Why do some people self-harm under distress? Harvard study suggests impulse control is key

Self-harm, or non-suicidal self-injury (NSSI), refers to people intentionally hurting themselves *without intending suicide*. Common examples include cutting, burning, or hitting oneself. A growing number of adolescents and young adults report NSSI – yet most have no diagnosable mental illness. Although people who self-harm don't intend to die during these acts, NSSI is more likely to eventually lead to suicide attempts than simply thinking about suicide.

Why would someone self-harm if they don't want to die? Research suggests NSSI serves as a coping strategy to deal with negative feelings. People with impulse control problems are more likely to deal with distress (e.g., anger, anxiety, or sadness) by whatever means immediately available, making NSSI more appealing than strategies involving forethought. This tendency to act on impulse when distressed is called "negative urgency." Someone who rates themselves *high* in negative urgency might choose NSSI to reduce uncomfortable feelings because it requires little or no planning. On the other hand, a person *low* in negative urgency might consider multiple ways to rid themselves of unpleasant feelings, like calling a friend or exercising.

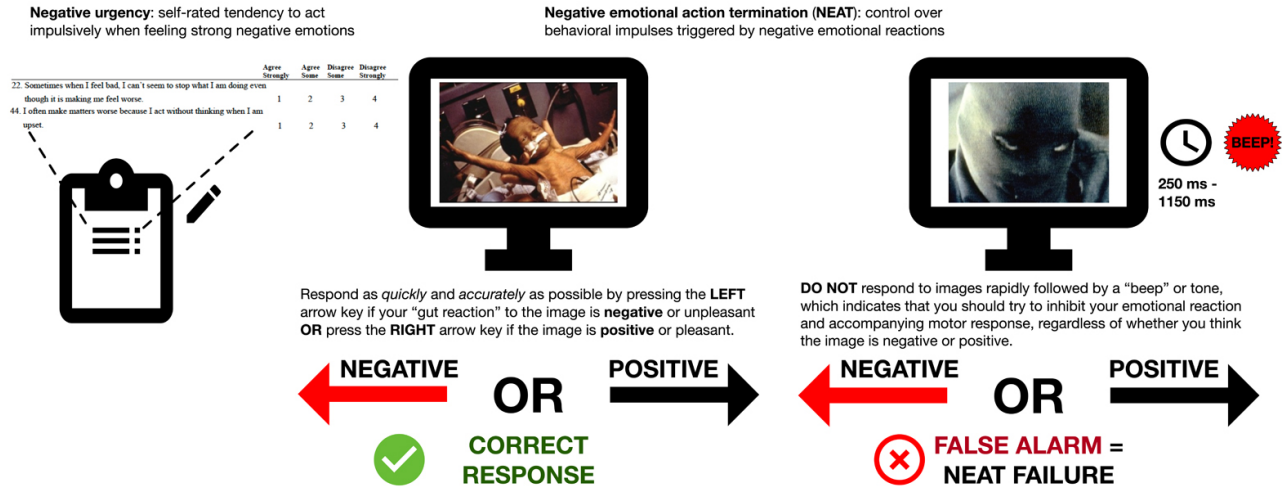

Fig. 1.

But self-reported negative urgency among people who self-harm has been largely inconsistent with performance-based laboratory tests of impulse control – until a recent study conducted by researchers at Harvard University and Brown Medical School, who sought to solve this paradox. Dr. J.D. Allen, the study's lead author, explains: "Most neuropsychological tests don't assess the kind of impulse control relevant to NSSI: *emotion*-related impulsivity, or negative urgency. In fact, no validated neuropsychological tests had been specifically designed to evaluate impulse control

under the conditions we'd expect to find most difficult for people who engage in NSSI; that is, *after* an emotional impulse triggers action, particularly if that action was driven by *negative* emotion. It's always harder to stop something once you've begun. Among people who self-injure, this seems especially true for behavior motivated by distress, like NSSI," said Dr. Allen. "Our findings help explain why – from a neurocognitive perspective – people who report high negative urgency are also more likely to self-harm."

"NSSI does not appear to involve problems *suppressing* negative emotional impulses before they lead to action, but we have consistently found an association between NSSI and difficulty *terminating* behaviors triggered by negative emotional impulses once someone begins to act on those impulses," according to Dr. Allen. "This indicates that individuals who have trouble stopping already-initiated behaviors prompted by negative emotional reactions – someone who is unable to stop crying once they start, for instance – may be more likely to engage in NSSI."

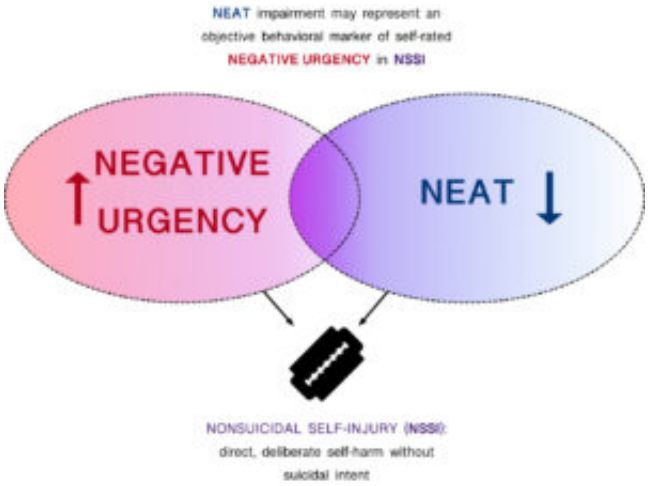

Fig. 2.

"Our results have considerable implications not just for understanding self-injurious behaviors," Dr. Allen continues, "but psychopathology more broadly, since arguably all neuropsychiatric disorders are characterized by some degree of difficulty with self-regulation, particularly in the context of powerful emotions."

Dr. Allen and his collaborators have since identified similar patterns of emotional impulse control deficits among inpatients hospitalized for recent suicidal thoughts and behaviors, shining new light on the remarkably strong link between NSSI and suicide. Rather than NSSI *directly* increasing the likelihood of attempted suicide, as suggested by other prominent theories, Dr. Allen and his colleagues have recently proposed that performance deficits on laboratory tests of emotional impulse control might represent objectively-measurable behavioral risk markers, reflecting variation

in brain functioning that predisposes some people to *both* types of self-harm (non-suicidal *and* suicidal). Now a Visiting Scholar at UC Berkeley, Dr. Allen hopes that his work will eventually lead to new ways to assess risk for mental illness, and ultimately, new forms of treatment.

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Publication

Negative Emotional Action Termination (NEAT): Support for a Cognitive Mechanism Underlying Negative Urgency in Nonsuicidal Self-Injury
Kenneth J D Allen, Jill M Hooley
Behav Ther. 2019 Sep