Reasons for attempting suicide among active duty Soldiers: clinical implications

Craig J. Bryan, PsyD, ABPP, & M. David Rudd, PhD, ABPP
National Center for Veterans Studies
The University of Utah

NATIONAL CENTER FOR VETERANS STUDIES
THE UNIVERSITY OF UTAH

Suicide attempts

- Self-enacted, potentially injurious behaviors with nonfatal outcomes for which there is evidence, whether explicit or implicit, of intent to die
  (Silverman, Berman, Sanddal, O'Carroll, & Joiner, 2007)

- Increasing in frequency among military, though estimates are less reliable than suicide deaths
  (Ramchand, Acosta, Burns, Jaycox, & Pernin, 2011)

- Closest behavioral pattern to death by suicide

Syndromal model

- Classification and treatment of behaviors based upon topographical features (i.e., signs and symptoms) of associated psychiatric disorders

- Suicidal behavior is generally conceptualized as symptom manifestation of underlying psychiatric disorder (Jobes, 2006)

Functional model

- Classification and treatment of behaviors according to underlying mechanisms that activate and maintain behaviors over time (e.g., antecedents & consequences) regardless of associated psychiatric condition

- Seeks to explain *why* individuals attempt suicide
  - Teaching patients why they are suicidal and what to do about it is essential for treatment (Rudd et al., 2009)

Functional model of self-harm

	Reinforcement	
	Positive	Negative
Automatic (Internal)	**Adding something desirable** ("To feel something, even if it is pain")	**Reducing tension or negative affect** ("To stop bad feelings")
Social (External)	**Gaining something from others** ("To get attention or let others know how I feel")	**Escape interpersonal task demands** ("To avoid punishment from others or avoid doing something undesirable")

(Nock & Prinstein, 2004; Brown, Comtois, & Linehan, 2002)

Functional model of self-harm

- Most leading theories of suicide and nonsuicidal self-harm posit that suicidal behaviors occur primarily to alleviate emotional distress (i.e., automatic negative reinforcement)

- Very limited empirical data exists to support this, especially among military personnel

Study aim

To examine the reasons for attempting suicide among a clinical sample of active duty Soldiers

(1) Automatic negative reinforcement would be the most frequently endorsed reasons for attempting suicide

(2) Relative to other functions, automatic negative reinforcement would be the primary reason for suicide attempts

Procedure

- Data obtained from comprehensive intake evaluations as part of clinical trial testing an outpatient treatment to reduce suicide attempts
- Participants referred upon discharge from inpatient hospitalization for suicide risk
- Participants completed self-report measures and structured interviews
- Study approved by the Madigan Army Medical Center and The University of Utah IRBs

Participants

- 72 active duty Soldiers
  - Gender: 66 male, 6 female
  - Age: 19 to 44 yrs (M = 27.34, SD = 6.50)
  - Years in military: 1 to 19 yrs (M = 5.45, SD = 4.01)
  - Race:

White	65.3%
Black	9.7%
Asian	2.8%
Pacific	2.8%
Native	4.2%
Other	9.7%

  - Ethnicity: Hispanic 22.2%

Participant suicide attempts

- Total of 136 suicide attempts by 72 participants
  - Lifetime suicide attempts range: 0 (21.7%) to 5 (1.1%)
  - M = 2.01, SD = .96, Mdn = 2
- Methods:

Med/drug overdose	36.0%	Alcohol	2.9%
Cutting	20.6%	Asphyxiation	2.2%
Firearm	18.4%	Drowning	1.5%
Hanging	8.8%	Poisoning	.7%
Transportation	4.4%	Step into traffic	.7%
Jumping	2.9%	Other	.7%

Measure

- Suicide Attempt Self-Injury Interview (Linehan et al., 2006)
  - Structured clinical interview to assess the factors involved in suicide attempts and nonsuicidal self-injury
  - Used to differentiate suicide attempts from NSSI
  - Assesses method, lethality, deliberation, subjective and objective intent, reasons and consequences of attempt
  - High interrater reliability (.87-.98, Mdn = .96)
  - High consistency of retrospective vs. weekly reports (ICC = .91)

Measure

- Functions of suicide attempts
  - Participants presented with list of 33 potential reasons for attempting suicide then asked if each reason applied during the suicide attempt (yes/no)
  - Items rationally clustered into four behavioral functions with good interrater agreement (Brown et al., 2002)
    1. Emotion relief (automatic negative reinforcement)
    2. Feeling generation (automatic positive reinforcement)
    3. Avoidance/escape (social negative reinforcement)
    4. Interpersonal influence (social positive reinforcement)

Results

Number & frequency of reasons

- Participants endorsed M = 10.43 (SD = 5.48) reasons for each suicide attempt (range: 1 to 29)
  - Emotion relief endorsed in 100% of attempts
  - Avoidance / escape endorsed in 82.4% of attempts
  - Interpersonal influence endorsed in 80.1% of attempts
  - Feeling generation endorsed in 72.8% of attempts

Emotion Relief

Item	Automatic Negative Reinforcement (α = .82)	n	%
1.	To stop bad feelings	136	100.0
30.	To stop feeling sad	78	57.4
17a.	To get away or escape from your thoughts and memories	76	55.9
17b.	To get away or escape from your feelings	76	55.9
28.	To obtain relief from a terrible state of mind	62	45.6
25.	To relieve feelings of aloneness, emptiness or isolation	61	44.9
21.	To stop feeling angry or frustrated or enraged	59	43.4
23.	To relieve anxiety or terror	59	43.4
26.	To stop feeling self-hatred, shame	57	41.9
17d.	To get away or escape from yourself	56	41.2
18.	To stop feeling numb or dead	37	27.2

Avoidance / Escape

Item	Social Negative Reinforcement (α = .48)	n	%
17c.	To get away or escape from other people	56	41.2
8.	To get a vacation from having to try so hard	53	39.0
17.	To get away or escape	51	37.5
20.	To prevent being hurt in a worse way	29	21.3
24.	To distract yourself from other problems	16	11.8
9.	To get out of doing something	14	10.3

Interpersonal Influence

Item	Social Positive Reinforcement (α = .73)	n	%
2.	To communicate or let others know how desperate you were	94	69.1
27.	To express anger or frustration	34	25.0
3.	To get help	31	22.8
15.	To make others better off	23	16.9
22.	To demonstrate to others how wrong they are/were	22	16.2
29.	To make others understand how desperate you are	20	14.7
4.	To gain admission into a hospital or treatment program	19	14.0
14.	To get back at or hurt someone	17	12.5
10.	To shock or impress others	10	7.4
13.	To get other people to act differently or change	5	3.7

Feeling Generation

Item	Automatic Positive Reinforcement (α = .44)	n	%
6.	To feel something, even if it was pain	92	67.6
7.	To punish yourself	29	21.3
12.	To give you something, anything to do	21	15.4
11.	To prove to yourself that things really were bad	12	8.8

Number of reasons

	# endorsed		% endorsed	
	M	SD	M	SD
Overall	10.43	5.48		
Emotion relief [a]	5.57	.26	.51	.27
Feeling generation	1.13	.08	.28	.24
Avoidance / escape	1.71	.10	.29	.20
Interpersonal influence	2.02	.16	.20	.19

[a] Excluding “to stop bad feelings” item, which was endorsed by 100% of Soldiers.

- Soldiers report a significantly greater proportion of emotion relief reasons than any other function ($p < .001$, $d > 1.50$)

Clinical implications

- Soldiers endorse multiple reasons for attempting suicide
- 100% of suicide attempts were motivated “to stop bad feelings”
- The most frequently-endorsed function for suicide attempts is for emotion relief

Co-occurrence of functions

- As reasons for attempts increased in one function, reasons tended to increase in other functions as well

	Emotion relief	Feeling generation	Avoidance / escape	Interpersonal influence
Emotion relief	-			
Feeling generation	.33**	-		
Avoidance / escape	.61**	.44**	-	
Interpersonal influence	.38**	.40**	.47**	-

Co-occurrence of functions

- Of the 136 suicide attempts:
  - 7 (5.1%) endorsed only one function
  - 16 (11.8%) endorsed two functions
  - 35 (25.7%) endorsed three functions
  - 78 (57.4%) endorsed all four functions

- Emotion relief was the “strongest” function

Clinical implications

- 95% of suicide attempts were motivated by multiple behavioral functions
  - Clinicians should not assume that there is only one motivation or “reason” for attempting suicide

- Avoidance / escape highly correlates with emotion relief
  - Clinicians who suspect patients are avoiding demands should recognize emotion relief is also involved

Correlations with intent & lethality

- Small correlations with subjective suicidal intent:
  - Emotion relief $r = .20$, $p = .018$
  - Feeling generation $r = .21$, $p = .016$
  - Avoidance/escape $r = .19$, $p = .025$
  - Interpersonal infl. $r = .06$, $p = .528$

- Interpersonal influence correlates with lethality ($r = .18$, $p = .034$)

Clinical implications

- Soldiers reporting more reasons to attempt suicide report a somewhat stronger desire for suicide

- More reasons for attempting suicide are generally not associated with increased lethality
  - Small relationship between the desire to influence others and increased lethality

Summary

- Results are consistent with most leading theories of suicide, which posit that suicide functions primarily to reduce emotional pain

- Emotion relief was endorsed in 100% of all assessed suicide attempts

Summary

- Attempting suicide to “get out of doing something” was very infrequently endorsed
  - When endorsed, this motivation correlated highly with emotion relief
- Incorporation of emotion regulation skills training into treatment can reduce suicidal behaviors
  - Brief Cognitive Behavioral Therapy (BCBT)

THE UNIVERSITY OF UTAH™

NATIONAL CENTER FOR VETERANS STUDIES

Brief Cognitive Behavioral Therapy for Suicide Risk

NATIONAL CENTER FOR VETERANS STUDIES
THE UNIVERSITY OF UTAH

BCBT

- BCBT currently being evaluated at Ft. Carson, CO, relative to treatment as usual
  - Randomized clinical trial, 150 Soldiers (75 per arm), with 2-year follow-up
- Data safety monitoring suggests reduced suicide attempt rate in BCBT during first 6 mos
- Projected completion in September 2012

Phase I:

Crisis management, distress tolerance

Phase II:

Cognitive restructuring of suicidal belief system, problem solving, cognitive flexibility

Phase III:

Relapse prevention

Interventions

- Crisis response plan
- Relaxation training
- Mindfulness training
- Reasons for living list
- Survival kit
- Sleep hygiene / stimulus control
- ABC worksheets
- Challenging beliefs worksheets
- Behavioral activation
- Coping cards

Competency-based progress

- Progress through treatment is determined based on patient skill mastery
- Patient must demonstrate skill mastery for each phase before progressing to next phase
- If patient demonstrates insufficient skills mastery at later phase, clinician returns to earlier phase
- Final competency check is relapse prevention task

(Bryan et al., 2011)

Early observations

- Providing patients with treatment log (or “smart book”) is a highly effective method for obtaining buy-in, skills training, and relapse prevention
- Framing treatment as occupational skills training
- Phase I must target emotion regulation
- Guilt/shame common themes & targets of Phase II
- BCBT appears to retain patients at a higher rate
- Combat exposure /trauma are distal contributors
- Suicide attempt rate in first 6 months reduced in BCBT (based on data safety monitoring)

Questions / Additional Information

Craig J. Bryan, PsyD, ABPP

craig.bryan@utah.edu

www.veterans.utah.edu

www.facebook.com/Veterans.Studies

NATIONAL CENTER FOR VETERANS STUDIES
THE UNIVERSITY OF UTAH