Dmitrieva et al. (2014), have proposed that CU traits may blunt guilt and emotional distress. Other primary psychopathy traits, such as boldness, have also been highlighted and linked to buffering PTSD symptoms. For example, in Sellbom's (2015) community sample, boldness correlated with PTSD resilience; however, in a later study by Woodfield et al. (2016) using a prison sample, this correlation was not observed. Together, these findings and the present results demonstrate that structural context and direct behavior overshadow dispositional traits when explaining MI. This suggests that the theorized protective function of CU-traits (primary psychopathy) may be limited in environments where forced perpetration and low status heighten exposure and moral conflict.

This study supports the literature that trauma is prevalent within the gang culture, and this extends to the sample of gang members from the island jurisdiction. At the heart of this study lies the longstanding nature versus nurture debate, which posits that trauma is not solely a function of individual disposition but also a consequence of structural dynamics such as rank, role, and powerlessness. While conceptually distinct, perpetration-induced trauma and MI are both rooted in traumatic experiences. Within the context of this incarcerated sample, they did not act in isolation, but rather are deeply intertwined, shaped by repeated exposure, limited autonomy, and forced participation in violence. More specifically, while perpetration-related PTSD is a threat-based fear reaction, and MI arises through moral dissonance, both can emerge and override any emotional numbness, particularly in structurally violent and high-powerlessness environments.

Where psychopathy traits were long assumed to blunt emotional distress, they offered no meaningful protection in this sample when structural forces like gang rank and perpetration were accounted for, suggesting all gang members may be susceptible to psychological distress regardless of their disposition type. In this sample, psychopathy traits offered no psychological protection against gang culture; that is, a rigid group environment built on the normalization of violence, lack of moral reasoning, and the shaping of individual agency and autonomy are influenced by collective roles and expectations. Perpetration, especially when paired with low status, contributed uniquely to MI, supporting theories that emphasize personal accountability and value violation over fear alone. Gang hierarchy emerged as a robust structural factor in PTSD and MI,

implicating rank as a significant psychological risk factor. Hence, hierarchy is more than a chain of command; it shapes psychological vulnerability, where low-level members have the least amount of power to resist violence and bear the highest burden of trauma.

Overall, these findings extend prior research by clarifying that exposure, powerlessness from rank, and forced role expectations shape how violent acts generate both threat-based trauma and moral conflict, and that dispositional traits like psychopathy do not fully shield against either when structural risks are high. They confirm that PTSD and MI share overlapping social roots but reflect distinct psychological pathways, fear and helplessness on one hand, moral violation and self-reflection on the other. This reinforces Kira et al.'s (2013) view that trauma is not simply an individual experience but a social and structural process, showing that within gangs, the moral and psychological burden falls most heavily on those with the least power to resist or rationalize their actions. Ultimately, this study contributes to a growing recognition that trauma, particularly MI, is rooted in coercive environments where individuals lack the power to act in alignment with their values. These insights call for trauma-informed forensic interventions that account not only for what individuals have done, but why and under what pressures they have done it.

Limitations of the Study

Several limitations should be considered when interpreting the results of this study. First, the generalizability of the sample should be considered. Despite exceeding the minimum sample size required $N = 63$ to $N = 70$, the sample was drawn from a single forensic population in a small island jurisdiction and excluded females and community-

based justice-involved individuals, thereby limiting its generalizability to these demographics. To make the recruitment of this vulnerable population more feasible, a larger estimated effect size ($f^2 = .35$) was used, which sacrificed the detection of the influence of weaker variables on the relationships between PTSD and MI.

Secondly, although anonymity was emphasized and rapport was established, PTSD, psychopathy, MI, and gang affiliation were all self-reported and may have been potentially influenced by social desirability, denial, and over- or underreporting. It is well established that prison-based research is susceptible to inaccurate or defensive responding, particularly when assessing stigmatized constructs. Hence, these contextual pressures may have limited the accuracy of some responses, which can occur in a correctional environment where disclosure carries interpersonal and institutional risks.

Thirdly, this study design was cross-sectional, which limits the ability to establish cause-and-effect relationships. While perpetration, gang status, and psychopathy were associated with PTSD and MI outcomes, their order of occurrence cannot be confirmed. So, it is unclear if or when trauma symptoms arose as a result of the predictors or whether pre-existing distress influenced individuals' positions within gang hierarchies or their likelihood of offending, for example.

The gang hierarchy variable relied on self-categorization, which may have varied in accuracy depending on the willingness to disclose one's status. Permission was denied for external validation of gang level, leaving the construct vulnerable to bias.

The MI measure relied exclusively on self-report, and, unlike PTSD, MI is more relational and value-based, and participants may have lacked the insight, language, or

psychological safety to articulate their inner conflicts fully. Furthermore, the lack of a qualitative component limits insight into how participants personally interpreted their violent actions or perceived moral harm. Although it did ask to identify perpetration, the study did not separately assess the impact of witnessing violence versus direct perpetration, which is noted in the literature to have distinct psychological weight. As such, this study cannot determine whether the burden of MI was driven more by direct acts of violence or by exposure to others' suffering.

Despite these limitations, meaningful insights were offered by the study, such as how social roles and power dynamics within gang hierarchies shape both trauma-related and morally injurious outcomes in correctional populations.

Recommendations

This section will describe several recommendations from the study's findings using practical, clinical, and policy-level recommendations aimed at improving trauma care, correctional practices, and systemic responses to gang-involved individuals. In particular, they underscore the need for tailored trauma interventions specific to how the gang hierarchical culture fosters MI, structural coercion, and dispositional traits. These recommendations are framed around five key domains, namely mental health and trauma services, correctional policy and institutional staff practices, broader criminal justice policy, island-specific applications, and reintegration strategies. Finally, several proposals for future research directions are described, centered around enhancing the understanding of the complex interplay between gang roles, psychological traits, and trauma outcomes.

Clinical Practice and Trauma-Informed Care

Therapists and clinicians must recognize that it is not enough to identify who is in a gang, but how being in a gang uniquely shapes them as individuals. They must distinguish between leadership and a low-level role, and understand that each likely has a unique presentation, where identified leadership may serve as a psychological shield that suppresses PTSD symptoms, and a low-level role is a risk for psychological expression.

Further, while leaders may appear resilient, they may use emotional numbing, dominance, and cognitive reframing as defense mechanisms and are also at risk for trauma. These behaviors can obscure underlying trauma and hinder accurate clinical assessment. Clinicians may need to refine their assessment approach to detect latent trauma in individuals with high affective detachment or psychopathy traits.

Clinical assessments must be updated to become more sensitive to detecting covert trauma symptoms in individuals with blunted or psychopathic traits, and investigate moral conflict, perceived power dynamics, and internalized distress. These tools can help uncover trauma symptoms that are otherwise masked by psychological defense mechanisms. Without targeted assessment strategies, clinicians risk overlooking high-risk individuals who may later decompensate when their gang roles shift or when long-term consequences of unresolved trauma emerge.

Treatment needs to be more comprehensive, reflective of both moral conflict, guilt, helplessness, and powerlessness in low-level gang members, while also recognizing the cognitive distortions and emotional numbness in leaders. That is, gang trauma programming should reflect these hierarchical distinctions and offer specialized

interventions tailored to both overt and covert trauma profiles. More specifically, intervention modules for gang leaders may initially benefit from intervention components that are skill-based, such as cognitive reframing and insight-oriented for suppressed distress. At the same time, lower-level members may require structured support using Trauma-focused therapies (TF-CBT, EMDR), psychoeducation, and spiritually integrated psychotherapy to address feelings of helplessness, victimization, and MI. Hence, in compliance with the Need and Responsivity principles, trauma-informed treatment should be tailored to the moral and emotional consequences associated with different gang-involved profiles. This would strengthen therapeutic accuracy and support social change through equitable clinical practice.

Correctional Policy and Institutional Staff

This study has revealed that low-level gang members carry the highest PTSD and MI burden and recommends that management of in-house antisocial behavior limit reliance on solely punitive approaches, such as incarcerated individuals being solely placed on lock-downs, in isolation rooms, or other restrictive measures, to a more therapeutic approach. Policies should include provisions for initial or routine screening for MI for all gang affiliates, particularly among low-ranking gang members, to differentiate antisocial behavior from trauma symptoms for more accurate classification and treatment decisions.

Correctional Policy must reflect the RNR framework by explicitly using the responsivity therapeutic lens when designing policies to identify and target maladaptive behaviors. These policies should identify screening tools that include questions about

gang status, direct perpetration, and exposure to violence to help pinpoint individuals who may be at increased risk for institutional maladaptive behaviors that would benefit from targeted trauma-focused interventions. Correctional staff, including officers, case managers, nurses, and classification staff, should be trained in theories of trauma stratification, power, and subjugation to recognize how gang structure affects who is more likely to carry significant trauma and its various forms of presentation within the correctional environment. Security placement and housing decisions should also consider gang status to reduce forced proximity to violence for lower-ranking members. Responsivity under RNR means that these men may engage better with services if trust, confidentiality, and their unique moral distress are addressed sensitively.

Policy should also ensure to extend trauma-informed care beyond the incarceration phase to include discharge planning for smooth community reintegration. Reintegration planning should include established mental health referral systems, and correctional facilities should collaborate with community-based providers to maintain service continuity post-release.

Broader Criminal Justice Policy

Within the broader criminal justice system, this study supports the notion of a mandatory national funding policy for the prevention and treatment of MI within correctional health budgets, along with a research-based infrastructure to track outcomes. In particular, the policies should mirror the RNR framework and stratify the allocation of trauma-care, where resources should be allocated based on gang level (gang rank and role), not just membership. This involves directing public health funding, clinical

programming, monitoring, and training to ensure the most appropriate treatment type and intensity, which reflects the vulnerability of low-ranking members who face the highest level of exposure and the least agency and autonomy.

Furthermore, legislative bodies should expand policy beyond the correctional setting, so justice reinvestment policies can incentivize community partnerships with reentry providers and strategies that include restorative justice practices, spiritually integrated trauma therapy, or culturally grounded mentorship, especially for individuals who return to environments that stigmatize or valorize past gang activity. This can also ensure post-release support for individuals with unresolved guilt and those struggling with identity integration, particularly in cases where sentences are short and incarcerated individuals do not qualify for case management. Programs that promote moral repair and societal reintegration can reduce recidivism and strengthen both personal and public safety.

Finally, national policies should task collaborative strategies for mandatory longitudinal tracking of MI-informed interventions to assess their impact on post-release outcomes, including mental health stabilization, community reintegration, and reduced recidivism. In doing so, the island jurisdiction's justice system can serve as a model for how to respond not just to crime, but to the moral and psychological wounds left in its wake.

Recommendations for the Small Island Jurisdiction Setting

In a small island jurisdiction, the unique dynamics of island life, close community ties, reduced anonymity, and limited social mobility create both challenges and

opportunities for trauma-informed practice. Programming should reflect this unique sociocultural context, including norms related to masculinity, loyalty, and community belonging.

Hence, within ICS, mental health interventions should include both individual and group-based MI programs that address peer pressure, coercion, loyalty, guilt, and reconciliation facilitated by clinicians trained in MI and restorative justice. These interventions should offer structured opportunities for reflection, emotional expression, and identity restoration in a therapeutically safe and trusting environment where participants are not under fear of or threatened by former coercive leaders. They also should be rooted in local community narratives that validate growth and social change, rather than reinforcing shame or past affiliations, particularly in a small island where it is hard to escape past failures.

Staff must receive training for the proper administration of validated MI screening assessments, such as the Moral Injury Events Scale (MIES; Nash & Litz, 2013) or the Moral Injury Outcome Scale (MIOS; Litz et al., 2022), as well as guidance on maintaining intervention fidelity to ensure modules address MI symptomatology, shame, guilt, and internal conflict. Similarly, the use of a therapeutic approach that emphasizes recovery, dignity restoration, and reintegration encourages long-term desistance from violence.

The benefits of restorative practice models are gaining an increasing presence in research and practice locally due to the intervention's heavy focus on reconciliation, which results in the long-term benefits of desistance from violence. This should be

combined with community public education efforts that aim to reduce stigma and promote restorative models of rehabilitation. By promoting dignity, healing, and public safety through these treatment and reintegration strategies, the small island justice system can serve as a model for sustainable and socially accountable trauma rehabilitation frameworks.

Finally, evaluation metrics should reflect the unique challenges of the island's small size and its resulting ramifications for anonymity, social mobility, and reintegration, a context where past gang affiliations are more difficult to escape, and community ties may both support and stigmatize rehabilitation efforts. There should be ongoing evaluations of MI intervention outcomes that assess and monitor reductions in recidivism, community reintegration, and long-term psychological well-being using both quantitative measures, such as re-offense rates and treatment compliance, and qualitative measures, including self-reported healing, restored relationships, social connectedness, and quality of life. Simultaneously, efforts should be made to develop and promote media campaigns and educational workshops to reduce stigma and shift public perceptions toward rehabilitation, reintegration, and second-chance living in a small, closely-knit community.

Recommendations for Future Research

In light of the study's scope, delimitations, and methodology limitations, several recommendations for future research are described. Most notable was the small sample size of the participants. Future studies could benefit from using a larger and more diverse forensic sample (institutional and community-based) to enhance external validity, to

investigate interactions that may not have reached statistical significance in the current study, and to determine the generalizability of these findings beyond the island's forensic setting. Such studies would support the refinement of gang-specific trauma models and strengthen evidence for tailored policy and clinical responses.

Another significant limitation was the use of a cross-sectional methodology, which limited the ability to establish causality. Hence, future studies could benefit from either mixed-methods or a longitudinal design to better clarify these dynamics.

Given the distinct functions that structural and dispositional factors play, future research should expand on these findings by examining how gang rank and psychopathy subtypes interact in shaping trauma outcomes. Specifically, studies could explore whether the relationship between psychopathy and PTSD or moral injury varies according to gang hierarchy, and whether low-level gang members are more likely to exhibit secondary psychopathy traits, characterized by impulsivity and affective instability. In contrast, leaders exhibit primary psychopathy traits, marked by callous–unemotional and manipulative features. These investigations could also clarify whether either psychopathy profile serves to amplify or buffer vulnerability to PTSD and moral injury within different gang roles. Such research would deepen understanding of how power, control, and dispositional traits jointly influence trauma expression, extending the current findings without exceeding the scope of this study's research questions.

Beyond psychopathy, future studies could examine other personality traits, such as conscientiousness, dominance, emotional stability, and agreeableness, in shaping gang-level emergence. These traits may interact with trauma exposure and role

expectations to influence who climbs to leadership versus remains in frontline roles. Such work would broaden current findings by situating gang hierarchies in both structural pressures and dispositional differences, informing more tailored prevention and rehabilitation strategies. Longitudinal designs are also needed to determine whether undertaking a leadership role reduces PTSD symptoms over time due to increased emotional control or whether individuals with fewer trauma symptoms are simply more likely to reach leadership status. These dynamics may reveal how social positioning within gangs alters both exposure and psychological response to violence.

As it relates to MI, future studies could build on this and compare individuals who have perpetrated violence under coercion versus those who have merely witnessed violence to assess whether the moral burden of direct harm generalizes to gang-involved individuals. Research should also test whether offense type, or whether the violence was ordered versus self-initiated, impacts the severity or nature of MI symptoms. Building on this current work, future research could investigate distinct MI symptom pathways and their implications for rehabilitation outcomes, informed by current best practices.

Additionally, qualitative methods, such as in-depth or life-history interviews, could provide richer insight into how incarcerated individuals interpret symptoms more closely to sentencing for morally injurious acts, particularly in environments where emotional suppression is normalized. These narratives may uncover how individuals articulate guilt, shame, or justification in their own words, adding depth to the quantitative findings. They could also shed light on how gang-based hierarchies and pressure to survive influence whether individuals minimize, rationalize, or internalize the

moral weight of their actions and further reveal how coping with MI contributes to shifts in self-concept during incarceration and beyond. Based on the unexpected finding that higher education was associated with greater PTSD symptomatology in this study, such qualitative work could clarify whether education level influences moral processing or help-seeking, possibly explaining this study's findings.

Finally, future research should also investigate the impact of moral emotions and self-regulatory capacity on trauma outcomes. Guilt, shame, and empathy may moderate the relationship between perpetration and mental health, distinguishing those with offence histories who internalize MI from those who remain disengaged. Empirical testing of these mechanisms could improve the design of trauma-informed correctional interventions. Experimental or quasi-experimental studies should evaluate whether trauma programs that target MI, through narrative repair, forgiveness models, or identity reconstruction, are more effective than interventions focused solely on fear-based PTSD symptoms.

Implications

Theoretical and Practical Implications for PTSD

The results clarify that perpetration-induced trauma in this forensic population depends not only on the violent act itself but on how gang hierarchy structures exposure to violence and control. Hence, power, role expectations, and status within the group shape who carries the most significant PTSD burden. The weak association and inconsistent link between primary psychopathy and lower PTSD symptoms show that dispositional traits alone do not sufficiently buffer the impact of forced or repeated

exposure to violence. Trauma should be understood as more than an isolated event; it is intensified by the social structure in which it occurs. Coerced roles, such as low-level gang positions that demand loyalty through direct violence, create repeated exposure to threat and victimization while limiting an individual's ability to control when or how they face danger. This deepens feelings of helplessness and fear, which are central to PTSD. Extending the trauma-begets-trauma framework, these findings demonstrate that context and power hierarchy moderate how threat-based trauma develops and how severely it affects those with the least power to resist or escape.

Correctional mental health services in the small island jurisdiction should begin by prioritizing routine trauma and PTSD risk screening for all incarcerated individuals, or at least those identified as gang members. Screening must also consider each person's position within the gang hierarchy, since low-level gang members appear to face the most significant direct exposure to violence and the least power to avoid it. Incorporating questions about gang status, forced perpetration, and repeated threats can help identify those most in need of trauma-focused support. The unexpected link between higher education and greater PTSD levels indicates that individuals with stronger insight or moral awareness may feel more intense guilt or shame, which standard PTSD protocols may overlook. Services should account for this by ensuring that interventions address not only fear-based trauma but also the moral conflict that can accompany forced or repeated violence. Overall, correctional mental health teams should engage in a trauma-informed approach that recognizes how status and power dynamics shape the experience of violence within gangs. Psychoeducation about power, control, and coping strategies

tailored to gang structures can help these men process both the external threats and the internal moral burdens they carry.

Theoretical and Practical Implications for MI

Similarly, these findings reinforce that MI is not solely an intrapersonal phenomenon rooted in dispositional vulnerability or individual psychopathology. Instead, MI emerges from social structures and power dynamics that shape when, how, and why individuals engage in violence. Within hierarchical gang systems, members may be coerced or socially obligated to participate in acts that violate their deeply held moral beliefs, not due to antisocial tendencies, but because of loyalty pressures, survival demands, or status maintenance. This structural coercion challenges traditional conceptions of MI as a purely individual failure of conscience. It supports a new social context grounded in frameworks that account for dissonance generated by external expectations. In this context, MI should be conceptualized as a group-mediated psychological conflict, wherein trauma arises not only from the act of harm but from the perceived betrayal of one's moral identity in the service of group loyalty. These results align with and extend theoretical models that position MI as a relational and systemic construct. They suggest that power unevenness, role constraints, and collective moral beliefs must be central to any comprehensive understanding of trauma in gang-involved forensic populations. The persistence of guilt and shame among low-level gang members further indicates that traditional PTSD frameworks are insufficient and that MI must be explicitly theorized as a socially induced and socially sustained trauma subtype.

Practically, correctional institutions should extend beyond standard PTSD screening to include validated assessments of MI symptoms, particularly among lower-ranking gang members. These individuals often face unique vulnerability to guilt, shame, and moral dissonance arising from coercive survival-based acts of violence. Unlike traditional trauma, MI does not always manifest through fear-based symptoms and may instead present as internalized distress masked by defensiveness, rage, or emotional suppression. To address these challenges, trauma-informed programming within correctional settings should incorporate narrative-based (life-story work, group storytelling), cognitive reframing or reconstructing, and restorative modalities. Approaches such as adaptive disclosure (structured disclosure, emotion processing, imagery, and role-play), forgiveness work, and moral repair therapy can support individuals in reconstructing a coherent moral identity, reducing self-condemnation, and regaining a sense of personal worth. Psychoeducation modules should include explanations of the systemic and social pressures that shaped participants' decisions in gang involvement, yet contextualize their actions without excusing them. Support services should also be responsive to the island's culture, account for individual relationships, and gang status/role level at which MI occurs. Gang-involved men, and explicitly those showing secondary psychopathy traits, may have emotional suppression that conceals deep moral wounds, and safe therapeutic environments delivered through small-group or individual sessions may foster open disclosure and deeper engagement. Training for clinicians and frontline staff should include guidance on how to identify

moral distress when masked by affective detachment or shallow affect, ensuring that internalized guilt is not misinterpreted as a lack of remorse.

Social Change Implications

This study contributes to positive social change by identifying how gang hierarchy, perpetration of a violent act, and psychopathic traits influence both post-traumatic stress and MI in justice-involved individuals. By situating these findings within both global and small-island correctional contexts, the study underscores how trauma and moral injury emerge through complex social hierarchies and coercive environments. By examining these dynamics among the local small island sample, the findings support a shift toward more humane, responsive, and individualized rehabilitation strategies that can inform similar practices in small jurisdictions worldwide.

Specifically, the results demonstrate that trauma is not evenly distributed across gang-involved populations; instead, lower-ranking members with the least power and control often carry the highest burden of psychological harm. This challenges policies and practices that treat gang-affiliated individuals as a homogenous risk group and instead advocates for differentiated interventions based on social role and trauma type.

The recognition of MI as a distinct, socially induced trauma outcome has especially profound implications for justice systems globally and locally. Traditional interventions often overlook guilt, shame, and internalized moral conflict, particularly in individuals who appear emotionally detached or disengaged. This research supports trauma-informed practices that address not only fear-based symptoms but also the deeper moral and relational wounds caused by coerced violence. This approach promotes more

compassionate and effective clinical methods that support the psychological complexity of individuals within forensic settings.

Additionally, this study highlights the importance of integrating moral and psychological care into reentry planning and broader justice reform efforts. Within the local small island's close-knit social structure, where community visibility and stigma amplify emotional burden, community-based supports that address identity repair, moral reconciliation, and emotional healing can contribute to long-term desistance, healthier reintegration, and a reduction in the trauma-begets-trauma cycle. Policies that fund culturally relevant programming and safe spaces for emotional disclosure can empower individuals to reengage with society as productive, accountable, and healed members.

At a systemic level, these findings advocate for correctional mental health services and policy frameworks that acknowledge structural coercion, address responsivity barriers, and promote trauma-care fairness. For a small island jurisdiction, this includes developing collaborative frameworks between justice and mental health services that reflect both cultural sensitivity and international best practices. By expanding the definition of trauma to include social and moral dimensions, this research advances a more ethically grounded model of rehabilitation that recognizes both the humanity and the healing potential of justice-involved individuals.

In this way, the study supports Walden University's mission to promote meaningful social change by informing practices that are not only evidence-based but also socially just; everyone deserves the opportunity to heal.

Conclusion

In closing, this study contributes to the growing body of research examining the psychological impact of gang involvement by highlighting how MI and PTSD manifest differently across gang hierarchies. By integrating psychopathic traits, hierarchical rank, and perpetration histories, the findings offer new insights into the social and emotional complexities of perpetration trauma within incarcerated populations, particularly in under-researched, culturally distinct, and small-community contexts. These results underscore the need for trauma frameworks that go beyond fear-based models to include moral, relational, and systemic dimensions of harm.

Fear-based PTSD models capture the hyperarousal and threat responses common to trauma. However, they often miss the guilt, shame, betrayal, and moral conflict that appear when violence is forced or when individuals are forced into roles that contradict their values. A more comprehensive framework must also account for the relational dynamics of gangs, including but not limited to loyalty, hierarchy, power struggles, and coercion, that shape how trauma is experienced, as well as the structural constraints and limited avenues for escape that intensify psychological harm.

Integrating these moral, relational, and systemic layers into trauma theory provides a more accurate understanding of how violence affects justice-involved individuals globally. Such integration not only enhances theoretical precision but also guides more humane and contextually grounded interventions that aim to reduce symptoms while addressing the deeper wounds of identity, conscience, and social context.

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Appendix A: Recruitment Materials

Section 1. Recruitment flyer



Research Participants Needed

There is a theory that different factors in a person's life and personality impact how they can deal with stressful incidents in which they have been directly involved (like a criminal offense). Through surveys, I invite participants from a wide range of backgrounds and experiences within the prison population to participate in a research study investigating how different life and personality factors influence coping thoughts or feelings after committing an offense.

About the study:

- Three 10-15 minute surveys
- Your privacy will be protected using unique ID numbers instead of names.
- Small thank you gift—Choice of chocolate or bag of chips

Volunteers must meet these requirements:

- Male— 18 years old or older
- Ordinarily reside in Bermuda or lived in Bermuda for an extended time
- History or current offense causing harm, injury, or death, trialed in court.

This survey is part of Cyrelah Raynor's doctoral studies at Walden University.

Group information session on January 3rd.

Section 2. Potential participant interest presentation script

Introduction:

Good morning, everyone. My name is Cyrelah Raynor, and I am a Clinical Psychology Student from Walden University conducting research as part fulfillment of a Doctoral program. I am here to talk to you about a study I am conducting, and I would like to invite you to participate. The study is titled Perpetration-Induced Traumatic Stress and Moral Injury in Adult Male Offenders.

Purpose of the Study:

My study aims to understand the psychological impact on individuals who have taken part in crimes that have harmed, injured, or caused death to someone. Specifically, I am interested in exploring how these actions affect mental health, focusing on two key areas: perpetrated trauma and moral injury.

Theories suggest that committing a harmful act, for example, assaulting someone, is not merely about being callous and unremorseful. Some individuals experience significant levels of distress after engaging in such acts. Alternatively, others do not have much distress. It is a myth that either of these responses is good or bad, more so that different life experiences likely influence how an individual will respond. This study looks to determine the personality characteristics present and social situational influences in individuals that result in different psychological responses to harming someone. By examining these experiences, I hope to gain a deeper understanding of two different yet similar responses, perpetration- PTSD and moral injury. This understanding can provide better support and treatment tailored to individual responses.

Moral injury is when one feels they have broken their life principles or values when they take part in, witness, or fail to prevent an act that disobeys their own moral values or personal principles. For example, if someone seriously harmed someone, they considered a friend or family member. They did not want to do it, but they may have been forced or even been part of a group of people who assaulted someone, and they failed to stop the attack or help after.

Perpetration-Induced Traumatic Stress is a form of post-traumatic stress disorder (PTSD) symptoms caused not by traditionally being a victim of harm, but by being an active participant in causing trauma. For example, after an individual who

participates in a robbery uses a weapon to threaten victims and induce severe fear. After the robbery, the individual experiences significant psychological distress due to their actions. They might have intrusive memories of seeing the terrified faces and recalling the threats they made. They might have nightmares or flashbacks of different elements of the robbery, like the victim's terrified faces. They might develop emotional numbness and find it difficult to connect with others or feel positive emotions. They may avoid reminders of the robbery, such as the area where it occurred or news stories about similar crimes.

Why This Study is Important:

As stated above, everyone who has participated in events that have harmed, seriously harmed, or killed someone can have varying effects. By understanding these effects better, I hope to contribute to a body of research that can improve support and treatment specific to the experiences they had after the incident. On the one hand, some may require trauma-informed interventions and support; alternatively, others may require education and skills development.

What Participation Involves:

If you choose to participate, you will be asked to attend a scheduled survey session on a designated day and time over a five-week period. You will complete a survey packet individually in a quiet room during each session. The packet includes demographic questions, which will ask about your offense history and various psychological symptoms. The survey is designed to gather specific information relevant to the research hypotheses. Before starting the survey, there is a consent form that you will need to read and understand. You must fully understand what you are consenting to. I will read the consent form aloud at the end of this presentation to give you time to process what is required and to think of questions you may have before the survey. I will also provide you with a copy of the consent to review in your free time. Consent is only implied after you agree to the survey during your scheduled time-slot. Your participation is entirely voluntary, and you can withdraw from the study at any time without any consequences if you sign up.

If there are any questions you do not understand during the survey, you are encouraged to ask for clarification. Your comfort and understanding are my priorities throughout this process.

Benefits of Participating:

There is no personal benefit to participating in this study. Your participation will help me gather valuable information that could lead to better support and services in the best-practice literature.

How to Participate:

After you leave this presentation, take time to think and read the consent form. A sign-up sheet will be available in the library within the week. The sign-up sheet will also include a stack of numbered paper tokens. The number token simply keeps your true identity anonymous when you sign up. Take one token and use that token number to place next to a 45-minute time slot on the sign-up sheet. The available days for participation are Mondays, Wednesdays, Saturdays, and Sundays, during specific time slots: 9:00 – 6:55 PM. These sessions will be conducted privately and safely to ensure your comfort and confidentiality. Staff are not involved in this process; however, unforeseen operational issues could conflict with scheduled appointments. Simply keep the same token number and select a new date and time. Participation is entirely voluntary, and you can withdraw without any consequences. If you have any questions or need further assistance, please ask.

Confidentiality and Support:

Your privacy is my priority. All information you provide will be kept confidential. If any questions cause you distress, support is available through mental health services. Participation will be anonymous, with the data survey only having your selected token number. The results of the collected data will be a reflection of all the data not just one person's data. Collected data will be stored securely, and only I will have access to your responses, which my university research team may need to review. This organization is not permitted access to this information.

Thank you for considering participating in this study. If you have any questions, please ask me now.

Hand out the consent form and read it verbatim aloud.

Q&A Section

Question 1: What will happen if I feel uncomfortable answering certain questions during the survey?

If you feel uncomfortable answering any questions during the survey, you have the right to skip those questions or stop the survey at any time. Your comfort and well-being are my priority, and there will be no penalties or negative consequences for choosing not to answer certain questions.

Question 2: How will you ensure that my participation in this study remains confidential from other incarcerated individuals and staff?

To ensure confidentiality, you and I will conduct survey sessions in a private room, and only I can access your responses. Your participation will be anonymous and streamlined with the routine of facility operations to avoid being singled out. Your data will not be able to identify who you are individually. All materials will be securely stored and handled. No names or identifying information will be included in the study reports, and measures will be taken to prevent any disclosure of your participation to other incarcerated individuals or staff.

Question 3: What kind of questions will be asked in the survey?

The survey will include questions about your demographic background, personal experiences, and views on the study's focus. For example, select your current or historical offense from the list. Three core surveys will be designed to gather specific information relevant to the research. The questions will cover various topics, including your experiences, behaviors, and attitudes. For example, I am not the good person I thought I was. Love is overrated. I have trouble falling or staying asleep. The survey aims to gain insights into your perspectives and experiences in a confidential and respectful manner.

Question 4: How will the findings of this study be used, and who will benefit from the results?

The findings of this study will be used to gain a deeper understanding of the experiences and perspectives of the forensic population, which can inform policies and programs aimed at improving rehabilitation and support services. The final results will be shared with the administrative staff and you in the form of a brochure placed in the library. However, the actual data I collect is for my eyes and my research team only. While there are no direct benefits for all participants, the study aims to contribute to broader efforts to improve offenders' well-being and rehabilitation outcomes.

Question 5: If I have any concerns or issues during the study, who should I contact and how?

If you have any concerns or issues during the study, you can contact me directly during scheduled visits to the facility through your token number and the sign-up sheet. Your concerns will be addressed promptly and confidentially to ensure your well-being and the integrity of the study.

Question 6: Can I choose to only participate in certain parts of the study and not others?

Yes, you can choose to participate in only certain parts of the study if you wish. Your participation is entirely voluntary, and you have the right to withdraw from any part of the study at any time without any negative consequences. If you decide to stop participating in certain parts of the study, your decision will be respected, and any data you have provided up to that point will be handled according to the study's confidentiality protocols.

Question 7: What if I have difficulty with hearing or vision or writing?

If you have difficulty in any of the following let me know at the start of the survey and I will be happy to assist you to complete the survey/

Thank you for listening.

Appendix B: Communication Script

Weekly feedback email

Dear _____,

I hope this message finds you well.

As part of my ongoing efforts to ensure the smooth execution and ethical integrity of this study, I am writing to request your feedback for this past week, only if necessary. I aim to assess the risk-benefit ratio and monitor any potential issues arising from this study, specifically regarding the disruption of routine operations and the impact on the mental health staff.

Key Areas for Feedback (only if necessary):

Facility Operations: Have there been any reported disruptions to the daily operations of the facility as a result of the study activities that you feel warrant immediate attention? If so, could you please provide details on the nature and extent of these disruptions?

Impact on Mental Health Staff: Do you feel the mental health staff have been more overwhelmed than usual in supporting participants as a direct correlation with this study? Are there specific incidents or patterns suggesting this study contributes to an increased demand for mental health services?

Your feedback is crucial in helping me maintain the highest standards of ethical conduct and participant care. Please share any observations or concerns you have, as well as any suggestions for improving the study procedures.

If there is no concern, simply reply with “no concerns”.

I appreciate your time and cooperation in this matter. If you have any urgent concerns, please do not hesitate to contact me directly.

Thank you for your continued support

Appendix C: Participation Sign-Up Forms

Time slot choice and tokens

1. **Pick a Token:** Upon arrival at the sign-up area, select one token from the container. This number is unique to you for this study.
2. **Select a Time Slot:** Look at the sign-up sheet. Choose your preferred 45-minute time slot on any of the available days (Monday, Wednesday, Saturday, or Sunday) over the next four -five weeks. In your chosen time slot, write down the number from your token. Please do not write your name or any other identifying information.
3. **Keep the Token:** Keep your numbered token. You will need to bring this token with you to the survey to confirm your appointment time. If you lose your token, return it and select another one at the same time or at a new time.
4. **Privacy Assurance:** Rest assured that no personal information is required on the sign-up sheet. Your privacy and anonymity are paramount.
5. **Day of the Survey:** On the day of your survey, bring the token with you. You will present this token at the time of your survey to verify your reserved time slot.

Time Slot	Week of _____				
	Monday	Wednesday	Saturday	Sunday	Question only
9:00 - 9:45					
9:55 - 10:40					
10:50 - 11:35					
11:45 - 12:30					
12:40 - 1:25					
1:35 - 2:20					
2:30 - 3:15					
3:25 - 4:10					
4:20 - 5:05					
5:15 - 6:00					
6:10 - 6:55					

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20

Appendix D: Data Collection Materials

Participant Questionnaire

Researcher section: No: _____ **PSY:** P / S **GM:** Y / N **GS:** L / LL **P:** Y / N **PTSD:** _____ **MI:** _____

Researcher: Cyrelah Raynor

Thank you for agreeing to participate in this important research. I value your insight and experiences, and your responses will be treated with the utmost confidentiality and respect.

This will take about 45 minutes.

Take Your Time: There is no rush; it is important that you feel comfortable while sharing your experiences. **Ask Questions:** If you are unsure about what a question means. I am here to assist. **Take Breaks:** Take a break if you need it. You can always resume later when you feel ready. **Confidentiality:** All your responses will be kept confidential. This survey is for research purposes. I only have this information. **No Right or Wrong Answers:** I am interested in your honest and personal experiences, so please answer as truthfully as possible.

1. Check your age group:

- 18-24
- 25-34
- 35-44
- 45-54
- 55+

2. What is your race:

- Black
- White
- Mixed
- Other _____

3. What is your highest level of education?

- Some primary education
- Completed primary education
- Some secondary education
- Completed secondary education
- Some post-secondary education
- Some college education, no degree
- College/university degree

4. How long have you been incarcerated?

- I am remanded into custody.
- Less than 1 year
- 1-5 years
- 6-10 years
- 11-15 years
- More than 15 years
- Or year of incarceration (if known): _____

TURN THE PAGE

Researcher section: No: _____

5. Read the list of offenses and select all offenses for which you are currently sentenced or remanded. Check all that apply.

Category	Offenses	Current Check <input checked="" type="checkbox"/> All
Violent Offense	1. Murder	
	2. Attempted Murder	
	3. Conspiracy to Commit Murder	
	4. Accessory/Accessory to Murder	
	5. Assault	
	6. Assault with Grievous Bodily Harm	
	7. Robbery	
	8. Aggravated Robbery	
	9. Manslaughter (including vehicular)	
	10. Other: _____	
Other contact-related offenses	11. Damage to Property	
	12. Arson	
Sexual Offenses	13. Rape	
	14. Attempted Sexual Offense	
	15. Sexual Assault	
	16. Indecent Offense	
	17. Unlawful Carnal Knowledge	
Drug Offenses	18. Possession of Drugs	
	19. Drug Importation	
	20. Distribution or Selling of Drugs	
	21. Other drug-related: _____	
	22. Money Laundering (related to drugs)	
Weapon Offenses	23. Illegal Possession of a Firearm	
	24. Illegal Possession of Ammunition	
	25. Possession of Other Bladed Articles	
	26. Other weapon-related: _____	
Other Offenses	27. Fraud	
	28. Shoplifting	
	29. Theft	
	30. Forgery	
	31. Fine (related to civil penalties)	
	32. Extortion	
	33. Intimidation of a Witness	
	34. Other civil offense: _____	

6. Is your current offense or one in the past one where you seriously injured, harmed, or caused death to someone?

- No (If No, you have finished)
- yes
- o If yes list the offense number (1-34) as indicated in the question above _____

TURN THE PAGE

Researcher section: No: _____

The following section explores various reactions individuals can experience after a stressful experience. The following section also explores various interventions you may have used currently or in the past.

Read these examples as a reference for the following section:

1. "I was in a bike/car accident that caused someone severe injury or death, and I have bad dreams about it."
2. I shot someone, and it caused them serious injury or death, and I try to avoid thinking about them or the whole experience of shooting.

Questionnaire 1

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Keeping your conviction event in mind, please read each problem carefully and then select one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

Your conviction: _____

In the past month, how much were you bothered by:

0 = Not at all, 1 = A little bit, 2 = Moderately, 3 = Quite a bit, 4 = Extremely

#	Symptom Description	0	1	2	3	4
1	Repeated, disturbing, and unwanted memories of the stressful experience					
2	Repeated, disturbing dreams of the stressful experience					
3	Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)					
4	Feeling very upset when something reminded you of the stressful experience					
5	Having strong physical reactions when something reminded you of the stressful experience (e.g., heart pounding, trouble breathing, sweating)					
6	Avoiding memories, thoughts, or feelings related to the stressful experience					
7	Avoiding external reminders of the stressful experience (e.g., people, places, conversations, activities, objects, or situations)					
8	Trouble remembering important parts of the stressful experience					
9	Negative thoughts or feelings that began or worsened after the stressful experience					
10	Blaming yourself or someone else for the stressful experience or what happened after it					
11	Decreased interest in activities that you used to enjoy					
12	Feeling distant or cut off from other people					
13	Trouble experiencing positive feelings (e.g., being unable to feel happiness or have loving feelings for people close to you)					
14	Irritable behavior, angry outbursts, or acting aggressively					
15	Taking too many risks or doing things that could cause you harm					
16	Being "super alert" or watchful or on guard					
17	Feeling jumpy or easily startled					
18	Having difficulty concentrating					
19	Trouble falling or staying asleep					
20	Feeling tired or having little energy					

TURN THE PAGE

Researcher section: No: _____

7. Have you ever been diagnosed with any psychiatric or psychological disorders relating to symptoms after committing your offence? (Example: depression, anxiety, schizophrenia, borderline personality, PTSD, other)

- Yes
 No

Please indicate if you have ever participated in therapeutic interventions while incarcerated or in the community. Check all that apply. If 'Yes', indicate if it occurred during this incarceration. T

Interventions that used Cognitive Behavior Therapy (CBT) approaches

- No
 Yes, during this incarceration
 Examples: classes on sexual offending, violent offending, drug treatment, thinking for change, anger management, DBT, etc. 1 to 1 therapy.
 Yes, before this incarceration

Interventions that used Exposure Therapy

- No
 Yes, during this incarceration
 Yes, before this incarceration

Interventions that used Eye Movement Desensitization and Reprocessing (EMDR)

- No
 Yes, during this incarceration
 Yes, before this incarceration

Some medications help reduce, improve, or stop distressing symptoms after a distressing experience.

8. Please indicate if you currently take or have taken medication in the past for symptoms of depression, anxiety, sleep problems, or concentration issues.

- No, I have never taken medication for these symptoms.
 Yes, I have taken medication in the past for these symptoms.
 If yes, was it during this incarceration? ___ Yes ___ No
 Yes, I am currently taking medication for these symptoms.
 If currently, is it during this incarceration? ___ Yes ___ No

9. Were you ever involved in a gang inside or outside the correctional facility?

- Yes
 No

10. Were you accused (even if you disagree) by any official (police, lawyer, judge, correctional staff) during your trial of being involved in a gang inside or outside of the correctional facility?

- Yes
 No

11. Was your alleged offense related to or accused of being gang-related (even if you disagree)?

- Yes
 No

TURN THE PAGE

Researcher section: No: _____

12. Do people assume you are gang-related based on the people you associate with (even if you disagree)?
- Yes
- No
13. If it has been alleged or if you have been accused, even if you deny the allegation that you were part of a gang or involved in gang activities, how would you describe your role, or how would the officials? (Please select the option that best describes your alleged involvement.)
- I am recognized as the main decision-maker or in planning activities within the group.
- I go with the flow and participate in the group's activities if I feel like it, or when asked but do not have a role in planning or decision-making.
- I am associated with the group but have minimal participation in its core activities.
- I have not been accused of being involved in any activities of this nature.

Questionnaire 2 A & B

2A Instructions: This questionnaire asks about experiences you may have had after a very stressful experience in which:

- (A) You did something (or failed to do something) that went against your moral code or values (e.g., you harmed someone or failed to protect someone from harm), or
- (B) You saw someone (or people) do something or fail to do something that went against your moral code or values (e.g., you witnessed cruel behavior), or
- (C) You were directly affected by someone doing something or failing to do something that went against your moral code or values (e.g., being betrayed by someone you trusted).

Have you had an experience (or experiences) as described above?

- No. Please do not complete this questionnaire.
- Yes

Please answer questions A-C while thinking about the worst event that currently bothers you the most. This could be one of the examples above, or some other very stressful experience that went against your core values.

A. Did the event involve something you did or failed to do?

- No
- Yes

B. Did the event involve observing someone else acting (or failing to act)?

- No
- Yes

C. Did the event involve being directly impacted by someone else (or people) acting (or failing to act)?

- No
- Yes

For events that had multiple features, which aspect was the worst (A, B, or C) _____?

TURN THE PAGE

Researcher section: No: _____

Please also answer questions 1-3 below:

1. What year did this event happen _____?
2. Did the event involve actual or threatened death, serious injury, or sexual violence?
____ Yes ____ No
3. In the past month, have you...
 - a. had nightmares about the event or thought about the event when you did not want to?
____ Yes ____ No
 - b. tried hard not to think about the event or went out of your way to avoid situations that reminded you of the event(s)?
____ Yes ____ No
 - c. been constantly on guard, watchful, or easily startled?
____ Yes ____ No
 - d. felt numb or detached from people, activities, or your surroundings?
____ Yes ____ No
 - e. felt guilty or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused?
____ Yes ____ No

2B - Keeping this worst event in mind, please read each statement below and circle one of the numbers to the right to indicate how much you would agree with the statement in the past month.

- 1 = Strongly Disagree - This statement definitely does not apply to me.**
2 = Disagree - This statement does not apply to me.
3 = Neutral - This statement neither applies nor does not apply to me, or I am neutral.
4 = Agree - This statement applies to me.
5 = Strongly Agree - This statement definitely applies to me.

There are no right or wrong answers.

#	Statement	1	2	3	4	5
1	I blame myself.	1	2	3	4	5
2	I have lost faith in humanity.	1	2	3	4	5
3	People would hate me if they really knew me.	1	2	3	4	5
4	I have trouble seeing goodness in others.	1	2	3	4	5
5	People don't deserve second chances.	1	2	3	4	5
6	I am disgusted by what happened.	1	2	3	4	5
7	I feel like I don't deserve a good life.	1	2	3	4	5
8	I keep myself from having success.	1	2	3	4	5
9	I no longer believe there is a higher power.	1	2	3	4	5
10	I lost trust in others.	1	2	3	4	5
11	I am angry all the time.	1	2	3	4	5
12	I am not the good person I thought I was.	1	2	3	4	5
13	I have lost pride in myself.	1	2	3	4	5
14	I cannot be honest with other people.	1	2	3	4	5

TURN THE PAGE

Researcher section: No: _____

Questionnaire 3

Respond to each item by indicating how much you agree or disagree with the statement. It's important to answer honestly and to think about how you generally feel or behave across various situations. Please choose from the following responses:

1 = Disagree Strongly

2 = Disagree

3 = Agree

4 = Agree Strongly

#	Statement	1	2	3	4
1	Success is based on survival of the fittest; I am not concerned about the losers.				
2	I find myself in the same kinds of trouble, time after time.				
3	For me, what's right is whatever I can get away with.				
4	I am often bored.				
5	In today's world, I feel justified in doing anything I can get away with to succeed.				
6	Love is overrated.				
7	I enjoy manipulating other people's feelings.				
8	I feel bad if my words or actions cause someone else to feel emotional pain.				
9	Even if I were trying very hard to sell something, I wouldn't lie about it.				
10	Cheating is not justified because it is unfair to others.				
11	Looking out for myself is my top priority.				
12	I have been in a lot of shouting matches with other people.				
13	I tell other people what they want to hear so that they will do what I want them to do.				
14	When I get frustrated, I often let off steam by blowing my top.				
15	I would be upset if my success came at someone else's expense.				
16	Love is for the birds.				
17	I often admire a really clever scam.				
18	I make a point of trying not to hurt others in pursuit of my goals.				
19	I enjoy a good fight.				
20	My primary concern is with my own bottom line.				
21	Making a lot of money is my most important goal.				
22	I quickly lose interest in tasks I start.				
23	I let others worry about higher values; my main concern is with the bottom line.				
24	People who are stupid enough to get ripped off usually deserve it.				
25	I enjoy having sex with people I hardly know.				
26	I often try to get even rather than forgive and forget.				

Thank you once again for your participation and for sharing your experiences with me. Your contribution is incredibly valuable, and I appreciate the time you are taking to help me understand and address these issues better.