

Impulsive and Planned Suicide Behaviour Through the Lens of Temporal Decision Making

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Abstract

Suicide is known to be a leading cause of death around the world, with over 700,000 deaths by suicide being reported annually. This study uses secondary research to examine the emotional and cognitive factors that contribute to suicide from the perspective of temporal decision-making.

Temporal discounting refers to the tendency to underestimate future benefits in an attempt to seek immediate relief from distress. This emerges as a critical phenomenon to understand the difference between impulsive and planned suicides. Acts of impulsive suicide are strongly driven by a heightened state of emotional distress and dysfunction in the prefrontal cortex and amygdala. Planned suicides, on the other hand represent prolonged psychological distress and a sense of deliberation to reduce the perceived burdensomeness on others.

Joiner's Interpersonal Theory of Suicide and temporal decision making draws focus towards factors like impulsivity, social disconnect and cognitive biases- which may have an impact on suicidal ideation and behaviour.

Culture, demographic and biological factors further impact the decision making processes. Interventions like narrative therapy and motivational interviewing are actively being explored to promote future orientedness, reduce impulsivity and build greater resilience in individuals.

This paper thus aims to bring attention towards exploring a multidimensional framework for prevention strategies and apt clinical interventions which aim to foster long term well being in individuals.

Keywords:

Suicide, Temporal decision making, Impulsivity, Deliberation, Resilience.

Introduction

Over 700,000 lives are lost annually, accounting for 1 in every 100 deaths due to suicide. It is among the leading causes of death, particularly in the age group of 15-29, underscoring its profound societal and psychological implications (World Health Organization: WHO, 2021). Reducing suicide rates has been a pressing concern in some regions that have shown an incline in suicide rates. Because of its intricate etiology, preventative and intervention strategies must take an interdisciplinary approach. The most commonly reported risk factors were mental health problems (54.28%), negative or traumatic familiar issues (34.28%), academic stress (22.85%), social/lifestyle factors (20%), violence (22.85%), economic distresses (8.75%), relationship factor (8.75%) (Senapati et al., 2024).

Joiner's interpersonal theory of suicide adds to the existing understanding of the dynamics behind suicide ideation. This theory adds three key components to suicidal ideation. A feeling of being a burden to others, which has been described as perceived burdensomeness (Joiner et al., 2009). Thwarted belongingness, which refers to a lack of social connection, exacerbating suicidal thoughts. Lastly, the capability for suicide, which involves the individual's capability for self harm (Joiner et al., 2009). The interplay of Joiner's theory along with the cognitive processes of decision making provide us with deeper insight into suicidal ideation and behaviour.

Suicidal behavior can be understood through the lens of temporal decision making which sheds light on the interplay between cognition, emotion, and time perception in shaping life-and-death decisions. Suicidal behaviour occur across a spectrum, ranging from impulsive, emotionally driven actions to fastidious planning. Understanding this dichotomy in depth is essential to identify effective interventions and risk patterns.

Temporal discounting, in this context, is the propensity to undervalue future rewards in comparison to immediate ones. Emotional distress and cognitive biases can lead to a shift in an individual's perception of the future, intensifying the instant relief over long term consequences. This approach provides practical

insights for clinical interventions in addition to bridging the gap between behavioral outcomes and psychological theories.

This paper explores the interplay of cognitive and emotional determinants that can influence the timing of suicidal patterns. It sheds light on the manifesting behavior that “at-risk” individuals have towards temporal discounting. The study seeks to build a foundation for developing effective prevention strategies that address both deliberative and impulsive pathways to suicide.

Temporal Decision Making and Suicide

Temporal decision making refers to the cognitive processes involved in choice evaluation, which may have consequences at varying points in time. It requires individuals to balance immediate rewards with delayed outcomes, which is also known as delay discounting (Luhmann, 2009). This is a phenomenon where people opt for smaller, immediate rewards in comparison to larger, delayed ones, showing a lean towards instant gratification. The strength of this phenomenon often compels individuals to let go of delayed rewards in favour of the immediate ones even if the delayed ones hold greater value. Research has shown that this often leads to suboptimal levels of decision making, which may have implications for the individual. The context in which a decision is made significantly influences temporal choices (Cemre Baykan & Shi, 2022). In the context of suicide ideation, individuals might prioritise immediate emotional relief instead of long-term stability during a crisis, which is a result of heightened delay discounting (Bryan & Bryan, 2021).

Research shows that during cases of impulsive suicide, the subjective value of the immediate perceived relief in the form of self-harm or suicide can overshadow any benefits of enduring the temporary crisis for future wellbeing. Delay discounting, thus may increase the risk for suicide attempts in individuals who may be at risk, in moments where the emotional pain becomes too unbearable for them (Bryan & Bryan, 2021).

Temporal decision making may be influenced by various emotional states. Individuals dealing with suicidal thoughts often experience an overwhelming

influx of negative emotions which may be a factor in altering their perception towards time and reward value. Seeking immediate escape from these emotions may be a more appealing gain than the uncertainty that lies in the future benefit of enduring the pain or seeking help for it (Luhmann, 2009).

At a cognitive level, neuroscientific research has shown that decision making processes are controlled by the insular cortex, and are also associated with various sensory, cognitive and emotional processes including impulse control (Luhmann, 2009). Thus, when in a state of crisis, dysregulation in this region may contribute to impulsive decision making in an attempt to prioritize short term relief (Luhmann, 2009).

Impulsivity in suicidal decision making

Impulsive suicide attempts usually entail little forethought and are defined by their abrupt onset, which is often brought on by emotional crises or extreme stress. In case of such emotional distress, the individual resorts to accessible means such as overdosing or jumping, thus highlighting the importance of environmental factors in impulsive acts of self-harm (Wrege et al., 2014). Age, emotional instability, and a lack of coping mechanisms have also been identified as factors that increase the likelihood of impulsive suicidal behavior, particularly in younger populations (Palamarchuk & Vaillancourt, 2021).

Neurocognitively, impulsivity arises from dysregulation in the prefrontal cortex and the amygdala. The prefrontal cortex, which controls impulse control and decision-making, frequently shows decreased activity in those who are prone to impulsive conduct, which hinders their capacity to anticipate the effects of their choices. At the same time, amygdala activation increases emotional sensitivity and causes hasty decisions while under stress (Krause-Utz et al., 2016). According to numerous studies, mental health conditions like anxiety, depression, and low self-esteem were the main causes of suicide. Individuals susceptible to substance abuse or people with Borderline Personality Disorder (BPD) have complicated neurobiological dynamics. Studies have found heightened impulsivity in individuals with BPD, subsequently linked to their difficulty in regulating emotions, thereby increasing the suicide risk (Crowell et al., 2009).

Smith et al. (2010) examine the idea of the acquired capability for suicide, which offers an advanced perspective on impulsive suicides. The study emphasizes how people who have previously experienced painful or distressing events frequently display increased fearlessness and insensitivity to pain. This acquired skill sets attempts apart from ideators and implies that a key factor in bridging the gap between ideation and action is a decrease in fear and pain sensitivity. It's interesting to note that cognitive self-perceptions emerged as a crucial component, even while psychophysiological reactions, including aversion to stimuli connected to suicide, did not change significantly.

Long Term Planning in Decision Making

In contrast to impulsive suicides, planned suicide conduct is characterized by a significant degree of thought, contemplation, and planning. One important feature that sets it apart from impulsive suicide is the length of time it takes to create a plan—usually more than three hours. Increased psychological distress, including struggles with mental health conditions like Major Depressive Disorder or Substance Abuse Disorders, is frequently experienced by those who commit planned suicides. The distress is accompanied by strong, ongoing suicidal thoughts and a deep sense of helplessness. Additionally, these individuals are more likely to be intent on carrying out the act, and they frequently select more deadly techniques that require extensive medical care in the event that the attempt is stopped (Kim et al., 2015; Chaudhury et al., 2016).

Planned suicides are also significantly influenced by social and demographic factors. According to research, elderly individuals are more prone to attempt deliberate suicide, especially if they have gone through a divorce, lost a spouse, or have coexisting medical conditions. The severity of their acts is usually higher, even if they may have had fewer prior suicide attempts. Their belief that their death will relieve others of a burden can be reinforced by social experiences of perceived burdensomeness and a lack of belongingness (Kim et al., 2015; Chaudhury et al., 2016). Furthermore, those who believe that suicide is the only practical way to end their suffering frequently exhibit cognitive patterns in planned suicide conduct that reflect a sense of being stuck in inevitable situations (Kim et al., 2015).

Psychological and Environmental Triggers

Understanding psychological and environmental triggers that act as a catalyst to long term suicide ideation is vital to be able to form and implement effective intervention strategies.

Suicidal ideation and behaviour arise from a range of risk factors that build up over a period in one's lifetime. Mental health concerns at an individual level significantly impacts suicide rates. Disorders like Depression, Bipolar Disorder, Schizophrenia, Substance use Disorders and Traumatic Brain Injury are at a greater risk for suicide by atleast 3 times (Harmer et al., 2024).

Accessibility to lethal means is a significant facilitator of impulsive suicides. According to research, limiting access to hazardous chemicals, weaponry, or high-risk situations can greatly lessen the lethality of impulsive attempts. The concept of "mean safety" aligns with this ideology. It emphasizes on limiting the access to lethal environmental means in order to mitigate suicide risk (Jin et al., 2016).

The stress-diathesis model is the most common to understand the triggers for suicidal behaviours. Diathesis refers to an individual's intrinsic factors that may contribute to suicidal behaviour. This includes the likes of genetics, biological predispositions or psychological factors which includes history with mental illnesses, specific personality traits or past history with trauma. As per this model, when an individual with such a predisposition faces a stressful life event that is beyond their ability to cope, the feelings are expressed in the form of suicidal ideation or behaviour (Harmer et al., 2024).

Temporal Discounting and Suicide

The concept of temporal discounting becomes particularly relevant in understanding suicidal behavior. People in acute psychological distress may value instant relief—even through self-harm—over the possibility of future improvement, this idea becomes particularly relevant when analyzing suicide conduct. Temporal discounting is a crucial framework for examining the dynamics

of suicide because of the cognitive bias that affects decision-making in those who are at risk of analyzing suicide conduct. Temporal discounting is a crucial framework for examining the dynamics of suicide because of the cognitive bias that affects decision-making in those who are at risk.

Temporal discounting has a tangible influence on how individuals perceive and respond to emotional pain. People who have strong temporal discounting tendencies could find it difficult to appreciate the benefits of potential advancements or chances in the future, preferring to concentrate on the instant relief of their present pain, especially people abusing substances (Liu et al., 2012). Research has shown that people who are contemplating suicide frequently exhibit high levels of temporal discounting, which is associated with a reduced capacity to think about long-term benefits or repercussions (Dombrovski & Hallquist, 2017). This mental tendency is particularly noticeable in impulsive suicides, as the need for instant relief takes precedence over any consideration of what might happen in the future.

The connection between temporal discounting and suicidal behavior has been the subject of more and more research, which has provided important new information about how people who are "at risk" for suicide make decisions. In contrast to other groups, high-lethality suicide attempters showed less consistent reward valuation, according to a study involving 622 adults. This suggests that impulsive decisions may be caused by inconsistent reward valuation rather than a simple preference for instant gratification (Amlung et al., 2016). Furthermore, those who attempted low-lethality actions showed a greater desire for instant gratification, suggesting that people who attempt less dangerous activities may put immediate gratification ahead of long-term repercussions (Dombrovski et al., 2013). The importance of consistent decision-making in suicidal behavior was further highlighted by another study that showed that better-planned suicide attempts were linked to a higher willingness to postpone future benefits (Liu et al., 2012). Together, these results imply that cognitive distortions in estimating future results greatly increase the likelihood of suicide, especially in times of crisis when people seek out immediate assistance (Story et al., 2014; (Dombrovski & Hallquist, 2017).

Suicidal decision-making time preferences are greatly influenced by cultural views as well as demographic characteristics like age and gender. According to research, younger people frequently display higher rates of temporal discounting than older adults, who might be more likely to take long-term effects into account because of their life experience (Zhang & Ji, 2024). Another factor is gender; research indicates that men are typically more likely to make snap decisions, which can result in a larger number of fatal suicide attempts (Bryan & Bryan, 2021). Furthermore, cultural perspectives on suicide and mental health might influence how people view and react to suffering, which in turn can influence their temporal preferences. For instance, societies that stigmatize mental health conditions can encourage people to find quick fixes rather than get treatment, which would make suicide decision-making even more difficult.

Temporal Perspective in Therapeutic Interventions

Building a temporal perspective in therapy enables individuals to introspect on how they perceive their past, present and future which in turn has an impact on their mental health and decision making. A balanced temporal perspective helps one develop a stronger future oriented thinking, reduce the impulsive nature of their actions and build greater resilience (Mirzania et al., 2022).

Narrative therapy is a constructivist approach to therapeutic change that builds on the interpretation of one's experience of the world. These experiential stories are molded as narrative structures to give a frame of reference to make the experiences understandable (Etchison & Kleist, 2000). This goal directed therapeutic approach encourages clients to relook at their narratives with an emphasis on their positive experiences and future possibilities. Looking at past successes and positive outcomes to future scenarios will enable them to shift focus towards a hopeful narrative (Etchison & Kleist, 2000).

Motivational interviewing is an evolved version of Rogers' client centered approach, which focuses on helping individuals embrace change by navigating and overcoming the uncertainty they may be experiencing (Hettema et al., 2005). Analysing the pros and cons of their current behaviours with respect to the desired future outcomes helps one understand their motivations for change

and enhance their future goal planning abilities. Therapy can help individuals set specific, achievable and timed goals with a clearly defined pathway of getting there in the future (Hettema et al., 2005).

Acceptance and commitment therapy (ACT) is a relatively recent mindfulness based behavioural therapy which has been found to be effective with a wide range of clinical mental health conditions. It lays emphasis on accepting present circumstances and working towards inculcating practices for the future that align with personal values. Such an approach encourages individuals to effectively deal with unhelpful thoughts about the past and focus on a meaningful future (Hayes et al., 2006). This form of therapy enables clients to explore their core values which can help guide future decision making. Aligning actions with values ultimately helps individuals engage in behaviours that yield them long term well being (Hayes et al., 2006).

Bringing a temporal perspective in therapy is ultimately beneficial in fostering a future oriented thinking pattern in individuals through goal directed interventions while building resilience and promoting emotional growth. The larger aim is to reduce impulsive behaviour and improve decision making capabilities, fostering a sense of hope within them for the future.

Conclusion

Suicide is a escalating to becoming a profound global concern which requires a nuanced understanding of its cognitive, emotional, and temporal dimensions. Temporal decision-making is crucial to examine the differences between impulsive and planned suicidal behaviors, with an emphasis on how individuals measure immediate relief against long-term consequences.

Impulsive suicides are often driven by emotional dysregulation and impaired decision-making. Biologically, this is a result of neurobiological imbalance in areas like the prefrontal cortex and amygdala. Such instances may occur under acute stress, where individuals might prioritize immediate escape from the distress over long-term recovery. Accessibility to lethal means is found to further exacerbate the risk, highlighting the importance of environmental interventions.

Mental health conditions such as Depression, Borderline Personality Disorder and Substance Abuse amplify impulsivity, creating a fluctuating scenario for at-risk individuals.

In contrast, planned suicides involve deliberate contemplation and are characterized by deep psychological distress and greater intent. Factors like hopelessness, perceived burdensomeness, and specific demographic traits such as age and marital status, influence these decisions. Understanding the links between intrinsic vulnerabilities and external stressors is essential for targeted interventions.

A prominent cognitive bias in suicide ideation, especially in impulsive behaviors, is temporal discounting, which values immediate relief over long-term gains. In order to promote future-focused thinking and emotional resilience, therapeutic modalities like Acceptance and Commitment Therapy (ACT), motivational interviewing, and Narrative Therapy seek to alter temporal perspectives.

Strategies for preventing suicide can be improved by addressing the emotional, cognitive, and temporal aspects of the problem. Reducing suicide rates and helping people in crisis require interventions that foster optimism and encourage balanced decision-making. In the end, developing resilience and forward-thinking viewpoints offers a technique to lessen this intricate and terrible worldwide problem.

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