The influence of emotion regulation, maladaptive coping, and criminal thinking on maladaptive behavior

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THE INFLUENCE OF EMOTION REGULATION, MALADAPTIVE COPING, AND CRIMINAL THINKING ON MALADAPTIVE BEHAVIOR

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THE INFLUENCE OF EMOTION REGULATION, MALADAPTIVE COPING, AND CRIMINAL THINKING ON MALADAPTIVE BEHAVIOR

By

ALONDRA AVILA, B.A.

THESIS

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Abstract

Emotion regulation is a cognitive process that occurs due to emotional stimuli in the environment that promotes cognitive or behavioral action to soothe negative emotions. Emotion regulation can affect decision making that promotes maladaptive behavior, similar to criminal thinking. Criminal thinking patterns can be categorized as a form of maladaptive cognitive coping that promotes maladaptive behavior. The association between emotion regulation, criminal thinking, and maladaptive behavior is further explored. A total of \(N = 227\) MTurk workers participated in a cross-sectional study. Maladaptive emotion regulation and coping predicted willingness to engage in maladaptive behavior. Deficits in emotion regulation were further associated with aggressive behavior, specifically lack of impulse control, emotion suppression, and lack of emotional clarity. Additionally, maladaptive emotion regulation and deficits in emotion regulation were associated with different criminal thinking patterns. The current research supports the hypothesis that emotion regulation influences decision making that promotes maladaptive behavior, and maladaptive cognitive thinking patterns. Interventions should target deficits in emotion regulation to reduce maladaptive behavior.
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Chapter 1: Introduction

Emotions are a critical part of social development that emerge through culture and experience. Researchers have posited that emotions have a direct effect on behavioral outcomes; however, that is not always the case. Instead, emotions influence cognitions that in turn influence behavior (Bameister et al., 2017). Maladaptive emotion regulation may bring about undesired outcomes that lower overall quality of life as it affects goal attainment, interpersonal relationships, and well-being. Negative emotions can lead to regulatory behavior that promotes maladaptive coping and consequentially maladaptive behavior.

Coping strategies are employed in an attempt to regulate negative emotions, distorted cognitions, behavior, physiology, or environment during stress inducing situations (Compas et al., 2001). In terms of emotion regulation, coping strategies, whether adaptive or maladaptive, are used in an effort to reduce negative emotions. Coping strategies become repeated mechanisms that help people minimize negative emotions. Similarly, criminal thinking patterns are cognitive patterns, such as rationalizing or diverting blame from self to others, that maintain and promote deviant and maladaptive behavior (U.S. Department of Health and Human Services, 2006). It is unclear whether maladaptive coping strategies are a result of cognitive errors or vice versa, however, a strong relationship between the two has been established by prior research (Antunes-Alves et al., 2014). Furthermore, similar to maladaptive emotion regulation, criminal thinking is associated with maladaptive coping and maladaptive behavior. However, the association between criminal thinking and emotion regulation has not been explored in the literature.

An argument can be made that criminal thinking is influenced by emotional regulatory behavior that influences maladaptive cognitions. Exhibiting criminal thinking patterns does not
guarantee engagement in criminal activity and may instead lead to non-criminal maladaptive behavior. There is a need to explore criminal thinking patterns in community populations that may be associated with maladaptive emotion regulation. This is a population that could easily be overlooked as they are neither clinical patients nor are they involved in the criminal justice system. People engage in behavior that promotes immediate gratification in order to soothe negative emotions, justifying antisocial behavior through maladaptive cognitive patterns, or criminal thinking patterns (Link & Oser, 2018).

The current research seeks to address gaps in the literature, primarily the association between emotion regulation and criminal thinking while simultaneously exploring correlates of criminal thinking patterns and its implications in a community sample. The following literature review will describe the implications of maladaptive emotion regulation on maladaptive coping, maladaptive behavior, and maladaptive thinking patterns, specifically criminal thinking.
Chapter 2: Review of the Literature

Emotional regulation is complex and includes the modification of emotional situations based on information, judgement and decision making, and self-selection of a behavioral response (Dvir et al., 2014). Counterintuitively, emotion regulation does not equate to emotional control. Rather, it is a conceptual framework that encompasses all aspects of behavioral reactions to emotional stimuli. Emotional regulation can occur through either a deliberate or automatic response (Linehan, et al., 2007) and can affect well-being, stress, and interpersonal relationships (Lopes et al., 2005) resulting in prosocial or maladaptive coping and behavioral outcomes (Mauss et. al., 2007; Mauss, et al., 2008).

Emotion Regulation

Across different subdisciplines in psychology, emotion regulation has been used to assess different psychosocial functions or the ability to interact socially in a meaningful and prosocial way in order to meet the demands of their community and foster their ability to perform everyday living activities. For example, social and personality psychologists focus on the regulatory functions of emotions in the organization of internal processes such as attention, memory, and attention readiness (Mauss et al., 2007). Alternatively, clinical psychologists focus on the way emotion is regulated through social contexts and cognitive control, conceptualizing emotion regulation as “a series of processes that can be both automic and voluntary, which may occur either before or after the activation of emotion which serves to amplify, maintain, or diminish its intensity” (Linehan et al., 2007).

For the purpose of this study, emotion regulation will be conceptualized as the ability to spontaneously respond to, understand, experience, and differentiate emotions experienced by the self and others and the capacity to consciously or subconsciously attenuate and modify reactions
to strong negative emotions in a manner that promotes prosocial and goal directed behavior (Cole et al., 1994; Gratz & Roemer, 2004). This conceptualization of emotion regulation expands on the definition found in the clinical literature as it focuses on emotion regulation as a cognitive process that occurs due to emotional stimuli in the environment that serves as a precursor for behavior. Emotion regulation skills are learned cognitive processes that incorporate cultural and social expectations. In order to build interpersonal relationships, one must learn impulse control and to identify which behaviors promote desirable social outcomes. Emotion regulatory skills have been found to develop during childhood and adolescence and transcend into adulthood. The development of emotion regulatory skills can be influenced by various factors such as home environment, parental attachment styles, parental emotional reactivity, and mental health (Carrère & Bowie, 2012; Cludius et al., 2020; McCoy et al., 2016).

Emotion regulation can be either adaptive or maladaptive. Maladaptive emotion regulation and lack of adaptive emotion regulation have been associated with maladaptive coping behavior such as substance use, self-injurious behavior, suicidal behavior, and eating disorders (Extremera et al., 2019). Maladaptive emotion regulation is reflected in one of two ways: 1) the inability to contain emotional experiences long enough to engage in goal directed behavior, or 2) the inhibition of the expression of emotions (Roberton et al., 2011). These two maladaptive types of emotion regulation have been termed as over- and under- regulation. Emotion regulation can be expressed through a spectrum: under-regulation, adaptive regulation, and over-regulation.

Under-regulation refers to the unsuccessful inhibition of impulsive behavior. It is the inability to continue with goal directed behavior when faced with difficult emotional stimuli (Tice & Bratslavsky, 2000). Instead, emotions evoked by negative situations are externalized into maladaptive behavior in order to soothe unwanted negative emotions. An example is the
inhibition of impulse control when emotional distress is caused by negative emotions. People under emotional distress are more likely to give in to impulses and engage in behaviors as a means to regulate and reduce negative emotions even though the effects are temporary and may consequently reduce long term goal-oriented behavior. At times these behaviors can be self-destructive or harmful to the self (Tice et al., 2001). More specific and commonly known examples of under-regulation can be demonstrated in the inability to control anger outbursts which result in verbal or physical aggression towards others. Another instance could be the under-regulation of anxiety during an exam, where if anxiety is under-regulated, concentration and the completion of the exam would be affected (Roberton et al., 2011).

Over-regulation, also known as response-focused emotional regulation or suppression, occurs when emotions are consistently being regulated and not permitted to completely unfold. Suppression can be described as keeping emotions “under control” and occurs after emotions have been generated. An example of suppression would be when an employee’s boss ridicules the employee in front of colleagues causing the employee to feel angry or sad. Instead of allowing these emotions to unfold, the employee will avoid admitting he is angry or sad and will deny to others and himself these emotions. Even if the employee will not admit it, he harbors negative emotions towards his boss. This approach tends to be associated with maladaptive mechanisms of responding that can affect a person’s physical health, well-being, and social and cognitive functioning (Mauss et al., 2008). Consequences of suppression have been found to affect interpersonal relationships including, marital problems, reduced peer likeability and support, and reduced relationship closeness including feelings of rapport and affiliation (Butler et al., 2007; Matsumoto et al., 2008). Further, under-regulation of emotion as well as emotion
suppression have both been found to have implications towards aggressive behavior (Roberton et al., 2011).

Finally, the third emotion regulation response is known as an adaptive approach. It is often referred to as antecedent-response regulation which is an early intervention during an emotional process known as cognitive reappraisal. Reappraisal occurs when situations are reinterpreted or reframed in order to reduce negative emotions. A common example of reappraisal is when a driver going to work gets “cut off” by another driver, before the driver can become angry, the driver reframes their thoughts into cognitions that will reduce or avoid negative behavior such as “The other driver must not have seen me, there was no harm done.” Research has found reappraisal to be an adaptive and positive mechanism of regulating and responding to emotional situations (Mauss et al., 2008). Reappraisal has been associated with greater affinity, greater capability of sharing and understanding emotions, and closer relationships and support systems. (Butler et al., 2007; Matsumoto et al., 2008).

**Coping**

Coping strategies have been closely associated with emotion regulation. Coping, as defined by Compas et al. (2001), is the “conscious and volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances”. Although there is a lot of overlap between constructs, research on coping and emotion regulation has only recently began to look at both constructs together (Compas et., al. 2017). Whereas emotion regulation emphasizes both the voluntary and involuntary regulation of emotions in broad contexts, coping emphasizes controlled regulatory behavior under stressful circumstances. Coping strategies are usually triggered under psychological stress in an effort to increase emotional and mental well-being (Seml Institute for Neuroscience and Human
Behavior, 2020), whereas emotion regulation is triggered when faced with situations that trigger negative emotions in an attempt to soothe negative emotions and increase emotional well-being.

Due to the similarities in regulatory processes, coping can be argued to be a subset of emotion regulation (Compas, et al., 2014). Negative emotions are unpleasant and can activate coping strategies to reduce or soothe negative emotions. Limited research has established the association of emotions in adaptive and maladaptive coping (Brown et al., 2005; Kochenderfer-Ladd, 2004). Coping strategies and emotion regulation can be influenced by familial and cultural norms. Regulatory skills have been found to develop during childhood and adolescence and can prevail through adulthood. People who exhibit greater deficits in emotion regulation skills are more likely to engage in risky and maladaptive behavior in an attempt to reduce negative emotion (Johnson & Lync, 2013; Weis et al., 2015).

Methods of coping have been categorized into three styles: 1) Problem focused coping, also known as task-oriented coping, 2) avoidance focused coping, and 3) emotion focused coping (Noorbakhsh et al., 2010). Problem focused coping focuses on the alleviation of pressure, or the increase use of stress management skills by extending cognitive efforts on problem solving or cognitive restructuring. Avoidance focused coping is a tendency to avoid stressful situations by using distractions. Finally, emotion focused coping is a tendency to respond to stress through emotional reactions and modifying behavior to reduce emotional tension caused by stressors (Dabrowska, & Pisula, 2010). Coping can manifest in either behavior or cognitive patterns. To cope with unpleasant situations, a behavior may be used such as walking away from the situation, or a cognitive approach may be taken, such as reframing negative thoughts to reflect neutral thoughts (Carver, 1997).
Despite their beneficial use in alleviating stress and emotional distress, coping strategies are not always adaptive. Maladaptive coping strategies refers to coping strategies that may promote harmful behavior such as engagement in substance use as a way to alleviate stress, or cognitive thought patterns such as insistent self-blame, or avoidance of responsibility by blaming others for mistakes. Maladaptive coping behaviors can become habitual through reinforcement of alleviating distress (Swerdlow et al., 2020). Maladaptive coping strategies are associated with negative well-being and engagement in risky maladaptive behavior (Extremera, 2019). Similarly, maladaptive thinking patterns resemble maladaptive coping and can affect emotion regulation, specifically, maladaptive cognitive coping seems to resemble and overlap with criminal thinking patterns, and are sometimes referred to as coping strategies (Link & Oser, 2018)

**Criminal Thinking as Cognitive Coping**

Criminal thinking refers to thinking patterns believed to foster and sustain a criminal lifestyle and, along with criminogenic attitudes, are one of the strongest predictors of repeated criminal behavior (Andrews et al., 2006). Walters (1996) depicted and identified 8 criminal thinking styles: 1) mollification: rationalization and Justification of criminal behavior by placing blame of consequences on externalizing factors, 2) cutoff: disregarding thoughts that might deter criminal behavior, 3) entitlement: feelings of Entitlement and feeling that society owes them which often replaces wants for needs, 4) power orientation: the need for control over environment and others, 5) sentimentality: justifying criminal behavior and negative feelings as “doing something good,” 6) Superoptimism: overconfidence and feelings of invulnerability that they will not “get caught,” 7) cognitive indolence: mental laziness, taking short cuts instead of using critical thinking problem solving skills, and 8) discontinuity: lack of perseverance in behavior and thinking, showing difficulty in seeing Goal or tasks through. Criminal thinking
patterns reflect a distinct way of information processing that help justify and defend irresponsible choices (Morgan et al., 2015). The Justification of criminal behavior influences the continuation of criminal behavior if not addressed.

Criminal thinking patterns seem to overlap with cognitive coping strategies. For example, the criminal thinking style ‘mollification’ where blame is directed elsewhere closely resembles the coping strategy of ‘blaming of others’. Additionally, the criminal thinking style ‘discontinuity’ shows a strong resemblance to the coping skill of behavioral disengagement, or the tendency to give in and give up. Thus, criminal thinking can be characterized as a cognitive coping pattern that can maintain maladaptive behavior. Criminal thinking and emotion regulation have not yet been explored. Since criminal thinking is associated with coping, it may also be associated with emotion regulation, though this has not yet been examined.

Although criminal thinking predicts criminal behavior, criminal thinking patterns are not only present among those involved in the criminal justice system. Criminal thinking patterns have been found in justice involved individuals with and without mental disorders (Wolff et al., 2011; Wolff, et al., 2013), non-justice involved psychiatric patients (Carr et al., 2009), and college students (McCoy et al., 2006; Walters, & McCoy, 2007). Because most research on criminal thinking patterns in non-clinical and non-forensic samples has focused on college students, there is a need to examine criminal thinking patterns in community populations that may be associated with maladaptive regulation and behavior.

When validating the Psychological Inventory of Criminal Thinking styles in incarcerated offenders and college samples, Walters & Mccoy (2007) described criminal thinking patterns as falling on a continuum range of normative thinking to deviant criminal thinking implying that the distinction between “normative traits” such as assertiveness and criminal patterns such as
“entitlement” may be difficult to distinguish. Walters & McCoy’s research suggest that although criminal thinking patterns differ between college samples and incarcerated samples, criminal thinking styles are still present in college samples and should be targeted for interventions. Furthermore, criminal thinking patterns have been found to correlate with decision making that leads to maladaptive behavior such as intent to cheat on exams among college students (Walters & Morgan, 2019). Cheating can constitute as maladaptive behavior if it is done as a means to alleviate negative emotions such as anxiety.

Criminal thinking patterns have been found to be stable over time and not influenced by proximity to crime. The degree to which other factors influence criminal thinking have yet to be explored (Morgan et al., 2015). Research surrounding criminal decision making acknowledge that although important, emotion regulation is often overlooked (Walters, 2015). Underregulation of emotion has been found to interfere with decision making, influencing the engagement of impulsive and risky behavior (Bowen et al., 2014; Bowen et al., 2017) and attenuating goal seeking behavior and instead promoting maladaptive behavior (Martin & Delgado, 2011). Maladaptive emotion regulation is thought to interact with and promote criminal thinking patterns (Walters, 2015). Therefore, there is a gap in the literature surrounding the association between criminal thinking and emotional regulation.

It is important to target criminal thinking patterns that lead to maladaptive behaviors. Unresolved maladaptive cognitions as well as a lack of emotion regulatory skills could have detrimental implications leading to risky impulsive behavior that reduces long term goal attainment. Maintenance of maladaptive behavior to reduce negative emotions could maintain or exacerbate criminal thinking patterns. Individuals will engage in behaviors that soothe negative affect in the short term, seeking immediate gratification and will justify behavior through
maladaptive cognitive patterns, or criminal thinking patterns. Most research is limited to using only anger as a negative affective state leading to forms of aggression and violence (Brown et al., 2014), other negative affective states include anxiety, sadness, fear, guilt, shame, and irritability which may merit further exploration as they can also contribute to maladaptive behavior (Walter, 2015). If maintained, maladaptive emotional regulation can progress to have negative implications. Research is limited in exploring the direct link between maladaptive emotion regulation, criminal thinking, and deviant or maladaptive behavior.

**Development of Maladaptive Behavior Through Maladaptive Emotion Regulation**

In some cases, if negative emotions are sustained maladaptive emotion regulation may lead to a more severe form of emotion regulation referred as emotional dysregulation. Emotional dysregulation refers to the inability to manage the intensity and duration of negative emotions further characterized by difficulty in recovering from negative emotional states becoming pathological (Franco, 2018). Emotional dysregulation in adults develops in childhood and adolescence. Emotional dysregulation follows a biosocial theory. It stems from a combination of biological and environmental factors. The development of emotional dysregulation requires two conditions to be present simultaneously, a biological vulnerability and an invalidating environment. Biological vulnerability refers to a predisposition to high sensitivity toward emotional stimuli and high reactivity characterized by a slow return to baseline (Linehan, 1993). In other words, when faced with situations that evoke strong negative emotions, a person with emotional dysregulation will respond to the situation in a way that is seen as more extreme than is normally warranted. Additionally, it will take them longer than the average person to leave the negative emotional state and transition into a neutral emotive state. An invalidating environment is defined by Rathus and Miller (2014) as the tendency of others to negate or respond erratically
and inappropriately to one’s emotional experiences. This occurs when emotional experiences displayed by children or adolescents aren’t taken as valid or correct by influential adults in their environment such as parents, teachers, mental health providers, or any other authoritative figure. Invalidating environments constantly remind adolescents the notion that what they are thinking, feeling or doing doesn’t make sense. Response invalidation to emotional events may lead adolescents to start invalidating their environment in order to avoid negative emotions or consequences such as not verbalizing or expressing sadness for fear of getting reprimanded by a parent or becoming angry or destructive in order to get the attention they otherwise cannot obtain from parents (Rathus & Miller, 2014). Emotion dysregulation sustains and promotes the negative emotions associated with psychiatric disorders (Casey et al., 2013; Dvir et al., 2014; Linehan, et al., 1999; Newhill & Mulvey, 2002) and promotes harmful maladaptive behavior when coping with negative emotions such as substance use, maladaptive eating (Dvir et al., 2014) non-suicidal injurious behavior (Kranzler et al., 2016), irregular anger management, aggression, and impulsivity (Velotti et al., 2016). Additionally, it has been associated with antisocial personality disorder and trait psychopathy (Casey et al., 2013; Linehan et al., 1999; Newhill & Mulvey, 2002) which have been associated with maladaptive and criminal thinking and criminal behavior (Fix & Fix, 2015; Walter, 2016).

**Maladaptive Regulation and Behavior**

In less severe cases, maladaptive emotion regulation does not develop into dysregulation, however maladaptive emotion regulation still has implications for maladaptive behavior. Similar to emotion dysregulation, the lack of adaptive regulatory skills begins in childhood and adolescence. A key example of how invalidating environments may deter the development of emotional regulatory skills and result in maladaptive coping and behavior can be seen through a
subset of adolescents who identify as being both a victim and perpetrator of bullying. In this example, being bullied provides an invalidating environment for a child characterized by peer aggression. Bullying others demonstrates a lack of adaptive coping and regulatory skills. This emotion regulation deficit has been associated with higher levels of internalizing symptoms of depression and anxiety, more callousness, psychopathic traits, higher propensity for proactive and reactive aggression, and a higher propensity of engaging in antisocial behavior compared to their peers or other bullies who are not victims, or victim bullies who are not also bullies (Ragatz et al., 2011).

Maladaptive coping strategies and emotion dysregulation are disproportionately present in justice-involved populations (Ford et al., 2006). Compared to their non-delinquent peers, delinquent adolescents tend to experience and report a higher frequency of negative trait and state emotions such as anger, fear, and sadness (Plattner et al., 2007). Prior research on emotion and affective dysregulation among juvenile offenders emphasizes the importance of reintegrating appropriate emotion regulation into everyday environments to build new patterns of experience and to reduce maladaptive coping and criminal thinking patterns that interfere with rehabilitative efforts (Abrantes et al., 2005; Ford et al., 2006; Plattner et al., 2007). Some youth may learn adaptive regulatory skills that will allow them to continue into a prosocial life, however there is a subset that continue to show maladaptive regulatory skills into adulthood.

Maladaptive emotional regulation present in justice involved adults has recently started garnering interest among researchers. Clinical trials using Dialectical Behavior Therapy (DBT) have been implemented to increase compliance in detention and prison settings by targeting aggressive behavior (see Frazier & Vela, 2014, for a review). A few studies also target emotion regulation as a means to reduce recidivism (Nee & Farman, 2008; Nyamathi et al., 2018;
Rosnefeld et al., 2019). The most widely researched aspects of emotion regulation are anger and aggression. In the past, emotional dysregulation has been attributed to violence against the self through self-harming, and suicidal behavior (Kranzler et al., 2016; Newhill & Mulvey, 2008). Self-harming behavior is a form of maladaptive coping strategy used to regulate intense negative emotions.

Maladaptive emotion regulation has a role to play in maladaptive response to negative stimuli that may result in maladaptive behavior, such as criminal behavior. Research has brought the question whether a tendency for innate violence to the self is translated and expressed onto violence towards others as a regulatory means to reduce negative affect such as anger. Jakupcak and colleagues (2002) found an association between intimate partner violence in male perpetrators and gender role stress. Aggression towards their partner was found to be a regulatory strategy to cope with stress caused by their gender roles being challenged. Men whose sense of masculinity was violated or invalidated dealt with their negative emotions through physical aggression towards their partner.

Although all criminal behavior is maladaptive, not all maladaptive behavior is illegal or criminal. Mitchelle and colleagues (2017) argue that community samples engage in risky and unethical behavior that is not illegal, as well as illegal criminal behavior without being caught. Both maladaptive and illegal behavior are common in the majority of populations and can vary in severity. Not all maladaptive behavior is punishable by law, such as lying, verbal altercations, or alcohol misuse. However, other instances of misdemeanor maladaptive behavior may warrant mild legal repercussions such as speeding or petty theft, while other behavior can lead to more serious legal consequences such as drinking and driving, drug use, theft, destruction of property,
or violence against others. It is important to note that not all instances of illegal behavior are caught and punished (Leung et al., 2005).

Most research on maladaptive emotion regulation focuses on maladaptive coping in clinical populations (Compas et al., 2017; Conklin et al., 2015), children (Rydell et al., 2003; Suveg & Zeman, 2004), or adolescents in the juvenile system (Heinzen et al., 2011; Hodgon 2009; Kemp et al., 2017). Research remains limited on implications for maladaptive emotion regulation in adult community samples on maladaptive behavior.

**The Present Study**

The present study sought to examine the relationship between emotion regulation, criminal thinking and maladaptive behavior in a community sample. Since emotional regulation may be associated with sustaining criminal thinking and maladaptive coping which consequently influences maladaptive behavior, the role of emotional regulation in community samples warrants further research. Understanding the role emotional dysregulation can play in criminal thinking and maladaptive behavior can inform future research looking at preventative measures for community individuals who may engage in impulsive and risky behavior.

**Study Aims**

The primary aim of the present study is to establish the link between maladaptive emotion regulation, maladaptive coping, and the potential of maladaptive behavior in a community sample. It was hypothesized that emotion regulation and coping are indeed different constructs. It was also hypothesized that a greater deficit in emotional regulation, and engaging maladaptive coping strategies will increases willingness to engage in maladaptive behavior, specifically, lack of impulse control, strategies to regulate emotion, and difficulty in engaging in goal directed behavior will be positively associated with an increase in willingness to engage in
maladaptive behavior, while engaging in adaptive regulatory strategies such as cognitive reappraisal will predict lower willingness to engage. Additionally, it was hypothesized that engaging in positive coping strategies will have a negative association with willingness to engage in maladaptive behavior, specifically, adaptive coping strategies that promote cognitive restructuring such as active coping, emotional support, positive reframing, and planning, while maladaptive coping strategies will predict an increase in willingness to engage. As another measure of maladaptive behavior, the link between emotion regulation and aggression was examined. Both under- and over-regulation of emotion have been associated with different forms of aggression and we expected similar results.

The second aim was to examine the association between emotion regulation and criminal thinking in a community sample. It was hypothesized that (1) a greater deficit in emotion regulation skills will show unique patterns of criminal thinking patterns. Specifically, greater deficit in emotion regulation will be present in criminal thinking patterns of justification, cold heartedness, and power orientation, (2) those with under-regulation of emotion will endorse criminal thinking styles of entitlement, and (3) suppression of emotion will be associated with endorsement criminal thinking patterns of justification, entitlement, power orientation, cold heartedness, and criminal rationalization.

The third aim was to validate the Texas Christian University Criminal Thinking Scale in a community sample. To the knowledge of the present researcher, this scale has not been validated within a community sample before. Finally, additional exploratory aims were examined. Correlates of criminal thinking within a community sample were planned to be examined. It was hypothesized that socio-demographic characteristics such as education, social economic status, gender, and age may influence criminal thinking styles and emotion regulation
strategies. It was hypothesized that differences of criminal thinking styles are influenced by 1) SES as it has been found to be a stressor that influences criminal thinking (Walters, 1990) 2) education (Walters, 2012), and 3) gender as gender differences are usually found in criminal thinking patterns (Taxman et al., 2011). Additional exploratory aims will assess the relationship between distress, maladaptive behavior, and emotion regulation.
Chapter 3: Methods

Participants

A priori power analyses were conducted to determine the sample size needed to detect a small effect using G*Power (Faul et al., 2009). The greatest sample size required was \( N = 199 \). To account for possible missing data, \( N = 240 \) participants were recruited from an online participant pool known as Amazon Mechanical Turk (MTurk). Mturk is a common source for reliable online data collection in the behavioral sciences (Hunt & Scheetz, 2019). Participants were required to be over the age of 18 and reside within the United States. Based on previous recommendations, only participants who have a 95% approval rate or higher in MTurk were allowed to participate (Buhrmester et al., 2018).

In total, 12 participant responses were deleted due to failing two or more attention checks or for finishing the survey in less than five minutes (described in more detail below). The final data set included \( N = 227 \) participants. The age of participants ranged between 19-70 with an average age of 36.40 years \( (SD = 10.43) \). The majority of participants identified as White (74.0%). Most participants identified as male (68.3%), most held at least a bachelor’s degree (62.6%), and the majority reported being married (56.8%). Additional demographic information can be found in Table 1.

Design and Procedure

To maximize survey efficiency and resource allocation, survey was pilot tested using an undergraduate psychology sample from The University of Texas at El Paso’s SONA pool. A total of \( N = 81 \) participants were recruited form SONA to test survey flow to ensure there were no errors in survey presentation and skip patterns. Participates received course credit for their participation. These data were not used for analysis.
Table 1  
*Demographic Information of Participants*

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>% of Ps</th>
</tr>
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<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
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</tr>
<tr>
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<td>156</td>
<td>68.3</td>
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<tr>
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<td>71</td>
<td>31.3</td>
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<tr>
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<td><strong>Ethnicity</strong></td>
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<tr>
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<td>169</td>
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<tr>
<td>Black</td>
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</tr>
<tr>
<td>Latinx</td>
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<td>5.7</td>
</tr>
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<tr>
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<tr>
<td>Other</td>
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<td>.40</td>
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<tr>
<td><strong>Education Level</strong></td>
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<tr>
<td>High School/ GED</td>
<td>22</td>
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</tr>
<tr>
<td>Some College</td>
<td>20</td>
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<tr>
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<td>Bachelor’s degree</td>
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<td><strong>Household Income</strong></td>
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<td>$10,000-$14,999</td>
<td>7</td>
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</tr>
<tr>
<td>$15,000-$24,999</td>
<td>27</td>
<td>11.9</td>
</tr>
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<td>$25,000-$34,999</td>
<td>35</td>
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</tr>
<tr>
<td>$35,000-$49,999</td>
<td>57</td>
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<td>$50,000 or more</td>
<td>94</td>
<td>41.0</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
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<td></td>
</tr>
<tr>
<td>Single</td>
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<td>32.6</td>
</tr>
<tr>
<td>Married</td>
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<tr>
<td>Living as Married</td>
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<tr>
<td>Divorced</td>
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<td>4.0</td>
</tr>
<tr>
<td>Widow</td>
<td>2</td>
<td>.9</td>
</tr>
</tbody>
</table>

*Note. Ps = Participants*
The current project used a cross-sectional study design. Participants who agreed to participate and meet inclusion criteria were asked to electronically consent by selecting “Agree to participate” on a Qualtrics survey (Qualtrics, Provo, UT). No identifiable information was collected to maintain participant anonymity. Participants complete a battery of instruments assessing demographics, measures of emotion regulation, coping strategies, criminal thinking, aggression, and willingness to engage in maladaptive behavior as described below. Measures were randomly counterbalanced to avoid responder fatigue or influence by previous measures. Duration of the study ranged between 5 minutes to 4 hours, however, there is reason to believe that survey answers that were more than 30 minutes were left open and completed at a different time. Participants were compensated $2.00.

Data Integrity

Extra precautions were taken to avoid duplicate responding, random responding, and “bot” responding from the MTurk participants. Participants were excluded if their response time was less than five minutes. An unreasonably quick response time could indicate random responding (Buchanan & Scofield, 2018). Five minutes was the fastest time determined that participants could respond to and answer questions validly via informal pilot testing where undergraduate research assistants were directed to complete the survey as fast as they could while reading each question fully.

Additionally, instructed response items were implemented within survey measures as attention checks. Four different instructed response items were embedded within different surveys, an item example is as follows: “It is important that you pay attention, please select "Neither Uncharacteristic nor Characteristic of Me”. Participants who failed to respond with the instructed response failed the attention check. Instructed item responses have been found to
indicate inattentiveness, however, missing one attention check does not always indicate random responding, or affect the results of the substantive models (Gummer et al., 2021). Therefore, participants were only excluded if they missed two or more attention checks. Participants who missed only one attention check were kept in the analysis. Additionally, one participant was excluded for answering the majority of questions with the same response.

In order to avoid duplicate responding, participants who took the survey where assigned a qualification code on MTurk that would not allow them to retake the survey. Finally, precautions were implemented to reduce “bot” responding. A reCAPTCHA was used where participants had to click on a box to indicate “I am not a robot”. As a final precaution, an image with the instructions to select “green” was given to identify random bot clicking. In total, 14 participant responses were excluded.

**Measures**

**Maladaptive Behavior**

Prior research studying criminal or delinquent behaviors have used intentions to engage in minor maladaptive or deviant behavior as a means to measure criminality (Shi, 2020). To measure willingness to engage in maladaptive behavior, the willingness to offend scale used by Shi (2020), which showed high reliability (α=.72), was adapted for the present study to include negative emotions. Responses were given on a five-point Likert scale ranging from “Very Unlikely” to “Very Likely”. Where higher scores indicate willingness to engage in maladaptive behaviors during situations that may cause negative emotions. In the present study, reliability was found to be excellent (α=.86).
Criminal Thinking

Criminal thinking refers to thinking styles believed to foster and sustain a criminal lifestyle. Walters (2003) identified eight criminal thinking styles. For the purpose of this study, the Texas Christian University Criminal Thinking (TCU CTS; Knight et al., 2006) scale was used to measure criminal cognitive styles. It is a 36 item self-report measure with six facets: 1) Entitlement refers to the mindset that the world “owes them” something and conveys a false sense of ownership and privilege. 2) Justification, or mollification refers to a pattern of thinking that justifies criminal behavior. This thinking pattern constitutes rationalizing and making excuses for one’s own behavior, blaming negative consequences of behavior on externalizing factors. 3) Power Orientation is a thinking pattern that is categorized by a need for power and control over the environment and others. People with these thinking patterns often resort to aggressive and manipulative means to gain power. 4) Cold Heartedness is a thinking pattern that reflects a lack of emotional involvement in interpersonal relationships and callousness. 5) Criminal Rationalization is a thinking pattern that views authority figures negatively. They justify their criminal activity by viewing their behavior as conforming to and breaking the same laws as authority figures. Finally, 6) Personal Irresponsibility refers to thinking pattern that reflects an unwillingness to take responsibility for own criminal behavior. The TCU CTS is measured on a 5-point Likert scale with responses ranging from disagree strongly to agree strongly. An item example includes, “It is okay to commit crime in order to pay for the things you need.” It has been found to have adequate reliability: Entitlement ($\alpha = .78-.86$), Justification ($\alpha = .72-.80$), Personal Irresponsibility ($\alpha = .63-.73$), Power Orientation ($\alpha = .75-.83$) Cold Heartedness ($\alpha=.66-.68$), and Criminal Rationalization ($\alpha = .64-.80$; Knight et al., 2006; Taxman et al., 2011). In the present study, reliability was good for Justification ($\alpha = .88$), moderate for
Emotion Regulation

Emotional regulation was measured through the short version of the Difficulties in Emotion Regulation Scale (DERS-18; Victor, & Klonsky, 2016) adapted from Gratz & Roemer (2004) original 36-item measure. It is an 18-item self-report scale measuring six facets of emotion regulation: Lack of emotional awareness (Awareness), lack of emotional clarity (Clarity), difficulty in engaging in goal directed behavior under distress (Goals), difficulty managing behavior when distressed (Impulse), unwillingness to accept emotional responses (Nonacceptance), and not having access to regulatory strategies when distressed (Strategies; Hallion et al., 2018). Responses are given on a 5-point Likert scale ranging “Almost Never (0-10%)” to “Almost Always (91-100%).” An item example includes “When I’m upset, I become out of control.” Higher scores indicate more difficulty in regulating emotions. The DERS-18 has been validate in community, college, and psychiatric samples and have shown high reliability over all (α = .89-.92) and in all subscales: Awareness (α = .78-.91), Clarity (α = .81-.87), Goals (α = .87-.92), Impulse (α = .84-.90), Nonacceptance (α = .87-.92), Strategies (α = .83-.87; Hallion et al., 2018; Victor & Klonsky, 2016). In the present study, reliability was good overall (α = .89), and moderate to good for all other factors: Awareness (α = .61), Clarity (α = .74) Goals (α = .80), Impulse (α = .80), Nonacceptance (α = .80), Strategies (α = .75).

Additionally, to measure suppression and reappraisal, the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) was used. It is a 10 item self-report scale on a 7-point Likert scale ranging from “strongly disagree” to “strongly agree.” The ERQ measures two facets of emotion regulation strategies, suppression and cognitive reappraisal. An item example
includes “I keep my emotions to myself”. Higher scores on the suppression facet reflect greater suppression, and higher scores on the cognitive reappraisal facet reflect greater engagement in adaptive cognitive reappraisal. The two facets of the ERQ have been found to have moderate to high reliability: Emotion Suppression (α = .68-.83) and Cognitive Reappraisal (α = .75-.86; Ali & Alea, 2018; Gross & John, 2003). In the present study, reliability was good for both scales: Emotion Suppression (α = .82) and Cognitive Reappraisal (α = .82).

**Aggression**

To measure aggression, the Buss Perry Aggression Questionnaire (AQ; Buss & Perry, 1992) was used. It is a 29 self-report questionnaire that has been used to measure aggression in adults. It is an overall measure of aggression comprised of 4 subscales: Physical Aggression, Verbal Aggression, Anger, and Hostility. Respondents indicate how much they identify with each item on a 5-point Likert scale ranging from “Extremely uncharacteristic” to “Extremely characteristic”. An item example includes: “I have become so mad that I have broken things”. Higher scores indicate a higher tendency to engage in aggressive behavior. Reliability for all scales has been found to be good: Physical Aggression (α = .82), Verbal Aggression (α = .73), Anger (α = .79), and Hostility (α = .85; Gallagher & Ashfor, 2016). In the present study, reliability was good to excellent for: overall (α = .92), Physical Aggression (α = .84), Anger (α = .80), and Hostility (α = .82), and moderate for Verbal Aggression (α = .60).

**Coping Strategies**

Coping strategies were assessed using the Brief COPE questionnaire (Carver, 1997). This is a 28 item self-report questionnaire assessing different coping behaviors. Responses are on a 4-point Likert scale ranging from “I haven’t been doing this at all” to “I’ve been doing this a lot.” It is not an overall measure of coping but is instead divided into 14 coping strategies: Self-
Destruction, Denial, Active Coping, Substance Use, Use Of Emotional Support, Use Of Instrumental Support, Behavioral Disengagement, Venting, Positive Framing, Planning, Humor, Acceptance, Religions, and Self-Blame. Previous studies have combined coping strategies to create indices of emotion focused, problem focused, adaptive, and maladaptive coping strategies (Lopez, 2014). A similar approach was used in this study. Maladaptive coping was be compromised of Venting, Behavioral Disengagement, Self-Distraction, Self-Blame, Substance Use, and Denial. Adaptive coping strategies were be compromised of Active Coping, Planning, Use Of Instrumental Support, Use Of Emotional Support, Positive Reframing, Acceptance, and Humor. Facets of the BRIEF COPE questionnaire have shown adequate to good reliability but seem to fluctuate on the population used. Internal reliability for each facet of coping are outlined: Active Coping ($\alpha=.67-.68$), Planning ($\alpha=.73$), Positive Reframing ($\alpha=.57-.64$), Acceptance ($\alpha=.57-.81$), Humor ($\alpha=.73$), Religion ($\alpha=.82$), Using Emotional Support ($\alpha=.71-.72$), Using Instrumental Support ($\alpha=.64$), Self-Distraction ($\alpha=.71$), Substance Use ($\alpha=.90$), Behavioral Disengagement ($\alpha=.23-.65$), Self-Blame ($\alpha=.69-.73$), Denial ($\alpha=.54-.72$), Venting ($\alpha=.50$; Carver, 1997; Hagan et al., 2017).

For the present study, reliabilities fluctuated between poor to adequate: Active Coping ($\alpha=.52$), Planning ($\alpha=.64$), Positive Reframing ($\alpha=.70$), Acceptance ($\alpha=.38$), Humor ($\alpha=.65$), Religion ($\alpha=.80$), Using Emotional Support ($\alpha=.60$), Using Instrumental Support ($\alpha=.65$), Self-Distraction ($\alpha=.30$), Substance Use ($\alpha=.71$), Behavioral Disengagement ($\alpha=.63$), Self-Blame ($\alpha=.56$), Denial ($\alpha=.59$), Venting ($\alpha=.48$). Additionally, an avoidant and approach scale were computed which showed good reliability, Avoidant Coping ($\alpha=.82$) and Approach Coping ($\alpha=.81$).
**Mental Distress**

Mental health distress was measured using the Patient Heath Questionnaire- 4 (Kroenke et al., 2009). This is a four item self-report questionnaire assessing distress in two dimensions, depression and anxiety. Response are rated on a four-point Likert scale where responses range from 0 “Not at all” to 3 “Nearly Every day”. The PHQ-4 is often used as a screening tool in health care settings to screen for core symptoms of depression and anxiety, higher scores indicate higher scores of depression, anxiety, or overall distress. The PHQ-4 has been validated in clinical fields as well as with college students and it has shown to have good internal reliability (α=.81; Khubchandani et al., 2016). For the present study, reliability for the overall scale and the anxiety and depression scales were good: Overall (α=.82), Anxiety (α=.72), and Depression (α=.68).

Additionally, the current study took place during a national pandemic where distress has been shown to have increased in the Unites states (Holingue et al., 2020). In order to determine whether distress reported was due to the pandemic, three additional questions of pandemic distress where implemented. Questions asked, “To what extent do you feel your (anxiety, depression, or overall mental health) has increased during COVID-19?” Responses range on a four-point Likert scale ranging from “Not at all” to “A lot” where higher scores indicate an increase in distress due to the pandemic.
Chapter 4: Results

As described earlier, the three aims of this study were to: (1) establish the link between maladaptive emotion regulation, maladaptive coping, and the willingness to engage in maladaptive behavior, (2) examine the association between emotion regulation and criminal thinking, (3) validate the Texas Christian University Criminal Thinking scales within a community sample. In addition, exploratory analysis examining correlates of criminal thinking patterns, and exploring how distress is associated with emotion regulatory strategies were planned. Analysis pertaining to these aims as well as additional exploratory analysis is described below. Data was examined using SPSS-25 and MPlus6. Analyses included, backwards stepwise regression, bivariate Pearson correlations, confirmatory factor analysis (CFA), multiple regression. Assumptions of normality were assessed.

Aim One: Emotion Regulation, Coping, and Maladaptive Behavior

The first aim was to establish a link between emotion regulation, coping, and maladaptive behavior. When both maladaptive and adaptive coping, referred to as avoidant and approach coping, were included in a regression model with over, under, and adaptive emotion regulation, they account for 55% of the adjusted variance. It is expected for emotion regulation and coping variables to correlate with each other, which could violate assumption of variable independence in regression. Multicollinearity statistics were further assessed based on the recommendations by Hair and colleagues (2015), the variance inflation factor for all variables (VIF) was below criteria (< 10). VIF statistics were all (< 2.4) signifying low collinearity among variables, even among the most highly correlated variables (Becker et al., 2015). Although constructs are correlated with each other, they uniquely contribute to the variance of willingness to engage in
maladaptive behavior and are indeed measuring different constructs. Variable correlations can be found in Table 2.

**Table 2**

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Avoidant Coping</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Approach Coping</td>
<td>.139*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Expression Suppression</td>
<td>.364**</td>
<td>-.236**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Cognitive Reappraisal</td>
<td>.110</td>
<td>.393**</td>
<td>.083</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5. Total dysregulation</td>
<td>.665**</td>
<td>-.217**</td>
<td>.467**</td>
<td>-.048</td>
<td>1</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the .01 level (2-tailed)**

**. Correlation is significant at the .05 level (2-tailed)**

Adaptive and maladaptive coping were regressed onto willingness to engage in maladaptive behavior along with emotion suppression and cognitive reappraisal. Expression Suppression significantly predicted willingness to engage in maladaptive behavior $b = .32$, $t(225) = 3.85$, $p < .001$, on the other hand, cognitive reappraisal did not predict willingness to engage in maladaptive behavior. This indicates that those who suppress their emotions are more willing to engage in maladaptive behavior. Additionally, both Avoidant Coping, $b = .753$, $t(225) = 11.18$, $p < .001$, and Approach Coping, $b = -.204$, $t(225) = -2.84$, $p = .005$ significantly predicted willingness to engage in maladaptive behavior. These results indicate that those who endorse maladaptive coping are more willing to engage in maladaptive behavior. On the other hand, those who use adaptive coping strategies are less willing to engage in maladaptive behavior.

These findings suggest that not all facets of emotion regulation or coping whether adaptive or maladaptive can have an impact of willingness to engage in maladaptive behavior. To further address which facets may be contributing the willingness to engage in maladaptive behavior, two separate backwards stepwise regressions were employed. In the first saturated model, all facets of the DERS-18 scale were used: Awareness, Clarity, Nonacceptance, Impulse, Strategies, and Goals. In each step, the variable with the highest $p$ value was eliminated until the
remaining variables were significant. In the final model, the only predictors remaining were Clarity and Impulse. Results and model information can be found in Table 3. Change in $R^2$ (-.005) was minimal, suggesting that the other factors were not contributing much to the model. Therefore, the inability to understand emotions as well as the inability to regulate impulses under distress were the most relevant predictors for predicting willingness to engage in maladaptive behavior.

Table 3
Facets of Emotion Regulation Related to Willingness to Engage in Maladaptive Behavior

<table>
<thead>
<tr>
<th>Variables</th>
<th>Full model</th>
<th></th>
<th>Final Model</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adjusted $R^2 = .550$</td>
<td>$SE = 5.849$</td>
<td>Adjusted $R^2 = .551$</td>
<td>$SE = 5.845$</td>
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<tr>
<td>Clarity</td>
<td>1.048</td>
<td>.198</td>
<td>5.285</td>
<td>&lt; .001</td>
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<tr>
<td>Impulse</td>
<td>1.174</td>
<td>.181</td>
<td>6.501</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Nonacceptance</td>
<td>-0.074</td>
<td>.182</td>
<td>-.403</td>
<td>.687</td>
</tr>
<tr>
<td>Strategies</td>
<td>0.203</td>
<td>.194</td>
<td>1.046</td>
<td>.297</td>
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<tr>
<td>Awareness</td>
<td>0.232</td>
<td>.158</td>
<td>1.468</td>
<td>.144</td>
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<tr>
<td>Goals</td>
<td>0.020</td>
<td>.158</td>
<td>1.28</td>
<td>.898</td>
</tr>
</tbody>
</table>

Significance was assessed at $p < .05$.

To further examine which coping strategies influence willingness to engage in maladaptive behavior, a backwards stepwise regression was used. In the saturated model, all coping strategies were included in the model: self-distraction active coping, denial, substance use, emotional support, use of information, behavioral disengagement, venting, positive
reframing, planning, humor, acceptance, religion, and self-blame. In each step, the variable with the highest $p$ value was eliminated until the remaining variables were significant. Results and model information can be found in Table 4.

Table 4
*Coping Strategies Related to Willingness to Engage in Maladaptive Behavior*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Full model</th>
<th>Final Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adjusted $R^2 = .532$ $SE = 5.964$</td>
<td>Adjusted $R^2 = .537$ $SE = 5.933$</td>
</tr>
<tr>
<td>Variables</td>
<td>$\beta$</td>
<td>SE</td>
</tr>
<tr>
<td>Self-Distraction</td>
<td>-.767</td>
<td>.374</td>
</tr>
<tr>
<td>Active Coping</td>
<td>.217</td>
<td>.337</td>
</tr>
<tr>
<td>Denial</td>
<td>1.352</td>
<td>.315</td>
</tr>
<tr>
<td>Substance Use</td>
<td>1.705</td>
<td>.279</td>
</tr>
<tr>
<td>Emotional Support</td>
<td>-.075</td>
<td>.314</td>
</tr>
<tr>
<td>Use of Information</td>
<td>-.225</td>
<td>.326</td>
</tr>
<tr>
<td>Behavioral Disengagement</td>
<td>.967</td>
<td>.390</td>
</tr>
<tr>
<td>Venting</td>
<td>1.071</td>
<td>.369</td>
</tr>
<tr>
<td>Positive Reframing</td>
<td>-.002</td>
<td>.296</td>
</tr>
<tr>
<td>Planning</td>
<td>-.403</td>
<td>.314</td>
</tr>
<tr>
<td>Humor</td>
<td>.389</td>
<td>.272</td>
</tr>
<tr>
<td>Acceptance</td>
<td>-.632</td>
<td>.288</td>
</tr>
<tr>
<td>Religion</td>
<td>-.070</td>
<td>.235</td>
</tr>
<tr>
<td>Self-Blame</td>
<td>.093</td>
<td>.392</td>
</tr>
</tbody>
</table>

Dependent variable: willingness to engage in maladaptive behavior. Significance was assessed at $p < .05$.

The final model suggests that self-distraction, denial, substance use, behavioral disengagement, venting, and acceptance were predictors of willingness to engage in maladaptive
behavior for this sample. The final model suggests that self-distraction, denial, substance use, behavioral disengagement, and venting were associated with higher willingness to engage in maladaptive behavior. The above-mentioned coping strategies primarily make up the facet of maladaptive coping suggesting that most maladaptive coping strategies identified are associated with higher scores of willingness to engage in maladaptive behavior. Additionally, this model did not support our hypothesis about adaptive coping strategies significantly predicting less willingness to engage in maladaptive behavior, the only adaptive coping strategy that was significant was acceptance.

**Emotion Regulation and Aggression**

To assess how emotion regulation may be associated with other forms of maladaptive behavior, specifically aggression, bivariate correlations were used. Recommendations by Cohen (1992) were used to assess strength of correlation. To minimize Type I errors due to multiple comparisons a Bonferroni correction was used. Significance level was established at $p < .003$. Aggression had a strong positive association with maladaptive emotion regulation. Total aggression scores were moderately to strongly positively associated with maladaptive emotion regulation, specifically, emotion suppression, Awareness, Clarity, Goals, Impulse, Nonacceptance strategies, and over all maladaptive emotion regulation score. Findings suggest that those who engage in more overall aggressive behavior also engage in more maladaptive emotion regulation.

When examining facets of anger separately, Physical Aggression and Anger were both positively correlated with all maladaptive emotion regulation scales. Additionally, Verbal Aggression and Hostility were also positively correlated with all factors of emotion regulation.
Table 5
Correlation Between Emotion Regulation and Aggression

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Physical Aggression</td>
<td>.612*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Verbal Aggression</td>
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<td></td>
<td>.612*</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Anger</td>
<td>.750**</td>
<td>.583**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Hostility</td>
<td>.550**</td>
<td>.536**</td>
<td>.626**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>5. Total Aggression</td>
<td>.889**</td>
<td>.763**</td>
<td>.874**</td>
<td>.823**</td>
<td>1</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6. Cognitive Reappraisal</td>
<td>0.032</td>
<td>0.017</td>
<td>-0.064</td>
<td>0.046</td>
<td>0.016</td>
<td>1</td>
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**. Correlation is significant at the .01 level (2-tailed) * Correlation is significant at the .05 level (2-tailed)

Note. Bolded correlations are significant after Bonferroni correction at the .003 level
with the exception of awareness. These findings suggest that those who have difficulty in regulating their emotions tend to engage in physical, verbal, hostility, and more anger more often. Correlations can be found in Table 5.

Notably, the adaptive emotion regulatory strategy, also known as cognitive reappraisal, was not significantly correlated with any of the measures of aggression. This may suggest that cognitive reappraisal strategies to soothe negative emotions has no influence on aggressive behavior.

**Aim Two: Emotion Regulation and Criminal Thinking**

The second aim was to examine the association between emotion regulation and criminal thinking styles. To examine this aim, bivariate Pearson Correlations were computed. All bivariate correlations can be found in Table 5. Different facets of emotion regulation were correlated with criminal thinking styles. Facets of emotion regulation were moderately positively correlated with criminal thinking styles. It is important to note that higher scores in facets of emotion regulation indicate higher dysregulation. For example, a higher score of Awareness, indicates a greater deficit in emotional awareness. Entitlement was positively correlated with almost all the emotion regulation facets, and Emotion suppression. Entitlement had a small positive correlation with Awareness $r(225) = .39, p < .001$, and a moderate positive correlation with Clarity $r(225) = .49, p < .001$, Nonacceptance $r(225) = .28, p < .001$, Strategies $r(225) = .38, p < .001$, Impulse $r(225) = .46, p < .001$, and Expression Suppression $r(225) = .373, p < .001$. These results indicate that those who endorse the cognitive thinking pattern of entitlement have a deficit in emotional awareness, emotional clarity, acceptance of emotions, impulse inhibition, and suppress their emotions instead of letting them unfold in an adaptive way.
Justification was positively correlated with all factors of maladaptive emotion regulation. There was a small positive correlation between Justification and Goals \( r(225) = .22, p = .001 \), a moderate positive correlation with Awareness \( r(225) = -.45, p < .001 \) and Nonacceptance \( r(225) = .48 \), and a strong positive correlation with all other factors: Clarity \( r(225) = .63, p < .001 \), Impulse \( r(225) = .68, p < .001 \), Strategies \( r(225) = .51, p < .001 \), and Expression Suppression \( r(225) = .57, p < .001 \). These findings suggest that those who endorse the Justification criminal thinking pattern have a deficit in emotional awareness, Clarity, and expression of emotions. Additionally, they have a hard time engaging in goal directed behavior, inhibiting impulses, and lack adaptive strategies to mitigate negative emotions.

Power Orientation was positively associated with all factors of maladaptive emotion regulation. Power Orientation had a small positive correlation with Goals \( r(225) = .18, p = .008 \), however due to the Bonferroni correction this small correlation was not significant. Power Orientation had a significant moderate positive correlation with Awareness \( r(225) = .32, p < .001 \), Clarity \( r(225) = .46, p < .001 \), Nonacceptance \( r(225) = .274, p < .001 \), Strategies \( r(225) = .34, p < .001 \), and Expression Suppression \( r(225) = .32, p < .001 \). These results suggest that those who endorsed criminal thinking patterns of Power Orientation show a deficit in understanding and expressing their emotions in an adaptive way and lack adaptive strategies to regulate negative emotions.

Higher scores in Cold Heartedness had a small positive correlation with Awareness, \( r(225) = .146, p = .026 \), however, it is important to note that this correlation was not significant at the \( p < .003 \) Bonferroni correction level. Cold Heartedness had a moderate negative and significant association with Goals \( r(225) = .22, p = .001 \) suggesting that those who endorse the criminal thinking pattern of Cold Heartedness are able to engage in Goals directed behavior.
when dealing with negative emotions. Finally, Cold Heartedness had a small negative correlation with Cognitive Reappraisal \( r(225) = .27, p < .001 \) indicating that they do not reframe their negative emotions and thoughts in an adaptive way.

Criminal Rationalization did not correlate with any of the maladaptive or adaptive emotion regulation strategies at a significant level with the Bonferroni correction. However, there was a small positive correlation with Awareness \( r(225) = .13, p = .047 \) and Clarity \( r(225) = .163, p = .014 \). This may suggest that those who engage in Criminal Rationalization may have a deficit in emotional awareness and clarity, and do not understand their negative emotions.

Finally, Personal Irresponsibility had a small positive correlation with Nonacceptance \( r(225) = .18, p = .005 \), and, however after using the Bonferroni correction, this correlation was not significant. Personal Irresponsibility also had a small negative correlation with Impulse \( r(225) = .27, p < .001 \) and Expression Suppression \( r(225) = .22, p = .001 \). Personal Irresponsibility also had a moderate positive correlation with Clarity \( r(225) = .332, p < .001 \) and Strategies, \( r(225) = .21, p = .002 \). These results suggest that those who endorse a Personal Irresponsibility thinking patterns have a difficulty understanding and expressing their negative emotions. Additionally, they lack strategies to help soothe negative emotions and impulse inhibition. Results can be seen in Table 6. Additional correlations between other factors can be found in Table 7

**Aim Three: Criminal Thinking in a Community Sample**

Aim three sought to examine the reliability and validity of the Texas Christian University Criminal Thinking Scale in a community sample. This aim was addressed by running a confirmatory factor analysis, and additional confirmatory factor analysis in order to compare different models with different factor structures. Additionally, internal reliability was assessed
### Table 6
**Correlations Between Emotion Regulation and Criminal Thinking**

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**Correlation is significant at the .01 level (2-tailed) * Correlation is significant at the .05 level (2-tailed)**

Note: Bolded correlations are significant after Bonferroni correction at the .003 level
Table 7
Correlations Between Coping, Aggression and Criminal Thinking

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using Cronbach’s alpha as a measure of reliability. Overall, internal reliability ranged from very poor to good with Cronbach’s’ alpha ranging from .15 to .88. Means, standard deviations, and reliabilities of all six-criminal thinking pattern scales can be found in Table 8. Factor loadings were extracted for a six-factor model found in Table 9. The Entitlement, Justification, and Personal Irresponsibility factors had adequate high loadings for all items. Power Orientation also had adequate factor loadings on all items except for item 15. On the other hand, Criminal Rationalization and Cold Heartedness resulted in low factor loadings. Overall, TCU CTS did not generalize to an online community sample in this study.

Table 8

| Criminal Thinking Patterns, Means and Reliabilities in a Community Sample |
|-----------------------------|-----------------|---------|
| Entitlement                 | 227             | 28.20 (15.45) | .48    |
| Justification               | 227             | 26.92 (10.67)  | .88    |
| Power Orientation           | 227             | 29.65 (13.83)  | .51    |
| Cold Heartedness            | 227             | 22.70 (6.40)   | .53    |
| Criminal Rationalization    | 227             | 33.71 (12.52)  | .17    |
| Personal Irresponsibility   | 227             | 30.02 (23.80)  | .66    |

Note. Means are shown with standard deviations in parentheses.

A confirmatory factor analysis was used to examine the factor structure of the six-factor model. A multiple imputation approach was used to address and account for missing data. To test dimensionality, factor structure was assessed using recommendations from Hu & Bentley (1999). Recommendations for model fit suggest using the following indices Chi Square ($\alpha >$05), Root Mean Square Error of Approximation (RMSEA $\leq$ 0.06), Tucker Lewis Index (TLI $\geq$ 0.95), Comparative Fit Index (CFI $\geq$ 0.95), Standardized Root Mean Square Residual (SRMR $\leq$ 0.08; Boateng et al., 2018; Hu & Bentley, 1999). Model fit indices for a six-factor model and a four-factor model are found in Table 9. A five-factor model did not converge and was therefore not
Table 9

*Confirmatory Factor Analysis: Six Factor Model Factor Loadings.*

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<td>.636</td>
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<td>29</td>
<td>.574</td>
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<td>31</td>
<td>.671</td>
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<td>36</td>
<td>.788</td>
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</tbody>
</table>

*Note.* Loadings are presented with standard errors in parenthesis based off a confirmatory factor analysis. EN = Entitlement; JU = Justification; PO = Power Orientation; CH = Cold Heartedness; CN = Criminal Rationalization; PI = Personal Irresponsibility.
produced or reported. Model fit indices suggest that the four-factor model may be a slightly better fit than the six-factor model based on the recommended model fit values. Model 6 only met recommended criteria for RMSEA while Model 4 met recommended criteria for RMSEA and SRMR. Neither the four-factor model or the six-factor model showed good model fit. These results did not support the hypothesis that the TCU CTS would have adequate fit in a community sample.

To further test model fit and find the most parsimonious model, a chi-square difference test was used. Change in CFI and RMSEA were also examined. Model change information can be found in Table 10. Based on model change for all three indices, the four-factor model seems to be a more parsimonious model. Based on model fit indices and model difference testing, the original six factor model is not a good fit for community samples. On the other hand, the four-factor model is a better fit, but model could be improved to meet recommended fit indices.

### Table 10

**Goodness-of-fit Indices to Measure Model Structure for a Six and Four Factor Model**

<table>
<thead>
<tr>
<th>Fit Index</th>
<th>Six Factor Model</th>
<th>Four Factor Model</th>
<th>Δ</th>
<th>Δ Value Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>df</td>
<td>579</td>
<td>492</td>
<td>87</td>
<td>-</td>
</tr>
<tr>
<td>$\chi^2$</td>
<td>940.92</td>
<td>708.13</td>
<td>232.79</td>
<td>&gt; 109.77</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.052</td>
<td>.044</td>
<td>.008</td>
<td>&gt;.015</td>
</tr>
<tr>
<td>CFI</td>
<td>.897</td>
<td>.938</td>
<td>.041</td>
<td>&gt;.01</td>
</tr>
<tr>
<td>TLI</td>
<td>.888</td>
<td>.921</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SRMR</td>
<td>.088</td>
<td>.036</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note. $\chi^2$ = chi square goodness of fit statistic; CFI = Comparative Fit Index; RMSEA = Root Mean Square of Approximation; TLI = Tucker-Lewis Index; SRMR = Standardized Root Mean Square Residual; Δ = Change.*

### Aim Four: Exploratory Analysis

Additional exploratory analysis were intended to examine predictors of maladaptive emotion regulation, specifically demographic characteristics. Previous literature has found that
emotion regulation skills can result as a product of the environment. However, group differences in sociodemographic factors could not be assessed due to the disproportionate distribution among groups. As described above, the majority of the sample reported being White, educated, married men, and as such any group comparison would be biased given the small number of participants who endorse different socio-demographic characteristics.

A second exploratory aim was to examine how the effect mental health distress was associated with deficits in emotion regulation strategies. To test this aim, a multiple linear regression was used. Overall distress scores from the PHQ-4 were regressed onto total maladaptive emotion regulation score. However, since, data were collected during a global pandemic, a covariate was added to control for distress created by the pandemic. This model explained 48.5% of the variance. Multicollinearity statistics were assessed due to the possible overlap between the distress construct. Multicollinearity statistics were normal, indicating multicollinearity in the model was not an issue. When increase in distress due to the pandemic is held constant, overall distress is a significant predictor of maladaptive emotion regulation \( b = 2.334, t(224) = 10.67, p < .001 \). The semi-partial correlation was used to determine how much of the variance was uniquely explained by overall distress. When removing the effects of increase in distress due to the pandemic, overall distress uniquely accounted for 26.2% of the variance. On the other hand, when removing the effects of overall distress, increase in distress due to the pandemic uniquely accounted for 2.2% of the variance. These results suggest that those who tend to score higher in depression and anxiety have a greater deficit in overall adaptive emotion regulation strategies that is not associated with the current global climate.
Chapter 5: Discussion

Emotion regulation is a transdiagnostic construct that has recently garnered interest within the criminal justice system as a target for rehabilitation (Frazier & Vela, 2014), therefore, it was important to establish this relationship and to further understand the mechanisms by which emotion regulation maintains maladaptive behavior. The association between emotion regulation and maladaptive behavior was examined within an online community sample. The present study further established the difference in constructs between emotion regulation and coping, established a relationship between maladaptive emotion regulation and implications for maladaptive behavior, where a lack of impulse inhibition and a lack of understanding emotions reflected more willingness to engage in maladaptive behavior. Furthermore, participants who endorsed criminal thinking patterns of Power Orientation, Justification, and Entitlement showed greater deficits in emotion regulation. Additionally, all facets of maladaptive emotion regulation were positively correlated with anger, hostility, physical, verbal, and overall aggression.

Emotion Regulation and Coping: Different Constructs

Emotion regulation and coping are closely associated; however, the current research supports previous literature that encourages the differentiation of these constructs (Compas et al., 2017). Measures of multicollinearity confirmed that within a multiple regression framework, these constructs differ on the information provided despite their correlations. However, it is important to note that coping strategies also have an emotion focused coping style that is often associated with maladaptive coping (Schneider et al., 2018). It was not possible to isolate a subscale of emotion focused coping using the BRIEF Cope scale (Carver et al., 1997) as analysis was selected to examine all maladaptive coping strategies in one subscale.
Emotion regulation can occur either deliberately or automatically, and is triggered by strong emotions (Linehan et al., 2007); on the other hand, coping is a controlled behavior that occurs under stress, that may or may not be associated with negative emotions (Compas et al., 2017). Predictors associated with emotion regulation were lack of impulse control lack of emotion clarity. These regulatory behaviors or cognitions are automatic and not controlled. On the other hand, maladaptive coping strategies associated with willingness to engage in maladaptive behavior were self-distraction, denial, substance use, behavioral disengagement, and venting. These are all behaviors or strategies that are chosen and deliberately employed. These coping strategies have also been used to mitigate negative emotions (Extremera et al., 2019; King et al., 2018;). This suggests that coping strategies may be influenced by emotion regulation. However, further research needs to examine how emotion regulation can influence maladaptive or adaptive coping strategies.

**Emotion Regulation, Implications for Aggression**

Aggression is another form of maladaptive behavior that has been found to be associated with emotion regulation (Brown et al., 2014; Jakupcak et al., 2002; Roberton et., al, 2011). As expected, physical and verbal aggression, hostility, anger, and overall aggression were positively correlated with almost all deficits in emotion regulation. Notably, cognitive reappraisal was not indicative of lower aggression and had no association with aggression whether positive or negative. These findings were not expected since cognitive reappraisal is a strategy often used in interventions that target anger management or aggression reduction (Takebe, 2017). Other research has shown that the effectiveness of anger reduction using cognitive reappraisal only works under nonstress inducing situations, and the effectiveness of cognitive reappraisal disappears under acute stress (Zhan et al., 2017). Another study shows that at the neural level,
cognitive behavior reduces aggression reactivity, but the effects disappear at the behavioral level. Cognitive reappraisal is not effective at reducing aggression that is a product of under regulation of emotion, or aggression that is thoughtless and impulsive (Jiang et al., 2018). Results suggest that using cognitive reappraisal as a one size fits all strategy to reduce maladaptive behavior may not be effective, especially when there is a tendency to underregulate emotions. It may be more beneficial to simultaneously address other deficits in emotion regulation such as emotional awareness and clarity since a lack of emotional understanding, or clarity, can lead to impulsivity and suppression of emotions (Flynn & Rudolph, 2010; Parrott 2001). Previous literature has associated emotion suppression and impulsivity with maladaptive behavior (Butler et al., 2007; Matsumoto et al., 2008; Roberton et., al, 2011; Hanoch et al., 2012). The current results also corroborate previous findings as they associate a lack of impulse inhibition and suppression of emotion with criminal thinking, willingness to engage in maladaptive behavior, and aggression. However, there continues to be a gap in the literature on the efficacy and effectiveness of interventions targeting deficits in emotion regulation that reduce maladaptive behavior.

**Emotion Regulation Implications for Criminal Thinking**

Criminal thinking patterns have been found to foster maladaptive behavior and promote decision making that leads to maladaptive behavior (Knight et al, 2002; Walters, 2019). Emotion regulation is thought to influence decision making associated with impulsive risky behavior that attenuate prosocial goal seeking behavior (Bowen et al., 2014; Bowen et al., 2017; Martin & Delgado, 2011; Walters, 2015). Negative emotions have been found to influence decision making. When picking a course of action during situations where negative emotions are involved, the brain will choose a course of action that has mitigated the negative emotions in the past and seek a similar course of action. This can develop into a habit or pattern of seeking
immediate gratification and placing less weight on consequences, when adaptive regulatory mechanisms are not used (Exum, 2015).

As was expected, deficits in emotion regulation were associated with different criminal thinking patterns. Endorsing cognitive thinking patterns of entitlement, justification, and Power Orientation correlated with a deficit in almost all emotion regulation facets. Cold Heartedness was not associated with deficits in emotion regulation and instead reflected active use of goal directed behavior and a negative use of cognitive reappraisal. Research on psychopathy supports the current findings. A study conducted by Long and colleagues (2015) has found cold heartedness to be associated with premeditated aggression, and not impulsive aggression. Other studies have found cold heartedness to be associated with indirect aggression, or aggression that causes psychological harm and distress to others in a way that is highly goal directed (Long et al., 2014).

Finally, Criminal Rationalization was not correlated with any of the emotion regulation strategies, however scale reliability for Criminal Rationalization was poor, which brings into question the utility and validity of the subscale. Research regarding emotion regulation and Criminal Rationalization is still lacking. Additionally, further research is needed to examine patterns of emotion regulation that may foster criminal thinking patterns or vice versa.

**Criminal Thinking in a Community Sample**

Aim three sought to examine the validity and the reliability of the Texas Christian Criminal Thinking Scale within a community sample. Findings suggest that the TCU CTS does not have good psychometric properties within an online community sample. All six scales had adequate response distributions, however internal reliabilities for scales were poor (Cortina, 1993).
Furthermore, factor loadings were extracted for a six-factor model. Factor loadings did not reflect factors delineated by Knight (2006). Instead, power orientation, entitlement, and Justification seemed to load into a single factor. Model fit indices also indicated poor model fit. A better fit was estimated for a four-factor model that demonstrated significant model improvement through both model fit indices and change in Chi-square and change in CFI. A four-factor model was more parsimonious and had adequate fit indices. Further research is needed to assess the psychometric properties of the TCU CTS in community samples.

A possible explanation for the poor psychometric properties of the TCU CTS may be the sample used. The current sample fits under Henrich and colleague’s (2010) description of a WEIRD (Western, Educated, Industrialized, Rich, Democratic, Online) sample. Weird samples typically do not have much variety in sample demographics as was reflected in the present study. The current sample may differ significantly from the justice involved sample the TCU CTS was originally validated with (Knight et al., 2006). No information regarding prior criminal history was collected from participants that can be compared to the normed sample. Additionally, scale items assume that the respondent has been detained or involved in the criminal justice system at a prior time. Information regarding criminal history was not gathered therefore the current sample cannot be compared to the normed sample. The validity should be reexamined with a population on similar online platforms, with a more diverse population, and within a community sample that is not online.

**Deficits in Emotion Regulation Risk factor for Mental Health**

The current research supports the association between emotion regulation and mental health distress. Emotion regulation has been gaining traction in the literature among individuals with mental health disorders (Cludius, Mennin & Ehring, 2020). This implies that emotional
dysregulation is a mechanism that can be targeted in a variety of mental health disorders through effective use of interventions. Emotional dysregulation has been found to be prevalent in depression, anxiety, bipolar disorder, substance use disorder, post-traumatic stress disorder, and eating disorders (Dvir et al., 2014). Maladaptive emotion regulation can be found in both clinical and subclinical disorders in traits associated with internal and external factors associated with some mental health disorders such as impulsivity, aggression, irritability, unpredictable fluctuation between emotional states, blunting or avoidance of emotions, and sustained negative emotions (American Psychiatric Association, 2013). Additionally, criminal thinking patterns have been found among psychiatric patients and justice involved samples with mental health concerns (Carr et al., 2009; Wolff et al., 2011; Wolff, et al., 2013). Further implications between the relationship between emotion regulation, criminal thinking, and mental health should be further explored.

**Limitations**

Findings of the present study are subject to limitations. First, it is not possible to draw causal inferences due to the cross-sectional nature of the study. Second, the current recruited sample is not free of sampling bias as the sample ($N = 227$) was derived from a non-probability sample on an online platform. There also seemed to be a homogeneity of participants as they were mostly White, educated men. Therefore, generalizability of the present findings is limited and may not be extended to other community samples. Another possible source of bias may derive from the platform used to conduct the survey. Researchers have suggested that MTurk workers do not pay sufficient attention to online surveys and are motivated to finish quickly bringing into question the reliability of the data (Goodman et al., 2013). Although attention checks and other precautions were put in place, some survey responses were answered relatively
quickly. Another limitation was inadequate scale reliability. Some measures showed poor reliability which can bring into question the validity and generalizability of the scales within this specific population. Finally, willingness to engage in maladaptive behavior was an ad hoc measure adapted from Shu (2020), and although reliability was good, further validation is needed. Additionally, this scale only measures willingness to engage in bad behavior, whether participants actually engage in this behavior is beyond the scope of this project.

**Implications and Future Directions**

Overall, these results suggest that maladaptive emotion regulation are associated with maladaptive behavior in the form of willingness to engage in maladaptive behavior and aggression. Additionally, the link between maladaptive behavior and emotion regulation is corroborated by the association between emotion regulation and criminal thinking patterns. Rehabilitation services and interventions can be developed or modified to target both specific emotion regulatory deficits and adaptive coping skills. The current results imply that cognitive reappraisal may not be the most effective form of intervention to reduce all types of maladaptive behavior even though it is often used in anger management and cognitive behavior therapies to reduce some forms of aggression (Jiang et al., 2018; Zhan et al., 2017). Maladaptive emotion regulation can be used as a transdiagnostic approach to reduce risky maladaptive behavior and maladaptive cognitive patterns. More research is warranted in further exploring the development of maladaptive behavior into the potential for criminal behavior. Rehabilitative services in the justice community should explore interventions targeting to reduce the deficit in adaptive emotion regulation.
References


Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quiñonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and


https://doi.org/10.1080/0735648x.2019.1619616


https://doi.org/10.1177/0093854810389550

https://doi.org/10.1207/s15327965pli1103_03


Appendix A
Demographics

Date: _____/_____/_____

Thank you for agreeing to participate in this survey. Please answer the questions below to the best of your ability.

1. What is your age? ---------------- years

2. What is your gender?
   - Male
   - Female
   - Prefer not to answer
   - Other (Please specify) __________

3. Which best describes your ethnic background?
   - American Indian/Native American/Alaska Native
   - Asian
   - Black/African American
   - Hispanic/Latino
   - White/Caucasian
   - Pacific Islander/Native Hawaiian
   - Other (Please specify) ______________________

4. What is the highest degree or level of school you have completed? If currently enrolled, highest degree received.
   - 8th grade or less
   - Some high school, no diploma
   - High school graduate, diploma or the equivalent (for example: GED)
   - Some college or vocational training
   - Associate’s degree
   - Bachelor’s degree
   - Post-graduate training or degree

5. What was your yearly household income, before taxes, in 2017?’
   - Less than $10,000
   - $10,000 to 14,999
   - $15,000 to $24,999
   - $25,000 to $34,999
   - $35,000-$49,999
   - $50,000 or more

6. What is your marital Status?
- Single
- Married
- Living as married
- Separated
- Divorced
- Widowed

Select “Green”

- Red
- Green
- Blue
- Black
- Gold
Appendix B
Willingness to engage in Maladaptive behavior

Imagine that you are in the following scenarios and had the opportunity to do each of the following things, how likely or unlikely is it that you would do each of them?

<table>
<thead>
<tr>
<th>Scenario</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stopping at a red light with a driver that cut you off and telling them off</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Keeping the extra money given by a cashier who was rude</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Throwing trash on the ground in the parking lot to avoid crowded spaces</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Fighting a name-calling stranger on the street</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Bumping into somebody who bumped into you</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Use marijuana when anxious</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Use alcohol after a bad day</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Hit someone who made you angry</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Continue delaying a meeting where you have to present</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix C

Response categories:

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<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Almost Never (0-10%)</td>
<td>Sometimes (11-35%)</td>
<td>About Half the Time (36-65%)</td>
<td>Most of the Time (66-90%)</td>
<td>Almost Always (91-100%)</td>
</tr>
</tbody>
</table>

1. ________ I pay attention to how I feel.
2. ________ I have no idea how I am feeling.
3. ________ I have difficulty making sense out of my feelings.
4. ________ I am attentive to my feelings.
5. ________ I am confused about how I feel.
6. ________ When I’m upset, I acknowledge my emotions.
7. ________ When I’m upset, I become embarrassed for feeling that way.
8. ________ When I’m upset, I have difficulty getting work done.
9. ________ When I’m upset, I become out of control.
10. ________ When I'm upset, I believe that I will remain that way for a long time.
11. ________ When I'm upset, I believe that I'll end up feeling very depressed.
12. ________ When I'm upset, I have difficulty focusing on other things.
13. ________ When I'm upset, I feel ashamed with myself for feeling that way.
14. ________ When I'm upset, I feel guilty for feeling that way.
15. ________ When I'm upset, I have difficulty concentrating.
16. ________ When I'm upset, I have difficulty controlling my behaviors.
17. ________ When I'm upset, I believe that wallowing in it is all I can do.
18. ________ When I'm upset, I lose control over my behaviors.
Appendix D
ERQ

Instructions and Items:
We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>strongly disagree</td>
<td>neutral</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>strongly agree</td>
</tr>
</tbody>
</table>

1. ____ When I want to feel more positive emotion (such as joy or amusement), I change what I’m thinking about.

2. ____ I keep my emotions to myself.

3. ____ When I want to feel less negative emotion (such as sadness or anger), I change what I’m thinking about.

4. ____ When I am feeling positive emotions, I am careful not to express them.

5. ____ When I’m faced with a stressful situation, I make myself think about it in a way that helps me stay calm.

6. ____ I control my emotions by not expressing them.

7. ____ When I want to feel more positive emotion, I change the way I’m thinking about the situation.

8. ____ I control my emotions by changing the way I think about the situation I’m in.

9. ____ When I am feeling negative emotions, I make sure not to express them.

10. ____ When I want to feel less negative emotion, I change the way I’m thinking about the situation.
Appendix E

BPAQ

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

1 = extremely uncharacteristic of me
2 = somewhat uncharacteristic of me
3 = neither uncharacteristic nor characteristic of me
4 = somewhat characteristic of me
5 = extremely characteristic of me

1. ______ Some of my friends think I am a hothead.
2. ______ If I have to resort to violence to protect my rights, I will.
3. ______ When people are especially nice to me, I wonder what they want.
4. ______ I tell my friends openly when I disagree with them.
5. ______ I have become so mad that I have broken things.
6. ______ I can’t help getting into arguments when people disagree with me.
7. ______ I wonder why sometimes I feel so bitter about things.
8. ______ Once in a while, I can’t control the urge to strike another person.
9. ______ I am an even-tempered person.
10. ______ I am suspicious of overly friendly strangers.
11. ______ I have threatened people I know.
12. ______ I flare up quickly but get over it quickly.
13. ______ Given enough provocation, I may hit another person.
14. ______ When people annoy me, I may tell them what I think of them.
15. ______ I am sometimes eaten up with jealousy.
16. ______ I can think of no good reason for ever hitting a person.
17. ______ At times I feel I have gotten a raw deal out of life.
18. ______ I have trouble controlling my temper.
19. ______ When frustrated, I let my irritation show.
20. ______ I sometimes feel that people are laughing at me behind my back.
21. ______ I often find myself disagreeing with people.
22. ______ If somebody hits me, I hit back.
23. ______ I sometimes feel like a powder keg ready to explode.
24. ______ Other people always seem to get the breaks.
25. ______ There are people who pushed me so far that we came to blows.
26. ______ I know that “friends” talk about me behind my back.
27. ______ My friends say that I’m somewhat argumentative.
28. ______ Sometimes I fly off the handle for no good reason.
29. ______ I get into fights a little more than the average person.
Appendix F
Brief COPE questionnaire (Carver, 1997)

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel, when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Then respond to each of the following items by blackening one number on your answer sheet for each, using the response choices listed just below. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU—not what you think "most people" would say or do. Indicate what YOU usually do when YOU experience a stressful event.

1 = I haven't been doing this at all
2 = I've been doing this a little bit
3 = I've been doing this a medium amount
4 = I've been doing this a lot

1. I turn to work or other activities to take my mind off things.
2. I concentrate my efforts on doing something about the situation I'm in.
3. I say to myself "this isn't real.".
4. I use alcohol or other drugs to make myself feel better.
5. I try to get emotional support from others.
6. I give up trying to deal with it.
7. I take action to try to make the situation better.
8. I refuse to believe that it has happened.
9. I say things to let my unpleasant feelings escape.
10. I try to get help and advice from other people.
11. I use alcohol or other drugs to help me get through it.
12. I try to see it in a different light, to make it seem more positive.
13. I criticize myself.
14. I try to come up with a strategy about what to do.
15. I get comfort and understanding from someone.
16. I give up the attempt to cope.
17. I look for something good in what is happening.
18. I make jokes about it.
19. I do something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I accept the reality of the fact that it has happened.
21. I express my negative feelings.
22. I try to find comfort in my religion or spiritual beliefs.
23. I try to get advice or help from other people about what to do.
24. I learn to live with it.
25. I think hard about what steps to take.
26. I blame myself for things that happened.
27. I pray or meditate.
28. I make fun of the situation.
### Appendix G

Texas Christian University CTS

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree Strongly</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. You get upset when you hear about someone who has lost everything in a natural disaster.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>2. You are locked-up because you had a run of bad luck.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>3. The real reason you are locked-up is because of your race.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>4. When people tell you what to do, you become aggressive.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>5. Anything can be fixed in court if you have the right connections.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>6. Seeing someone cry makes you sad.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>7. You rationalize your actions with statements like “Everyone else is doing it, so why shouldn’t I?”</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>8. Bankers, lawyers, and politicians get away with breaking the law every day</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>9. You have paid your dues in life and are justified in taking what you want.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>10. When not in control of a situation, you feel the need to exert power over others</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>11. When being asked about the motives for engaging in crime, you point out how hard your life has been.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>12. You are sometimes so moved by an experience that you feel emotions you cannot describe</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>13. You argue with others over relatively trivial matters.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>14. If someone disrespects you then you have to straighten them out, even if you have to get physical.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15. You like to be in control.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>16. You find yourself blaming the victims of some of your crimes</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>17. You feel people are important to you</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>18. This country’s justice system was designed to treat everyone equally.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>19. Police do worse things than do the “criminals” they lock up.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20. You think you have to pay back people who mess with you.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>21. Nothing you do here is going to make a difference in the way you are treated.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>22. You feel you are above the law.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>23. It is okay to commit crime in order to pay for the things you need.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>24. Society owes you a better life.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>25. Breaking the law is no big deal as long as you do not physically harm someone.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>26. You find yourself blaming society and external circumstances for the problems in your life.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>27. You worry when a friend is having problems.</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
28. The only way to protect yourself is to be ready to fight. & 1 & 2 & 3 & 4 & 5 \\
29. You are not to blame for everything you have done. & 1 & 2 & 3 & 4 & 5 \\
30. It is unfair that you are locked-up when bankers, lawyers, and politicians get away with their crimes. & 1 & 2 & 3 & 4 & 5 \\
31. Laws are just a way to keep poor people down. & 1 & 2 & 3 & 4 & 5 \\
32. Your good behavior should allow you to be irresponsible sometimes. & 1 & 2 & 3 & 4 & 5 \\
33. It is okay to commit crime in order to live the life you deserve. & 1 & 2 & 3 & 4 & 5 \\
34. Prosecutors often tell witnesses to lie in court. & 1 & 2 & 3 & 4 & 5 \\
35. You justify the crimes you commit by telling yourself that if you had not done it, someone else would have. & 1 & 2 & 3 & 4 & 5 \\
36. You may be a criminal, but your environment made you that way. & 1 & 2 & 3 & 4 & 5
Appendix H

PHQ-4 and Emotional Distress

Over the last 2 weeks, how often have you been othered by the following problems?

<table>
<thead>
<tr>
<th>Perception</th>
<th>Not at all</th>
<th>Several days</th>
<th>More than half the days</th>
<th>Nearly everyday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling nervous, anxious or on edge</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Not being able to stop or control worrying</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Little interest of pleasure in doing things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling down, depressed, or hopeless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

1. To what extent do you feel your anxiety has increased during COVID-19?
   - Not at all
   - Slightly
   - Somewhat
   - A lot

2. To what extent do you feel your depression has increased during COVID-19?
   - Not at all
   - Slightly
   - Somewhat
   - A lot

3. To what extent do you feel your overall mental health has deteriorated during COVID-19?
   - Not at all
   - Slightly
   - Somewhat
   - A lot
Vita

Alondra Avila was born in El Paso, Texas. She earned her Bachelor of Arts Degree in Psychology from the University of Texas at El Paso (UTEP) in 2016. She took a year off to gain field experience working in a mental health outpatient facility, a jail diversion program, and as a registered behavior technician under a Board-Certified Behavior Analyst. She was accepted into the Clinical Psychology Master’s Program at UTEP in 2018 where she worked under the supervision of Jennifer Eno Louden. She has been a recipient of a few awards and scholarships including UTEP Academic Scholarship, Stars Scholarship, AP-LS Minority Affairs Committee Travel Award, and the AP-LS Outstanding Poster Presentation. While Pursuing her master’s degree, Ms. Avila worked for the Psychology department as a Teaching Assistant and a Graduate Research Assistant and with the Social Work department as a Graduate Research Assistant. Additionally, in 2018, she worked as an intern under a certified neuropsychologist administering and scoring exams as well as preparing reports. Simultaneously, she also worked as an intern at the Juvenile Probation Department administering health assessments to juveniles and facilitating and co-facilitating group sessions. She received her master’s degree in Psychology in 2021

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This thesis was typed by Alondra Avila