Why People Die By Suicide and The Power of Belonging

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On February 1, 2003, the space shuttle Columbia disintegrated as it flew over the western United States...
... finally showering down over East Texas and Louisiana in thousands of pieces, killing all seven crew members.

The cause was a dense, dry, brownish-orange piece of foam weighing about 1.7 pounds, 19 inches long and 11 inches wide. The foam hit Columbia's left wing traveling 545 mph, causing what investigators now know was a significant breach in the wing.
From a test with foam strikes done after the tragedy... *Columbia*'s left wing probably looked like this throughout the mission, including of course on re-entry.

One of the members of the panel investigating the accident said “The excitement that only exists when there is danger was kind of gone – even though the danger was not gone.” Key NASA administrators decided against getting in-flight satellite images of the left wing, in part because their sense of danger about foam strikes has eroded over the years, *due to repeated experience with them.*
The Acquired Ability for Suicide

When self-injury and other dangerous experiences become unthreatening and mundane – when people work up to the act of death by suicide by getting used to its threat and danger – that is when we might lose them. That is when they have developed the acquired ability to enact lethal self-injury.

A Good Theory

- Explains the heretofore unexplained....
Tall Order for a Comprehensive Theory of Suicide

• Not only must the theory illuminate these and other questions, it must also be compatible with these facts:
Facts

- Suicide rates highest in older people
- ... and in men (except in China)
- ... and in Caucasian people in the U.S.
- Suicide is associated with impulsivity, yet very few die 'on a whim.'
- Suicide is more associated with anorexia than with bulimia.
- Suicide rate in college students is substantially less than that in same-aged peers.

More Facts...

- Completed suicide is relatively rare – 80 per day die in U.S., compared to 1,900 per day from heart disease.
Sketch of the Theory

Those Who Desire Suicide

Perceived Burdensomeness

Thwarted Belongingness

Those Who Are Capable of Suicide

Serious Attempt or Death by Suicide

The Acquired Capability to Enact Lethal Self-Injury

- "It seems rather absurd to say that Cato slew himself through weakness. None but a strong man can surmount the most powerful instinct of nature" – Voltaire.
- Accrues with repeated and escalating experiences involving pain and provocation, such as
  - Past suicidal behavior, but not only that...
  - Repeated injuries (e.g., childhood physical abuse).
  - Repeated witnessing of pain, violence, or injury (cf. physicians).
  - Any repeated exposure to pain and provocation.
The Acquired Capability to Enact Lethal Self-Injury: Habituation

- Habituation: Response decrement due to repeated stimulation.

The Acquired Capability to Enact Lethal Self-Injury

- With repeated exposure, one habituates – the “taboo” and prohibited quality of suicidal behavior diminishes, and so may the fear and pain associated with self-harm.
- Relatedly, opponent-processes may be involved.
The Acquired Capability to Enact Lethal Self-Injury

- Briefly, opponent process theory (Solomon, 1980) predicts that, with repetition, the effects of provocative stimulus diminish... habituation in other words. BUT....

The Acquired Capability to Enact Lethal Self-Injury

- Opponent process theory also predicts that, with repetition, the opposite effect, or opponent process, becomes amplified and strengthened.
The Acquired Capability to Enact Lethal Self-Injury

• Another example: “... mine sweepers die from want of caution. They get addicted to the adrenaline. They say it is better than sex.”

The Acquired Capability to Enact Lethal Self-Injury

• The opponent process for suicidal people may be that they become more competent and fearless, and may even experience increasing reinforcement, with repeated practice at suicidal behavior.
Anecdotal Evidence: Iraq

- Video of Iraqi president and visiting dignitary.
  

Empirical Evidence

- Lethality of method and seriousness of intent increase with attempts.
- People who have experienced or witnessed violence or injury have higher rates of suicide – prostitutes, self-injecting drug abusers, people living in high-crime areas, physicians.
- Those with a history of suicide attempt have higher pain tolerance than others.
Anecdotal Evidence: Cobain

- Cobain was temperamentally fearful – afraid of needles, afraid of heights, and, crucially, afraid of guns. Through repeated exposure, a person initially afraid of needles, heights, and guns later became a daily self-injecting drug user, someone who climbed and dangled from 30 foot scaling during concerts, and someone who enjoyed shooting guns.
Anecdotal Evidence: Cobain

- Regarding guns, Cobain initially felt that they were barbaric and wanted nothing to do with them; later he agreed to go with his friend to shoot guns but would not get out of the car; on later excursions, he got out of the car but would not touch the guns; and on still later trips, he agreed to let his friend show him how to aim and fire. He died by self-inflicted gunshot wound in 1994 at the age of 27.

Suicide in Anorexia Nervosa

- Mortality is extremely high in anorexic women (SMR = ~60).
- It is an under-appreciated fact that, should an anorexic patient die prematurely, the cause of death is more likely to be suicide than complications arising from compromised nutritional status.
Suicide in Anorexia Nervosa

- There are at least two possible accounts of the high association between AN and suicide. In one view, anorexic women die by suicide at high rates because they are unable to survive relatively low lethality attempts and/or they may be less likely to be rescued after an attempt due to their socially isolated status.

Suicide in Anorexia Nervosa

- In another view, informed by my theory of suicidal behavior, anorexic women die by suicide at high rates because their histories of self-starvation habituate them to pain and inure them to fear of death, and they therefore make high lethality attempts with high intent-to-die.
Suicide in Anorexia Nervosa

- We pitted these two accounts against each other, in a study of 239 women with AN, followed over ~15 years.
- 9 died by suicide, the leading cause of death among the sample.
- Of these 9, were they mostly highly lethal methods or not?
Constituents of the Desire for Death

- Perceived Burdensomeness
- Thwarted Belongingness

Perceived Burdensomeness

- Essential calculation: "My death is worth more than my life to my loved ones/family/society."
Perceived Burdensomeness: Empirical Evidence

• Many studies have supported this link.
  
  – For example, Brown, Comtois, & Linehan (2000) reported that genuine suicide attempts were often characterized by a desire to make others better off, whereas non-suicidal self-injury was often characterized by desires to express anger or punish oneself.


Perceived Burdensomeness: Anecdotal Evidence

• Among the Yuit Eskimos of St. Lawrence Island, to become too sick, infirm, or old may threaten the group’s survival (i.e., burden the group); the explicit and socially sanctioned solution to this problem is ritual suicide. The ritual is graphic, often involving the family members’ participation in the shooting or hanging of the victim
Perceived Burdensomeness: Anecdotal Evidence

- Burn victim mentioned earlier: "I felt my mind slip back into the same pattern of thinking I'd had when I was fourteen [when he attempted suicide]. I hate myself. I'm terrible. I'm not good at anything. There's no point in me hanging around here ruining other people's lives. I've got to get out of here. I've got to figure out a way to get out of my life."

Perceived Burdensomeness: Self-Sacrifice Across Species

- Fire ants.
- Pea aphids.
- Lions.
- Spiders

- .... even a palm tree.
Constituents of the Desire for Death

- Perceived Burdensomeness
- Thwarted Belongingness
Thwarted Belongingness: Empirical Evidence

- Hoyer and Lund (1993) studied nearly a million women in Norway; over the course of a 15-year follow-up, over 1,000 died by suicide. They reported that women with six or more children had one-fifth the risk of death by suicide as compared to other women.


Thwarted Belongingness: Empirical Evidence

- In college students, rates of suicidal ideation are higher in the summer than in the fall or spring semesters, an effect that is due in part to belongingness being low in the summer semester as compared to fall and spring.

Thwarted Belongingness: Empirical Evidence

- Twins die by suicide at lower rates than others despite having slightly higher rates of mental disorders.


Thwarted Belongingness: Empirical Evidence

- The camaraderie and sense of belongingness from being a fan of sports teams can be considerable, especially under conditions of success...
Thwarted Belongingness: Empirical Evidence

- ... as many who have lived in university towns can observe for themselves when the university wins a national championship, say, in football, say in 1993 or 1999.

Thwarted Belongingness: Empirical Evidence

- It is interesting to consider, then, whether teams' success affects suicidality; from the present perspective, it might, in that increased belongingness should be associated with lower suicidality.
Thwarted Belongingness: Empirical Evidence

• Several studies have documented this association.


Thwarted Belongingness: Poor Red Sox Fans
Thwarted Belongingness:
Poor Red Sox Fans (Well, Until 2004 and 2007)

Thwarted Belongingness:
Poor Cubs Fans
- Miracle on Ice, February 22, 1980
**Monthly Variation in Suicide**

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<tr>
<th>Month</th>
<th>Suicide Rate</th>
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<tr>
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<td>November</td>
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<tr>
<td>December</td>
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*1992-96 Average Data 5-yr Mean Daily Number = 84.8*

spring peak in suicides

**Distal Factors**

- Those Who Desire Suicide
  - Perceived Burdensomeness
  - Thwarted Belongingness
  - Serious Attempt or Death by Suicide
  - Those Who Are Capable of Suicide

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Prevention/Treatment Implications

- The model's logic is that prevention of "acquired ability" OR of "burdensomeness" OR of "thwarted belongingness" will prevent serious suicidality.
- Belongingness may be the most malleable and most powerful.

Strengthening Belongingness

- New CDC vision: Promote connectedness
  - The degree to which a person or group is socially close, interrelated, or shares resources with other persons or groups
    - Between individuals
    - Between individuals/families and community organizations
    - Among community organizations and social institutions
Prevention/Treatment Implications

- Ad Council series: “What a difference a friend makes.”
- CBT -> burdensomeness and low belonging.
- 1-800-273-TALK

Thank you for your attention

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