Suicidality Among Individuals with a History of Criminal Behavior: A Test of The Three Step Theory of Suicide

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Abstract

Individuals involved in the criminal justice system (CJS) have higher rates of suicidal ideation than the general population and are at an increased risk of suicide. Assessing suicide risk is challenging, as research indicates that many suicide risk assessments are more predictive of suicidal ideation than suicide attempts. Therefore, there is a need to differentiate individuals who think about suicide from those at risk of attempting suicide. Drawing on a sample of 190 Canadian adults, this study examined an ideation-to-action theory, the Three-Step Theory of Suicide (3ST), among individuals with a history of criminal behavior. Lifetime prevalence of suicidal ideation was 82% for individuals with a history of criminal behavior (n = 89), with 23.6% having attempted suicide. Results demonstrated partial support for the 3ST, although the 3ST did not replicate as expected for individuals with a history of criminal behavior. Implications and directions for future research are discussed.

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Suicidality is a significant public health issue that disproportionately affects marginalized and socially isolated individuals, including those who have been involved in the criminal justice system (CJS; Favril et al., 2020; Janca et al., 2022). Additionally, while it is estimated that over 700,000 suicides occur globally each year (Lovero et al., 2023), the rate of individuals who experience suicidal ideation or make non-lethal suicide attempts is even higher (Klonsky & May, 2014; Nock et al., 2008). Although the majority of those who experience suicidal ideation do not go on to attempt suicide, these individuals often suffer from a decreased quality of life (Klonksy et al., 2016), with persistent suicidal ideation over time significantly increasing risk for future attempts (Rudd et al., 2011). Thus, understanding the process by which suicidal ideation leads to suicidal behavior is critical to our ability to detect and prevent suicide. This is especially important for justice involved individuals, who have higher prevalence rates of suicidal ideation and self-injurious behavior than the general population (Zhong et al., 2021; Favril et al., 2020). These individuals also have higher rates of completed suicides when incarcerated (Power & Brown, 2010) and are seven times more likely to die by suicide post-release (Janca et al., 2022). Therefore, a more comprehensive understanding of these elevated risks is essential to improved assessment with the ultimate goal of reducing suicidality in this population.

Assessing suicide risk in justice-involved populations is a challenging endeavour that requires a holistic approach, one that recognizes the unique experiences of those within the CJS. Indeed, understanding suicide risk can allow scholars and practitioners to target specific risk factors, which may be shared or differ for those in contact with the CJS. However, while a handful of validated suicide screening tools exist (e.g., Suicide Risk Assessment Scale, Daigle et

al., 2006; Suicide Probability Scale, Naud & Daigle, 2010; Columbia-Suicide Severity Rating Scale, Posner et al., 2011), no currently available tool exceeds another in its ability to accurately predict suicide (Brown et al., 2017). Moreover, the assessment of suicide risk is often complicated by the fact that many of the most common risk factors for suicide are more predictive of suicidal ideation than suicide attempt (Klonsky & May, 2015; Klonksy et al., 2021). This disparity has clinical implications for those working in front-line roles, who may face challenges when trying to distinguish between the presence of suicidal ideation and the risk of a suicide attempt. Therefore, researchers have increasingly advocated for more holistic and comprehensive theories to inform the detection and prevention of suicide. One such approach has been the development of ideation-to-action theories of suicide, which attempt to account for the process by which suicidal ideation progresses to suicidal behavior and attempts (Joiner, 2005; Klonksy & May, 2015; O'Connor, 2011).

Ideation-to-action theories propose that the transition from suicidal thoughts to behaviors is guided by distinct processes and factors (Klonksy et al., 2018). That is, what contributes to the development of suicidal ideation is related but different from what contributes to an individual's decision to take their own life (Klonksy et al., 2018). The Three-Step Theory of Suicide (3ST; Klonksy & May, 2015) is the most recent ideation-to-action theory, and it suggests that suicidal ideation develops through an individual's effort to reduce psychological pain in the absence of hope. More precisely, if someone experiences life as inherently painful and has no hope that their situation will improve, a desire to reduce that pain (end one's life) occurs (Dhringra et al., 2019; Klonksy et al., 2021). However, according to the 3ST, suicidal ideation only progresses to suicidal action when it is accompanied by low levels of connectedness and increased levels of capacity for suicide (Klonsky et al., 2021). These factors are also relevant to the experiences of

justice-involved individuals, given that research has identified pain and hopelessness as contributing factors to suicidality in this population (Favril et al., 2020; Mills et al., 2005; Moore et al., 2021), and that many justice-involved people encounter barriers to maintaining meaningful connections (Carr & Ponce, 2022; Zhong et al., 2021).

To date, the 3ST has been explored with clinical populations (Tsai et al., 2021), post-secondary students, (Dhringra et al., 2019), and the general public (Klonsky & May, 2015). The theory has yet to be examined with justice-involved populations or individuals who engage in criminal behavior but do not have any justice involvement. The present study begins to address this gap by testing the 3ST among individuals who have a history of criminal behavior or involvement with the CJS. Considering that rates of suicidality are disproportionately higher among justice-involved people (Cramer et al., 2017; Favril et al., 2020), and that the 3ST outlines many factors relevant to justice-involved individuals, this theory may offer valuable insight and utility for suicide risk assessment and treatment with this population.

Defining Suicidal Ideation, Attempt, & Non-Suicidal Self-Injury

The phenomenon of suicidality is multifaceted and complex, consisting of a wide range of behaviors and cognitions (Gvion et al., 2015). Suicidality is a term that encompasses suicide ideation, attempts, and non-suicidal self-injury (NSSI; Cramer et al., 2017). These terms are frequently operationalized inconsistently across the literature, which has been noted as a limitation to the progression of suicide research and theory (Klonsky et al., 2016). The following section provides a brief overview of how these terms are defined in the present paper.

First, suicidal ideation refers to thinking about, planning, or having a desire to die by suicide (Harmer et al., 2022). The intensity of suicidal ideation can vary from passive to active ideation, and it can range from thoughts of wanting to die or not wake up, to preoccupations with

violently injuring oneself (Harmer et al., 2022). Second, NSSI is generally defined as causing bodily harm to oneself that is not socially acceptable, without the intent to die (Power & Usher, 2011). People who engage in NSSI do so for a variety of reasons, including to regulate themselves or to reduce negative affective states (Klonsky & May, 2015; Walker et al., 2020). Similar to suicidal ideation, the frequency and intensity of NSSI can fluctuate. Common examples of NSSI include self-harming through cutting or burning oneself, skin carving, banging one's head against a wall, and punching or hitting oneself (Cramer et al., 2017; Klonksy et al., 2016). Lastly, attempted suicide refers to a person's nonfatal effort to cause harm to themselves with the intent to die, regardless of whether the attempt results in injury. Suicide refers to death caused by self-directed violence with the intent to die (Klonsky et al., 2016).

Suicidality Among Justice-Involved Individuals

Individuals who come into contact with the criminal justice system are increasingly more likely to experience suicidality than those without any criminal justice involvement (Jones & Maynard, 2013; Favril et al., 2020). For example, in a prison sample of 3139 inmates, Jenkins et al. (2004) found that 40% of men and 55% percent of women had experienced thoughts of suicide in their lifetime, where Power and Brown (2010) have outlined that the prevalence of NSSI among incarcerated individuals in Canada is upwards of 32%, and data continues to demonstrate that suicide is one of the leading causes of mortality in prisons (Butler et al., 2018; Marzano et al., 2016). This phenomenon has been attributed to a variety of potential factors, such as the increased prevalence of mental health and substance use disorders among this population, as well as histories of trauma, victimization, and social disadvantage, all of which have been linked to increased risk of both suicide and criminal offending (Janka et al., 2022). Moreover, the stress and isolation associated with incarceration, along with the stigma of a criminal record, may

exacerbate existing mental health issues and feelings of hopelessness, thus elevating risk for suicidality (Gullotta et al., 2021).

However, true prevalence estimates of suicidality among individuals who are justice-involved are difficult to obtain due to the relative paucity of research on suicide in corrections (Cramer et al., 2017), methodological barriers (Hayes, 2013), and barriers to accessing populations of individuals who are serving their sentences in the community, who are on remand, or who have been charged but not convicted of a crime (Webb et al., 2011). In addition, the focus of suicide research with this population often involves prison samples, which excludes a large proportion of individuals who have had contact with the CJS but who have not been incarcerated, or individuals who have engaged in criminal behavior but who have not come to the attention of law enforcement. Specifically, there are many types of illegal activities that are less likely to be reported, and therefore, less is known about individuals who engage in illegal behavior but do not come to the attention of law enforcement. This may include perpetrators of domestic or sexual violence, or individuals who engage in illicit substance use, theft, financial crimes, or other non-violent crimes.

With that said, some research has outlined the experiences of individuals within the community who have had some form of contact with the justice system. For instance, King et al. (2015) found that 13% of all suicides in the United Kingdom involved individuals with some form of criminal justice experience leading up to their death. In their study, suicide risk was elevated for individuals who had received a police caution, completed a community sentence, been on remand, or were recently released from prison (King et al., 2015). Similarly, Linsley et al. (2007) conducted a study that looked at police contact in the months leading up to death by suicide. In their sample of 205 cases of suicide deaths, Linsley et al. (2007) found that 12% (*n* =

24) had contact with the police as an accused within the 3-month period leading up to their death. Additionally, 3.4% (n = 7) of individuals who had contact with the police as both a victim and accused within the 3-month period took their own lives. Overall, these findings highlight the importance of conducting additional research on suicidality among individuals who engage in criminal behavior but who do not necessarily receive prison sentences, and they shed light on the intersections between suicidality and criminality.

Suicidality & Criminality: Overlapping Contributors

Traditional responses to suicidality tend to be pathology-oriented and guided by the medical model (White et al., 2015), which largely ignores social factors that contribute to suicide risk. Although there are several factors on the individual level that make some people more vulnerable to suicidality than others, there are also factors that exist on a broader social level that serve to exacerbate pre-existing vulnerabilities; together, the combination of social and individual factors come to form each persons' unique risk profile (O'Conner & Nock, 2015). For instance, rates of suicidality are notably higher among those who experience poverty (Stack, 2021), who have low educational attainment or who experience social marginalization and discrimination (e.g., individuals who identify as 2SLGBTQI+, racialized individuals; Shepherd et al., 2023; Wiglesworth et al., 2022). Additionally, there is substantial overlap between social factors contributing to suicidality and social factors associated with criminal behaviour. For instance, issues of homelessness or transient living, barriers to accessing healthcare, and the lack of positive support networks often observed in the lives of justice-involved people have been found to contribute to an individual's inability to cope effectively with their circumstances (Nishar et al., 2023). These factors also have important implications for recidivism. To illustrate, previous research has found that individuals who are employed, housed, and who have strong family ties

or positive peer supports are less likely to recidivate (Bonta & Andrews, 2023; Berg & Heubner, 2011; Mowen & Boman, 2018).

The overlap of factors related to both offending and self-directed violence (i.e., suicidality) emphasizes the importance of addressing broader social issues that may better inform prevention and intervention strategies. As noted by Klonksy and May (2015), any intervention designed to address suicidality should decrease pain and hopelessness, increase connectedness, and reduce capacity. Through the lens of the 3ST, we can begin to understand the ways in which social issues and risk factors for suicide impact pain, hopelessness, connectedness, and capacity for suicide.

Risk Factors for Suicidality

While risk-relevant factors for suicide among justice-involved people are similar to those in the general population (e.g., emotion dysregulation, social isolation, family history of suicide, and mental illness, etc.; Labrecque & Patry, 2018), some factors are uniquely exacerbated by criminal trajectories and correctional institutions (Edgeman & Clay-Warner, 2019; Hensel et al., 2020). For instance, many people who come into contact with the criminal justice system have done so through pathways of social marginalization (Roy et al., 2016; Yessine & Bonta, 2009), childhood maltreatment (Hughes et al., 2020) and intergenerational trauma (Cesaroni et al.,2018), each of which have the potential to elevate the risk for mental health challenges. To illustrate, Hensel et al. (2020) reported that over a third (38.9%) of all justice-involved people in Canada suffer some form of mental illness.

Social marginalization, aversive childhood experiences, and mental illness have each been linked to increased risk for suicidality in the general population (Dozois, 2019). However, these

factors are also present for justice-involved populations. In a global systematic review of 77 studies, Zhong et al. (2021) investigated risk factors associated with prison suicides. Overall, the most prevalent risk factors included a) the presence of suicidal ideation, b) a history attempted suicide, c) a history of self-injurious behavior, d) residing in a single cell, and e) having a psychiatric diagnosis. Additionally, several characteristics have been associated with increased lethality of suicide attempts in prison, including decreased use of substances, positive staff interactions, and the presence of a personality disorder (Magaletta et al., 2008). Therefore, many scholars have argued that the environment of incarceration itself is a substantial risk factor for suicidality (Cramer et al., 2017; Gooding et al., 2017), where increases in social isolation, hopelessness, and loss of autonomy each contribute to institutional risk factors for suicide among people with underlying vulnerabilities (Office of the Correctional Investigator of Canada, 2014).

The ways in which these factors interact and contribute to suicidal ideation or attempt among some people and not others remain unknown. Some preliminary research has suggested that psychological pain and a lack of social connectedness within prisons have been linked to the progression from suicide ideation to attempt (Favril et al., 2020), whereas others have suggested that exposure to stress and feeling hopeless about the future increase suicide risk for people in the justice system (Moore et al., 2021). Nevertheless, the diversity of risk factors for suicidality prompts a need to differentiate justice-involved individuals who think about suicide from those who attempt or are at risk of attempting suicide (Favril & O'Connor, 2019) That is, there is an important distinction to be made between those who experience suicidal ideation only and those who go on to attempt suicide (Klonsky et al., 2021).

Previous research has identified several factors among justice-involved individuals that differentiate those with a history of ideation from those with a history of attempting suicide. For

example, in a sample of 17,891 incarcerated men in the United States, Favril et al. (2020) compared individuals who attempted suicide to those who had experienced suicidal ideation but never made an attempt. Twenty-four percent of this sample had a lifetime history of suicidal ideation, whereas 14% had a lifetime history of attempted suicide. Overall, the authors found that those who had attempted suicide were more likely to be violent offenders, more likely to have a history of sexual and/or physical trauma, and more likely to have a traumatic brain injury compared to those who had only experienced suicidal ideation. Favril and O'Connor (2021) found similar results in their Belgian sample of 1326 adult offenders, where 44% reported a lifetime history of suicidal ideation, and 47% reported having attempted suicide in the past. In their study, Favril and O'Connor (2021) discovered that factors of substance use, self-reported mental health disorders, and violent offending differentiated between those with ideation and those who had attempted suicide.

Challenges Assessing Suicide Risk

The detection and prevention of suicide is a persistent challenge within correctional institutions (Cramer et al., 2017), and it is associated with a high cost to human life, while it also threatens the well-being of staff and introduces a heavy financial burden for society and institutions through the consumption of resources (Brown & Power, 2010). Thus, the issue of suicide risk remains an important priority, and there are several approaches to suicide risk screening in Canadian correctional environments. Most notably, the suicide screening tools used by the Correctional Service Canada (CSC) include the Columbia-Suicide Severity Rating Scale (Posner et al., 2011), the Suicide Potential Scale (Wichman et al., 2001), the Depression, Hopelessness and Suicide Screening Form (Mills & Kroner, 2005), the Suicide Risk Assessment Scale (Daigle et al., 2006), and the Suicide Probability Scale (Naud & Daigle, 2010).

While the existing instruments have provided utility in combination with clinical judgement, a review of existing screening tools used by the CSC has indicated that no tool exceeds another in its ability to accurately detect suicide risk (i.e., attempted or completed suicide; Brown et al., 2017). It also remains unknown whether the existing measures can accurately detect individuals at risk of suicide, given a multitude of individual and systemic barriers (Gould et al., 2017), and the need to differentiate between ideation and attempt. Some individual barriers include misunderstandings of test items due to cultural differences and a reluctance to self-disclose vulnerabilities, whereas systemic barriers consist of time restraints with incarcerated persons and variability in training received by those administering risk assessments (Gould et al., 2017).

Despite the challenges in assessing suicide risk, the CSC has implemented a suicide prevention strategy that outlines the assessment and management of suicidal inmates in federal institutions. The strategy includes suicide screening upon arrival, staff training for suicide prevention, suggestions for suicide watch and modifications of the physical environment, and intervention procedures (Office of the Correctional Investigator of Canada [OCI], 2014). Unfortunately, the most recent and publicly available information about CSC's policies for suicide prevention is a decade old, where the OCI (2014) mentioned that CSC does not lack an evidence-based policy for suicide prevention; instead, institutions have fallen short in effectively implementing strategies at all levels of the correctional environment. Arguably, curtailed efforts towards effectively detecting and preventing suicide may largely be due to institutions being understaffed and underfunded (Cramer et al., 2017), as well as the challenges in differentiating between suicidal ideation and attempt (Favril & O'Connor, 2019). Finally, less is known about the procedures of provincial institutions as they relate to the detection and prevention of suicide,

although there have been several suicide-related deaths in recent years that have garnered media attention, many of which occurred while the individual was awaiting trial and have been attributed to understaffing. (for details on these cases, see Bousquet, 2024; Bowden, 2023; Ryan, 2024; Tutton, 2024). With that said, ideation-to-action theories of suicide may enhance the abilities of institutions and other settings dealing with high-risk populations to better detect and prevent suicide. The following section provides an introduction to ideation-to-action theories of suicide, with a particular focus on the 3ST.

Ideation-to-Action Theories of Suicide

Several theories have contributed to the progression of suicide research, many of which have focused on aspects related to social integration, psychological pain, negative reinforcement, isolation, and hopelessness (Durkheim, 1951; Joiner, 2005; Klonsky & May, 2014; O'Conner, 2011). Since the early 2000s, researchers and practitioners have proposed and built upon "ideation-to-action" theories of suicide to account for the process by which suicidal ideation develops and leads to suicidal behaviors. As briefly mentioned previously, ideation-to-action theories of suicide attempt to account for the differences between suicidal ideation alone and the progression of suicidal ideation to suicide attempts (Klonsky et al., 2018). The current leading ideation-to-action theory that has garnered the most empirical support is Joiner's (2005) Interpersonal Theory of Suicide (IPTS), followed by O'Conner's (2011) Integrated Motivational-Volitational Model (IMV), and most recently, Klonsky and May's (2015) Three-Step Theory of Suicide. The following section provides a brief introduction to these theories, followed by a more detailed exploration of the 3ST and its potential relevance to suicidality among justice-involved populations.

Interpersonal Theory of Suicide (Joiner, 2005)

The IPTS suggests that both the presence of suicidal ideation *and* the capacity to follow through are necessary for attempted and completed suicides. According to Joiner (2005), an individual's desire to live is driven by two fundamental human needs: connection and interpersonal effectiveness. Conversely, the desire to end one's life is driven by an individual's perceived burdensomeness and sense of thwarted belongingness. That is, if someone perceives themselves to be a problem to others, or that their presence negatively affects the people around them, they may consider themselves as ineffective, burdensome members of society (Joiner, 2005; Van Orden et al., 2015). Additionally, if an individual's inherent need to belong is not met, whether that is through family ties or general social connectedness, that person may experience a sense of isolation and loneliness (Joiner, 2005; Van Orden et al., 2015). Therefore, according to the IPTS, it is the combination of perceived burdensomeness and thwarted belongingness that contributes to an individual's desire to die, but it is not enough to meaningfully predict whether they will go on to attempt suicide (Chu et al., 2017; Van Orden et al., 2015).

The second aspect of Joiner's (2005) theory elaborates on the conditions that contribute to the progression from ideation to attempt, where an individual must have acquired the ability to die by suicide. While acquired ability includes access to lethal means, it also includes more nuanced components. For instance, acquired capacity could include a person's pain threshold, biological predisposition to impulsivity, prior exposure to violence or trauma, or habituation to pain through prior self-harm (Klonsky et al., 2018). In sum, the IPTS suggests that those with high levels of perceived burdensomeness, thwarted belongingness, and acquired capability would be at an elevated risk for suicide.

A considerable body of research has emerged since the development of the IPTS, and a handful of studies have synthesized findings on its theoretical assumptions. For instance, Ma et al. (2016) conducted a systematic review of studies examining the central components of the IPTS. Their review yielded 66 studies that outlined mixed results for the theory's predictions. Ma et al. (2016) found the most studies focused on the effect of perceived burdensomeness (i.e., I am a burden to others) on suicidal ideation, where 22.6% focused on the main effect of thwarted belongingness (i.e., lack of connection) on suicidal ideation, and even fewer studies focused on the main effect and interactions for suicide capability (i.e., capacity for suicide). A handful of studies in the review found that the interaction between perceived burdensomeness and thwarted belongingness on suicidal ideation was stronger at high levels of perceived burdensomeness, and several studies found that thwarted belongingness predicted suicidal ideation across various samples (Ma et al., 2016). However, of those studies that looked at thwarted belongingness, over half were non-significant. Ma et al. (2016) attributes these non-significant findings to other covariates beyond perceived burdensomeness. Additionally, among studies where thwarted belongingness was significant, this construct accounted for only 6% of the variance in suicidal ideation.

In a later systematic review and meta-analysis, Chu et al. (2017) found support for the IPTS, although studies were sometimes mixed and many effect sizes for the central components of the IPTS ranged from small to moderate. Their meta-analysis reported effects from 114 articles consisting of 122 samples. Overall, Chu et al. (2017) found weak to moderate relationships between higher levels of thwarted belongingness and more severe suicidal ideation, as well as small effect sizes for the relationship between suicide capacity and suicide attempts. Thus, while the IPTS has been a valuable framework for understanding suicidal ideation and behavior, the

mixed support for this theory underscores a need for continued refinement and consideration of other models of suicidality. Importantly, the IPTS has been instrumental in laying the foundation for the development of other ideation-to-action theories of suicide.

Integrated Motivational-Volitional Model (O'Connor, 2011)

O'Conner (2011) later expanded on the IPTS by introducing a phased model of suicidality that is grounded in the Theory of Planned Behavior (Icek, 1991). Within the IMV, O'Conner (2011) proposed that suicidal ideation results from a combination of the pre-motivational phase and the motivational phase, whereas suicidal behavior (SIB, NSSI, and attempts) comprises the volitional phase. These phases are an amalgamation of diathesis-stress factors (biological predispositions and environmental variables) and an individual's cognitive appraisal of events concerning defeat, humiliation, and entrapment (O'Conner, 2011). Within the IMV, the pre-motivation phase encompasses biological, psychological, and environmental vulnerabilities that are hypothesized to contribute to heightened risk of experiencing a sense of defeat and entrapment in the presence of life stressors (O'Connor & Kirtley, 2018). The motivational phase proposes that suicidal ideation develops from defeat and humiliation, which leads to an individual feeling a sense of unavoidable entrapment within one's circumstances, especially where there is a sense of "threat to self" which can include a variety of psychological factors such as social problems or a propensity towards rumination (O'Connor & Kirtley, 2018). That is, those who feel trapped within their circumstances may view suicide as a way to escape these aversive states. Lastly, the volitional phase encompasses the relationship between suicidal ideation and behavior, where suicidal ideation can contribute to suicidal behavior through various moderators, such as access to lethal means.

Although the IMV is a less parsimonious theory compared to the IPTS and 3ST, it has also contributed to the progression of suicide research and ideation-to-action theories of suicide. It has been subject to less research compared to the IPTS, although a review by Souza et al. (2024) recently synthesized findings from 100 studies exploring the IMV, where results provided partial support for O'Connor's (2015) model of defeat and entrapment on suicidal ideation. Overall, results supported the pre-motivational phase of the IMV, where various factors contributed to an individual's vulnerability towards defeat and entrapment, although concerns were raised in a handful of studies regarding the generalizability of these findings (Souza et al., 2024). In terms of the motivational phase, the majority of studies in this review found evidence for the pathways from defeat and entrapment towards suicidal ideation. However, a range of moderators for motivations and "threat to self" factors revealed mixed findings, as did results for the volitional phase.

Ultimately, the IMV attempts to combine previous knowledge of suicidal ideation and behaviour to propose a predictive model of suicide risk that is determined by stage-specific variables (O'Conner, 2011), and the factors outlined in the model have received some empirical support. However, there remains a need for a model that can more distinctly differentiate between suicidal ideation and suicide attempts.

The Three Step Theory of Suicide (Klonsky & May, 2015)

Although both Joiner (2005) and O'Conner (2011) made important contributions to the suicidality literature, Klonsky and May (2015) argued that these theories still fell short in distinguishing motivations for suicidal behavior from the presence of suicidal ideation. Therefore, building upon previous theories, Klonsky and May (2015) proposed the 3ST, suggesting that suicide risk can be better understood through four factors: pain, hopelessness, connectedness and

capacity. By focusing on just four factors, rather than a wide range of variables, the 3ST offers a more straightforward and parsimonious framework that may be useful in contributing to our understanding of suicide risk.

Klonksy and May (2015) define pain as primarily psychological, although they intentionally do not delineate the type of pain. According to the 3ST, and guided by behavioral psychology, pain can arise from various sources that shape behavior, similar to punishment (Klonksy & May, 2015). Therefore, the construct of psychache is most often used to operationally define pain in 3ST studies, where psychache refers to the experience of intense psychological pain that is not context-specific and is distinct from other forms of psychological distress (e.g., depression; Pereira et al., 2010). The construct of hopelessness within the 3ST is in line with Beck et al.'s (1974) conceptualization, where hopelessness refers to a cognitive state characterized by negative expectations of the self, the future, and the world. Connectedness, on the other hand, is broadly defined and refers to any portion of a person's life that provides them with a reason and purpose to live (Klonsky et al., 2021). For instance, connectedness may encompass a person's affiliation with their community, kinship ties with family or friends, or a bond with a pet (Klonksy et al., 2021). Within 3ST studies, connectedness is most often operationally defined using the belongingness subscale of the Interpersonal Needs Questionnaire used in IPTS studies (Van Orden et al., 2015). Lastly, the 3ST defines capacity as the acquired, dispositional, and/or practical capability for suicide. Acquired capacity involves factors a person has learned throughout their life regarding fear and pain and whether they have habituated to these factors through experience (Klonsky et al., 2021). Experiences that increase a person's acquired capability may include a previous history of abuse, NSSI, self-injurious or reckless behavior, or drug use. On the other hand, dispositional capacity is associated with a person's

environmental and genetic predispositions surrounding pain tolerance and avoidance (Klonsky et al., 2021). For instance, individuals who are highly sensitive to pain or have a phobia of blood would have low dispositional capacity towards suicide and vice versa (Klonksy et al., 2021) Lastly, practical capacity encompasses a person's ability to engage in a suicide attempt through their familiarity with lethal means and their ability to acquire them (Klonsky et al., 2021). The following section provides an overview of how these factors can be understood and conceptualized through each step of the 3ST, which occur in logical, not chronological, order (Klonsky et al., 2021).

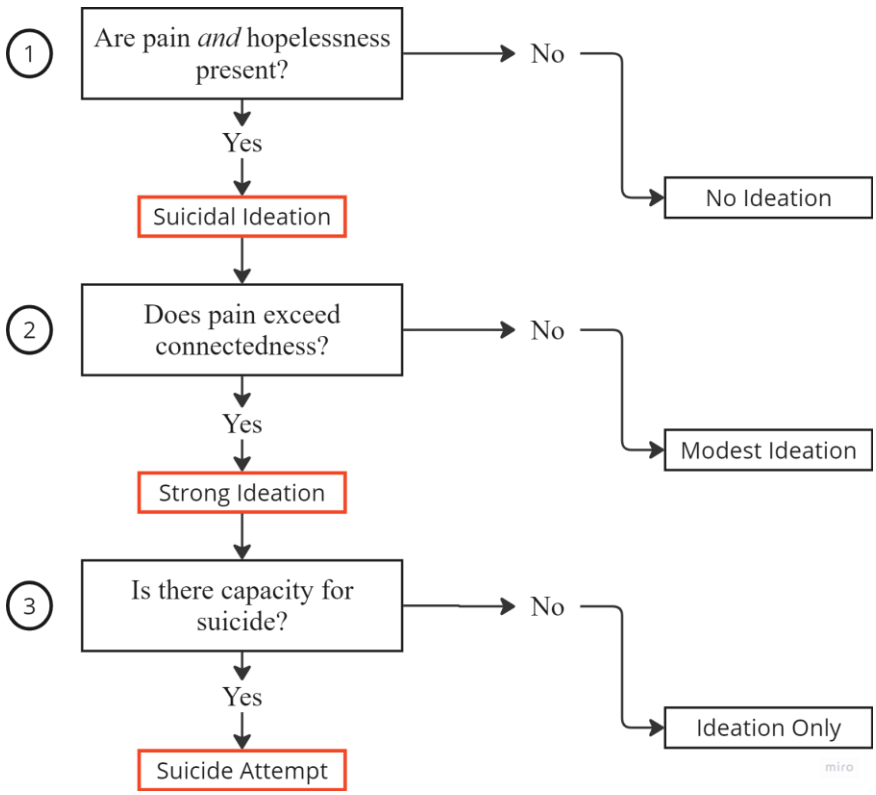
According to the 3ST, it is the interaction between pain and hopelessness that contributes to the development of suicidal ideation, whereas connectedness can moderate this relationship by either increasing or decreasing the severity of ideation. Moreover, the progression from ideation to attempt occurs in the absence of connectedness, but only if there is a presence of dispositional, acquired, or practical capacity. Therefore, proponents of this theory suggest that any program or intervention designed to reduce suicide should a) decrease pain, b) increase hope, c) foster connectedness, and d) reduce capacity (Dhringra et al., 2019; Klonsky et al., 2021).

Importantly, the 3ST does not discount the presence of empirically supported risk factors for suicide. Rather, the 3ST is a way of understanding the effect of these risk factors on pain, hopelessness, connectedness, and suicide capability (Klonksy et al., 2021). For example, if depression was a prominent risk factor for an individual, one would look at how an individual’s depression impacts their pain, their hope regarding the future, and their ability to connect with others. Viewing risk factors for suicide through the lens of the 3ST may be particularly useful in practice, where practitioners can target risk factors and their influence on each of the proposed components within the 3ST. A visual overview of the 3ST is presented in Figure 1. For a more

comprehensive understanding of these components, a summary of each step of the 3ST is presented below.

Figure 1

Klonksy and May's (2015) conceptualization of the 3ST.



Step One: Pain and Hopelessness Interact to Predict Suicidal Ideation.

Step One of the 3ST describes that both pain and hopelessness must be present for the development of suicidal ideation. That is, pain alone is not sufficient to create a desire to die by suicide (Klonsky et al., 2021); someone may report painful emotions, but if they are hopeful that these emotions are impermanent, then hope will alleviate pain. The first step of the 3ST aligns with the behavioral view of negative reinforcement. For instance, Klonksy et al. (2021) have

described how human beings are biologically inclined to avoid pain as it is an adaptive response that assists in our species' survival. Similarly, if an individual experiences life as inherently painful, then a desire to reduce that pain occurs. Suicidal ideation and behaviors can be viewed as a response to reduce such pain, and these responses can become maintained by their negatively reinforcing qualities (Nelson-Grey et al., 2007). In addition, Klonsky and May (2015) have proposed that if the desire to reduce such pain is accompanied by feelings of hopelessness, then there is a greater probability that suicide ideation will develop.

Step Two: Connectedness Protects Against the Progression from Ideation to Attempt

Step Two of the 3ST expands on the progression from ideation to action, suggesting that a person's sense of connectedness is an essential moderator for pain (Klonsky et al., 2021). More precisely, if an individual's level of pain transcends their sense of connectedness, their likelihood of experiencing more severe suicide ideation increases (Klonsky et al., 2021). In contrast, if their sense of connectedness outweighs their levels of pain, their inclination toward harming themselves is reduced (Klonsky et al., 2021). However, while connectedness can protect against the progression of suicidal ideation, there are also situations in which a person has high connectedness, but their experiences of pain are so severe that their ability to fully experience connectedness is suppressed (Klonsky et al., 2021).

Step Three: Capacity Impacts the Progression from Ideation to Attempt

Finally, Step Three illustrates the circumstances surrounding an individual's capacity, or capability, to follow through with a suicide attempt. While reducing access to lethal means (firearms, adding fences to bridges, etc.) has been a primary focus of suicide prevention, both Joiner (2005) and Klonsky et al. (2021) suggest that capacity for suicide goes beyond an individual's access to lethal means and is composed of acquired, dispositional, and practical

capabilities. According to the 3ST, capability is grounded in the ability to mitigate the fear of suicide, while also having practical ability to attempt suicide (Klonksy et al., 2021). Additionally, one does not need to meet all three subtypes of capability outlined in the theory, they can simply have met the threshold for one or all three subtypes.

Empirical Evidence for The 3ST

In Step One of the initial study examining the 3ST, Klonksy and May (2015) hypothesized that an interaction between pain and hopelessness would predict suicidal ideation, and that this interaction would predict suicidal ideation above and beyond the model proposed by Joiner (2005), which suggested that perceived burdensomeness and thwarted belongingness interact to predict suicidal ideation. Next, for Step Two, Klonksy and May (2015) hypothesized that connectedness would protect against suicidal ideation for individuals high on both pain and hopelessness. Finally, for Step Three, the authors hypothesized that suicide capacity (dispositional, acquired, and practical) would differentiate those who have attempted suicide from those who have experienced suicidal ideation only (Klonksy & May, 2015). These hypotheses were examined with a sample of 910 individuals in the United States recruited through Amazon Mechanical Turk, of which 191 indicated having a history of suicidal ideation or attempt.

Klonsky and May (2015) found strong support for all three hypotheses in this study. For Step One, the authors found that pain (r = .55) and hopelessness (r = .57) were significantly related to suicidal ideation, and strongly related to one another (r = .63). In addition, the authors reported a significant interaction between pain and hopelessness (t = 6.35, p < .001), where suicidal ideation increased as hopelessness increased, and where the model accounted for 41% of the variance in suicidal ideation (Klonsky & May, 2015). For Step Two, connectedness was assessed using the belongingness subscale of the Interpersonal Needs Questionnaire, which is

also used in studies examining Joiner's (2005) Interpersonal Theory of Suicide. Results from the analysis for Step Two revealed that a) connectedness was related to suicidal ideation among those high on both pain and hopelessness (r = .36; n = 283), and b) connectedness predicted lower levels of suicidal ideation for those high on both pain and hopelessness compared to everyone else (Klonsky & May, 2015). Lastly, for Step Three, the authors used a series of *t*-tests to compare suicide capacity between individuals with a history of ideation but no attempt (n = 246) to those with a history of attempt (n = 127). Findings from these analyses revealed that suicide capacity significantly differed between the ideation and attempt subgroups (d = .42, p < .001).

Since its publication in 2015, the 3ST has garnered considerable interest. It has been applied among practitioners in suicide prevention and intervention, included in continuing education courses, and has been the subject of several replication studies (Klonksy et al., 2021). For instance, Yang and colleagues (2018) replicated the findings of the original 3ST study in a sample of 1,097 post-secondary students in China. Similarly, Dhringra et al. (2019) designed and executed a replication study in the United Kingdom with 665 post-secondary students. Results from this study were highly similar to Klonsky and May's (2015) study, where all three hypotheses were strongly supported. The 3ST has also been examined with psychiatric patients in British Columbia, where Tsai et al. (2021) used measures from the 3ST to examine each hypothesis at baseline (intake of the patient), 4 weeks following baseline, and 3 months following discharge from the hospital. Tsai et al. (2021) found full support for Steps One and Two, where results from previous study replicated in their sample. However, the authors only found partial support for Step Three of the theory. Specifically, only practical capacity was strongly associated with histories of attempts and future attempts following discharge, whereas dispositional and acquired capacity had weak relationships to past and future attempts (Tsai et al., 2021). Despite

partial support for Step Three, this study was the first to provide evidence for the utility of the 3ST, especially Steps One and Two, in clinical environments. Steps One and Two of the 3ST were also evaluated in a cross-sectional, longitudinal study by Pachkowski et al. (2021), who were interested in developing a better understanding of suicidal desire (e.g., suicidal ideation) through the 3ST. Pachkowski et al. (2021) replicated findings for Steps One and Two in a sample of 487 adults in British Columbia, where their findings also provided support for the 3ST's utility in predicting future suicidal desire.

In sum, studies have shown that when pain and hopelessness are present, and a person's pain exceeds their levels of connectedness, they are at a higher risk of attempting suicide (Dhringra et al., 2019; Klonksy & May, 2015; Yang et al., 2018). Additionally, the risk is significantly greater when lack of connectedness and increased pain corresponds with high acquired, dispositional, and/or practical capability for suicide. Taken together, these studies provide strong empirical support for the 3ST across different populations and settings, and highlight its importance as a tool for both research and practice. It is important to continue replicating these findings among other populations in order to extend the validity of the 3ST and suicide research more broadly. To our knowledge, and despite the overlap of risk factors, the 3ST has not yet been examined among individuals who have engaged in criminal behavior or have been involved in the CJS. Therefore, the following section will provide a synopsis of how the central tenets of the 3ST may apply to justice-involved individuals, before presenting the current study and its findings.

Connecting The 3ST to Justice-Involved Populations

The 3ST proposes that suicide risk can be understood through the lens of just four factors (Klonksy & May 2015), and although the 3ST has yet to be examined with justice-involved

populations, these same four factors have been outlined in the suicidality literature involving this population. For instance, both psychological pain and a lack of connectedness among incarcerated individuals have been linked to the progression from suicidal ideation to attempt (Favril et al., 2020). In addition, the construct of hopelessness has been investigated in several studies involving prison populations (Gooding et al., 2016; Moore et al., 2021; Palmer & Connelly, 2005; Wolff et al., 2011), where many justice-involved individuals also report significant exposure to stress and high rates of hopelessness that their situation will improve (Moore et al., 2021). Moreover, some research has found that hopelessness was a significant predictor of suicide in this population (Chapman et al., 2011; Gooding et al., 2016), and that hopelessness predicted suicidality better than factors outlined by the IMV, such as entrapment (Gooding et al., 2016). Similarly, factors associated with painful experiences have been found to contribute to suicidal ideation in this population (Favril et al., 2020), where some research has even explored the 3ST's measurement of pain (i.e., psychache) with offender populations. Specifically, Mill et al.'s (2005) study sought to extend the generalizability of Schneidman's (1993) Psychache Scale with justice-involved individuals and found tentative support for the role of psychache among inmates who were suicidal. Additional research compared inmates and university students on the Psychache Scale, and found that psychache, compared to depression and hopelessness, were the strongest predictors of suicidality for both populations (Pereira et al., 2010). Thus, it is possible that the combination of pain and hopelessness as they relate to suicidal ideation may be particularly relevant to individuals who have a history of criminal behavior or involvement with the CJS.

A further component of the 3ST that may be particularly relevant to justice-involved populations is the ability for connectedness to protect against the progression from ideation to attempt. Connectedness is an important area of consideration regarding inmates due to the

isolated nature of incarceration, where previous research has indicated that close social and familial ties act as strong protective factors against suicidality for incarcerated individuals (Zhong et al., 2021). Additionally, research has outlined a robust positive correlation between an individual's desire to live and their level of social connectedness within correctional environments (Cramer et al., 2017). Taken together, these studies provide preliminary justification for the implementation of protective strategies aimed at increasing connectedness, which is reflective of step two of the 3ST.

Lastly, justice-involved people may also encounter variables that heighten their vulnerability towards Klonsky et al.'s (2021) conceptualizations of acquired, dispositional, and practical capacity for suicide. Evidence has pointed towards the impact of aversive childhood experiences, such as maltreatment and neglect, on one's risk of engaging in criminal or antisocial behavior in adulthood (Lee et al., 2015). Similarly, neglect and abuse in childhood have been found to predict later suicidality (Christoffersen et al., 2007). These factors are in accordance with acquired capability, as they contribute to the habituation of pain through repeated exposures to distressing events. Additionally, rates of impulsivity and risk-seeking behaviors are notably higher among individuals involved with the CJS compared to those who are not (Carroll et al., 2006), and impulsivity has been noted as a potent risk factor for suicidal behavior (Javdani et al., 2011) while it has been previously linked to neuro-cerebral development (Manceux et al., 2015). Furthermore, the biological foundations of impulsivity lend to a dispositional capacity for suicide (e.g., decreased fear of pain or death; Klonsky et al., 2021). Lastly, it could be argued that some individuals who have come in contact with the CJS have knowledge about and access to suicide methods (drugs, weapons etc.), which relates to practical capacity. Hence, the similarities between components of 3ST and individuals involved with the CJS underscore a need to empirically examine how this theory may, or may not, apply to this population.

Present Study

The present study sought to replicate previous findings from 3ST studies and extend them to populations of individuals who had engaged in criminal behavior or had been involved in the CJS. Specifically, this study examined the extent to which each step of the 3ST generalized to individuals with a history of criminality or involvement in the CJS compared to individuals with no history of criminality or CJS involvement. To date, the application of the 3ST to this population has been unexplored. Therefore, this study aimed to make a unique contribution to the literature, as it is the first investigation of the 3ST in relation to individuals who have engaged in criminal behavior. The present study was guided by the following hypotheses:

Hypothesis One. It is expected that a) both pain and hopelessness will interact to significantly predict suicidal ideation, and that b) this interaction will predict suicidal ideation for both groups, but more strongly for those with a history of criminal behavior and CJS involvement.

Hypothesis Two. It is expected that connectedness will protect against increasing suicidal ideation for those high on both pain and hopelessness.

Hypothesis Three. It is expected that a) total levels of capacity (dispositional, acquired, and practical) will be lower for those with suicidal ideation only, and higher for those with a history of attempt, and b) that those with a history of attempt and criminal behavior and CJS involvement will score higher on all levels of capacity compared to those without.

In addition, given the high prevalence of trauma in populations of individuals who have engaged in criminal behavior, and the relationship between trauma and many of the factors outlined in the 3ST (e.g., pain, capacity, etc.), an exploratory analysis of trauma among this population was also conducted. Specifically, this analysis aimed to examine the frequency and

types of trauma experienced within the sample for descriptive purposes in order to contextualize findings.

Method

Participants

An a priori power analysis was conducted using G*Power. Results indicated that a total sample of 192 participants would be required to achieve a statistical power of .90 for detecting a medium effect, assuming unequal groups. An initial sample of 216 Canadian citizens over the age of 18 took part in an online study, however, 26 participants were removed from the final analyses due to incomplete data. Of the 26 participants that were removed, 7 were screened out as potential bots and the remaining were screened out for finishing less than 50% of the survey, leaving 190 participants in the final analysis. Of those participants, the majority identified as female (76.1%), followed by male (18.3%), non-binary (2.5%) and transgender (1%). Over half of the sample identified as heterosexual (67.5%), with the remaining sample identifying with the LGBTQ+ community (26.4%), or other (e.g., “unsure” or “prefer not to answer;” 6.1%). The average age was 25.8 years (SD = 8.71, range = 19-64) for the entire sample, where SONA participants (i.e., participants recruited from Saint Mary’s Unviersity for course credit; n = 125) had an average age of 22 (SD = 4.12, range = 19-52) and community participants (n = 65) had an average age of 34 (SD = 10.19, range = 20-64). Finally, 41.1% of all participants had completed some college or university, 22.6% had a high school diploma, 27.9% had completed post-secondary education, and 1% had completed some high school but did not finish.

The majority of participants were currently living in Atlantic Canada (83.2%), followed by Ontario (14.7%), Alberta (1%), Manitoba (1%) and the Prairies (1%). Most individuals identified as White (76.8%), followed by Indigenous (7.9%), Black (6.3%), other (4.2%),

East/Southeast Asian (3.2%). South Asian (2.6%), Middle Eastern (2.1%), and Latino (1%). Additionally, just over half of the sample (51.1%) had never engaged in illegal activity, been arrested, or charged, whereas 46.8% had engaged in at least one illegal activity, were arrested, or charged. Comparisons of demographic, suicidality, and criminal justice contact variables for SONA participants versus participants from the community are presented in Table 1[1].

[1] Several analyses were run to assess differences on key variables between SONA participants (i.e., university students) and community participants. No significant differences were found between groups on attempt history, $x^2(1, N = 186) = 1.187$, p = .276, or suicidal ideation, $t(187) = .967$, $p = .335$, $d = .148$. However, there was a significant difference between groups on having a history of illegal activity, $x^2(1, N = 186) = 13.518$, p < .001.

Table 1

SONA versus Community Participants

	SONA (%)	SONA (*n*)	Community (%)	Community (*n*)
Female	77.6	97	64.6	42
Male	16.8	21	16.9	11
Gender-Diverse	3.2	4	1	1
CJS Involvement – Adult (Arrested, Charged, or Booked)	1.6	2	23.1	15
CJS Involvement – Youth (Arrested, Charged, or Booked)	-	-	32.3	21
Total Illegal Activity (Undetected *and* CJS)	37.6	47	64.6	42
Suicidal Ideation – Lifetime	66.4	83	81.5	53
Non-Suicidal Self-Injury – Lifetime	48.8	61	58.5	38
Suicide Attempt - Lifetime	16.0	20	23.1	15
Education				
Some Highschool	-	-	3.1	2
Highschool Diploma	28.0	35	12.3	8
Some University or College	58.4	73	7.7	5
College Diploma	4.0	5	23.1	15
Undergraduate Degree	7.2	9	26.2	17
Masters Degree	-	-	9.2	6
Doctorate	-	-	1.5	1

Note: Frequency table outlining key variables between participants recruited through the Saint Mary's University SONA system (n = 125) and those recruited through the community (n = 65). The average age of SONA participants was 22. The average age of community participants was 34.1.

Procedure

Ethics approval for this study was obtained from the Saint Mary's University Research Ethics Board on February 28th, 2024, prior to participant recruitment and data collection. Participants were recruited via email, posters in the community, social media, and the SONA

system at Saint Mary's University. Recruitment emails were shared with the researcher's contacts who have connections to various organizations in the community, such as the John Howard Society in Nova Scotia and partner organizations with the Supportive Housing for People with Problematic Substance Use Program in Toronto, Ontario. The recruitment emails included a pre-approved invitation and description of the study, as well as a recruitment flyer. Posters in the community were shared at public libraries across the Halifax Regional Municipality and the Municipality of East Hants. Finally, recruitment on various online platforms, such as Facebook and Twitter, included a brief description, eligibility criteria, and a link to the online survey. There was no compensation associated with participating in this study, however, students recruited through the SONA system at Saint Mary's University received course credit (.25 bonus points) for their participation.

The survey was administered through the online survey platform Qualtrics. Upon entering the online survey, participants were presented with an informed consent page, which provided details about the study. Participants were required to read the informed consent and electronically consent to participate before proceeding to the survey. They were also informed that they could discontinue the survey at any time and that they would be redirected to a list of resources unique to their geographic location if they wished to use them. The survey screened participants for lifetime histories of suicidality, criminality, and trauma history, and it consisted of several assessments designed to measure psychological pain, hopelessness, connectedness, and capacity for suicide.

To minimize the potential for bots skewing the data or providing inflated response rates, a Completely Automated Public Turing test to tell Computers and Humans Apart (CAPTCHA) was presented at the beginning of the survey. While not always 100% efficient, the CAPTCHA can

help to filter bots in survey research. As an added layer of protection, a bot-elimination technique known as the "Honey Pot Method" was used. A "Honey Pot" is a decoy question that is embedded into an online survey to filter bots (King-Nygard et al., 2023). The question "*what is true about bees"* was added to the online survey with a single response option. JavaScript code was used within this question to hide it from human participants while still keeping it visible to bots. Finally, to ensure participant engagement, three attention checks were placed throughout the survey. No participants were removed for failing two or more attention checks.

Measures

Screening for Criminal Justice Involvement. Criminal justice involvement was broadly defined to include any contact with the criminal justice system in relation to being arrested and/or detained, being held in pretrial detention, being incarcerated, and being on probation or parole. Criminal justice involvement was screened using eight questions from the Survey of Criminal Justice Experience, which captures supervision and broad experiences such as arrests and convictions (Brown & Manning, 2014). To account for potential social desirability, this section of the survey was set up in what Yan and Cantor (2019) refer to as a "forgiving context." Specifically, before asking participants about their direct experiences with the criminal justice system, a prompt was presented to participants that read *"almost everyone has engaged in some type of criminal behavior throughout their life,"* followed by questions adapted from Brown and Manning (2014), such as *"have you ever been arrested?"* Participants were provided with a series of binary response options (i.e., yes or no).

While arrests and other forms of interactions with the justice system offer important insights, many illegal activities also go unreported or undetected by law enforcement. Therefore, participants were also asked about any illegal activities they had engaged in that went undetected

by law enforcement as adults and prior to the age of 18. For instance, participants were asked: "*have you ever engaged in illegal activities that went undetected or unaddressed by law-enforcement, not including minor traffic violations,*" before being presented with several response options and being asked to select all that apply.

Screening for Lifetime Suicidality. Lifetime prevalence of suicidality, including ideation and corresponding behaviours, was assessed using items derived from Nock et al.'s (2007) Self-Injurious Thoughts and Behaviors Interview (SITBI). The SITBI has been shown to have strong concurrent validity and test-retest reliability in examining constructs related to suicide ideation and related behaviours, such as NSSI (Nock et al., 2007).

The most comprehensive version of the SITBI is composed of five categories consisting of roughly 30 questions each: suicidal ideation, suicide plans, suicide gestures, suicide history, and thoughts of NSSI. Additionally, each category begins with a question that screens for the lifetime prevalence of the corresponding construct (Nock et al., 2007). For the purpose of this study, participants were only asked to respond to lifetime prevalence questions such as: *"have you ever had thoughts of killing yourself?"* (suicide ideation), *"have you ever had thoughts of purposely hurting yourself without wanting to die? (for example, cutting or burning)"* (thoughts of NSSI) *"have you ever purposely hurt yourself without wanting to die?"* (NSSI), *"have you ever made an actual attempt to kill yourself in which you had a least some intent to die?"* (suicide attempt), and *"have you ever made a plan to kill yourself?"* (suicide plan). Participants responded to the above questions with the options of yes, no, or prefer not to answer.

Suicide Ideation. In addition to the lifetime prevalence of suicidality, suicide ideation was measured using Rudd's (1989) Suicide Ideation Scale (SIS). The SIS was developed for use with both clinical and non-clinical populations, and it consists of 10 items that encompass a spectrum of suicidal thoughts, ranging from subtle considerations to more intense ideation (Luxton et al.,

2011). Items are scored on a 5-point Likert scale, from "never or none of the time" to "always or a great many of times" (Rudd, 1989). Examples of statements included in the SIS are *"I feel life just isn't worth living," or "I feel there is no solution to my problems other than taking my own life."* Research on the psychometric properties of the SIS shows that the tool has good construct validity, internal consistency, and test-retest reliability (Fitriana et al., 2022; Luxton et al., 2011). In the current study, internal consistency of the SIS was assessed using Cronbach's alpha, where the scale demonstrated excellent reliability ($\alpha = .913$), indicating a high level of internal consistency across items.

Psychological Pain. Pain was evaluated using the 13-item Psychache Scale developed by Holden et al. (2001). The Psychache Scale has demonstrated strong inter-item reliability and construct validity in accurately measuring the theoretical basis of psychache proposed by Schneidman (1993), and has been previously utilized in testing the 3ST (Dhringra et al., 2019; Klonsky & May, 2015). Items consist of statements such as "my psychological pain seems worse than any physical pain" and "my psychological pain affects everything I do." Participants responded to items on a five-point scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In the current study, the final item of the Psychache scale was overlooked and not included during the data collection phase. However, despite the missing item, the Psychache Scale demonstrated strong internal consistency ($\alpha = .944$)

Hopelessness. Hopelessness was measured using the 20-item Beck Hopelessness Scale, which conceptualizes hopelessness as an individual's negative sentiment towards the future (BHS; Beck et al., 1974). The BHS has been previously used to test the 3ST (Dhingra et al., 2019; Klonsky & May, 2015; Tsai et al., 2021; Yang et al., 2019), and it has shown strong internal consistency and test-retest reliability. Participants responded to a series of true or false statements, such as "my past has prepared me well for the future," or "my future seems dark to

me." Cronbach's alpha was calculated in the present study to assess internal consistency, where the BHS demonstrated good reliability (20 items; α = .850)

Connectedness. Connectedness was measured using the thwarted belongingness subscale of The Interpersonal Needs Questionnaire (INQ) developed by Van Orden et al. (2012). The INQ is a 15-item instrument designed to measure how connected an individual feels to other people (belongingness) and their perception of themselves as a problem to others (perceived burdensomeness; Joiner et al., 2002). The final 9 items of the INQ measure connectedness, where participants were asked to respond to statements on a seven-point scale, ranging from 1 (*not at all true for me*) to 7 (*very true for me*). Several studies examining the INQ have demonstrated good internal consistency, as well as good construct and convergent validity (Teo et al., 2018; Rodriguez et al., 2022; Van Orden et al., 2011). The INQ subscale used in the current study demonstrated good internal consistency (α = .900).

Suicide Capacity. Participant capacity for suicide was assessed using Klonsky and May's Suicide Capacity Scale (SCS), which is a 6-item instrument designed to measure the three subcategories of suicide capacity outlined in the 3ST: acquired capacity, dispositional capacity, and practical capacity. Participants were asked to rate items on a six-point Likert scale, ranging from 0 (*strongly disagree*) to 6 (*strongly agree*). Items from the SCS include statements such as: "I have always been able to handle pain more easily than other people" (dispositional capability), "I can handle more physical pain than I used to" (acquired capability), and "If I ever wanted to, I'd know how to kill myself" (practical capability). The SCS has shown strong convergent validity (Klonksy & May, 2015) and acceptable internal consistency (Dhingra et al., 2019; Tsai et al., 2021). Similarly, the SCS demonstrated acceptable internal consistency within the current study (6 items; α = .742).

Trauma History. The Life Events Checklist for *DSM-5* (LEC-5) was used to assess participant experiences of potentially traumatic events. The LEC-5 is a self-report measure which includes 17 items that assess various types of potentially traumatic events that one may experience throughout life (Weathers et al., 2013). Participants respond to each item with a variety of options, such as "happened to me," "witnessed it," "learned about it," "part of my job," "not sure," or "doesn't apply." The LEC-5 has demonstrated strong convergent and discriminant validity, as well as test-retest consistency (Bae et al., 2008). Additionally, it has been shown to be a valid measure of trauma history across cultures (Morawej et al., 2024; Stevenson et al., 2023). All measures used within this study can be found in Appendix C.

Results

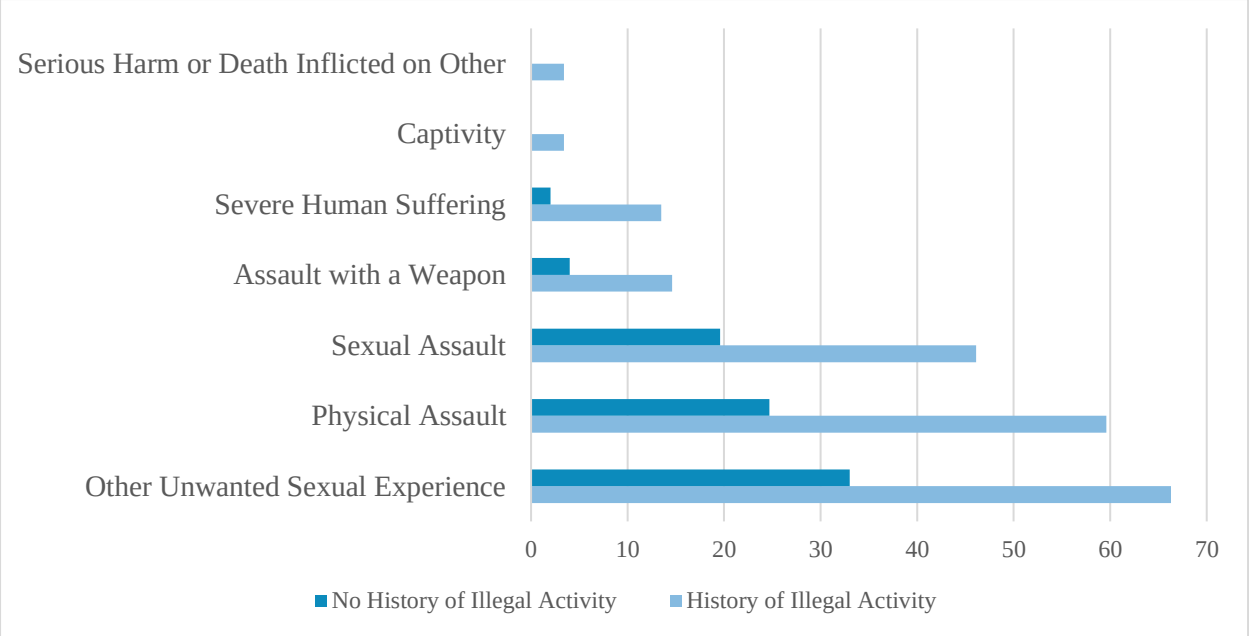
The lifetime prevalence of suicidal ideation and attempts was assessed using the SITBI (Nock et al., 2007). Results are presented in Table 2, which outline that a large proportion of this sample reported having experienced various forms of suicidality. Specifically, 71.6% of individuals indicated having had thoughts about killing themselves at some point in their life, while 65.8% reported having thoughts about harming themselves without the intent to die. Additionally, 52.1% reported having engaged in self-harm without wanting to die, while 27.4% of participants shared that they had previously made a plan to end their life, and 18.4% reported having attempted suicide. An overview of the means, standard deviations, and correlations of all study variables is presented in Table 3.

Of the 46.8% of participants who indicated having engaged in at least one illegal activity (arrested, charged, or undetected; $n = 89$), 23.6% had attempted suicide at one point in their life, 82% had experienced thoughts of killing themselves, and 37.1% had actually made a plan to take

their own life. Additionally, this subsample of participants had particularly high frequencies of experiencing potentially traumatic events that were violent in nature. For instance, 52.8% indicated that they had experienced some form of physical assault (being attacked, beaten up, etc.), 46.1% had experienced a sexual assault (rape, attempted rape, etc.), and 14.6% had been assaulted with a weapon (being shot, stabbed, etc.). Figure 2 illustrates the relevant proportions of potentially traumatic events from the LEC-5 for individuals with a history of criminal behavior or CJS involvement compared to individuals without such history.

Figure 2

Proportions of potentially traumatic events demonstrated by the LEC-5.



Note: Proportions of potentially traumatic events for individuals with no history of illegal activity (n = 97) and those with a history of illegal activity (n = 89)

Table 2

Lifetime Prevalence of Suicidality (SITBI; Nock et al., 2007)

	Total (%)	Total (*n*)	History of Criminal Behavior/CJS (%)	History of Criminal Behavior/CJS (*n*)	No History (%)	No History (*n*)
Have you ever had thoughts of killing yourself?	71.6	136	82.0	73	63.9	62
Have you ever had thoughts of purposely hurting yourself without wanting to die?	65.8	125	78.7	70	54.6	53
Have you ever purposely hurt yourself without wanting to die?	52.1	99	69.7	62	36.1	35
Have you ever made an actual attempt to kill yourself in which you had an intent to die?	18.4	35	23.6	21	14.4	14
Have you ever made a plan to kill yourself?	27.4	52	37.1	33	19.6	19

Note: Frequencies for lifetime prevalence of suicidality are presented for the entire sample, and then broken down into those with a history of criminal behavior and those without a history of criminal behavior.

Table 3

Means and correlations of study variables.

			Correlations							
Variable	*M*	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Age	25.8	8.710	-							
(2) Suicidal Ideation	19.17	8.182	-.062	-						
(3) Suicide Attempt	.19	.392	-.016	.445**	-					
(4) Pain	32.74	11.809	.094	.694**	.246**	-				
(5) Hopelessness	7.59	4.374	.265**	.594**	.094	.681**	-			
(6) Connectedness (Low)	28.52	11.789	.075	.432**	.076	.594**	.579**	-		
(7) Capacity	18.93	5.177	.110	.434**	.220**	.415**	.406**	.183*	-	
(8) Illegal Activity	1.96	3.044	.374**	.162*	.185*	.168*	.177*	.033	.183*	-

Note: ** indicates significance at the .01 level, * indicates significance at the .05 level (two-tailed). The suicide attempt variable is dichotomous.

Table 4 provides an overview of the breakdown for individuals who indicated that they were arrested, charged, or booked by police as adults or youth, and those who disclosed that they committed offenses that went undetected by law enforcement. Of the individuals who indicated being involved with the CJS as an adult (n = 17), 6.8% had been convicted or pled guilty to charges, and 5.8% had been under some form of criminal justice supervision, such as probation, jail, or prison. In comparison, for individuals who indicated a history of CJS contact as a youth (n = 21), .5% had spent time in a juvenile detention centre, and 8.4% had been subject to extrajudicial sanctions, such as community service, restitution or compensation, or participation in counselling. All participants with criminal justice involvement were community participants (i.e., not SONA participants). For adults who had contact with the criminal justice system, violent offending and drug-related offending, were the most common types of offence. Non-violent offending, such as theft, property damage, or fraud, was the most frequently identified type of offence for youth in contact with the criminal justice system (n = 21). In terms of undetected illegal activities, drug-related and non-violent activities were the most common for both adults and youth. Both SONA participants and community participants indicated having engaged in undetected illegal activity.

Table 4

Frequencies of offending types by participant type.

	% (Total)	*n* (Total)	% (SONA)	*n* (SONA)	% (Community)	*n* (Community)
Adult – CJS						
Non-violent offending	2.1	4	-	-	6.2	4
Violent offending	3.7	7	-	-	10.8	7
Drug-related offending	3.7	7	-	-	10.8	7
Sex-related offending	-	-	-	-	1.6	2
Youth - CJS						
Non-violent offending	9.5	18	-	-	27.7	18
Violent offending	3.2	6	-	-	9.2	6
Drug-related offending	1.6	3	-	-	4.6	3
Sex-related offending	-	-	-	-	-	-
Adult – Undetected						
Non-violent	21.1	40	16.0	20	30.8	20
Violent	6.8	13	1.6	2	16.9	11
Drug-related	27.9	53	16.6	21	49.2	32
Sex-related	1.1	2	.8	1	1.5	1
Other	9.5	18	4.8	6	18.5	12
Youth – Undetected						
Non-violent	30.0	57	20.8	26	27.7	31
Violent	11.6	22	2.4	3	29.2	19
Drug-related	27.4	52	16.0	20	49.2	32
Sex-related	1.1	2	1.6	2	-	-
Other	11.6	22	8.0	10	18.5	12

Note: Participants could indicate one or more types of offending. Total $n = 190$, SONA $n = 125$, Community $n = 65$

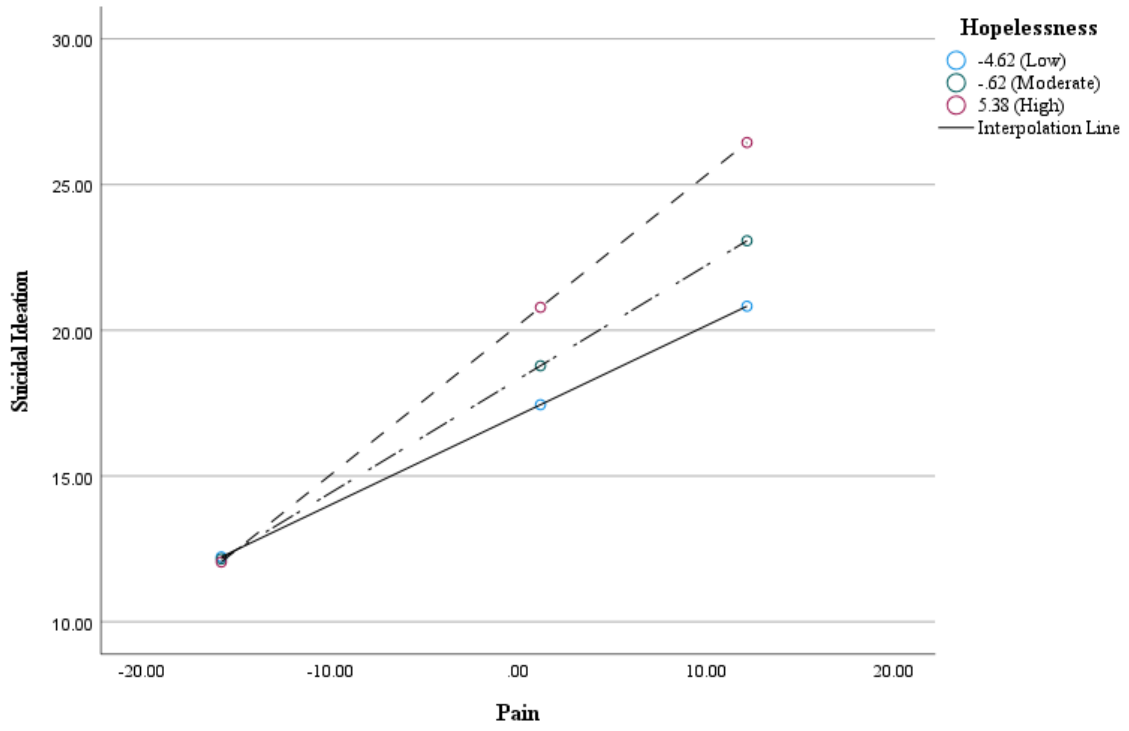
Analyses for Step One of the 3ST

The present study hypothesized that pain and hopelessness would interact to predict suicidal ideation, and that this interaction would predict suicidal ideation more strongly for individuals with a history of criminal behavior or CJS involvement. First, a multiple regression was conducted to assess the direct effects of pain and hopelessness on suicidal ideation. The overall model was significant, R^2 = .509, F (2, 183) = 94.968, $p < .001$ indicating that approximately 50.9% of the variance in suicidal ideation was explained by pain (B = .375, SE = .049, t = 7.637, p = .001) and hopelessness (B = .429, SE = .133, t = 3.236, p = .001). Additionally, to directly test Step One of the 3ST, a moderation analysis was conducted using the PROCESS macro tool developed by Hayes (2012) in SPSS. The moderation analysis assessed whether hopelessness moderated the relationship between pain and suicidal ideation for the sample as a whole. As expected, the overall model was significant, R^2 = .53, F(3, 182) = 67.10, p <. 001, and it explained 52.5% of the variance in suicidal ideation. Both pain (B =.4027, SE = .0497, t = 8.1019, p = .001), and hopelessness (B = .3095, SE = .1395, t = 2.2292, p = .027) significantly predicted suicidal ideation. Additionally, the interaction between pain and hopelessness was also statistically significant (B = .0207, SE = .0084, t = 2.4671, p = .004), which suggests that hopelessness moderated the relationship between pain and suicidal ideation. As illustrated in Figure 3, conditional effects revealed that pain significantly predicted suicidal ideation at low levels of hopelessness (B = .3072, SE = .0556, t = 5.5290, $p < .001$), median levels of hopelessness (B = .3900, SE = .0488, t = 7.9936, $p < .001$), and high levels of hopelessness (B = .5140, SE = .0744, t = 6.9101, $p < .001$). Overall, conditional effects showed that as levels of hopelessness increased, so did the influence of pain on suicidal ideation, where

the effect of pain on suicidal ideation was strongest at high levels of hopelessness. Figure 3 illustrates the interaction between pain and hopelessness on suicidal ideation.

Figure 3

Moderation Analysis: Pain and Hopelessness on Suicidal Ideation



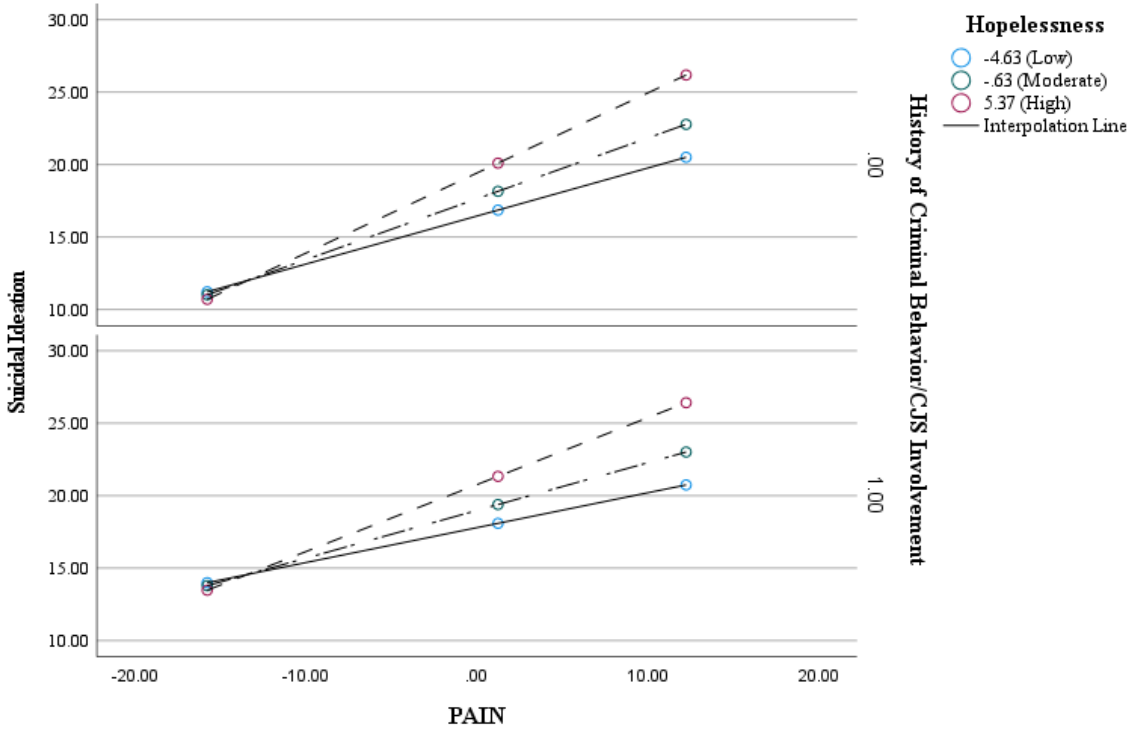
Note: Line graph illustrating the interaction between pain and hopelessness on suicidal ideation. The figure shows that higher pain scores are associated with increased suicidal ideation across all levels of hopelessness, and that increases in suicidal ideation are more pronounced at higher levels of hopelessness.

To determine whether this interaction was significant across those with and without a history of criminal behavior or CJS involvement, a moderated moderation analysis was conducted to assess a three-way interaction between pain, hopelessness, and history of criminal behavior or CJS involvement on suicidal ideation. The analysis revealed that the three-way

interaction between pain, hopelessness, and history of criminal behavior or CJS involvement was significant, R^2 = .0230, $F(2, 179) = 4.442$, $p = .013$, suggesting that the moderating effect of hopelessness varied between groups. More specifically, and contrary to our hypothesis, conditional effects revealed that pain had a stronger effect on suicidal ideation at low levels of hopelessness for individuals without a history of criminal behavior or CJS involvement (B = .3316, SE = .0631, $t = 5.254$, $p = .001$) compared to those with a history of criminal behavior or CJS involvement (B = .2409, SE = .0711, $t = 3.390$, $p < .001$). As outlined in Figure 4, the effect of pain on suicidal ideation at median levels of hopelessness was significant for both groups, but stronger for those without a history of criminal behavior or CJS involvement (B = .4201, SE = .0556, $t = 7.549$, $p < .001$) compared to those with a history of criminal behavior or CJS involvement (B = .3294, SE = .0674, $t = 4.887$, $p < .001$). Finally, at high levels of hopelessness, pain had the strongest effect on suicidal ideation for both groups, although this effect was slightly stronger for those without a history of criminal behavior or CJS involvement (B = .4622, SE = .0900, $t = 5.1370$, $p < .001$).

Figure 4

Three-way interaction of pain, hopelessness, and criminal behavior or CJS involvement on suicidal ideation.



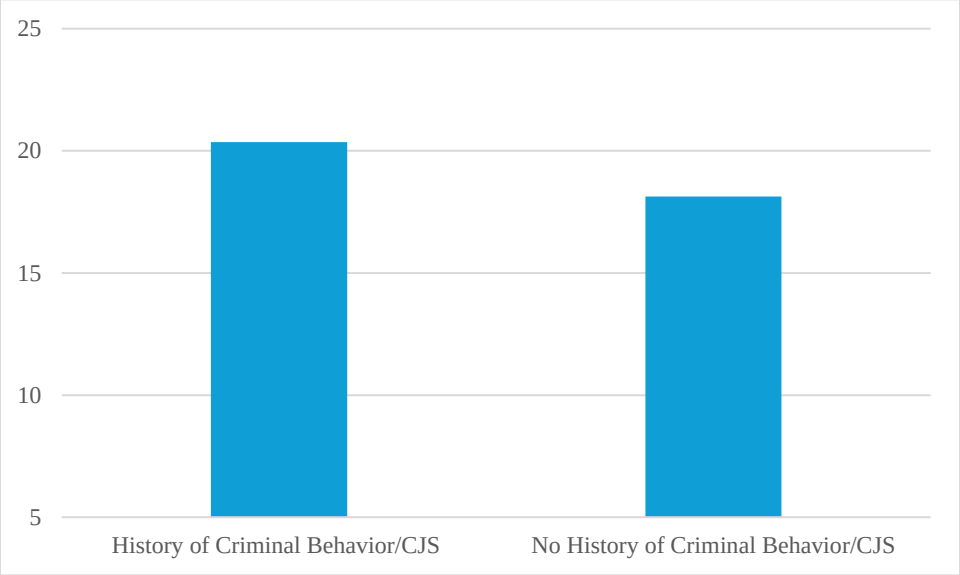
Note: Line graphs illustrating the three-way interaction between pain, hopelessness and criminal history on suicidal ideation. Each graph shows three lines corresponding to the levels of hopelessness: low (-4.63), moderate (-0.63), and high (5.37). The top graph represents individuals without a history of criminal behavior or CJS involvement, where the slope steepens slightly and indicates that those without a history of criminality experience a stronger effect of pain and hopelessness on suicidal ideation. The bottom graph represents those with a history of criminality, where the slopes are less steep compared to the top graph.

Lastly, an independent samples *t*-test was conducted to assess whether there was a meaningful difference between groups on mean suicidal ideation scores. Group statistics revealed that individuals with a history of criminal behavior (M = 20.36, SD = 7.343) scored marginally higher on the measure of suicidal ideation compared to those without a history of

criminal behavior (M = 18.13, SD = 8.859; see Figure 5). However, the independent samples t-test was not significant, $t(183) = -1.86$, $p = .065$; $d = -.274$.

Figure 5

Mean Suicidal Ideation.



Note: Bar graph illustrating the mean suicidal ideation scores between individuals with and without a history of criminal behavior or CJS involvement.

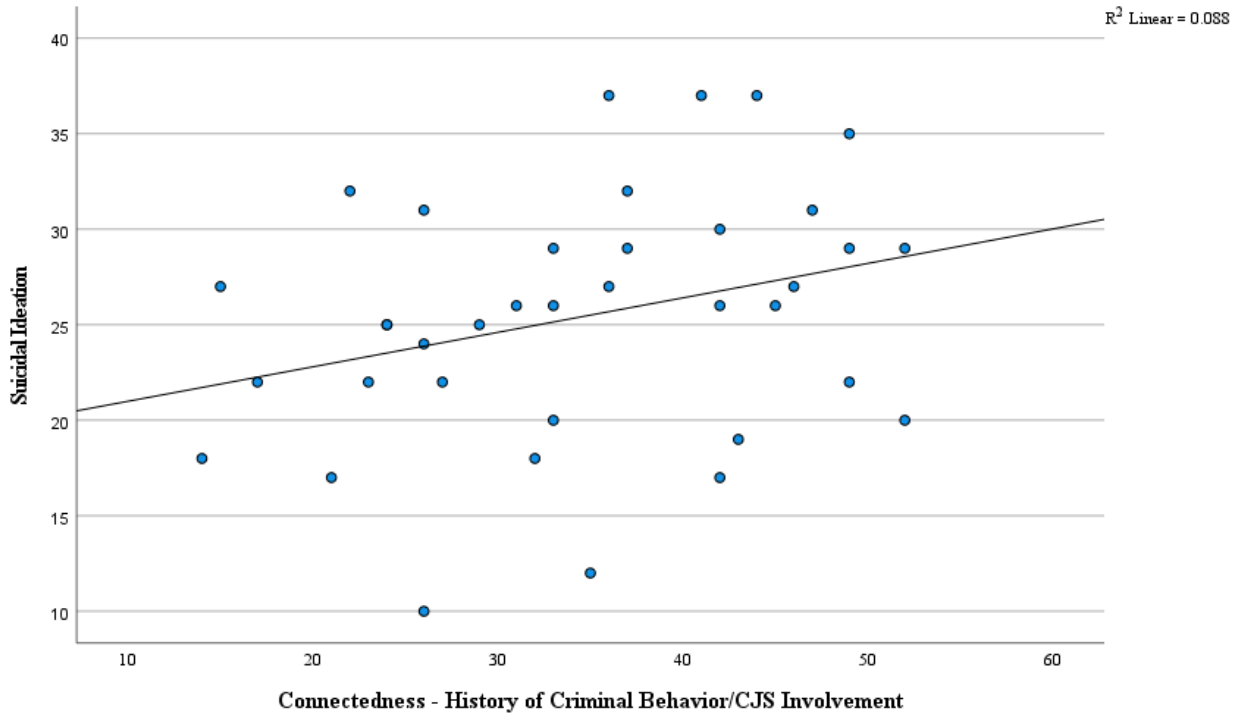
Analyses for Step Two of the 3ST

The second hypothesis for this study proposed that connectedness would protect against increasing suicidal ideation among at-risk individuals who were high on both pain and hopelessness. First, Pearsons's correlations were conducted to explore the association between connectedness and suicidal ideation among individuals high on both pain and hopelessness with a history of criminal behavior. Connectedness was measured using total scores from the belongingness subscale of the INQ, and suicidal ideation was measured using total scores from

the SIS. Both pain and hopelessness were dichotomized and split at the median to create high versus low groups, where the high group was comprised of at-risk participants. Results from the analyses did not provide support for Step Two of the 3ST within our sample. First, the relationship between connectedness and suicidal ideation for those high on both pain and hopelessness with a history of criminal behavior or CJS involvement (n = 37) was positive but not statistically significant, r = .296, p = .075 (Figure 6).

Figure 6

Relationship between connectedness and suicidal ideation for all at-risk participants with a history of criminal behavior or involvement with the CJS.

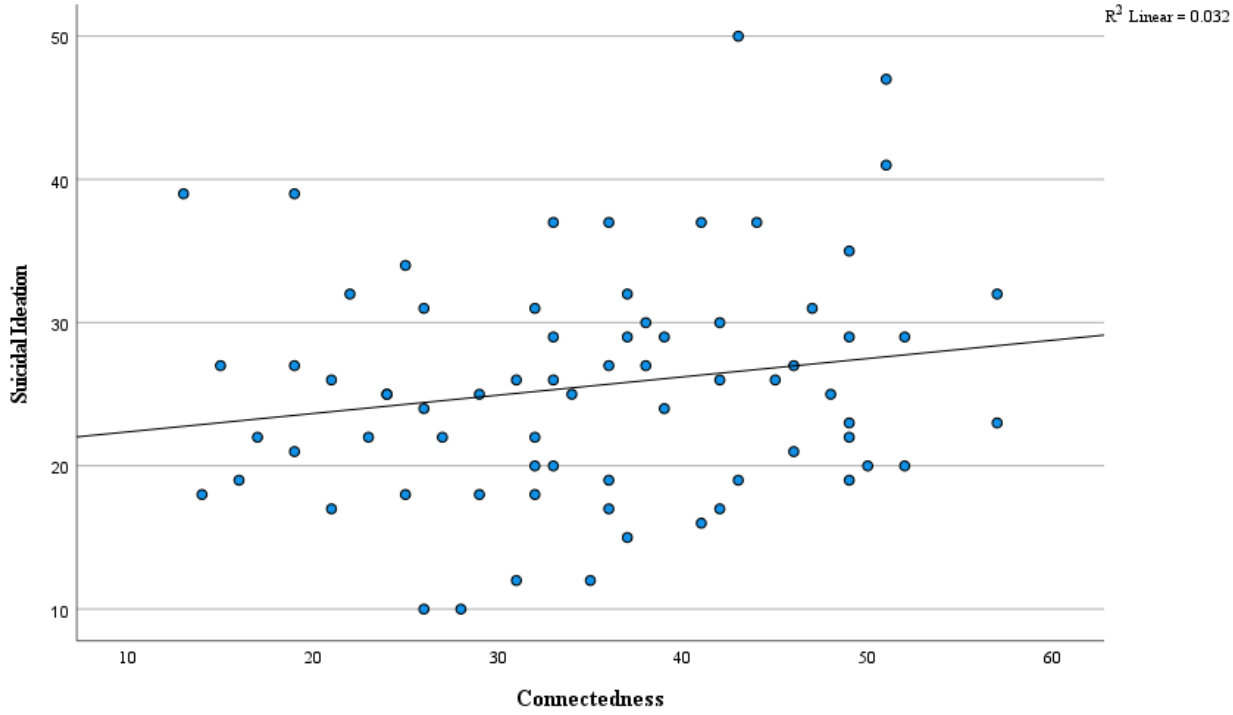


Note: Scatterplot illustrating the relationship between connectedness and suicidal ideation among individuals high on both pain and hopelessness with a history of criminal involvement. The trendline suggests a positive correlation, although findings are not significant, and the effect size accounts for only 8.8% of the variance.

Similarly, for those high on both pain and hopelessness without a history of criminal behavior (n = 34), there was no significant association between connectedness and suicidal ideation, r = .100, p = .575. Moreover, when considering the entire sample of at-risk participants (i.e., those high on both pain and hopelessness; n = 71), regardless of a history of criminal behavior, the analysis revealed similar, non-significant results, r = .178, p =.138 (Figure 7).

Figure 7

Relationship between connectedness and suicidal ideation for all at-risk participants.



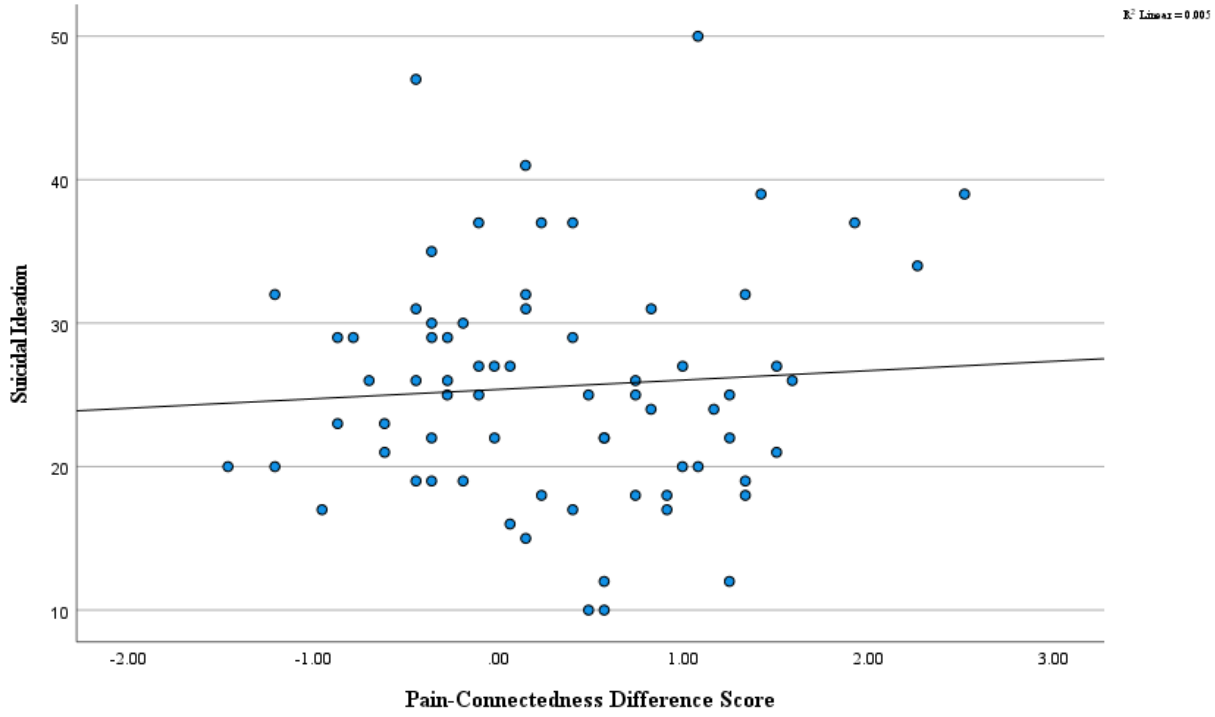
Note: Scatterplot illustrating the relationship between connectedness and suicidal ideation among individuals high on both pain and hopelessness for the entire sample, regardless of history of criminal involvement. The trendline suggests a positive correlation, although findings are not significant and the effect size accounts for only 3.2% of the variance.

Second, as a direct test of Step Two, we followed guidance from previous 3ST studies and standardized pain and connectedness scores for an overall difference score, where this score

illustrated the extent to which pain exceeded connectedness (Klonsky et al., 2021). Specifically, positive scores from this measure indicated that pain was greater than connectedness, and negative scores meant that connectedness was greater than pain. The correlation between the pain-connectedness difference score and suicidal ideation among individuals high on both pain and hopelessness, regardless of criminal history, was positive but not statistically significant (r = .069, p = .568; Figure 8).

Figure 8

Relationship between pain-connectedness difference scores and suicidal ideation for all individuals high on both pain and hopelessness.

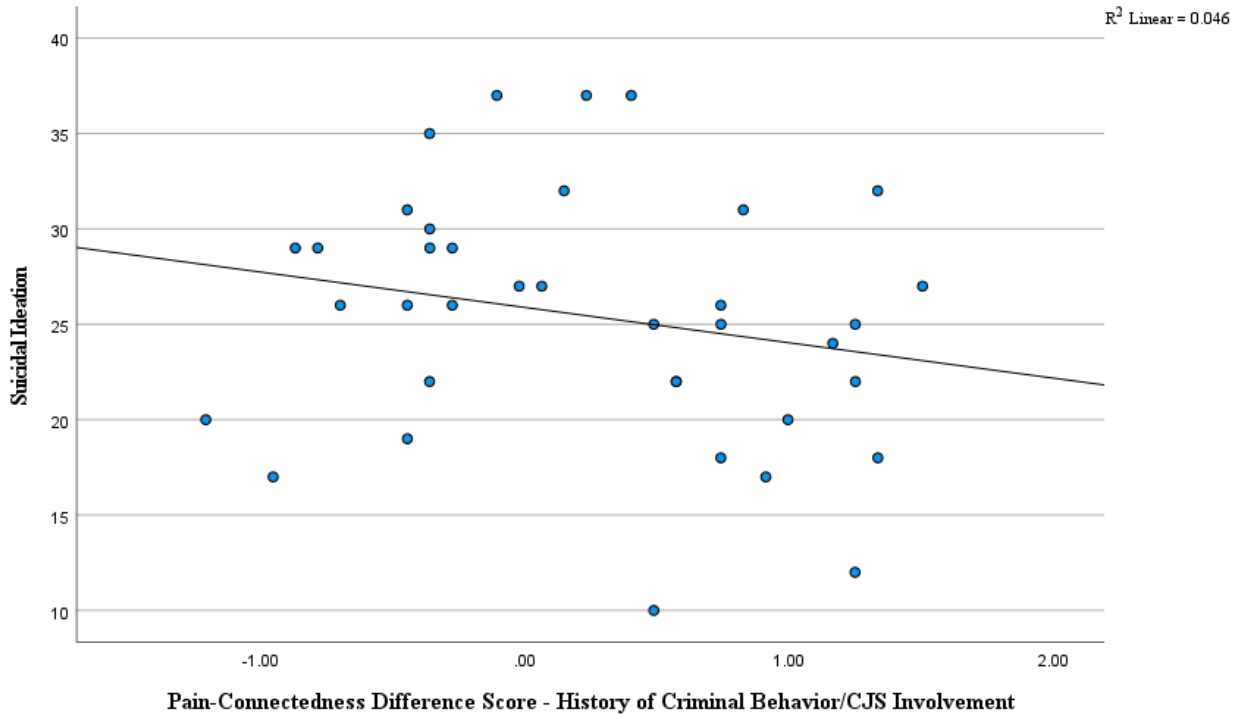


Note: Scatterplot illustrating the relationship between the pain-connectedness difference score and suicidal ideation among individuals high on both pain and hopelessness for the entire sample, regardless of history of criminal involvement. The trendline suggests a positive correlation, although findings are not significant, and the effect size accounts for only .3% of the variance.

For those high on pain and hopelessness with a history of criminal behavior or CJS involvement, the correlation between the pain--connectedness difference score and suicidal ideation was also not significant (r = -.215, p = .202; Figure 9). Similarly, the correlation between suicidal ideation and the pain-connectedness difference score for those without a criminal history was also non-significant (r = .235, p = .181; Figure 10).

Figure 9

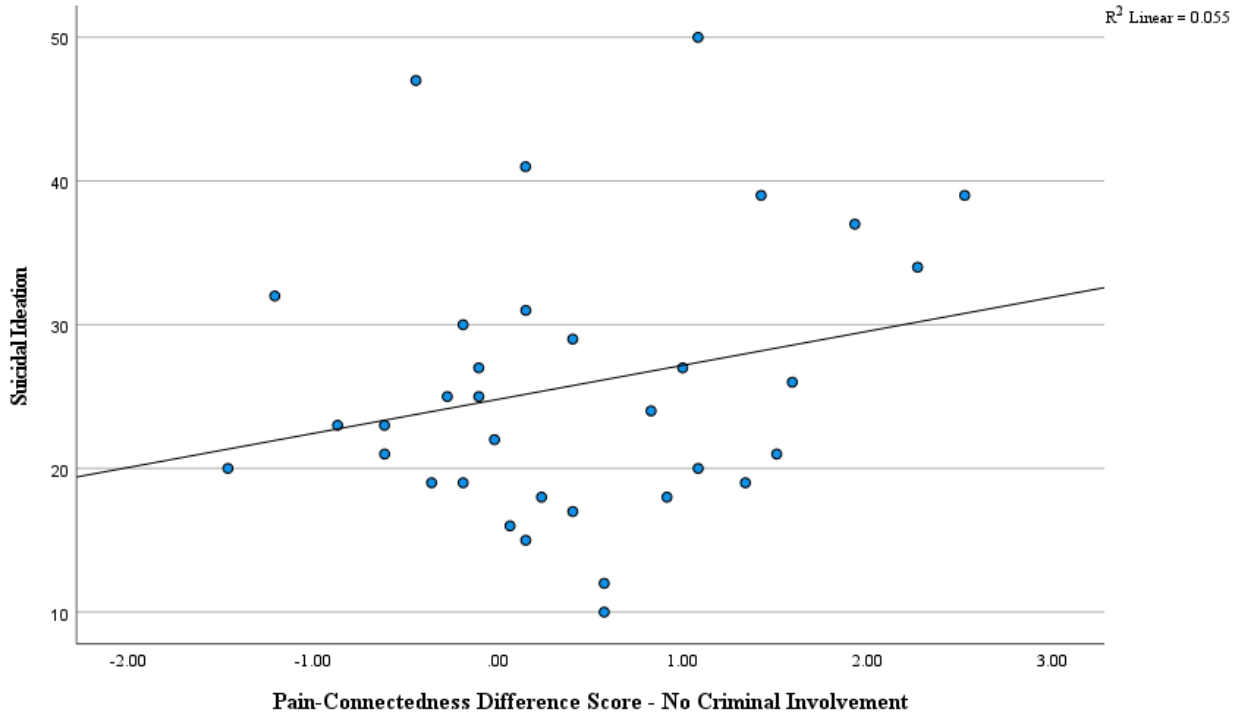
Relationship between pain-connectedness difference scores and suicidal ideation for individuals high on both pain and hopelessness with a history of criminal behavior or CJS involvement



Note: Scatterplot illustrating the relationship between the pain-connectedness difference score and suicidal ideation among individuals high on both pain and hopelessness with a history of criminal involvement. The trendline suggests a negative correlation, although findings are not significant, and the effect size accounts for only 4.6% of the variance.

Figure 10

Relationship between pain-connectedness difference scores and suicide ideation for individuals high on both pain and hopelessness without a history of criminal behavior or CJS involvement.



Note: Scatterplot illustrating the relationship between the pain-connectedness difference score and suicidal ideation among individuals high on both pain and hopelessness with no history of criminal involvement. The trendline suggests a positive correlation, although findings are not significant, and the effect size accounts for only 5.5% of the variance.

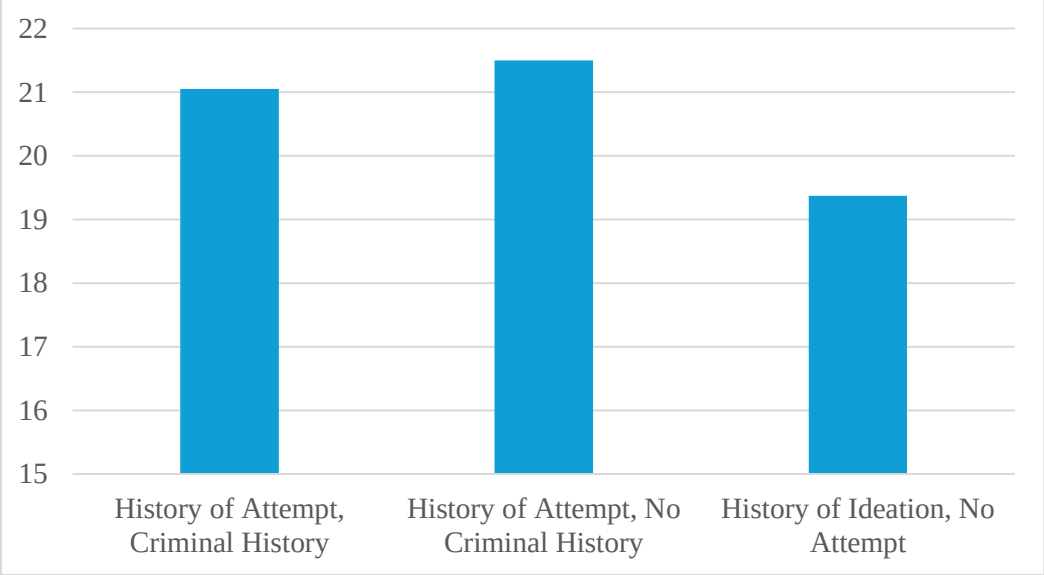
Analysis for Step Three of the 3ST

The final hypothesis for this study proposed that levels suicide capacity would be lower for individuals with ideation only and higher for individuals with a history of attempt. Additionally, we proposed that individuals with a history of criminal behavior or CJS involvement would score higher on all levels of suicide capacity compared to those without such history. An analysis of variance (ANOVA) was conducted to test this hypothesis, where we examined whether suicide capacity differed across three groups: a) those with a history of suicide

attempts and a history of criminal behavior or CJS involvement (M = 21.05, SD = 3.612), b) those with a history of suicide attempts and no history of criminal behavior or CJS involvement (M = 21.50, SD = 3.568), and c) those with a history of suicidal ideation but no attempts (M = 19.37, SD = 5.288). Results from this analysis revealed that suicide capacity did not significantly differ between groups, $F(2, 130) = 1.885$, $p = .156$ $n^2 = .028$. Figure 11 provides a visual overview of mean capacity scores across groups.

Figure 11

Mean suicide capacity.



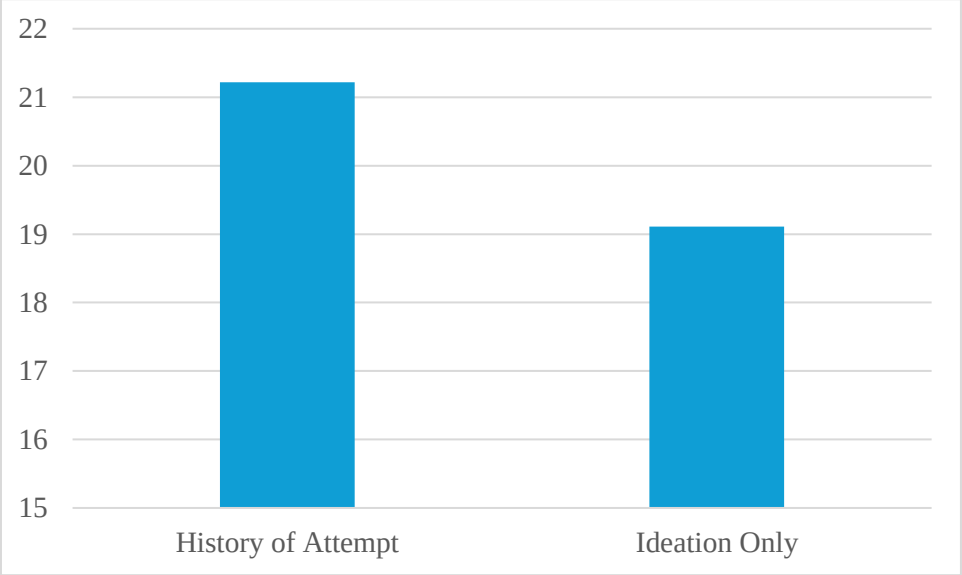
Note: Bar graph representing mean scores of suicide capacity for three groups based on suicidality and criminality history.

Lastly, in an attempt to replicate findings from previous 3ST studies, we examined whether suicide capacity differed between individuals with a history of suicide attempts and individuals with a history of ideation but no attempts, regardless of CJS or criminal behavior history. To do so, an independent samples *t*-test was conducted, where results did not reveal a statistically significant difference in suicide capacity between individuals with a history of

attempt (M = 21.23, SD = 3.549) and those with a history of ideation but no attempt (M = 19.37, SD = 5.288); t (131) = 1.930, p = .056, d = 4.897. The mean difference in scores between groups was 1.861 (95% CI [-.046, .3.769]), indicating that those with a history of attempting suicide had higher suicide capacity scores (Figure 12). Despite the lack of statistical significance, the large effect size suggests that there may be a meaningful difference in suicide capacity between groups.

Figure 12

Mean suicide capacity – entire sample.



Note: Bar graph representing mean scores of suicide capacity for those with a history of attempt versus those with a history of ideation but no attempt, regardless of criminal history.

Discussion

The ability to detect and prevent suicidality requires a more comprehensive understanding of how suicidal ideation escalates to suicide attempts (Dhringra et al., 2019; Favril et al., 2020; Klonksy et al., 2021). The 3ST is a theory that attempts to account for this process, and it proposes that the development of suicidal ideation results from the combined effect of pain

and hopelessness, where connectedness can protect against escalating ideation among individuals with high levels of pain and hopelessness, and where the transition between ideation and attempt is contingent on the presence of suicide capability (i.e., capacity; Klonksly et al., 2021). Despite its potential relevance, this theory has not yet been tested among individuals with a criminal history. Therefore, the purpose of the present study was to extend the validity of the 3ST by testing this theory among individuals with a history of criminal behavior or involvement with the CJS compared to those without. Through this replication and extension of the 3ST, this study aimed to advance suicide prevention and intervention efforts within a population of individuals known to be at a particularly high risk of suicidality. Analyses from a sample of 190 Canadian residents over the age of 18 provided partial support for this theory.

For Step One of the 3ST, results supported the hypothesis that pain and hopelessness would interact to predict suicidal ideation, with this interaction explaining 50.9% of the variance in suicidal ideation in the overall sample. As expected, hopelessness moderated the relationship between pain and suicidal ideation, where conditional effects showed that pain predicted suicidal at all levels of hopelessness, and that the strength of this effect increased at higher levels of hopelessness. Thus, results from this analysis supports the validity of Step One of the 3ST in general and are in line with previous replication studies examining the 3ST (Dhringra et al., 2019; Klonksy & May, 2015; Pachkowski et al., 2021; Yang et al., 2018). However, contrary to the second hypothesis for Step One, the combined effect of pain and hopelessness was reduced among the subgroup of participants who had a history of criminal behavior or CJS involvement (see Figure 4). That is, the influence of pain and hopelessness on suicidal ideation for this subsample was less influential and suggested that pain had stronger effects at all levels of hopelessness for individuals without a history of criminal behavior or CJS involvement. This

finding was unexpected given the research that has demonstrated both pain and hopelessness as factors related to suicidality in justice-involved populations (Chapman et al., 2011; Favril et al., 2020; Gooding et al., 2016; Pereira et al., 2010).

However, there are several potential explanations for the direction of this finding. First, individuals in this subsample may have developed different coping mechanisms or resilience factors through their life experiences, which may impact their subjective experiences of pain and hopelessness. Alternatively, individuals who have engaged in criminal behavior or had contact with the CJS may be desensitized to experiences of pain and hopelessness given their life trajectories, where they may come to expect these factors and thus normalize them as a part of life, which may reduce the impact of these factors on suicidal ideation. More specifically, repeated exposure to adverse life events may impact an individual's perception of pain and hopelessness. It is possible that the high prevalence of potentially traumatic events among this subsample may have contributed to resilience or a reduced emotional response to stressors that diminished the severity of pain and hopelessness in the context of suicidal ideation. While these are potential explanations, it is important to note that there is minimal longitudinal research examining resiliency and coping among individuals who have engaged in criminal behavior or have had contact with the CJS. Therefore, these assertions are speculative and not yet substantiated by existing research. Nevertheless, conclusions based on these findings are exploratory, as we did not gather information on when or how frequently individuals engaged in criminal behavior and it is possible that a large portion of this subsample may have a distant history of criminal involvement. Finally, it is important to note that a large proportion of this sample included university students. Although not the focus of this study, there are also high

prevalence rates of suicidal ideation in university samples (Akram et al., 2020; Mortier et al., 2018), which may explain the high frequencies of suicidality variables in the present study.

In addition, the data from this study did not support Step Two of the 3ST, which suggests that connectedness protects against increasing suicidal ideation among those high on both pain and hopelessness. Results were non-significant for the overall sample of high-risk individuals, as well as those with and without a history of criminal behavior or CJS involvement. Next, as a direct test of Step Two, difference scores were calculated between pain and connectedness, where the correlations between these scores and suicidal ideation were also non-significant across all groups. However, as illustrated in Figure 7, there was a slight positive trend, indicating that as the pain-connectedness difference score increased (i.e., where pain exceeded connectedness), suicidal ideation also increased. Similarly, in Figure 8, the scatterplot illustrated a negative trend for individuals with a history of criminality, which suggests a buffering effect of connectedness: as connectedness exceeds pain, suicidal ideation decreases. However, despite these observed trends, overall results were non-significant. It is possible that the non-significant findings are due to sample size and measurement, which is elaborated on below.

While the absence of statistical significance challenges the second step of the 3ST, it also raises important considerations about the sample these data were derived from. Although the small sample size for this study is a significant limitation, another possible explanation for these results may be the nature of the sample itself. On one hand, the subsample of individuals with a history of criminal behavior or CJS involvement may experience unique barriers to connectedness, thus limiting the protective effects of connectedness. On the other, this subsample might experience connectedness differently than how it was measured in this study. That is, the INQ subscale may not adequately capture the nature of connectedness among those with a

criminal history. With that said, the role of connectedness as a protective factor was also not meaningful for the high-risk sample as a whole, which may suggest that measures beyond the INQ should be considered when looking at the protective role of connectedness on suicidal ideation. That is, connectedness as measured by the INQ may be insufficient given nuanced nature of this construct. This echoes Chu et al.'s (2017) statement about the challenges of the INQ in measuring thwarted belongingness, as the scale only measures single components of belongingness. With that said, Chu et al. (2017) also found weak to moderate relationships between a lack of connectedness (i.e., thwarted belongingness) and more severe suicidal ideation. Therefore, it is important to consider that the protective effects of connectedness may not be captured by the INQ, and that more comprehensive measures may be needed to account for connectedness in this population.

In terms of capability for suicide, or suicide capacity, empirical support for Step Three of the 3ST was not demonstrated for the overall sample. Although individuals in this sample with a history of suicide attempts had higher suicide capacity scores compared to those with a history of suicidal ideation only, this difference was not statistically significant at the conventional level (p = .056). However, the large effect size demonstrated by this analysis suggests that there may be a potentially meaningful difference. Given that the p-value was just above the threshold, it is possible that the sample was not large enough to achieve statistical significance.Additionally, results did not support the hypothesis that suicide capacity scores would be higher among those with a history of criminal behavior or CJS involvement compared to those without. This finding may be attributed to a variety of factors, such as measurement limitations and/or the nature of criminal behavior within the sample. First, suicide attempts were measured dichotomously in the current study. In the Chu et al. (2017) review, the authors noted that many studies that used

dichotomous measures of suicide attempts tended to yield non-significant results. The authors also suggest that future studies measure attempt history continuously while also including response options that may better capture the nuanced and rapidly changing nature of suicide risk (Chu et al., 2017). Second, the nature of criminal behavior or CJS involvement in this study was heterogenous, where there was also a low number of individuals who engaged in violent behavior. Although there were a variety of offending types in this sample, the most common types of offending were non-violent or drug related. This is important because previous research has identified violent offending as a factor that differentiates justice-involved individuals who attempt suicide from those who experience ideation only (Favril et al., 2020). It is possible that the results of this study may have differed if the sample included a larger proportion of individuals who have engaged in violent behavior. Relatedly, it is likely that the sample size was insufficient to detect significant differences, particularly given the small effect of criminal behavior on suicide capacity.

Strengths & Limitations

There are several strengths and limitations of the current study that are worth highlighting. First, this study was guided by a strong theoretical model, which is important for the progression of suicide research given that the 3ST provides a well-validated framework for understanding the progression from suicidal ideation to attempts. In this way, the hypotheses and analyses for this study were firmly grounded in theory. Second, this study addressed an important gap in the literature by examining suicidality and the 3ST among individuals with a history of criminal behavior or CJS involvement, which has not yet been explored. Third, as a replication and extension of the 3ST, this study contributes to addressing the replicability crisis

in psychological research by evaluating the theory's validity in an understudied population more broadly.

With that said, there are a handful of important factors that should be considered when interpreting the findings of the current study, particularly as they relate to the methodology and sampling. For instance, the cross-sectional design of this study prevents us from making causal inferences and the current study was limited by the relatively small sample size, which potentially impacted our ability to detect significant differences in the subgroup analyses. Relatedly, the initial intention of this study was to examine the 3ST within justice-involved populations. However, due to the barriers accessing justice-involved individuals for research, this study relied on self-reported histories of criminal behavior and CJS involvement. Given the expectation that there would be a low base rate of CJS involvement in the current sample, the inclusion of undetected criminal behavior was used to capture a broad range of activities that may not have come to the attention of law enforcement. This approach is particularly limited in that it may be vulnerable to social desirability bias, where participants may have underreported or failed to disclose criminal behavior, which may have resulted in an underestimation of criminal behavior in the sample. This approach also fails to capture the potential unique differences between individuals with CJS involvement and those who have engaged in undetected crimes, both of which were combined into a single variable for analysis. It is possible that those involved with the CJS have different psychological and environmental factors that influence suicidality compared to those with undetected criminal behavior. Additionally, participants in this study were not asked about information on the timing and frequency of criminal behavior. This is an important gap as it limits our ability to fully understand the

complexities of criminality as it relates to suicidality, and it prevents us from assessing the severity of behavior.

Finally, a major limitation of this study is that the sample primarily consisted of university students (65.8%), who are generally prosocial and not representative of the population of interest. The reliance on a student sample significantly limits the generalizability of these findings to other populations, as students may not accurately represent the broader population in terms of socioeconomic status, educational background, and life experiences. With that said, it remains important to acknowledge the particularly high rates of suicidality that were observed among the student sample in this study. Although it was not the focus of the current study, previous research has outlined high prevalence rates of suicidal ideation and behavior in other university samples (Akram et al., 2020; Mortier et al., 2018), which may explain the high frequencies of suicidality observed here. The alarming rates of suicidality in the sample highlight the need for university administrators to consider targeted prevention and intervention efforts in universities. Implications and future directions for research are explained next.

Implications & Future Directions

The findings from the present study have several important implications for research and practice. First, this study was the first to examine the 3ST among individuals with a history of criminal behavior or CJS involvement. As an exploratory examination of the 3ST, this study provides a foundation for further validation of the 3ST in forensic populations, which has been an underexplored area in both suicidology and forensic psychology. The present study lays the groundwork for future research to examine the 3ST with larger sample sizes and direct measures of criminal involvement, particularly among those who are incarcerated or serving their sentences in the community. Relatedly, this study highlights the importance of examining the

3ST in samples that are explicitly justice-involved, as opposed to testing the theory between those who have a history of CJS involvement compared to those without. Additionally, more longitudinal studies with greater statistical power are needed to examine the pathways between pain, hopelessness, connectedness, and suicide capacity among justice-involved individuals. With additional research, the 3ST may be shown to be particularly useful in forensic contexts, both for victims and offenders, where suicidality presents complex and resource-intensive challenges.

With that said, although the results of this study were unable to capture the realities of justice-involved individuals, the findings do contribute to suicide research more broadly, which can also have implications for suicide prevention. Specifically, the present study contributes to the growing body of evidence suggesting that suicide prevention efforts should be guided by ideation-to-action frameworks, where intervention and prevention efforts should be explicit about the factors that aim to reduce suicidal ideation versus prevent ideation from progressing to an attempt (Klonsky et al., 2018; Klonsky et al., 2021; Van Orden et al., 2010). In theory, it is possible for components of the 3ST to be applied at both the primary and secondary levels of suicide prevention by directing efforts towards decreasing pain, increasing hope and connectedness, and reducing capacity. However, the results from this study only provided support for the roles of pain, hopelessness, and suicide capacity on suicide risk more broadly, but not connectedness as a protective factor. The lack of support for the role of connectedness must be interpreted with caution given the sampling and measurement limitations of this study, and by acknowledging the large body of research that supports connectedness as a protective factor against suicide (Cramer et al., 2017; Gill et al., 2023; Klonsky et al., 2021; Pachkowski et al., 2021; Zareian & Klonsky, 2020; Zhong et al., 2021). Nevertheless, the results of this study

support the use of primary prevention measures that could encompass the reduction of pain, hopelessness and capacity through interventions, programs, and policies at the population level.

Similarly, secondary prevention efforts (i.e., those that seek to reduce the escalation of suicidal ideation and behaviors) may benefit from wrapping prevention around the conditions that contribute to suicidality as proposed by the 3ST (Klonksy et al., 2018). Through this lens, secondary prevention may involve targeted strategies such as safety planning and interventions that specifically address the factors outlined in the 3ST. For instance, interventions might focus on increasing an individual's sense of hope while simultaneously attempting to decrease their pain and capacity. These approaches may be particularly important during acute periods of crisis given the transient nature of suicide risk (Zortea et al., 2020). That is, by targeting these factors, we may be able to assist with keeping people safe through the highest risk moments of crisis.

In closing, there is a critical distinction to be made between those with suicidal ideation and those who attempt suicide, both theoretically and clinically. Traditional risk factors, such as depression or mood disorders, tell us little about the difference between ideators and attempters (Kessler et al., 1999), which is important for the accurate assessment and management of suicide risk. In a national comorbidity survey in the United States, Kessler et al. (1999) concluded that "all significant risk factors… were more strongly related to ideation than to progression from ideation to a plan or an attempt" [p. 617]. More recently, Kessler et al. (2020) have argued that suicide risk tools continue to lack clinical value. Despite decades of research on the detection and prevention of suicides, the ability to accurately predict who will go on to attempt or die by suicide has not improved and remains only marginally better than chance (Kessler et al., 2020; Shortreed et al., 2023). Therefore, there is a need to move beyond a check-list approach for risk

factors and towards a more comprehensive understanding of how these risk factors operate within the framework of ideation-to-action theories, such as the 3ST.

Conclusion

Suicidality remains a devastating public health concern, affecting individuals, families, and communities across all demographics. Consequently, there remains an urgent need to better understand the factors the contribute to the loss of life due to suicide. Given the dearth of research on ideation-to-action theories of suicide as they relate to individuals with a history of criminality, this study aimed to replicate and extend the 3ST to individuals with a history of criminal behavior or involvement with CJS. Although partial support for the 3ST was found, the theory's central tenets did not replicate as expected for this subsample of individuals. However, the pervasiveness of suicidality among justice-involved populations continues to warrant further investigation into the mechanisms by which suicidal ideation progresses to suicidal action. Additional research is needed to generalize the 3ST in hopes of contributing to the continued improvement of risk assessment and treatment, with the ultimate goal of saving lives and reducing the suffering associated with suicidality. Despite the inherent challenges in researching suicidality, many scholars and practitioners have dedicated their lives to pursuing better detection and prevention strategies through the development of theory and evidence-based interventions, and it is important that we as a society persist in contributing to a deeper understanding of this ongoing public health crisis.

> *"I share with survivors the pain of losing a loved one to suicide. But I share with clinicians the challenges of treating suicidal behavior, and I share with scientists the daunting task of unraveling suicide's mysteries"* (Joiner, 2005, p. 15).

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Appendix A
Informed Consent Form

Examining Factors Related to Suicidal Thoughts and Behaviours Among Individuals with and without Involvement in the Canadian Justice System

Saint Mary's University – REB File # #24-042

Research Team:

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Introduction and Purpose of Study

As part of my master's thesis, I am conducting research on suicidality (e.g., suicidal thoughts and behaviors) under the supervision of Dr. Meg Ternes at Saint Mary's University. You are invited to take part in this research, which investigates factors related to suicidal thoughts and behaviours among individuals with and without a history of involvement with the criminal justice system

The purpose of this research is to better understand factors related to suicidality with the goal of contributing to the detection and prevention of suicidality in our society. This research has received funding from the Social Sciences and Humanities Research Council of Canada and Research Nova Scotia's Scotia Scholars.

Taking part in this anonymous study is completely voluntary and you are free to withdraw your participation at any time, without penalty, for any reason.

Eligibility Criteria

All Canadian residents over the age of 18 are eligible to participate in this research. You do not necessarily need to have a history of suicidal thoughts and behaviours, or a history of involvement in the justice system to participate.

What Does Participating Mean?

Participating in this study means carefully reflecting on your experiences and answering questions as part of an online survey. The questions ask about your experiences and feelings related to suicidality, trauma, and justice-system involvement. You do not have to provide any personally identifiable information, and you may skip any questions you do not wish to answer. The survey takes place entirely online and all information is kept confidential. This is a one-time study that will take you approximately 20 minutes to complete.

What Are the Potential Benefits?

By participating in this study, you will help to advance our understanding of suicidality, which has the potential to inform prevention and intervention efforts that may help people in the future.

What Are the Potential Risks?

Although we believe that the risks of participating in this study are minimal, it is possible that some questions may elicit an emotional reaction. That is, discussing suicide-related topics may be upsetting for some people who may have personal experiences or know someone who has died by suicide. Similarly, recalling involvement with the criminal justice system or potentially traumatic events in life might bring up difficult feelings. As researchers, we do not provide mental health services, and this study does not allow us to link your name to your responses. However, we will provide you with contact information for supports should you decide that you need help at anytime. You are, of course, allowed to withdraw anytime without negative consequences.

If you do experience any sort of distress from this study, you are encouraged to reach out to one or more of the resources below. Additionally, “check-in” notes are placed throughout the survey that will ask you whether you wish to continue or be linked to resources that are relevant to your geographic location. General resources are provided below:

***Wellness Together Canada**:* This is a free, virtual mental health service available to all individuals in Canada. The service connects individuals to peer support workers, social workers, psychologists, and other professionals for confidential chat sessions or phone calls. It provides different levels of support, ranging from information to self-assessment tools.This tool is available 24/7, 365 days a year. For more information, please visit https://www.wellnesstogether.ca/en-ca/ or text WELLNESS to 741741 for immediate crisis support.

Talk Suicide Canada: This is a free service available to all individuals in Canada who wish to connect with a crisis responder. The service is available 24/7, 365 days a year. For more information, please visit https://talksuicide.ca/ or call 1-833-456-4566. There is also the option of texting for support every day between 4 p.m. and midnight, simply text 45645.

Centre for Suicide Prevention: 1-833-456-4566

Crisis Services Canada: 1-833-456-4566 or text 45645

First Nations and Inuit Hope for Wellness Help Line: 1-855-242-3310

LivingWorks Start is a free, online training that helps people learn about how to have conversations with people who may be contemplating suicide, and how to connect them with the appropriate resources. If you are interested in making a difference in suicide prevention, you may be interested in this course.

For more information, please visit https://livingworks.net/training/livingworks-start/

If you are a SMU Student: you may wish to get in touch with the **Counselling Centre** by phone or email: 902-420-5615 or counselling@smu.ca

- SMU students are also welcome to visit the following resources:
    - **Good2Talk** (free, confidential support services for students in Nova Scotia) Call 1-833-292-3698 or text GOOD2TALKNS to 686868
    - **Togetherall** (online peer community moderated by mental health professionals available 24/7 for post-secondary students to get mental health support) visit https://togetherall.com/en-ca/
    - **Therapy Assistance Online** (free e-mental health resource with modules, self-guided tools, progress measures and a mindfulness library)
    - **Mental Health Mobile Crisis Team** call 902-429-8167

What Will Be Done with My Information?

The data we collect is completely anonymous; it will consist of some basic demographic information as well as your thoughts and feelings. The data we gather will not contain any identifiable information. This means that nobody will ever know how you, personally, responded.

The data will be stored on a cloud-based, password-protected server and password-protected computers. Only members of the research team will have access to this data, but we may share this data with other scholars. We will retain the data as long as necessary, and for at least five years after the results have been published.

The study will be conducted on Qualtrics, an online survey platform. Once the data for this study is collected and analyzed it will be shared with the research community through my thesis and potential presentations or publications. Any data that is shared will be presented in a generalized way, and your personal information will not be accessible.

What Type of Compensation is Available?

This survey is expected to take 15 minutes to complete. SMU students enrolled in eligible psychology courses may earn .25 bonus credits towards eligible courses.

There is no compensation for non-SMU participants, although we are incredibly grateful for your time and participation.

How Can I Withdraw from This Study?

You are welcome to withdraw from this study at anytime, for any reason, without risk of consequence. To withdraw and have your data removed, simply click the “withdraw and remove my responses” button in the survey. Please note that, because the survey is anonymous, we will not be able to remove your data if you withdraw by exiting the browser without clicking the “withdraw” button,

How Can I Get More Information?

If you have any questions or concerns related to this study, or if you wish to clarify anything, you are welcome to reach out to any member of the research team.

Faculty Supervisor: Dr. Meg Ternes (meg.ternes@smu.ca)

Masters Student Principal Investigator: Krystal Lowe (krystal.lowe@smu.ca)

If you are interested in receiving more information regarding the results of this study, you will find a summary of results by September 1, 2024, at https://www.smu.ca/fgsr/summaries-of-completed-research.html

Researcher's Conflict of Interest

The researchers on this project do not have a vested interest in the outcome of the study. We have nothing to gain or lose depending on the outcome of this project.

Research Participant Rights & Protection:

The Saint Mary's University Research Ethics Board has reviewed this research with the guidance of the TCPS 2 based on three core principles: Respect for Persons, Concern for Welfare and Justice. If you have any questions or concerns at any time about ethical matters or would like to discuss your rights as a research participant, please contact ethics@smu.ca or 902-420-5728.

Participant Agreement: I understand what this study is about, appreciate the risks and benefits, and that by consenting I agree to take part in this research study and do not waive any rights to legal recourse in the event of research-related harm. I understand that my participation is voluntary and that I can end my participation at any time without penalty. I have had adequate time to think about the research study and have had the opportunity to ask questions.

Participant:

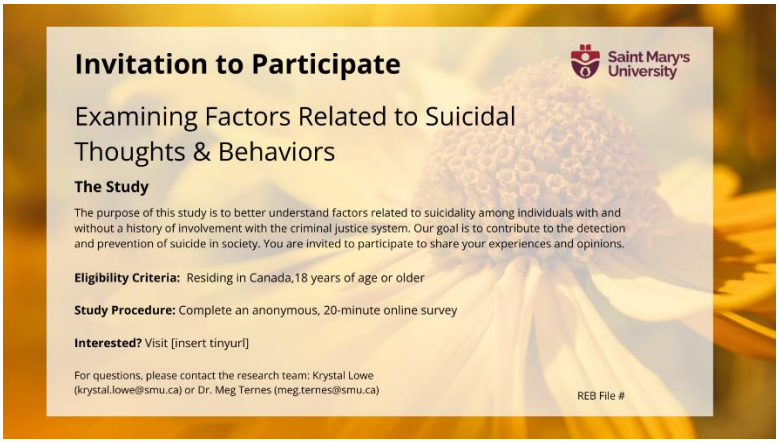
- ☐ Click here if you agree and consent to participate in the study.
- ☐ Click here if you do not consent.

Appendix B

Recruitment Material

1. Poster/graphic (below is a sample of the poster and resized social media graphic)
2. Email script for community organizations/partners

Poster/Graphic:



Email Script:

Dear [Name of Contact or Organization],

I hope this email finds you well. My name is Krystal, and I am a Masters of Science student at Saint Mary's University in the Applied Psychology (Forensic Stream) program. I am currently conducting research for my Masters thesis, under the supervision of Dr. Meg Ternes, which explores the relationship between suicidal thoughts and behaviors in those with a history of involvement with the criminal justice system.

Given your organization's dedication to supporting those who have been involved with the criminal justice system, I felt that you and your clients would have important insights to share on this topic. I believe that by understanding the underlying factors contributing to suicidal thoughts and behaviors among those with a criminal history, we can develop more effective prevention, interventions, and support systems.

I would be incredibly grateful if you could share the information pertaining to this study with those you think may be interested. Alternatively, I can also provide posters and/or handouts with information for your clients if you wish.

Below is a brief overview of the research study.

Study Details:

- **Objective:** to examine suicidal thoughts and behaviours among individuals who have been in contact with the criminal justice system, with the goal of informing better prevention and intervention efforts. Those who participate do not necessarily need to have a history of suicidal thoughts or behaviors.
- **Confidentiality**: the study is completely anonymous, and all data collected is confidential.
- **Time Commitment:** 15-minute, online survey
- **Research Ethics Clearance:** This research has been reviewed and approved by the Saint Mary' University Research Ethics Board. The REB file number for this study is #24-032.

How to Participate:

- If you are interested in participating or would like more information about the study, please visit https://smuniversity.qualtrics.com/jfe/form/SV_4TUWLMIKfOgZnyC

I understand the sensitive nature of the topic, and I assure you that the care and well-being of participants are at the forefront of my study. Those willing to share their experiences can make a meaningful impact on our understanding of suicidality.

Thank you for your time in attending to this email. If you have any questions, please do not hesitate to reach out.

With gratitude,

Krystal Lowe

Appendix C

Survey Materials

Content Warning

Following the informed consent, participants were presented with the following:

A Note on Content: Thank-you for agreeing to participate in this survey. As a reminder, this survey contains questions about sensitive and potentially distressing topics, including experiences with suicidal thoughts and behaviors, involvement with the criminal justice system, and potentially traumatic life events.. Answering these questions may bring up difficult emotions. If, at any point, you experience distress, we hope that you will seek appropriate support. You will find a button throughout the survey that will take you to a page of resources. If you find a question too upsetting, we encourage you to skip that question, indicate "prefer not to answer," or discontinue the survey. You do not need to answer anything you do not want to, and your responses are completely anonymous.

Attention Checks

To account for potential participant distraction or inattentiveness, as well as to filter bots, three "attention check" questions will be placed throughout the survey. These questions are as follows:

1. What is 6 +3? [multiple choice options: a = 9, b = 18, c = 3, d = 12]
2. Please select "neither agree nor disagree" for this question. [x2]

Measure of Criminal Justice Involvement (Brown & Manning, 2013)

1. Nowadays, people are often stopped by the police for many different reasons. Since the age of 18, have you ever been stopped by the police?

   ☐ Yes
   ☐ No
   ☐ Prefer not to answer.

2. Since the age of 18, have you ever engaged in illegal activities that went undetected or unaddressed by law-enforcement, not including minor traffic violations? (select all that apply)

   ☐ Yes
      ☐ I have engaged in non-violent activities, such as theft, property damage, or fraud.
      ☐ I have engaged in violent activities, such as assault, battery, or domestic/intimate partner violence.
      ☐ I have engaged in illicit drug-related activities, such as drug possession, distribution, or trafficking.
      ☐ I have sexually assaulted or harassed someone.
      ☐ Other
   ☐ No
   ☐ Prefer not to answer.

3. Since age 18, have you ever been arrested, booked, or charged for breaking the law? *("Booked" means that you were taken into custody and processed by police, even if you were released.)*

   ☐ Yes
   ☐ No
   ☐ Prefer not to answer.

4. [If yes to #3] Since the age of 18, have you ever been arrested or charged with a **non-violent offense**, such as theft, property damage, or fraud?

   ☐ Yes
   ☐ No
   ☐ Prefer not to answer.

5. [If yes to #3] Since the age of 18, have you ever been arrested or charged with a **violent offense**, such assault, battery, or domestic/intimate partner violence?

   ☐ Yes

- ☐ No
- ☐ Prefer not to answer.

6. [If yes to #3] Since the age of 18, have you ever been arrested or charged with a **drug-related offense**, such as drug possession, distribution, or trafficking?

   - ☐ Yes
   - ☐ No
   - ☐ Prefer not to answer.

7. [If yes to #3] Since the age of 18, have you ever been arrested or charged with a **sex-related offense**, such as sexual assault?

   - ☐ Yes
   - ☐ No
   - ☐ Prefer not to answer.

8. Since the age of 18, have you ever been convicted of or pled guilty to any charges other than minor traffic violations?

   - ☐ Yes
   - ☐ No
   - ☐ Prefer not to answer.

9. [If yes to #8] Since the age of 18, have you ever been under any form of criminal justice supervision, including on probation, in jail, or in prison?

   - ☐ Yes
   - ☐ No
   - ☐ Prefer not to answer.

10. Prior to the age of 18, had you ever been arrested, booked, or charged for breaking the law? *("Booked" means that you were taken into custody and processed by police, even if you were released.)*

    - ☐ Yes
    - ☐ No
    - ☐ Prefer not to answer.

11. Prior to the age of 18, have you ever engaged in illegal activities that went undetected or unaddressed by law-enforcement, not including minor traffic violations? (select all that apply)

    - ☐ Yes

- ☐ I have engaged in non-violent activities, such as theft, property damage, or fraud.
- ☐ I have engaged in violent activities, such as assault, battery, or domestic/intimate partner violence.
- ☐ I have engaged in drug-related activities, such as drug possession, distribution, or trafficking.
- ☐ I have sexually assaulted or harassed someone.
- ☐ Other

☐ No
☐ Prefer not to answer.

12. [If yes to #10] Prior to the age of 18, did you ever spend time in a juvenile detention center?

☐ Yes
☐ No
☐ Prefer not to answer.

13. [If yes to #10] Prior the age of 18, have you ever been arrested, booked, or charged with a **non-violent offense**, such as theft, property damage, or fraud?

☐ Yes
☐ No
☐ Prefer not to answer.

14. [If yes to #10] Prior to the age of 18, have you ever been arrested, booked, or charged with a **violent offense**, such assault, battery, or domestic violence?

☐ Yes
☐ No
☐ Prefer not to answer.

15. [If yes to #10] Since the age of 18, have you ever been arrested booked, or charged with a **drug-related offense**, such as drug possession, distribution, or trafficking?

☐ Yes
☐ No
☐ Prefer not to answer.

16. [If yes to #10] Since the age of 18, have you ever been arrested, booked, or charged with a **sex-related offense**, such as sexual assault?

☐ Yes
☐ No
☐ Prefer not to answer.

17. [If yes to #10] Prior to the age of 18, were you ever subject to extrajudicial sanctions? (e.g., restitution or compensation, service to community or victim, participation in counselling).

    ☐ Yes
    ☐ No
    ☐ Prefer not to answer.

Screening for Lifetime Prevalence of Suicidality - Adapted from the Self-Injurious Thoughts and Behaviors Interview (SITBI; Nock et al., 2017)

These questions ask about your thoughts and feelings of suicide and self-injurious behaviors. Please read them carefully and respond as accurately as you can.

Suicidal Ideation

1. Have you ever had thoughts of killing yourself?
    ☐ Yes
    ☐ No
    ☐ Prefer not to answer.

Non-suicidal Self-Injury

People sometimes have thoughts about hurting themselves without wanting to die. Other times they actually do things to hurt themselves.

2. Have you ever had thoughts of purposely hurting yourself without wanting to die? (e.g., cutting or burning
    ☐ Yes
    ☐ No
    ☐ Prefer not to answer.

3. Have you ever actually purposely hurt yourself without wanting to die?
    ☐ Yes
    ☐ No
    ☐ Prefer not to answer.

Suicide Attempt

4. Have you ever made an actual attempt to kill yourself in which you had at least some intent to die?
    ☐ Yes
    ☐ No
    ☐ Prefer not to answer.

Suicide Plan

5. Have you ever actually made a plan to kill yourself?
   - ☐ Yes
   - ☐ No
   - ☐ Prefer not to answer.

Suicide Ideation Scale (Rudd, 1989)

Using the scale below, please indicate the degree to which you agree or disagree with the following statements:

Never or none of the time				*Always or a great many of times*
1	*2*	*3*	*4*	*5*

1. I have been thinking of ways to kill myself
2. I have told someone I want to kill myself
3. I believe my life will end in suicide
4. I have made attempts to kill myself
5. I feel life just isn't worth living
6. Life is so bad I feel like giving up
7. I just wish my life would end
8. It would be better for everyone involved if I were to die
9. I feel like there is no solution to my problems other than taking my own life
10. I have come close to taking my own life**.**

Psychache Scale (Holden et al., 2001)

Using the scale below, please indicate the degree to which you agree or disagree with the following statements:

Strongly disagree				*Strongly agree*
1	*2*	*3*	*4*	*5*

1. I feel psychological pain
2. I seem to ache inside

3. My psychological pain seems worse than any physical pain
4. My pain makes me want to scream
5. My pain makes my life seem dark
6. I can't understand why I suffer
7. Psychologically, I feel terrible
8. I hurt because I feel empty
9. My soul aches
10. I can't take my pain anymore
11. Because of my pain, my situation is impossible
12. My pain is making me fall apart

Beck Hopelessness Scale (Beck et al., 1974)

Please consider the following statements and indicate whether they are true or false:

1. I look forward to the future with hope and enthusiasm
2. I might as well give up because I can't make things better for myself
3. When things are going badly, I am helped by knowing they can't stay this way forever
4. I can't imagine what my life would be like in 10 years
5. I have enough time to accomplish the things I most want to do
6. In the future, I expect to succeed in what concerns me most
7. My future seems dark to me
8. I expect to get more good things in life than the average person
9. I just don't get the breaks, and there's no reason to believe I will in the future
10. My past experiences have prepared me well for my future
11. All I can see ahead of me is unpleasantness rather than pleasantness
12. I don't expect to get what I really want
13. When I look ahead to the future, I expect I will be happier than I am now

14. Things just won't work out the way I want them to

15. I have great faith in the future

16. I never get what I want so it's foolish to want anything

17. It is very unlikely that I will get any real satisfaction in the future

18. The future seems vague and uncertain to me

19. I can look forward to more good times than bad times

20. There's no use in really trying to get something I want because I probably won't get it

Interpersonal Needs Questionnaire (Van Orden et al., 2012)

The following questions ask you to think about yourself and other people. Please respond to each question by using your own current beliefs and experiences, NOT what you think is true in general, or what might be true for other people. Please base your responses on how you've been feeling recently. Use the rating scale below to indicate how true each statement is for you. There are no right or wrong answers, we are interested in what you think and feel

Not at all true for me						*Very true for me*
1	*2*	*3*	*4*	*5*	*6*	*7*

1. These days the people in my life would be better off if I were gone

2. These days the people in my life would be happier without me

3. These days I think I am a burden on society

4. These days I think my death would be a relief to the people in my life

5. These days I think the people in my life wish they could be rid of me

6. These days I think I make things worse for the people in my life

7. These days, other people care about me **

8. These days, I feel like I belong **

9. These days, I rarely interact with people who care about me **

10. These days, I am fortunate to have many caring and supportive friends

11. These days, I feel disconnected from other people**

12. These days, I often feel like an outsider in social gatherings**

13. These days, I feel that there are people I can turn to in times of need**

14. These days, I am close to other people**

15. These days, I have at least one satisfying interaction every day**

*** Belongingness subscale*
Items 7, 8, 10, 13, 14, & 15 are reverse coded.

The Suicide Capacity Scale (Klonsky & May, 2015)

Using the scale below, please indicate the degree to which you agree or disagree with the following statements:

Strongly disagree				*Strongly agree*
1	*2*	*3*	*4*	*5*

1. I've always been able to handle pain more easily than other people

2. I've never really been afraid of death

3. I can handle more physical pain than I used to

4. Over time, I've gotten less afraid of dying

5. If I ever wanted to, I'd know how to kill myself

6. If I ever wanted to, I'd have access to the method/means I would use to kill myself

Life Events Checklist for DSM-5 (LEC-5; Weathers et al., 2013)

The following questions ask about specific experiences some people have throughout their life. Please answer the following questions based on your experiences over the course of your life.

Event	Yes, happened to me	Yes, witnessed it	Yes, learned about it	Don't know	Doesn't applu	Prefer not to answer	
1. Natural disaster (ex: flood, hurricane, tornado, earthquake)							
2. Fire or explosion							
3. Transportation accident (ex: car accident, boat accident, train wreck, plane crash)							
4. Serious accident at work, home, or during recreational activity							
5. Exposure to toxic substance (ex: dangerous chemicals, radiation)							
6. Physical assault (ex: being attacked, hit, slapped, kicked, beaten up)							
7. Assault with a weapon (ex: being shot, stabbed, threatened with a knife, gun, bomb)							
8. Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)							
9. Other unwanted or uncomfortable sexual experience							
10. Combat or exposure to a war-zone (in the military or as a civilian)							
11. Captivity (ex: being kidnapped, abducted, held hostage, prisoner of war)							
12. Life-threatening illness or injury							
13. Severe human suffering							
14. Sudden violent death (ex: homicide, suicide)							
15. Sudden accidental death							
16. Serious injury, harm, or death you caused to someone else							
17. Any other very stressful event or experience							

Demographics

Before we finish up, we would like to invite you to complete a few demographic questions so we can describe our sample. Please note that all answers are anonymous and kept confidential. None of the responses you provide are connected to any identifying information.

1. What year were you born?

   [Dropdown menu]

2. What is your gender identity?

   - ☐ Woman
   - ☐ Man
   - ☐ Non-binary
   - ☐ Two-spirit
   - ☐ Transgender
   - ☐ Other.
   - ☐ Prefer not to answer.

3. What is your sexual orientation?

   - ☐ Heterosexual/Straight
   - ☐ Gay
   - ☐ Lesbian
   - ☐ Bisexual or Queer
   - ☐ Two-spirit
   - ☐ Unsure or question
   - ☐ Other
   - ☐ Prefer not to answer.

4. To which of the following racial or cultural groups do you belong? (Select all that apply)

   - ☐ Black
   - ☐ First Nations, Metis, Inuit
   - ☐ East/Southeast Asian
   - ☐ Latino
   - ☐ Middle Eastern
   - ☐ South Asian
   - ☐ White
   - ☐ Other
   - ☐ Prefer not to answer.

5. In which region of the world were you born?

   [Dropdown menu]

   - ☐ Africa (e.g., Ghana, Nigeria. South Africa etc.)
   - ☐ Asia (e.g., China, Indonesia, Pakistan, Philippines etc.)
   - ☐ Europe (e.g., Western and Eastern Europe; Britain, France, Poland, Russia etc.)
   - ☐ Latin/South America (e.g. Mexico, Argentina, Brazil)
   - ☐ Middle East (e.g., Middle East and North Africa; Turkey, Egypt, Jordan etc.)
   - ☐ North America (e.g., Canada, United States)
   - ☐ Pacific/Oceania (e.g. Australia, New Zealand, Samoa etc.)

6. In which Canadian province or territory do you currently reside?

   [Dropdown menu]
   - ☐ Alberta
   - ☐ British Columbia
   - ☐ Manitoba
   - ☐ New Brunswick
   - ☐ Newfoundland and Labrador
   - ☐ Northwest Territories
   - ☐ Nova Scotia
   - ☐ Nunavut
   - ☐ Prince Edward Island
   - ☐ Quebec
   - ☐ Saskatchewan
   - ☐ Yukon

7. What is the highest level of education you have completed?

   - ☐ Some highschool but did not finish
   - ☐ Highschool diploma or equivalent
   - ☐ Some college or university
   - ☐ College diploma or certificate
   - ☐ Undergraduate university degree
   - ☐ Master’s degree
   - ☐ Doctorate
   - ☐ Prefer not to answer.