

The Role of Decision-Making in Suicidal Ideation

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Abstract

Suicide ideation or suicide attempt has often been discussed as a result of personal circumstances and past experiences. In this article we have discussed how choosing to live or end one's life is a choice one needs to make, in a situation where they may be stressed or highly emotional. The aim of this article is to bring a perspective of how important decision-making is in this situation. More importantly, during counselling or interventions one must be aware that the person who may have suicide ideations or recently attempted suicide may have impaired decision-making abilities and/or lower executive functions due to stress and excessive emotions. Therefore, we suggest that models of suicide ideation and ideations to actions must include these aspects of emotional regulation and individual differences in decision-making.

Keywords: Suicide; Decision-making; Mood

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Introduction

Individual suicide attempts may be motivated by a number of reasons including dealing with pain, issues with communication, or an unbearable state of mind, but the underlying all those is a desire to die [1,2]. Research has often explored the motivation, ideation-to-action framework and also the role of mental illness in suicide [2,3], but what about the role of decision making in suicide ideation? The decision to commit suicide is an important decision. What is the thinking that precedes this decision? What goes on in the minds of people who are thinking of ending their lives? Every decision requires the individual to make a choice between two or more options. This ability to make a choice is necessary even in simple everyday decisions like buying a shirt or choosing what to have for breakfast. While making a decision, such as buying a shirt, one will have to weigh the consequences of buying an expensive shirt or saving that money by buying a cheaper shirt. Making that final decision, indicates that the person has wished to own the expensive shirt or wished to save some money. Decision means the choice to fulfil a particular choice - out of the many choices under consideration or available at a given time.

The relative intensities of the choices often determine which choice a person may select which may vary based on other factors at that point in time. This is true for all decisions one may make including the decision to commit suicide. This decision-making (DM) involves selecting between two opposite choices, the 'wish to continue living' versus the 'wish to end life'. Decision making is a cognitive process to identify, select, and choose the

best solution to a problem in a given situation based on the individual's values. Often, the decision-making ability under risk versus under ambiguity may differ [4]. When decisions under risk are made probabilities of the outcomes, gains and losses may be calculated compared to those made under ambiguity, where important information may be missing or even conflicting [5,6]. Decision making abilities have been explored with empirical paradigms like the Game of Dice Task and the Iowa Gambling task [4], however, what is the process that happens in the person's head and what may be the primary factor that weighs the choice towards 'wanting to die'? When deciding between the choice to continue to live or commit suicide, most of the times, one may prefer 'the wish to live'. While in those who 'wish to commit suicide' this wish may be selected after an intense decision-making process.

Variability in the intensities of wishes

The intensity of a wish can change over a period of time and this may explicitly or implicitly affect the decision to act on that wish. For example, as children we all have a number of wishes; however, as we grow some of these wishes may become less intense or possibly more intense. Often this intensity may be dependent on more than one factor at a given time, such as the current life situation, the emotional state, or the choice that one may believe is available to him or her, fear of the consequences etc.

Factors affecting the decision-making

The decision to commit suicide or not directly affects the

life, hence understanding the factors that may influence the intensities of the 'wish to commit suicide' or not is as critical as is understanding the motivation, the emotional status or the ideation-to action framework. The factor(s) that influences this decision-making may be other wishes, certain dysfunctional beliefs, emotional factors, impulsivity, values, motivation, neuropsychological factors such as attention, inhibition and reduced emotion recognition, reduced problem-solving abilities [7-9].

The influence of other wishes or choices

As in life, at any given point in time there are myriad wishes that one may have, when making a decision, there are not just two but a number of choices or wishes that are available. When one chooses the 'wish to continue living' this may suggest that he or she wants to enjoy the various aspects of life. This may include different sensual pleasures, need to have food and enjoy platonic relationships, have sexual pleasures etc. There may be a sense of wanting to fulfil the wishes of someone very close and, perhaps, the choice to avoid the pain of committing suicide is part of what influences one's decision to not end his or her life.

While, decision to 'wish to end one's life' may be driven by the motivation to avoid or escape from a number of negative emotional experiences such as sadness, fear, anger, guilt, or shame. Often, when experiencing an intense emotion, there may be a drive to make another person feel guilty. It is well-understood, that during intense emotional experience, the cognitive inhibition may be reduced and thus may be a factor to convert the thought (of suicide ideation) to possible action. In cases, where there may be an intense ideation, the cognitive abilities of the individual may not (yet) be overridden by the emotional intensities and hence, they may still choose to 'wish to continue to live' in spite of the suicide ideation.

The effect of different beliefs

Individual belief-system is an important factor affecting decision-making during suicide ideation. The belief of hope, thinking that these problems will end shortly, can reinforce 'the wish to continue living' and delay or eradicate the suicide ideation. The belief that someone cares for me again taps into the core of our social-needs and builds into the reserve of resilience that the current situation will change. The beliefs of 'hopelessness, helplessness despair can intensify 'the wish to end one's life'. When the individual focuses on the negative, often the belief feeds into the illusion that this problem may be never overcome. One's cognitive abilities may also decline, as there is evidence that moderate to severe mental health problems affect cognitive abilities, especially decision-making [7,10].

The effect of mood

The anticipatory happiness may be directly linked to one's wishes. Therefore, referring to the feeling of happiness that one experiences even before a wish is fulfilled. It is an essential part of motivation. A sad mood can this inhibit anticipatory happiness which may be common in people having clinical or sub-clinical depression or anxiety. Almost 90% of suicides are linked to

mental disorders, especially depression [11]. This suppression of anticipatory happiness combined with reduced or impaired executive functions [7] can weaken 'the wish to continue living' thereby shifting the ideation towards the choice to end one's life. However, this choice is often quite impulsive and before action, if there is a change in the mood, positive mood is known to facilitate the anticipatory happiness which may prevent the individual from attempting suicide, but still may experiencing the low mood or depression.

Research has further suggested that young people often harm themselves deliberately, in an attempt to regulate unpleasant emotions (Mikolajczak, Petrides & Hurry 2009). This supports the role of emotional regulation [12], that there is so much of helplessness and/or hopelessness, that the individuals feel wishing to end one's life may be the best way to regulate that feeling. This aspect of emotional regulation coupled with impaired decision-making abilities is often not integrated into the aspects of mental health and suicide ideations [7]. These aspect and individual differences in ability to regulate one's emotion needs to be incorporated into the understand and managing suicide ideations. Neuroimaging evidence suggests attentional control and cognitive change may be two types of cognitive regulation [13]. This form of emotional regulation involves regions such as the pre-frontal cortex (PFC), orbito-frontal cortex (OFC) and the anterior cingulate cortex (ACC) [13-15] Davidson 2000.

Cognitive factors affecting decision-making

When any wish captures the attention of the individual, it may become more intense. Excessive dysfunctional brooding, or inability to inhibit, or break that focus from a particular wish can make it pathologically intense. Often, one may notice this in people with post-traumatic stress disorder, where they may be unable to inhibit the unwanted memory and therefore the continuous frequent flash back of the experience [16] Catarino et al. Similarly, when the individuals want to end the intense psychological pain he or she may be experience, the excessive focus may tip the balance in favour of 'the wish to end life'. Instead, if the individual is able to divert one's attention, it may make the wish less intense. Thereby, further strengthening the choice to favour 'the wish to continue living'.

Therefore, focusing only on the circumstances and their history alone may be insufficient. It is essential to also take into account the individual differences in emotional regulation (i.e. emotional responsivity) and/or cognitive control capacity (which may be linked to executive functions) when working with people who may have suicide ideations [12]. The decision-making capacity of the individual may be slightly impaired, especially, at the point where ideation turns into action. Therefore, people who attempt suicide probably do not take the different facets of life into account; there may be a bias, based on lack of executive functioning.

This lack of executive function or impaired decision-making ability could be a result of reduced working memory possibly caused by many factors including stress, severe emotions and also impaired ability in reward expectancy. Exposure to high levels of stress or even mild acute stress is suggested to cause a rapid and dramatic

loss of prefrontal cognitive abilities [17,18]. More specifically, this stress can reduce the ability of the prefrontal cortex to regulate the emotional responses and thereby the drive in such these individuals may be driven by amygdala or emotion based [17,19]. Impaired pre-frontal functions are also known to interact with feelings of reward expectancy [15]. In the case of individuals with suicide-ideations, this may link with the immediate of not experiencing the severe negative pain or the belief that death will be a solution. Their ability to perceive futuristic rewards may be inhibited along with possible inhibition of fear, although research suggests that suicide attempters show impaired probabilistic reversal learning compared to non-suicide depressed adults [20], it might be this ability that shifts the balance from ideation to attempting to end one's life [14].

The key psychological risks and protective factors has been summarized in a review and includes aspect of personality/individual differences, various cognitive factors, social factors

and/or negative life events [21]. Thought suppression has been associated with self-injurious thoughts and behaviours [22], however, the inability to suppress unwanted negative thoughts may lead to more unpleasant experience. Further, having difficulties to regulate one's cognition and lack of decision making ability prevents the ability to find other solutions and one might find a solution in the wish to end one's life as an immediate gratification to the intense unpleasant experience.

There are several new clinical interventions to enhance therapeutic alliance and decrease the risk of suicide behaviour [23,24]. However, there is a need of more awareness about the role of lack of inhibition, difficulty to actively suppress unwanted thoughts [25], lack of executive functions [18,26] in suicide attempters and more importantly in people who have suicide ideations. The importance of the role of decision-making especially, the lack of inhibition and the impaired executive functions should be key when using cognitive interventions.

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