Healing After Hardship: Post-Traumatic Growth in Formerly Incarcerated

by

Mariam Daweeth

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Professor Michelle Leonard, Chair
Professor Paul Draus, Co-Chair

Dedication

To the ones who walk with quiet strength…
To immigrants who carry the weight of two worlds,
To the mothers and fathers who built dreams from dust,
To the underserved, the overlooked, and the silenced.

This work is dedicated to my parents, who left behind familiarity to forge opportunity, even when the cost was comfort. Your resilience shaped my purpose. To every child who grows up translating for their family, navigating systems not built for them—this is for you. To the communities who taught me that healing is not a privilege, but a right, and to the cultures that too often mistake survival for wellness—may this be one step toward understanding.

I also dedicate this to the people I serve and will continue to serve—those pushed to the margins, the stigmatized, the brave survivors of trauma who carry their past not as a burden, but as the soil from which growth can emerge.

You have shown me that pain and hope can live in the same breath. And for that, I will spend my life working to listen, to amplify, and to transform.

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Abstract

Posttraumatic growth (PTG) refers to the positive psychological changes that can emerge in the aftermath of adversity. Formerly incarcerated individuals often experience cumulative trauma before, during, and after incarceration, yet research has traditionally emphasized pathology rather than resilience in this population. This study examined the associations among trauma history, psychological distress, emotion regulation, and PTG in a sample of 250 formerly incarcerated adults. Participants completed self-report measures assessing adverse childhood experiences (ACEs), PTSD symptoms, depression, anxiety, emotion dysregulation, and PTG. Statistical analyses were conducted to examine whether emotion dysregulation mediated the relationship between ACEs and PTG, and whether this pathway was moderated by gender. Results indicated that higher PTG was significantly associated with lower emotion dysregulation, depression, and anxiety symptoms. However, emotion dysregulation did not mediate the relationship between trauma history and PTG, and gender did not moderate this indirect effect. Women in the sample reported significantly higher ACEs, PTSD symptoms, and emotion dysregulation than men, but did not differ in PTG. The results emphasize that growth and distress can coexist, and that fostering emotional resilience in justice-involved populations requires attention to both gender-specific patterns and broader systemic influences.

Keywords: Posttraumatic Growth (PTG); Formerly Incarcerated Individuals; Trauma; Reintegration; Emotion Regulation

Chapter 1: Introduction

In the United States, over 2 million individuals are incarcerated annually, with African American and Latino communities disproportionately represented in the prison population. The experience of early trauma has been shown to increase the risk for later incarceration and mental health issues (Alexander, 2010). Adding to early trauma, the experience of incarceration itself often involves additional traumatic experiences that accumulate resulting in an exacerbation of distress. Moreover, individuals who have been incarcerated face a myriad of psychological, social, and systemic barriers upon release. Posttraumatic growth (PTG) has recently emerged as a salient construct in trauma research, associated with reduced psychological distress and functioning as a protective factor in individuals with cumulative trauma histories. This study seeks to understand the role of PTG within a formerly incarcerated population to understand its links to distress. This study offers insight into the psychological experiences of formerly incarcerated individuals and may help inform future efforts to support their mental health and community reentry.

Early Trauma

Research on Adverse Childhood Experiences (ACEs) has demonstrated their critical role in shaping an individual's susceptibility to long-term negative physical, emotional, and behavioral outcomes (CDC, 2023; Merrick et al., 2018). ACEs are defined as potentially traumatic events occurring before the age of 18—such as physical or emotional abuse, neglect; and household dysfunction, including parental substance use, mental illness, incarceration, domestic violence, or separation/divorce (CDC, 2023). According to national data from the

Centers for Disease Control and Prevention, approximately 64% of U.S. adults have experiences at least one ACE, and 17% have experienced four or more (CDC, 2023). Similarly, the 2020 National Survey of Children's Health found that about 45% of U.S. children have experienced at least one ACE, with economic hardship and parental separation or divorce among the most common (Child and Adolescent Health Measurement Initiative, 2021).

Not only are ACES quite prevalent, they have also been shown to profoundly impact long-term health outcomes, including an increased risk for depression, anxiety, substance abuse, and chronic diseases (Felitti et al., 1998). Individuals with higher ACE scores are more likely to report poor mental health functioning, suicidal ideation, and engagement in risky health behaviors (e.g., such as smoking, overeating, and unsafe sex; Anda et al., 2006). ACEs are also associated with a higher prevalence of cardiovascular disease, autoimmune conditions, obesity, and premature mortality, even after controlling for other risk factors. The cumulative impact of these early stressors may compromise the body's ability to regulate inflammation, manage stress, and maintain metabolic balance over time (Hughes et al., 2017).

Emotion Regulation

Emotion regulation is defined in clinical psychology as the ability to monitor, evaluate, and modulate emotional responses in ways that are adaptive and socially appropriate (Gross, 2015). Difficulties in this domain—commonly referred to as emotion dysregulation—occur when individuals struggle to identify, understand, or manage their emotional states. These difficulties may manifest as impulsivity, emotional avoidance, or suppression (Gratz & Roemer, 2004). Emotion dysregulation is both a symptom and a predictor of various forms of psychological distress, including posttraumatic stress disorder (PTSD), depression, and anxiety.

It has been linked to heightened emotional reactivity, difficulty managing intrusive thoughts, and reliance on maladaptive coping strategies (Cloitre et al., 2005). Research further suggests that individuals with trauma histories are particularly vulnerable, often exhibiting impairments across multiple domains of emotion regulation (Bjureberg et al., 2016).

Mechanisms linking ACES, emotion regulation and distress

Early trauma can disrupt the development of healthy emotion regulation capacities through both biological and environmental pathways. Chronic stress in childhood can dysregulate physiological stress-response systems (e.g., sympathetic/parasympathetic nervous system), increasing emotional reactivity and compromising self-regulation. Just as critically, emotion regulation is learned through observation and modeling; caregivers who are emotionally unavailable, inconsistent, or reactive may fail to model adaptive strategies, limiting the child's ability to develop emotional insight and control (Morris et al., 2007). Over time, trauma survivors may adopt maladaptive coping styles such as suppression or impulsivity, which, while protective in the moment, hinder emotional flexibility, psychological resilience, and an ability to cope with stressors in the long term.

Biologically, ACEs have been shown to disrupt the hypothalamic-pituitary-adrenal (HPA) axis, leading to dysregulation of cortisol production and heightened physiological stress responses–making it harder to process and recover from stress (Teicher & Samson, 2016). It follows that many mental health conditions—especially depression, PTSD, and anxiety disorders—are linked to HPA-axis dysregulation post-trauma (Teicher & Samson, 2016). Trauma during childhood can also reshape brain structure and function in emotion- and stress-related regions: neuroimaging studies frequently find reduced volumes in the prefrontal cortex

(decision making) and hippocampus (memory) and heightened amygdala (emotions) reactivity in those with ACE histories (Teicher et al., 2002; Teicher et al., 2012; Teicher & Samson, 2016).

Behaviorally, individuals with early trauma histories often display avoidance, rumination, and social withdrawal—patterns that can interfere with emotional development and relational functioning (Bjureberg et al., 2016; Cloitre et al., 2005). Neglect, both physical and emotional, deprives children of the basic support necessary for healthy development. Neglected children frequently experience attachment disruptions, social withdrawal, and academic failure—factors that contribute to truancy, substance use, and survival-based offenses during adolescence and adulthood (Smith & Thornberry, 1995).

Household dysfunction, such as growing up in environments with parental substance use, mental illness, incarceration, or domestic violence, contributes to chronic stress and normalization of maladaptive behaviors such as emotional suppression, impulsivity, aggression, substance use, and disengagement from healthy relationships (CDC, 2023; Merrick et al., 2018). Children raised in such environments often model these behaviors and may adopt similar coping strategies, such as substance abuse or aggression (Mersky et al., 2012). These compounded exposures create a developmental pathway in which early trauma, unmet emotional needs, and environmental instability culminate in long-term behavioral and emotional health challenges.

Posttraumatic growth (PTG)

Posttraumatic growth (PTG) refers to the positive psychological changes that can emerge after adversity, including increased personal strength, deeper relationships, spiritual connection, and a renewed appreciation for life (Linley & Joseph, 2004; Tedeschi and Calhoun, 2004). Although trauma can lead to distressing psychological symptoms, PTG represents a

transformative process that unfolds through the active use of adaptive coping strategies, such as meaning-making, cognitive reframing, and emotion regulation (Zoellner & Maercker, 2006).

Tedeschi and Calhoun (2004) define PTG as "positive psychological change experienced as a result of the struggle with highly challenging life circumstances" (p. 1). Research suggests that PTG is a non-linear process, where growth and distress coexist, with PTG sometimes mediating the psychological impact of trauma on emotional regulation and resilience (Shakespeare-Finch & Lurie-Beck, 2014).

The Posttraumatic Growth Inventory (PTGI), developed by Tedeschi and Calhoun in 1996, is the most widely used instrument to measure perceived growth following trauma. The PTGI consists of 21 items across five key domains: (1) Relating to Others, (2) New Possibilities, (3) Personal Strength, (4) Spiritual Change, and (5) Appreciation of Life. The PTGI is used internationally across clinical, research, and forensic contexts and has demonstrated strong psychometric properties in both general and trauma-exposed populations (Taku et al., 2008; Tedeschi & Calhoun, 1996).

Research using the PTGI shows that higher levels of posttraumatic growth are associated with lower depressive symptoms, improved emotional functioning, greater engagement in meaning-making, and increased prosocial behavior (Helgeson et al., 2006; Shakespeare-Finch & Lurie-Beck, 2014; Zoellner & Maercker, 2006). In some cases, higher PTG has also been linked to reduced substance use risk, particularly when paired with adaptive coping strategies and strong social support. While PTG can coexist with psychological distress, many individuals report that the experience of growth contributes to a sense of resilience and improved ability to navigate future stressors (Shakespeare-Finch & Copping, 2006; Tedeschi & Calhoun, 2004).

PTG has also been linked to lower physiological stress markers, such as reduced cortisol dysregulation, and improved immune functioning in some populations (Bower et al., 2009). Emerging research points to positive biological changes associated with PTG across endocrine and immune systems (Dell'Osso et al., 2023; Khattak et al., 2024).

Gender in PTG

Wade et al. (2016) found that women frequently report higher levels of PTG partly because they have access to stronger social support networks. These networks help women engage in meaning-making, emotional disclosure, and relational growth—mechanisms central to PTG. Similarly, Žukauskienė et al. (2021) demonstrated that, among survivors of intimate partner violence, social support significantly predicted higher PTG by fostering identity reconstruction and coping.

However, women—particularly women of color—face unique challenges rooted in systemic inequities and overlapping marginalizations that shape their access to social support, safety, and recovery (Crenshaw, 1991). In marginalized populations, trauma is frequently compounded by prior experiences of sexual violence, domestic abuse, and structural neglect. National data show that nearly half (47%) of U.S. women report having experienced intimate partner violence, sexual violence, and/or stalking in their lifetime (Smith et al., 2018). Among incarcerated women, these rates are even higher, with over 70% reporting prior physical or sexual victimization before incarceration (McDaniels-Wilson & Belknap, 2008; Council on Criminal Justice, 2022). It should be noted that PTG is not universally experienced and can be shaped by cultural values and societal attitudes. For example, individuals from collectivist cultures may prioritize relational growth and community healing over individual transformation (Tummala-Narra, 2015).

Understanding the Formerly Incarcerated Population

Formerly incarcerated individuals are those who have been released from prison or jail and are working to reintegrate into society. In the United States, over 600,000 people are released from state and federal prisons each year, and millions more cycle through local jails (Carson, 2023; Sawyer & Wagner, 2022). Communities of color—particularly Black and Latino populations—are disproportionately represented in the justice system due to longstanding structural inequalities and systemic bias. For example, Black Americans comprise approximately 13% of the U.S. population but represent nearly 33% of the prison population (Nellis, 2021). These disparities are closely tied to the broader context of social marginalization, economic disadvantage, and over-policing in marginalized communities.

Many formerly incarcerated individuals have experienced significant adversity in childhood—such as poverty, community violence, unstable housing, family separation, and academic challenges. Childhood abuse (physical or emotional) is strongly linked to increased aggression, impulsivity, and externalizing behaviors in youth—a pathway that often leads to delinquency (i.e., problematic or illegal behavior in adolescence) and later justice system involvement (Widom & Maxfield, 2001; Wolff, Baglivio, & Piquero, 2017). Epidemiological studies going beyond traditional ACE frameworks have confirmed this association: individuals exposed to childhood abuse, neglect, or household dysfunction are at significantly higher risk of justice-system contact in both youth and adulthood (Baglivio et al., 2014; Dube et al., 2001). Victims of physical abuse frequently struggle with emotion regulation and are more likely to engage in violent or oppositional behavior, increasing their risk of arrest or incarceration. Indeed, Widom & Maxfield (2001) found that those who experienced childhood maltreatment were 59% more likely to be arrested as juveniles, 28% more likely as adults, and 30% more likely to

commit violent offenses compared to non-maltreated peers. More recent national data continue to show high rates of mental illness among incarcerated women, including major depression, PTSD, and co-occurring disorders (Bronson & Berzofsky, 2017). These effects are compounded by systemic barriers to care and co-occurring anxiety, attention problems, and trauma-related symptoms.

As discussed earlier, these types of cumulative stressors are strongly associated with emotion dysregulation and an increased risk for mental illness. Formerly incarcerated individuals often carry the psychological burden of early adversity into adulthood, which can manifest as chronic depression, anxiety, posttraumatic stress, or substance use disorders (Bronson & Berzofsky, 2017; Prins, 2014; Zlotnick et al., 2008). These mental health challenges are frequently exacerbated by the isolating and punitive nature of incarceration itself, which offers little opportunity for emotional processing or therapeutic support. Justice-involved youth, particularly young men, experience high rates of trauma exposure and mental illness, with estimates suggesting that up to 66% meet criteria for at least one psychiatric disorder, including PTSD, depression, or substance abuse (Dumornay et al., 2022). These difficulties in managing emotions can disrupt decision-making, strain relationships, and impair stress responses—ultimately increasing vulnerability to ongoing mental health challenges and instability after release.

Incarceration as a Traumatic Experience

The experience of incarceration itself is traumatic for many individuals, resulting in both immediate and long-term psychological consequences. The stress of confinement, loss of autonomy, and exposure to violence or abuse can have enduring effects. The prison environment often exacerbates existing mental health conditions, as individuals are subjected to dehumanizing

conditions such as overcrowding and lack of privacy (Fellner, 2006). Solitary confinement—a common punitive measure—has been linked to severe psychological outcomes, including hallucinations, emotion dysregulation, and increased risk of PTSD (Grassian, 2006). Prolonged isolation may also lead to neurobiological changes in brain regions associated with stress regulation and emotional processing, complicating recovery (Smith, 2006). Haney (2002) further highlights the pervasive impact of incarceration, including emotional numbness, diminished social engagement, and difficulty trusting others.

The trauma experienced during incarceration can lead to the development or exacerbation of psychological distress, including PTSD, depression, and post-incarceration syndrome (PICS), particularly among women (Liem & Kunst, 2013). PICS refers to a cluster of emotional, cognitive, and behavioral symptoms frequently observed in individuals recently released from prison, such as chronic distrust, institutional dependence, impulsivity, and social withdrawal—often overlapping with PTSD (Liem & Kunst, 2013). These symptoms are closely linked to the harsh and dehumanizing conditions of incarceration, including prolonged isolation, constant surveillance, and loss of autonomy, which have been shown to impair post-release adjustment and increase the risk of relapse or recidivism (Cunha et al., 2023).

Women in Prison

Women in prison also face unique mental health challenges, including disproportionately high rates of depression, anxiety, and posttraumatic stress compared to their male counterparts (Van Voorhis et al., 2010). These disparities are often exacerbated by separation from children, histories of relational trauma, limited access to adequate female health care needs (e.g., sanitary products), and lack of mental health care while incarcerated (Cramer et al., 2025; Darivemula et al., 2023).

For incarcerated women, trauma is frequently compounded by histories of sexual violence, domestic abuse, and structural neglect, with rates of prior victimization exceeding 70% in some studies (Harlow, 1999; Warshaw et al., 2015). These experiences are often not isolated events but part of a broader pattern of cumulative trauma beginning in childhood and continuing into adulthood. As a result, women in the justice system benefit most from therapeutic interventions that are not only trauma-informed but also explicitly gender-responsive (Covington, 2008). These approaches acknowledge the relational and emotional needs of women, address issues of safety and trust, and create space for identity reconstruction and empowerment.

Stigma and Reintegration Barriers

The trauma experienced during incarceration is often compounded by the stigma and structural barriers individuals face upon release. Discrimination based on a criminal record can severely limit opportunities for employment, housing, and healthcare, undermining efforts to rebuild one's life. For example, Pager (2003) found that individuals with a criminal record are over 50% less likely to receive a job callback, an effect even more severe for Black applicants. These forms of social and economic exclusion reinforce feelings of shame, isolation, and mistrust, all of which can hinder reintegration and increase the likelihood of recidivism (Harding et al., 2014; Western, 2006). These challenges are especially pronounced for African American and Latino individuals, who are disproportionately incarcerated and face compounded structural inequities during reentry (Alexander, 2010). Formerly incarcerated people are nearly 10 times more likely to experience homelessness than the general population, and housing instability is one of the strongest predictors of reoffending (Couloute & Kopf, 2018).

Posttraumatic Growth for Formerly Incarcerated Individuals

Although incarceration is widely recognized as a traumatic experience, it can also serve as a catalyst for PTG. For some individuals, prison becomes a turning point for reflection, meaning-making, and the redefinition of personal values. Pietrzak et al. (2010) found that individuals who had experienced high levels of trauma were still capable of reporting PTG, particularly when supported by adaptive coping and social resources. Similarly, Ross (2020) conducted a qualitative analysis of formerly incarcerated individuals and found that positive meaning-making was central to fostering PTG. Participants described how reflection, accountability, spiritual engagement, and the reframing of past experiences enabled them to build a renewed sense of self. Importantly, PTG in this population was not viewed as a passive outcome, but as an intentional process shaped by personal agency and intentional transformation.

However, the emergence of PTG does not occur in a vacuum. For many formerly incarcerated individuals, the ability to heal and grow is deeply shaped by a lifetime of cumulative trauma. ACEs are prevalent in this population and are strongly linked to long-term mental health problems, including anxiety, depression, and emotion regulation difficulties (Anda et al., 2006). These early adversities often occur in chronically stressful environments marked by systemic disadvantage and can sensitize individuals to future stressors, increasing their psychological vulnerability. Brewin et al. (2000) demonstrated that early trauma is not only associated with the development of PTSD, but also worsens its severity, particularly when additional traumas occur later in life.

In the context of recidivism, trauma history (particularly ACEs) has been linked to higher rates of reoffending and difficulty in rehabilitation programs (Yohros, 2023). These compounded effects may interfere with the reflective, cognitive, and emotional processes

necessary for PTG to take root. Post (1992) further argued that cumulative trauma across the lifespan—especially when accompanied by social disadvantage—creates enduring changes in stress-response systems, making recovery more complex and fragile. Therefore, PTG for formerly incarcerated individuals must be understood within a broader framework of lifespan trauma and systemic adversity.

While prior studies have explored PTG in trauma-exposed and justice-involved populations, few have specifically examined how PTG relates to emotion regulation among formerly incarcerated individuals. Even fewer have considered how gender may moderate this relationship. The current study addresses this gap by investigating whether emotion regulation mediates the association between trauma history and PTG, and whether these pathways differ for men and women.

Linking Emotion Regulation to PTG

Emotion regulation plays a central role in PTG, particularly for formerly incarcerated individuals who have experienced complex trauma across the lifespan. As individuals attempt to recover and reconstruct their lives following incarceration, their ability to manage emotional responses to past adversity becomes a critical factor in whether growth can occur.

Orejuela-Dávila et al. (2019) examined the relationship between emotion regulation strategies and PTG in trauma-exposed individuals. The study found that participants who used cognitive reappraisal—intentionally reframing emotionally charged stimuli—rather than distraction reported significantly higher levels of PTG. These findings suggest that adaptive emotional engagement, rather than avoidance, facilitates long-term psychological growth following trauma exposure.

Research among justice-involved populations further supports the importance of emotion regulation. Konecky and Lynch (2019) investigated incarcerated women and found that cumulative trauma exposure was associated with heightened PTSD symptoms, but this relationship was mediated by emotion dysregulation. In other words, individuals with better emotion regulation skills were less likely to experience severe posttraumatic stress, highlighting the mechanism by which trauma impacts psychological functioning in carceral settings. Together, these studies suggest that emotion regulation plays a central role in PTG among formerly incarcerated individuals, particularly those with complex trauma histories.

Summary and Hypotheses

This study investigates how trauma history, PTG, and emotion regulation relate to psychological distress among formerly incarcerated individuals. Given the elevated prevalence of trauma and ACEs in this population, understanding these interrelationships is crucial for developing trauma-informed support systems. The study aims to examine whether PTG acts as a protective factor in emotional functioning and to explore how psychological distress—specifically symptoms of PTSD, depression, and anxiety—relates to both PTG and emotion regulation. Additionally, the study investigates whether gender plays a moderating role in these relationships.

Predictions and Hypotheses

H1: Gender differences will emerge, such that formerly incarcerated women will report higher levels of posttraumatic growth (PTG) and greater emotion dysregulation compared to men.

H2: Higher levels of PTG will be associated with better emotion regulation (i.e., lower emotion dysregulation) among formerly incarcerated individuals.

H3: Trauma history (including adverse childhood experiences and incarceration-related trauma), PTG, and emotion regulation will each be significantly associated with psychological distress (including symptoms of PTSD, depression, and anxiety).

H4: Emotion dysregulation will mediate the relationship between trauma history (i.e., ACEs) and posttraumatic growth (PTG), and this indirect pathway will be moderated by gender.

Chapter 2: Methods

Participants

A total of 260 individuals completed the survey. Participants were eligible if they were at least 18 years old, had a history of incarceration, were fluent in English, and were able to complete an online survey independently. Individuals were excluded if they failed embedded attention checks or completed less than 80% of the survey.

On average, participants were 39.96 years old (SD = 19.40). The gender distribution was 58.0% male, 40.0% female, and 2.0% identified as nonbinary, transgender, or another gender identity. The racial composition was predominantly White (61.6%) and Black/African American (32.4%), with smaller percentages identifying as Latin American (2.8%), Asian/Asian American (1.2%), American Indian or Alaska Native (0.8%), or another race (0.4%). Most participants (88.8%) identified as not Hispanic or Latino. Educational attainment varied: 30.8% held a bachelor's degree, 21.6% held a graduate or professional degree, and 16.8% reported some college education without a degree. Employment was common, with 64.0% employed full-time and 23.2% employed part-time. Annual income levels varied: 25.2% earned between $40,000 and $59,999, while 20.0% earned $100,000 or more. Regarding relationship status, 58.4% were married or in a domestic partnership, followed by 25.6% who identified as single. Housing stability was high: 48.0% owned their homes, 37.2% rented, and 11.6% lived with family or friends. A full summary of demographic characteristics is presented in Table 1.

Participants reported both their time since release from incarceration and the total duration of time they were incarcerated, each using a six-category scale. Across the sample (N = 250), 38% of participants had been released within the past three years, while 62% had been released more than three years ago. Specifically, 6.8% were released less than 6 months ago, 8.4% between 6 months to 1 year, 22.0% between 1 to 3 years, 17.6% between 4 to 6 years, 16.0% between 7 to 10 years, and 28.4% more than 10 years ago.

In terms of incarceration duration, 30.8% of participants reported being incarcerated for less than 6 months, 20.8% for 6 months to 1 year, 28.0% for 1 to 3 years, 12.4% for 4 to 6 years, 2.4% for 7 to 10 years, and 5.2% for more than 10 years. These data offer a more complete picture of participants' justice involvement and were considered in interpreting psychological outcomes, though only time since release was used in the primary regression analyses.

Measures

Demographic Information

Participants were asked to report a range of demographic characteristics to examine potential group differences. The information collected included gender identity, racial and ethnic background, age, education level, employment status, income level, relationship status, number of children, and housing status. These variables were selected due to their relevance in prior literature examining trauma exposure, psychological distress, and posttraumatic growth. The demographic questionnaire can be found in Appendix A.

Adverse Childhood Experiences (ACE) Questionnaire

Childhood trauma was assessed using the Adverse Childhood Experiences (ACEs) Questionnaire for Adults (Felitti et al., 1998). This 10-item measure evaluates exposure to childhood abuse, neglect, and household dysfunction before the age of 18. Items are dichotomously scored (0 = No, 1 = Yes) and summed to create a total score ranging from 0 to 10, with higher scores reflecting greater cumulative adversity. In the current sample, internal consistency was acceptable (α = .78). The ACE questionnaire is included in Appendix B.

PTSD Checklist for DSM-5 (PCL-5)

Posttraumatic stress symptoms were assessed using the PTSD Checklist for DSM-5 (PCL-5; Weathers et al., 2013), 20-item self-report instrument measuring PTSD symptoms over the past month. Items are rated on a 5-point Likert scale (0 = Not at all to 4 = Extremely), yielding a total score from 0 to 80. Higher scores indicate greater symptom severity. Internal consistency was excellent (α = .96). Subscale reliability was also high (ranging between .81 to .92). The PCL-5 is included in Appendix C.

Posttraumatic Growth Inventory (PTGI)

PTG was measured using the 21-item Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996). Items are rated on a 6-point scale (0 = I did not experience this change to 5 = I experienced this change to a very great degree). Total scores range from 0 to 105, with higher scores indicating greater perceived positive change after adversity. Internal consistency for the total score was excellent (α = .94). Subscale reliability ranged from adequate to high (α = .66 to .91). The PTGI is included in Appendix D.

Difficulties in Emotion Regulation Scale – Short Form (DERS-SF)

Emotion dysregulation was assessed using the DERS-SF (Kaufman et al., 2016), an 18-item version of the original DERS. Items are rated on a 5-point Likert scale (1 = Almost never to 5 = Almost always). Items 1, 4, and 6 were reverse coded. Total scores range from 18 to 90, with higher scores reflecting greater difficulty in emotion regulation. The total scale demonstrated excellent reliability (α = .92). Subscale reliabilities were mixed ranging from (.35 to .85). Based on the internal consistency information only the full-scale score for the DERS was used in the study analysis. The DERS-SF is included in Appendix E.

Patient Health Questionnaire-2 (PHQ-2)

Depressive symptoms were measured using the PHQ-2 (Kroenke, Spitzer, & Williams, 2003), a 2-item screener assessing the frequency of depressed mood and anhedonia over the past two weeks. Each item is rated from 0 (Not at all) to 3 (Nearly every day), with total scores ranging from 0 to 6. The PHQ-2 showed acceptable internal consistency (α = .81) in this sample. The PHQ-2 is included in Appendix F.

Generalized Anxiety Disorder Scale (GAD-7)

Anxiety symptoms were assessed using the GAD-7 (Spitzer et al., 2006), a 7-item screening tool rated on a 4-point Likert scale (0 = Not at all to 3 = Nearly every day). Total scores range from 0 to 21, with higher scores reflecting more severe anxiety. Internal consistency in the current sample was excellent (α = .91). The GAD-7 is included in Appendix G.

Procedure

Recruitment occurred in two phases. In the first phase, participants were recruited through local community organizations in Metro Detroit that serve formerly incarcerated individuals. The PI contacted leadership and staff at three different organizations and shared

information about the study and the processes for participating. The organizations then distributed this information to potentially eligible participants. This recruitment method resulted in only a total of 9 participants; therefore, in order to bolster sample size, a second phase of recruitment was conducted. In the second phase, recruitment was done via the Prolific platform. Prolific users were targeted for participation if they had reported a history of prison on the standard Prolific pre-screen. An additional 251 individuals completed the study on Prolific. All participants, regardless of recruitment method, completed the anonymous survey through Qualtrics.

The online survey process began with an informed consent that outlined the purpose of the study, eligibility criteria, potential risks and benefits, compensation, and confidentiality protections. Participation was voluntary, and participants could skip non-mandatory questions or withdraw at any time. Following the informed consent and demographics, participants were presented with each of the study measures. Attention check items were embedded throughout the survey to ensure data quality (e.g., "Please select '2 – Moderately' for this question"). To be eligible for compensation, participants were required to consent, pass all attention checks, and complete at least 80% of the survey. Online participants received $7 via Prolific, which exceeded fair compensation standards given the average completion time of approximately 14 minutes (equivalent to $28/hour). In-person participants received a $15 gift card to account for the added time, transportation, and effort required for on-site participation.

Responses were monitored regularly via the Prolific dashboard and Qualtrics interface. Suspicious or incomplete responses were flagged and removed according to pre-registered exclusion criteria.

Chapter 3: Results

All analyses were conducted using IBM SPSS Statistics (Version 29). During data cleaning, one invalid case was removed as they completed less than 20% of key study measures. Missing responses within item sets (e.g., PTSD, PTGI, DERS) were coded as system-missing and handled using the SYSMIS = 0 command in SPSS syntax to ensure accurate scoring.

Univariate outliers were examined by calculating standardized z-scores for each variable: ACE, PTSD, PTGI, DERS, PHQ-2, and GAD-7. Following guidelines by Tabachnick and Fidell (2013), scores exceeding ±2.58 were flagged as potential outliers (corresponding to $p < .01$). One case slightly exceeded this cutoff on the PTGI total score ($z = -3.36$), and one case approached the threshold on Difficulties in Emotion Regulation (DERS; $z = +2.45$). These cases were retained in the final sample, as both appeared to reflect true variability rather than data entry errors or invalid responses. Analyses were conducted to compare results with and without these participants, and findings remained consistent, indicating that their inclusion did not meaningfully affect the overall results. Multivariate outliers were assessed using Mahalanobis distance with study variables (ACE, PTSD, PTGI, DERS, PHQ-2, GAD-7) used as predictors. The critical chi-square value with six predictors at $p < .01$ was 16.812. Eight participants exceeded this threshold and were removed from the final analytic sample.

To check for normality, skewness and kurtosis for each continuous variable was examined using standardized z-scores (statistic divided by its standard error; Kim, 2013), and any value above ±1.96 was considered significantly non-normal ($p < .05$). Some variables (ACE, PTGI, DERS, PHQ, and GAD) showed small deviations from normality, mostly in kurtosis.

Skewness values were generally within an acceptable range. Due to the larger sample size ($N = 250$), analyses like regression are considered reliable even when normality isn't perfect (Ghasemi & Zahediasl, 2012), so no variables were transformed. Descriptive statistics (means, standard deviations, and score ranges) for all key study variables are reported in Table 2.

Multicollinearity was assessed to ensure that predictor variables were not excessively correlated. Tolerance and Variance Inflation Factor (VIF) statistics were calculated for each predictor. Tolerance values above 0.20 and VIF values below 5.0 were interpreted as acceptable indicators of independence among predictors (O'Brien, 2007). All predictors—ACE, PTSD, DERS, PTGI, PHQ-2, and GAD-7—met these criteria, indicating no significant multicollinearity concerns.

Prior to testing the study hypotheses, a series of statistical analyses were conducted to examine differences on key demographic variables for study variables. Age was significantly negatively correlated with ACE scores, $r(248) = -.18$, $p < 0.01$, and depression symptoms, $r(248) = -.13$, $p = .041$. Independent samples t-tests were conducted to examine differences based on education level. Participants with a bachelor's degree or higher reported significantly greater PTSD symptoms ($M = 64.48$, $SD = 19.01$) than those with less than a bachelor's ($M = 55.53$, $SD = 19.48$), $t(245) = -3.57$, $p < .001$, $d = 0.47$. Results showed significantly greater PTG, $t(245) = -4.83$, $p < .001$, $d = 0.63$, and more emotion dysregulation, $t(245) = -2.38$, $p = .018$, $d = 0.31$. A one-way between-groups ANOVA was conducted to explore racial group differences (White, Black, Other) across six psychological outcomes: ACE, PTSD, PTGI, DERS, PHQ, and GAD scores. Results showed a statistically significant difference in PTGI scores across racial groups, $F(2, 245) = 7.03$, $p < .001$, $\eta^2 = .054$. Post hoc comparisons using both Tukey HSD and Bonferroni corrections indicated that Black participants ($M = 79.01$, $SD =$

13.72) reported significantly higher PTGI scores than White participants (M = 70.55, SD = 18.04), $p < .001$.

Characteristics of Incarceration

An independent-samples t-test was conducted to compare psychological outcomes based on incarceration length (≤3 years vs. >3 years). Results revealed that participants incarcerated ≤3 years reported significantly higher PTGI scores (M = 74.47, SD = 16.02) than those incarcerated >3 years (M = 69.28, SD = 19.34), $t(247) = 1.96$, $p = .051$, $d = 0.31$.

An independent-samples t-test was also conducted based on time since release from incarceration. Individuals released within the past 3 years reported significantly higher levels of ACEs ($t(246) = 2.25$, $p = .026$, $d = 0.30$), PTSD symptoms ($t(246) = 2.13$, $p = .035$, $d = 0.28$), and generalized anxiety ($t(246) = 2.24$, $p = .026$, $d = 0.29$) than those released more than 3 years ago.

Hypothesis 1: Gender Differences in PTG and Emotion Regulation Among Formerly Incarcerated Individuals

Independent sample t-tests were conducted to examine gender differences in trauma history, emotion regulation, psychological distress, and PTG, specifically testing whether women report higher levels of PTG and emotion dysregulation. Compared to men, women reported significantly higher levels of ACEs (M = 6.37, SD = 2.83 vs. M = 5.33, SD = 2.68), $t(243) = -2.91$, $p < 0.01$, $d = 0.38$; PTSD symptoms, $t(243) = -3.57$, $p < .001$, $d = 0.46$; and emotion dysregulation, $t(243) = -2.92$, $p < 0.01$, $d = 0.38$. Women also reported significantly higher depression (*PHQ*: $p < 0.05$, $d = 0.28$) and anxiety symptoms (*GAD*: $p < 0.01$, $d = 0.38$). No significant gender differences were found in PTG ($p = .102$). Based on these results, gender was used as a covariate and moderator in additional study analysis.

Bivariate correlations were computed separately for men and women (see Table 3). Among women, PTG was significantly negatively correlated with emotion dysregulation (r = −.224, p = .025); however, this relationship was not significant among men (r = –.058, p = .468). Nonetheless, Fisher's r-to-z test revealed that the difference between the correlation of PTG and DERS among men (r = –.058) and women (r = –.224) was not statistically significant, z = 1.29, p = .099, suggesting that the strength of the relationship between PTG and emotion dysregulation did not significantly differ by gender.

Hypothesis 2: PTG Associated with Emotion Regulation

This hypothesis proposed that greater PTG would be associated with better emotion regulation (i.e., lower DERS scores) among formerly incarcerated individuals. When examined separately by gender in Hypothesis 1, PTG was negatively correlated with emotion dysregulation among women, but not among men. However, Fisher's r-to-z test showed that the difference in correlation strength between men and women was not statistically significant.

Hypothesis 3: Associations Between Trauma, PTG, and Psychological Distress

Pearson correlations were first computed for the full sample to examine the associations between trauma history, emotion regulation, and PTG with psychological distress. ACE scores were significantly positively correlated with PTSD (r = .517, p < .001), depression (r = .455, p < .001), and anxiety (r = .441, p < .001). Emotion dysregulation (DERS) was also strongly associated with PTSD (r = .658, p < .001), depression (r = .661, p < .001), and anxiety (r = .736, p < .001). PTG was significantly negatively correlated with depression (r = –.191, p = .002) and anxiety (r = –.127, p = .044), though its correlation with PTSD symptoms was small (r = .152, p = .016), and it was not significantly related to emotion dysregulation (r = –.109, p = .085).

Fisher's *r*-to-*z* transformations were conducted to test for gender differences in the strength of these associations. The correlation between ACEs and depression (PHQ) was significantly stronger for women ($r = .564$) than for men ($r = .341$), $z = 2.152$, $p = .016$. One additional difference approached significance: the association between PTSD and depression was stronger in women ($r = .650$) than in men ($r = .515$), $z = 1.562$, $p = .059$. All other gender-based differences in correlation strength were nonsignificant ($ps > .05$), suggesting largely similar relational patterns across genders.

Hypothesis 4: Gender Differences in the Mediating Role of PTG Between Trauma and Emotion Regulation

A preliminary regression was conducted to examine whether trauma history, psychological distress, and emotion regulation predicted PTG, as a first step toward testing Hypothesis 4. A hierarchical regression was run while accounting for demographic factors (gender, race, education, marital status, number of children, and time since release). In Step 1, demographic variables did not significantly predict PTG, $F(6, 242) = 0.72$, $p = .637$, and accounted for only 1.7% of the variance ($R^2 = .017$). In Step 2, ACEs, psychological distress (PTSD, depression, anxiety), and DERS were added. This model significantly improved prediction of PTG, $F(11, 237) = 5.35$, $p < .001$, explaining an additional 18.1% of the variance ($\Delta R^2 = .181$; total $R^2 = .199$; Adjusted $R^2 = .162$). Significant predictors in the final model included PTSD symptoms ($\beta = .564$, $p < .001$), depression symptoms ($\beta = –.273$, $p = .003$), and anxiety symptoms ($\beta = –.208$, $p = .050$). Race also emerged as a small but significant negative predictor ($\beta = –.119$, $p = .045$), with all other predictors—including gender, ACEs, and DERS ($\beta = –.143$, $p = .129$)—non-significant.

To examine whether emotion dysregulation mediated the relationship between childhood trauma and PTG, and whether this indirect effect differed by gender, a moderated mediation analysis was conducted using the PROCESS macro (Model 15; Hayes, 2022). ACEs significantly predicted greater emotion dysregulation, $b = 2.14$, $SE = 0.28$, $p < .001$. However, neither ACEs ($b = 0.73$, $SE = 1.33$, $p = .58$) nor DERS ($b = 0.08$, $SE = 0.27$, $p = .76$) significantly predicted PTG.

The indirect effect of ACEs on PTG, through emotion dysregulation, was nonsignificant for both men, *effect* = −0.23, 95% CI [−0.72, 0.22], and women, *effect* = −0.64, 95% CI [−1.33, 0.01]. The index of moderated mediation was also nonsignificant, *index* = −0.41, Boot SE = 0.41, 95% CI [−1.22, 0.41], indicating that gender did not significantly moderate the indirect pathway from ACEs to PTG via emotion dysregulation. Additionally, the interaction between ACEs and gender (b = −0.27, SE = 0.87, p = .75) and the interaction between emotion dysregulation and gender (b = −0.19, SE = 0.18, p = .29) were both nonsignificant, suggesting that gender did not significantly influence either the direct or indirect relationship between ACEs, DERS, and PTG. These findings suggest that although childhood trauma was significantly associated with greater emotion dysregulation, neither the direct nor the indirect path to PTG was robust, and these associations did not differ meaningfully between men and women.

Chapter 4: Discussion

Although trauma and incarceration are commonly associated with long-term psychological distress, the present study reveals a more nuanced reality: for some formerly incarcerated individuals, these experiences may also act as a catalyst for posttraumatic growth (PTG). While prior research has examined PTG in trauma-exposed and justice-involved populations (e.g., Gormley et al., 2024; Ross, 2020), relatively few studies have explored how PTG relates to emotion regulation within formerly incarcerated adults. Even fewer have examined whether these pathways differ by gender. The current study addressed these gaps by testing whether emotion dysregulation mediates the relationship between childhood trauma and PTG, and whether gender moderates these associations.

Compared to traditional samples of formerly incarcerated individuals often represented in carceral and community-based research—which tend to be disproportionately Black or Latino, undereducated, and recruited through correctional or transitional housing programs—this study's sample was somewhat demographically distinct. Participants were majority White (61.6%), highly educated (over 52% held a bachelor's or graduate degree), and relatively stable in terms of employment and housing. Moreover, recruitment through Prolific, an online survey platform, likely favored participants with internet access, higher digital literacy, and greater availability for research engagement. These characteristics suggest a more resourced and potentially more introspective subgroup of the justice-involved population. As such, the psychological patterns observed—especially the relatively high levels of reported PTG—may reflect

unique factors such as access to education, time for self-reflection, and reduced reentry instability compared to more acutely marginalized or recently released populations (Alexander, 2010; Nellis, 2021; Sawyer & Wagner, 2022).

Demographics and Incarceration Differences

Preliminary analyses revealed significant associations between demographic and incarceration variables and psychological outcomes. Age was negatively correlated with both Adverse Childhood Experiences (ACEs) and depression symptoms, indicating that younger participants reported more early-life adversity and current emotional distress. Developmentally, this pattern is consistent with research showing that childhood trauma disrupts neural and emotional development, increasing susceptibility to affective dysregulation later in life (Cloitre et al., 2005; Teicher & Samson, 2016). Additionally, younger individuals may be more likely to endorse ACEs due to greater societal awareness, improved language for trauma disclosure, and generational shifts in mental health openness (Hughes et al., 2017; Merrick et al., 2018).

Racial group comparisons revealed that Black participants reported significantly greater PTG than White participants. This finding aligns with existing research suggesting that cultural and community-based resilience factors may shape how trauma is processed and reframed. Research on Black women's experiences has highlighted how spirituality, strength-based identity, and collective meaning-making serve as protective factors in navigating adversity (West et al., 2016). These findings suggest that historically rooted practices—such as religious coping, gratitude, and familial support—may foster greater posttraumatic growth, even in the context of systemic stressors and cumulative trauma (Bryant-Davis & Wong, 2013).

Educational attainment was also associated with psychological differences. Participants with a bachelor's degree or higher endorsed greater posttraumatic stress (PTSD) symptoms, PTG, and emotion dysregulation than those with lower educational attainment. While education is often associated with psychological insight and increased access to coping resources, it may also sharpen awareness of structural injustice and internal contradictions related to identity and incarceration (Evans, Pelletier, & Szkola, 2017). For formerly incarcerated individuals, higher education may enhance cognitive flexibility and self-reflection but simultaneously intensify perceived stigma, discrimination, or underemployment—especially when educational efforts do not translate into equitable opportunities (Alexander, 2010; Avery & Lu, 2021; Pager, 2003). In this context, distress may not stem from education itself, but from the heightened consciousness it brings to unresolved trauma, social exclusion, and systemic barriers.

Incarceration-related characteristics also showed meaningful differences. Participants incarcerated for three years or less reported significantly higher PTG than those incarcerated longer, consistent with evidence that prolonged incarceration may erode psychological resources and inhibit opportunities for growth (Haney, 2002; Liem & Kunst, 2013). Extended exposure to prison environments—especially under conditions of social isolation, institutionalization, or trauma—can undermine autonomy and self-efficacy, impeding the cognitive restructuring processes central to PTG (Cunha et al., 2023; Smith, 2006).

Time since release was associated with emotional outcomes. Individuals released within the past three years reported significantly higher ACEs, PTSD symptoms, and anxiety than those released earlier. This supports research identifying the early post-release period as a psychologically vulnerable time marked by instability, loss of structure, and heightened reentry stress (Harding et al., 2014; Visher & Travis, 2003). Those with more recent release dates may

also be closer to the cumulative impact of prior trauma, incarceration-related stress, and current barriers, highlighting the importance of targeted support during this transitional window.

Gender Differences in PTG and Emotion Regulation

Hypothesis 1 was partially supported. Women in the sample reported significantly higher levels of ACEs, PTSD symptoms, and emotion dysregulation compared to men, consistent with prior research highlighting gendered disparities in trauma exposure and emotional vulnerability (Dube et al., 2001; Olff, 2017). Women also endorsed greater symptoms of depression and anxiety, further reinforcing existing literature on internalizing distress among formerly incarcerated women (Wade et al., 2016).

Although prior research on formerly incarcerated individuals has sometimes shown that women report greater posttraumatic growth than men, reflecting broader patterns in the general PTG literature (Vishnevsky et al., 2010), both the present study and Gormley et al. (2024) found no significant gender differences in PTG. This discrepancy may be due to sample-specific factors. For example, the current study's sample was predominantly White and recruited online, potentially limiting cultural variability and expressive nuance in PTG reporting. Additionally, the self-report format and nonclinical context may not have captured gendered expressions of growth, such as relational or communal forms of meaning-making. In Gormley et al.'s study, shared systemic stressors across genders—such as incarceration trauma, stigma, and reentry challenges—may have contributed to similarly constrained growth pathways. These findings suggest that while gendered differences in PTG are evident in some formerly incarcerated samples, contextual and methodological factors may moderate their expression.

PTG and Emotion Regulation

Hypothesis 2 was supported. Greater PTG significantly predicted lower levels of emotion dysregulation, even after accounting for demographic variables (e.g., gender, race, education), trauma history, and psychological distress. This finding suggests that PTG may serve as a protective factor that enhances emotional regulation among formerly incarcerated individuals, consistent with models emphasizing meaning-making and adaptive cognitive restructuring in trauma recovery. Gender-stratified correlations revealed that the inverse association between PTG and emotion dysregulation was significant among women but not among men. However, Fisher's r-to-z transformation indicated that this gender difference was not statistically significant, suggesting that while the strength of the association may appear more pronounced in women, the relationship between PTG and emotion regulation operates similarly across genders at the population level. These findings reinforce the potential role of PTG as an important resilience factor linked to emotional functioning after incarceration.

PTG, Emotion Regulation, and Trauma Associated with Psychological Distress

Hypothesis 3 predicted that trauma history (i.e., ACEs and incarceration-related trauma), PTG, and emotion regulation would each be significantly associated with psychological distress (symptoms of PTSD, depression, and anxiety). This hypothesis was supported by the data. As expected, higher ACE scores were significantly associated with increased psychological distress, including elevated PTSD, depression, and anxiety symptoms. Emotion dysregulation was also strongly correlated with these outcomes, reinforcing the notion that trauma-exposed individuals often struggle to manage emotional responses across multiple domains of distress. These findings align with existing literature linking cumulative adversity with long-term emotional and psychological challenges (Cunha et al., 2023; Dumornay et al., 2022; Konecky & Lynch, 2019).

PTG was significantly associated with lower levels of depression and anxiety, though it showed a small but positive correlation with PTSD symptoms. While this may seem counterintuitive, prior research suggests that PTG and psychological distress (PTSD) can co-occur, particularly during periods of active emotional and cognitive processing (Shakespeare-Finch & Lurie-Beck, 2014). In such contexts, growth and distress may unfold simultaneously rather than as mutually exclusive outcomes, especially within high-adversity populations.

Finally, gender-based exploratory analyses revealed that the association between ACEs and depression was significantly stronger for women than men, suggesting that trauma history may exert a more pronounced emotional toll on women (Olff, 2017; Wade, 2016). This finding aligns with prior research highlighting women's greater vulnerability to internalizing disorders following early adversity. However, all other gender differences in correlation strength were nonsignificant, indicating that relational patterns among trauma, posttraumatic growth, and psychological distress were largely consistent across genders.

Posttraumatic Growth Is More Closely Tied to Psychological Distress Than to Trauma History or Emotion Regulation

Hypothesis 4 was not supported. A hierarchical regression analysis revealed that psychological distress variables (PTSD, depression, and anxiety) were stronger predictors of PTG than either trauma history or emotion regulation. Specifically, PTSD symptoms positively predicted PTG, whereas depression and anxiety symptoms negatively predicted PTG. This pattern suggests that PTG may be most robust among individuals who are actively grappling with trauma-related distress but are also engaged in meaning-making and cognitive restructuring. Emotion dysregulation (i.e. DERS) did not significantly predict PTG in this model, despite being significantly associated with PTG in bivariate correlations and supported as an outcome in

Hypothesis 2. These results suggest that psychological distress (PTSD, depression, and anxiety) plays a more central role in predicting PTG than demographic or emotion regulation factors, even though PTG was previously shown to predict lower emotion dysregulation in separate analyses.

A moderated mediation analysis was conducted using the PROCESS macro model 15 to test whether emotion dysregulation mediated the relationship between ACEs and PTG. Although ACEs significantly predicted greater emotion dysregulation, this pathway did not translate into significant differences in PTG. Emotion dysregulation did not significantly predict PTG, and the indirect effect of ACEs on PTG through emotion dysregulation was nonsignificant for both men and women. The index of moderated mediation was also nonsignificant, indicating that gender did not meaningfully influence this indirect pathway.

These findings suggest that while early trauma may disrupt emotional regulation, those disruptions do not appear to shape individuals' capacity for growth in the aftermath of adversity—at least not through this pathway. This disconnect may reflect that PTG and emotion dysregulation arise from distinct psychological processes. Whereas emotion dysregulation is often rooted in physiological reactivity or attachment-related disruptions stemming from early trauma, PTG may be driven by cognitive reappraisal, meaning-making, and access to external resources.

Moreover, the lack of significant moderation by gender suggests that the psychological mechanisms linking trauma, emotional functioning, and PTG may operate similarly across men and women, even if they report different levels of distress overall. It is possible that the role of emotion regulation in facilitating growth may emerge more clearly over time, or in interaction with other factors not captured in this study, such as identity development, social support, or

coping flexibility. Future longitudinal and qualitative research is needed to examine the timing and context of these processes and to explore other potential mediators that may better explain how trauma influences psychological growth among formerly incarcerated individuals.

Finally, the nature of the relationship between PTG and emotion regulation remains uncertain. Although Hypothesis 2 proposed that greater PTG would be associated with better emotion regulation, the observed associations were weak and inconsistent, with significance only emerging among women in bivariate analyses. In contrast, Hypothesis 4 tested a competing framework in which emotion dysregulation mediated the link between trauma and PTG; this pathway was not supported. These differing models reflect unresolved theoretical questions: does PTG enhance emotional functioning, or does effective emotion regulation enable the development of PTG? Given the cross-sectional nature of the study, the directionality and temporal sequencing of these constructs cannot be determined. Longitudinal research is needed to clarify how these variables interact and evolve over time.

Limitations

Several limitations should be noted. First, the use of self-report measures may have introduced recall or response bias, particularly for sensitive topics like trauma history, emotion regulation, and psychological distress. These issues may be underreported due to stigma, memory difficulties, or discomfort disclosing personal experiences—especially in a justice-involved population.

Second, the demographic and recruitment characteristics of the sample may limit the generalizability of findings to the broader population of formerly incarcerated individuals. Participants were disproportionately White and highly educated compared to national averages, and may represent a more resourced subgroup with greater stability and

access to coping resources. As such, levels of PTG and emotion regulation observed in this sample may not reflect the experiences of more marginalized or acutely distressed justice-involved populations. Furthermore, only nine participants were recruited in person, while the vast majority were sampled online, potentially introducing bias toward individuals with reliable internet access, digital literacy, and higher motivation or capacity to engage in research. Structural and systemic barriers commonly faced by racially marginalized or socioeconomically disadvantaged groups, such as limited access to psychosocial services, were likely underrepresented in this dataset.

Third, although gender was explored as a moderator, it was analyzed as a binary variable due to insufficient sample sizes in non-binary and other gender identity groups. This limits the ability to capture more nuanced gender-related patterns in psychological outcomes. Moreover, while gender differences in distress were observed, many hypothesized gender effects on PTG and emotion regulation were not statistically significant. This may also suggest that traditional PTG measures do not fully capture gendered differences in how growth is experienced or expressed in this population.

Fourth, while incarceration duration was assessed, the survey did not distinguish between jail and prison. Notably, 30.8% of participants reported being incarcerated for less than six months—a timeframe more characteristic of jail stays. This lack of specificity may limit interpretability of justice system experiences, as jail and prison environments differ in structure, conditions, and psychological impact. Future research should aim to clarify type of facility to better contextualize incarceration-related trauma and post-release outcomes.

Finally, although this study examined trauma history using ACEs, it did not include a specific measure of post-incarceration syndrome (PICS)—a cluster of symptoms including

hypervigilance, institutional dependency, emotional numbing, and social withdrawal that can emerge following incarceration. Given that incarceration itself can be a traumatic experience, failure to assess PICS may have omitted a key pathway influencing emotion dysregulation and psychological distress in this population.

Implications and Future Directions

Despite its limitations, this study offers meaningful insight into how formerly incarcerated individuals navigate trauma, emotional functioning, and psychological growth. While incarceration and early trauma are often associated with chronic psychological distress, the findings from this study suggest that PTG can emerge even in the presence of emotional challenges, offering a more complex narrative of adaptation and resilience.

PTG was significantly associated with better emotional functioning, including lower levels of emotion dysregulation, depression, and anxiety. These findings support the idea that PTG may serve as a resilience-related factor that buffers against psychological distress. However, the directionality of this relationship remains unclear. Although PTG was tested and supported as a predictor of emotion regulation, the reverse model in which emotion dysregulation mediated the link between trauma and PTG was not supported. This discrepancy highlights unresolved theoretical questions about whether growth facilitates improved emotional regulation or whether emotional stability is necessary for individuals to experience and recognize growth. Longitudinal research is needed to clarify the temporal ordering of these constructs and determine how PTG unfolds in relation to emotional adaptation over time.

Gender differences also emerged, with women reporting significantly higher levels of trauma exposure, PTSD symptoms, and emotion dysregulation than men. However, contrary to existing literature suggesting that women typically report greater PTG than men (Vishnevsky et

al., 2010), no gender differences in PTG were found in this sample. These findings may reflect that broader trends in the general population do not fully apply to individuals with incarceration histories. It is also possible that traditional PTG instruments may not fully capture gendered or culturally situated expressions of growth—particularly in populations shaped by systemic marginalization, intersectional trauma, and carceral control. Future research should consider refining or expanding PTG measurement tools to reflect the lived experiences of justice-involved individuals more accurately.

Clinically, these findings suggest that interventions targeting meaning-making, narrative identity development, and cognitive reappraisal may support both emotional regulation and PTG. Growth-oriented, trauma-informed care could be especially beneficial for formerly incarcerated individuals in the early stages of community reentry, a period shown in this study to be marked by heightened emotional vulnerability. Interventions delivered during this transition may interrupt cycles of distress and foster psychological resilience.

Future research should examine these processes using longitudinal and mixed-method designs, with attention to underrepresented gender identities, racial and socioeconomic disparities, and trauma unique to incarceration settings. Including measures such as post-incarceration syndrome (PICS) may offer a better understanding of how carceral experiences contribute to distress, regulation challenges, and the potential for growth. Ultimately, this study affirms that while trauma is deeply embedded in the incarceration experience, psychological growth remains possible, with implications for both clinical intervention and policy reform aimed at supporting successful reentry and long-term well-being. Ultimately, understanding and promoting PTG in justice-involved populations not only enhances individual recovery but also contributes to a more just and compassionate reintegration process.

Table 1

Demographic Characteristics of Participants

Variable	Category	Frequency	Percent (%)
Gender	Male	145	58.0
	Female	100	40.0
	Nonbinary/Third gender	2	0.8
	Transgender	2	0.8
Race	American Indian or Alaska Native	2	0.8
	Asian/Asian American	3	1.2
	Black or African American	81	32.4
	Latin American	7	2.8
	White	154	61.6
	Other	1	0.4
Ethnicity	Hispanic or Latino	24	9.6
	Not Hispanic or Latino	222	88.8
Education	High school graduate	27	10.8
	Some college	42	16.8
	Associate's degree	27	10.8

	Bachelor's degree	77	30.8
	Graduate or professional degree	54	21.6
	Doctorate	20	8.0
Employment	Employed full-time	160	64.0
	Employed part-time	58	23.2
	Unemployed, looking	21	8.4
	Unemployed, not looking	1	0.4
	Student	2	0.8
	Retired	4	1.6
	Disabled, not able to work	3	1.2
Income	Less than $20,000	23	9.2
	$20,000 – $39,999	42	16.8
	$40,000 – $59,999	63	25.2
	$60,000 – $79,999	52	20.8
	$80,000 – $99,999	19	7.6
	$100,000 or more	50	20.0
Marital status	Single, never married	64	25.6
	Married or domestic partnership	146	58.4

	Widowed	5	2.0
	Divorced	24	9.6
	Separated	11	4.4
Housing	Own home	120	48.0
	Rent home	93	37.2
	Live with family/friends	29	11.6
	Homeless or shelter	3	1.2
	Other	4	1.6

Note. Values reflect the final analytic sample ($N = 250$). Categories with missing or invalid responses (e.g., "−99") were excluded from this table for clarity.

Table 2

Demographic Statistics for ACEs, PTSD, PTGI, DERS, PHQ, GAD

Variable	M	SD	Min	Max
ACEs (Adverse Childhood Experiences)	5.74	2.78	0	10
PTSD Symptoms (PCL-5)	61.07	19.55	20	100
Posttraumatic Growth (PTGI)	73.46	16.80	17	105
Emotion Dysregulation (DERS-SF)	45.50	13.68	18	79
Depression Symptoms (PHQ-2)	4.32	1.69	2	8
Anxiety Symptoms (GAD-7)	15.53	5.38	7	28

Note. Values reflect the final analytic sample (N = 250). ACEs = Adverse Childhood Experiences; PTSD = Posttraumatic Stress Disorder; PTGI = Posttraumatic Growth Inventory; DERS-SF = Difficulties in Emotion Regulation Scale–Short Form; PHQ-2 = Patient Health Questionnaire–2; GAD-7 = Generalized Anxiety Disorder Scale–7. Age values exclude missing data (coded as -99).

Table 3

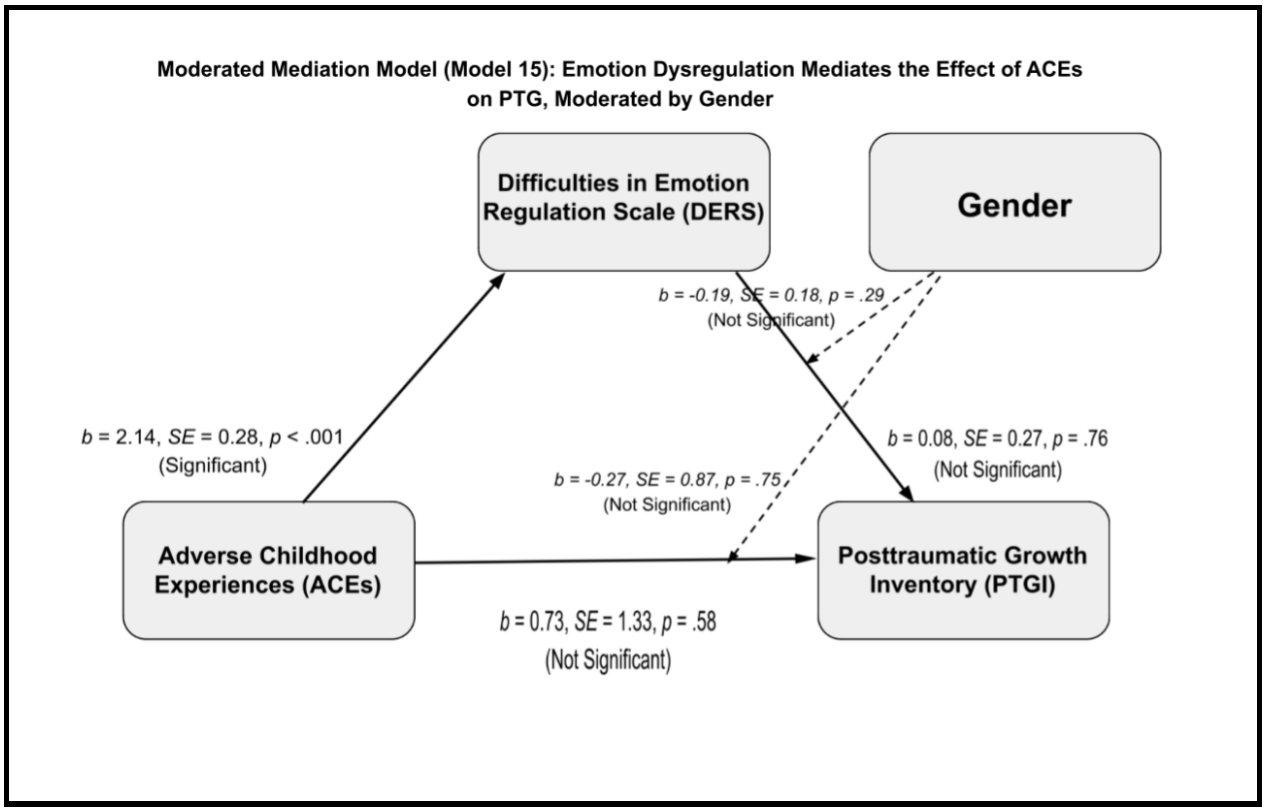
Bivariate Correlations Among Study Variables by Gender

	ACE	PTSD	PTGI	DERS	PHQ	GAD
ACE	--	.505**	−.061	.386**	.564**	.424**
PTSD	.481**	--	.074	.612**	.650**	.679**
PTGI	.032	.188*	--	−.224*	−.208*	−.216*
DERS	.436**	.656**	−.058	--	.659**	.710**
PHQ	.341**	.515**	−.198*	.642**	--	.669**
GAD	.402**	.668**	−.098	.732**	.754**	--

Note. Pearson correlations are reported.
Below the diagonal = male participants; above the diagonal = female participants
p < .01**, *p* < .05*. (*N* = 245)
Abbreviations: ACE = Adverse Childhood Experiences; PTSD = Posttraumatic Stress Disorder Symptoms; PTGI = Posttraumatic Growth; DERS = Difficulties in Emotion Regulation; PHQ = Depression; GAD = Generalized Anxiety Disorder Symptoms.

Figure 1.

Moderated Mediation Model (Model 15): Emotion Dysregulation Mediates the Relationship Between ACEs and Posttraumatic Growth, With Gender as a Moderator.



Note. Solid lines represent direct and indirect paths. Dashed lines indicate moderation paths from gender. Only the path from ACEs to emotion dysregulation was statistically significant (b = 2.14, SE = 0.28, p < .001). All other paths, including the index of moderated mediation (b = −0.41, Boot SE = 0.41, 95% CI [−1.22, 0.41]), were nonsignificant. Gender was coded as 1 = male, 2 = female.

Appendix A: Demographic Questionnaire

Demographic Information Participants were asked to report the following demographic characteristics:

- **Gender**: Male, Female, Nonbinary/Third gender, Transgender, Prefer not to say
- **Race**: American Indian or Alaska Native, Asian/Asian American, Black or African American, Latin American, White, Other, Prefer not to say
- **Ethnicity**: Hispanic or Latino, Not Hispanic or Latino, Prefer not to say
- **Education Level**: High school graduate, Some college, Associate's degree, Bachelor's degree, Graduate or Professional degree, Doctorate, Prefer not to say
- **Employment Status**: Employed full-time, Employed part-time, Unemployed (looking), Unemployed (not looking), Student, Retired, Disabled (not able to work), Prefer not to say
- **Income Level**: Less than $20,000, $20,000 - $39,999, $40,000 - $59,999, $60,000 - $79,999, $80,000 - $99,999, $100,000 or more, Prefer not to say
- **Marital Status**: Single (never married), Married/domestic partnership, Widowed, Divorced, Separated
- **Housing Status**: Own home, Rent home, Live with family/friends, Homeless or shelter, Other
- **Age**: Open numerical response

Appendix B: Adverse Childhood Experiences (ACE) Questionnaire
(Adapted from Felitti et al., 1998)

Below are the 10 items comprising the ACE Questionnaire. Each item is answered Yes (1) or No (0):

1. Did a parent or other adult in the household often swear at you, insult you, put you down, or humiliate you?
2. Did a parent or other adult in the household often push, grab, slap, or throw something at you?
3. Did an adult or person at least 5 years older ever touch or fondle you or have you touch their body in a sexual way?
4. Did you often feel that no one in your family loved you or thought you were important?
5. Did you often feel that you didn't have enough to eat, had to wear dirty clothes, or had no one to protect you?
6. Were your parents ever separated or divorced?
7. Was your mother or stepmother often pushed, grabbed, slapped, or had something thrown at her?
8. Did you live with anyone who was a problem drinker or alcoholic or used street drugs?
9. Was a household member depressed or mentally ill, or did a household member attempt suicide?
10. Did a household member go to prison?

Appendix C: Sample Items from the PTSD Checklist for DSM-5 (PCL-5)

Please indicate how much you have been bothered by the following problem in the past month:

- Repeated, disturbing, and unwanted memories of the stressful experience?
- Feeling very upset when something reminded you of the stressful experience?

(Items rated on a 0–4 scale: 0 = Not at all, 4 = Extremely)

Appendix D: Sample Items from the Posttraumatic Growth Inventory (PTGI)

Indicate the degree to which the following change occurred as a result of your experience:

- I discovered that I'm stronger than I thought I was.
- I have a better understanding of spiritual matters.

(Items rated on a 0–5 scale: 0 = I did not experience this change to 5 = I experienced this change to a very great degree)

Appendix E: Sample Items from the Difficulties in Emotion Regulation Scale – Short Form (DERS-SF)

Please indicate how often the following statements apply to you:

- When I'm upset, I become out of control.
- When I'm upset, I believe that wallowing in it is all I can do.

(Items rated on a 1–5 scale: 1 = Almost never, 5 = Almost always)

Appendix F: Full Items from the Patient Health Questionnaire-2 (PHQ-2)

Over the last 2 weeks, how often have you been bothered by any of the following problems?

1. Little interest or pleasure in doing things.
2. Feeling down, depressed, or hopeless.

(Items rated on a 0–3 scale: 0 = Not at all, 3 = Nearly every day)

Appendix G: Sample Items from the Generalized Anxiety Disorder Scale (GAD-7)

Over the last 2 weeks, how often have you been bothered by the following problem?

- Feeling nervous, anxious, or on edge
- Worrying too much about different things

(Items rated on a 0–3 scale: 0 = Not at all, 3 = Nearly every day)

References

Alexander, M. (2010). *The New Jim Crow: Mass Incarceration in the Age of Colorblindness.* The New Press.

Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C. L., & Perry, B. D. (2006). The enduring effects of abuse and related adverse experiences in childhood: A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience, 256*(3), 174–186.

Avery, B., & Lu, H. (2021). *Ban the box: U.S. cities, counties, and states adopt fair hiring policies*. National Employment Law Project.

Baglivio, M. T., Epps, N., Swartz, K., Huq, M. S., Sheer, A., & Hardt, N. S. (2014). The prevalence of adverse childhood experiences (ACE) in the lives of juvenile offenders. *Journal of Juvenile Justice, 3*(2), 1–23. https://www.journalofjuvjustice.org/archives.html

Bjureberg, J., Ljótsson, B., Tull, M. T., Hedman, E., Sahlin, H., Lundh, L.-G., Bjärehed, J., DiLillo, D., Messman-Moore, T., Gumpert, C. H., & Gratz, K. L. (2016). Development and validation of a brief version of the Difficulties in Emotion Regulation Scale: The DERS-16. *Journal of Psychopathology and Behavioral Assessment, 38*(2), 284–296. https://doi.org/10.1007/s10862-015-9514-x

Bower, J. E., Low, C. A., Moskowitz, J. T., Sepah, S., & Epel, E. S. (2009). Benefit finding and physical health: Positive psychological changes and enhanced allostasis. *Social and Personality Psychology Compass, 3*(1), 313–333. https://doi.org/10.1111/j.1751-9004.2009.00104.x

Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology, 68*(5), 748–766. https://doi.org/10.1037/0022-006X.68.5.748

Bronson, J., & Berzofsky, M. (2017). Indicators of mental health problems reported by prisoners and jail inmates, 2011–12 (NCJ 250612). Bureau of Justice Statistics. https://bjs.ojp.gov/library/publications/indicators-mental-health-problems-reported-prisoners-and-jail-inmates-2011-12

Bryant-Davis, T., & Wong, E. C. (2013). Faith to move mountains: Religious coping, spirituality, and interpersonal trauma recovery. *American Psychologist, 68*(8), 675–684. https://doi.org/10.1037/a0034380

Carson, E. A. (2023). Prisoners in 2022 – Statistical Tables. Bureau of Justice Statistics. https://bjs.ojp.gov/library/publications/prisoners-2022-statistical-tables

Centers for Disease Control and Prevention (CDC). (2023). *Preventing adverse childhood experiences (ACEs): Understanding ACEs*. https://www.cdc.gov/violenceprevention/aces/index.html

Child and Adolescent Health Measurement Initiative. (2021). *2020 National Survey of Children's Health (NSCH) Data Brief on ACEs*. https://www.childhealthdata.org

Cloitre, M., Miranda, R., Stovall-McClough, K. C., & Han, H. (2005). Beyond PTSD: Emotion regulation and interpersonal problems as predictors of functional impairment in survivors of childhood abuse. *Behavior Therapy, 36*(2), 119–124. https://doi.org/10.1016/S0005-7894(05)80060-7

Couloute, L., & Kopf, D. (2018). *Out of prison & out of work: Unemployment among formerly incarcerated people*. Prison Policy Initiative. https://www.prisonpolicy.org/reports/outofwork.html

Council on Criminal Justice. (2022). Women's justice: A preliminary assessment of women in the criminal justice system. https://councilоncj.org/womens-justice-a-preliminary-assessment-of-women-in-the-criminal-justice-system/

Covington, S. (2008). Women and addiction: A trauma-informed approach. *Journal of Psychoactive Drugs, 40*(S5), 377–385. https://doi.org/10.1080/02791072.2008.10400665

Cramer, H., Bradley, D., Shlafer, R. J., & Sufrin, C. (2025). Maternal health and incarceration: Advancing pregnancy justice through research. Health & Justice, 13, Article 36. https://doi.org/10.1186/s40352-025-00343-

Crenshaw, K. W. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review, 43*(6), 1241–1299. https://doi.org/10.2307/1229039

Cunha, O., de Castro Rodrigues, A., Caridade, S., Dias, A. R., Almeida, T. C., Cruz, A. R., & Peixoto, M. M. (2023). The impact of imprisonment on individuals' mental health and social reintegration: Study protocol. BMC Psychology, 11, Article 215. https://doi.org/10.1186/s40359-023-01252-w

Darivemula, S., Knittel, A., Flowers, L., Moore, S., Hall, B., Kelecha, H., Li, X., Ramaswamy, M., & Kelly, P. J. (2023). Menstrual equity in the criminal legal system. *Journal of Women's Health, 32*(9), 927–931. https://doi.org/10.1089/jwh.2023.0085

Dell'Osso, L., Carpita, B., Nardi, B., Bonelli, C., Calvaruso, M., & Cremone, I. M. (2023). Biological correlates of post-traumatic growth (PTG): A literature review. *Brain Sciences, 13*(2), 305.

Dube, S. R., Anda, R. F., Felitti, V. J., Chapman, D. P., Williamson, D. F., & Giles, W. H. (2001). Childhood abuse, household dysfunction, and the risk of attempted suicide throughout the life span: Findings from the Adverse Childhood Experiences Study. *JAMA, 286*(24), 3089–3096. https://doi.org/10.1001/jama.286.24.3089

Dumornay, N. M., Finegold, K. E., Chablani, A., Elkins, L., Krouch, S., Baldwin, M., Youn, S. J., Marques, L., Ressler, K. J., & Moreland-Capuia, A. (2022). Improved emotion regulation following a trauma-informed CBT-based intervention associates with reduced risk for recidivism in justice-involved emerging adults. Frontiers in Psychiatry, 13, Article 951429. https://doi.org/10.3389/fpsyt.2022.951429

Evans, D., Pelletier, E., & Szkola, J. (2019). Education in prison and the self-stigma–empowerment continuum. *Crime & Delinquency, 64*(2), 255–280. https://doi.org/10.1177/0011128717714973

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *American journal of preventive medicine*, *14*(4), 245–258. https://doi.org/10.1016/s0749-3797(98)00017-8

Fellner, J. (2006). A corrections quandary: Mental illness and prison rules. *Harvard Civil Rights-Civil Liberties Law Review, 41*(2), 391–412.

Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. *International Journal of Endocrinology and Metabolism, 10*(2), 486–489. https://doi.org/10.5812/ijem.3505

Gormley, O., Cunningham, T., McFadden, S., & Toner, P. (2024). Exploring the experience of posttraumatic growth following imprisonment: A mixed-methods systematic review. *Journal of Forensic Psychology Research and Practice*. Advance online publication. https://doi.org/10.1080/24732850.2024.2328256

Grassian, S. (2006). *Psychiatric effects of solitary confinement*. *Washington University Journal of Law & Policy, 22*, 325–383.

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment, 26*(1), 41–54. https://doi.org/10.1023/B:JOBA.0000007455.08539.94

Gross, J. J. (2015). *Emotion regulation: Current status and future prospects*. *Psychological Inquiry, 26*(1), 1–26. https://doi.org/10.1080/1047840X.2014.940781

Haney, C. (2002). The psychological impact of incarceration: Implications for post-prison adjustment. In J. Travis & M. Waul (Eds.), *Prisoners once removed: The impact of incarceration and reentry on children, families, and communities* (pp. 33–66). Urban Institute Press.

Harding, D. J., Wyse, J. J., Dobson, C., & Morenoff, J. D. (2014). Making Ends Meet After Prison. *Journal of policy analysis and management : [the journal of the Association for Public Policy Analysis and Management]*, *33*(2), 440–470. https://doi.org/10.1002/pam.21741

Harlow, C. W. (1999). Prior abuse reported by inmates and probationers (NCJ 172879). U.S. Department of Justice, Bureau of Justice Statistics. https://bjs.ojp.gov/content/pub/pdf/parip.pdfHaney, C. (2001). The psychological impact of incarceration: Implications for post-prison adjustment. *American Psychologist, 56*(1), 33–50.

Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology, 74*(5), 797–816. https://doi.org/10.1037/0022-006X.74.5.797

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet Public Health, 2*(8), e356–e366. https://doi.org/10.1016/S2468-2667(17)30118-4

Khattak, M. H. K., Israr, J., & Khan, M. (2024). Post-Traumatic Growth (PTG): A Mixed-Methods Exploration of Psychological and Physiological Processes in Finding Meaning and Strength after Trauma. *Journal of Development and Social Sciences, 5*(4), 446-458.

Kim, H.-Y. (2013). Statistical notes for clinical researchers: Assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry & Endodontics, 38*(1), 52–54. https://doi.org/10.5395/rde.2013.38.1.52

Konecky, E. M., & Lynch, S. M. (2019). Cumulative trauma exposure, emotion regulation, and posttraumatic stress disorder among incarcerated women. *Journal of Traumatic Stress, 32*(5), 806–811. https://doi.org/10.1002/jts.22435

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2003). The Patient Health Questionnaire-2: Validity of a two-item depression screener. *Medical Care, 41*(11), 1284–1292. https://doi.org/10.1097/01.MLR.0000093487.78664.3C

Liem, M., & Kunst, M. J. J. (2013). Is there a recognizable post-incarceration syndrome among released "lifers"? *International Journal of Law and Psychiatry, 36*(3–4), 333–337. https://doi.org/10.1016/j.ijlp.2013.04.012

Linley, P. A., & Joseph, S. (2004). Positive change following trauma and adversity: a review. *Journal of traumatic stress*, *17*(1), 11–21. https://doi.org/10.1023/B:JOTS.0000014671.27856.7e

McDaniels-Wilson, C., & Belknap, J. (2008). The extensive sexual violation and sexual abuse histories of incarcerated women. *Violence Against Women, 14*(10), 1090–1127. https://doi.org/10.1177/1077801208323160

Merrick, M. T., Ford, D. C., Ports, K. A., & Guinn, A. S. (2018). Prevalence of adverse childhood experiences from the 2011–2014 Behavioral Risk Factor Surveillance System in 23 states. *JAMA Pediatrics, 173*(3), 245–253. https://doi.org/10.1001/jamapediatrics.2018.2537

Mersky, J. P., Topitzes, J., & Reynolds, A. J. (2012). Unsafe at any age: Linking childhood and adolescent maltreatment to delinquency and crime. *Journal of Research in Crime and Delinquency, 49*(2), 295–318. https://doi.org/10.1177/0022427811415284

Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The role of the family context in the development of emotion regulation. *Social Development, 16(*2), 361–388. https://doi.org/10.1111/j.1467-9507.2007.00389.x

Nellis, A. (2021). The color of justice: Racial and ethnic disparity in state prisons. The Sentencing Project. https://www.sentencingproject.org/reports/the-color-of-justice-racial-and-ethnic-disparity-in-state-prisons-the-sentencing-project/

O'Brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & Quantity, 41*(5), 673–690. https://doi.org/10.1007/s11135-006-9018-6

Olff, M. (2017). *Sex and gender differences in post-traumatic stress disorder: An update*. *European Journal of Psychotraumatology, 8*(sup4), 1351204. https://doi.org/10.1080/20008198.2017.1351204

Orejuela-Dávila, A. I., Levens, S. M., Sagui-Henson, S. J., Tedeschi, R. G., & Sheppes, G. (2019). The relation between emotion regulation choice and posttraumatic growth. *Cognition and Emotion, 33*(8), 1709–1717. https://doi.org/10.1080/02699931.2019.1592117

Pager, D. (2003). The mark of a criminal record. *American Journal of Sociology, 108*(5), 937–975. https://doi.org/10.1086/374403

Pietrzak, R. H., Goldstein, M. B., Malley, J. C., Rivers, A. J., & Southwick, S. M. (2010). Posttraumatic growth in veterans of operations enduring freedom and Iraqi freedom. *Journal of Affective Disorders*, 126(1-2), 230-235. https://doi.org/10.1016/j.jad.2010.03.021

Post R. M. (1992). Transduction of psychosocial stress into the neurobiology of recurrent affective disorder. *The American journal of psychiatry*, *149*(8), 999–1010. https://doi.org/10.1176/ajp.149.8.999

Prins, S. J. (2014). Prevalence of mental illnesses in U.S. state prisons: A systematic review. *Psychiatric Services, 65*(7), 862–872. https://doi.org/10.1176/appi.ps.201300166

Ross, D. M. (2020). “Bitter or better”: A qualitative analysis of the connection between positive meaning-making and post-traumatic growth in post-incarcerated individuals (Doctoral dissertation, Fielding Graduate University). ProQuest Dissertations Publishing.

Sawyer, W., & Wagner, P. (2022). Mass incarceration: The whole pie 2022. Prison Policy Initiative. https://www.prisonpolicy.org/reports/pie2022.html

Shakespeare-Finch, J., & Copping, A. (2006). A grounded theory approach to understanding cultural differences in posttraumatic growth. *Journal of Loss and Trauma, 11*(5), 355–371. https://doi.org/10.1080/15325020600671949

Shakespeare-Finch, J., & Lurie-Beck, J. (2014). Title: A meta-analytic clarification of the relationship between posttraumatic growth and symptoms of posttraumatic distress disorder. Journal: *Journal of Anxiety Disorders, 28*(2), 223–229. https://doi.org/10.1016/j.janxdis.2013.10.005

Smith, C., & Thornberry, T. P. (1995). The relationship between childhood maltreatment and adolescent involvement in delinquency. *Criminology, 33*(4), 451–481. https://doi.org/10.1111/j.1745-9125.1995.tb01186.x

Smith, P. S. (2006). The Effects of Solitary Confinement on Prison Inmates: A Brief History and Review of the Literature. *Crime and Justice*, *34*(1), 441–528. https://doi.org/10.1086/500626

Smith, S. G., Zhang, X., Basile, K. C., Merrick, M. T., Wang, J., Kresnow, M., & Chen, J. (2018). *The National Intimate Partner and Sexual Violence Survey (NISVS): 2015 data brief – Updated release*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. https://stacks.cdc.gov/view/cdc/60893

Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine, 166*(10), 1092–1097. https://doi.org/10.1001/archinte.166.10.1092

Taku, K., Cann, A., Calhoun, L. G., & Tedeschi, R. G. (2008). The factor structure of the Posttraumatic Growth Inventory: A comparison of five models using confirmatory factor analysis. *Journal of Traumatic Stress, 21*(2), 158–164. https://doi.org/10.1002/jts.20305

Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9*(3), 455–471. https://doi.org/10.1007/BF02103658

Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry, 15*(1), 1–18. https://doi.org/10.1207/s15327965pli1501_01

Teicher, M. H., & Samson, J. A. (2016). Annual research review: Enduring neurobiological effects of childhood abuse and neglect. *Journal of Child Psychology and Psychiatry, 57*(3), 241–266. https://doi.org/10.1111/jcpp.12507

Teicher, M. H., Anderson, C. M., & Polcari, A. (2012). Childhood maltreatment is associated with reduced volume in the hippocampal subfields CA3, dentate gyrus, and subiculum. *Proceedings of the National Academy of Sciences, 100*(15), 9035–9040. https://doi.org/10.1073/pnas.1432879100

Tummala-Narra, P. (2015). Cultural competence as a core emphasis of psychoanalytic psychotherapy. *Psychoanalytic Psychology, 32*(2), 275–292. https://doi.org/10.1037/a0034041

Van Voorhis, P., Wright, E. M., Salisbury, E., & Bauman, A. (2010). Women's risk factors and their contributions to existing risk/needs assessment: The current status of a gender-responsive supplement. *Criminal Justice and Behavior*, *37*(3), 261–288. https://doi.org/10.1177/0093854809357442

Visher, C. A., & Travis, J. (2003). Transitions from prison to community: Understanding individual pathways. *Annual Review of Sociology, 29*, 89–113. https://doi.org/10.1146/annurev.soc.29.010202.095931

Vishnevsky, T., Cann, A., Calhoun, L. G., Tedeschi, R. G., & Demakis, G. J. (2010). Gender differences in self-reported posttraumatic growth: A meta-analysis. *Psychology of Women Quarterly, 34*(1), 110–120. https://doi.org/10.1111/j.1471-6402.2009.01546.x

Wade, D., Varker, T., Kartal, D., Hetrick, S., O'Donnell, M., & Forbes, D. (2016). Gender differences in outcomes following trauma-focused interventions for PTSD: Systematic review and meta-analysis. *Psychological Trauma: Theory, Research, Practice, and Policy, 8*(3), 356–364. https://doi.org/10.1037/tra0000110

Warshaw, C., Lyon, E., Phillips, H., Bland, P., & Hooper, M. (2015). Women's experiences of abuse as a risk factor for incarceration: Research update. National Center on Domestic Violence, Trauma & Mental Health (VAWnet). https://vawnet.org/material/womens-experiences-abuse-risk-factor-incarceration-research-update

West, L. M., Donovan, R. A., & Daniel, A. R. (2016). The price of strength: Black college women's perspectives on the Strong Black Woman stereotype. *Women & Therapy, 39*(3–4), 390–412. https://doi.org/10.1080/02703149.2016.1116871

Western, B. (2006). *Punishment and inequality in America*. Russell Sage Foundation.

Widom, C. S., & Maxfield, M. G. (2001). *An update on the "cycle of violence"* (Research in Brief, NCJ 184894). U.S. Department of Justice, National Institute of Justice. https://www.ojp.gov/pdffiles1/nij/184894.pdf

Wolff, K. T., Baglivio, M. T., & Piquero, A. R. (2017). The Relationship Between Adverse Childhood Experiences and Recidivism in a Sample of Juvenile Offenders in Community-Based Treatment. *International journal of offender therapy and comparative criminology*, *61*(11), 1210–1242. https://doi.org/10.1177/0306624X15613992

Yohros A. (2023). Examining the Relationship Between Adverse Childhood Experiences and Juvenile Recidivism: A Systematic Review and Meta-Analysis. *Trauma, violence & abuse*, *24*(3), 1640–1655. https://doi.org/10.1177/15248380211073846

Zlotnick, C., Clarke, J. G., Friedmann, P. D., Roberts, M. B., Sacks, S., & Melnick, G. (2008). Gender differences in comorbid disorders among offenders in prison substance abuse treatment programs. *Behavioral Sciences & the Law, 26*(4), 403–412. https://doi.org/10.1002/bsl.831

Zoellner, T., & Maercker, A. (2006). Posttraumatic growth in clinical psychology—A critical review and introduction of a two-component model. *Clinical Psychology Review, 26*(5), 626–653. https://doi.org/10.1016/j.cpr.2006.01.008

Žukauskienė, R., Žardeckaitė-Matulaitienė, K., & Stankevičienė, D. (2021). Posttraumatic growth and identity processes among women survivors of intimate partner violence: The role of social support. *Journal of Interpersonal Violence, 36*(15–16), NP8496–NP8519. https://doi.org/10.1177/0886260519847773