Irrational thinking in suicidal individuals: a general or a specific deficit?

By David Lester

It has been a popular idea that disturbed behavior in individuals is caused by irrational thinking. Irrational thinking usually refers to the accuracy of the premises guiding the decision-making of the individual, in contrast to illogical thinking which, given the premises, evaluates whether the reasoning follows the rules of logic. For example, an individual who experiences the break-up of a romantic relationship may say, "I will *never* find someone whom I love and who also loves me." A therapist may try to convince the individual that this premise is false and ask, "Where is the evidence for this premise?" The thinking of the individual will be judged to be irrational by the therapist based on the false premise.

ABSTRACT

Theories of the irrational thinking in suicidal individual are reviewed, and a battery of inventories was given to a non-clinical sample of students to explore whether there is a general tendency to think irrationally on all measures. Scores on tests of hopelessness, helplessness, defeat, entrapment, self-esteem, burden-someness, perseverative thinking, rumination and thinking that one is an impostor were all strongly intercorrelated and associated with depression scores and past suicidal ideation, indicating that irrational thinking in suicidal individuals is a general deficit.

Teorier om irrasjonell tenkning blir først gjennomgått. Artikkelen redegjør for en undersøkelse der en gruppe studenter ble bedt om å fylle ut et sett med spørreskjemaer, for å undersøke om det er en generell tendens til å tenke irrasjonelt. Skårer for håpløshet, hjelpeløshet, opplevelse av nederlag, å føle seg fanget, selvfølelse, følelse av å være til bry, persevererende tenkning, grubling og tanker om at man er en bedrager var alle sterkt interkorrelert og hang sammen med skårer på depresjon og tidligere selvmordstanker – noe som indikerer at irrasjonell tenkning hos suikidale personer er en generell sårbarhetsfaktor.

In contrast, if the individual believes this premise and, if they are convinced that they will never be happy and that they would prefer to be dead than to be unhappy for the rest of their life, then the decision to die by suicide may be considered to be logical, given these premises. The present study was designed to explore the irrational thinking of suicidal individuals rather than the logic of their reasoning.

The cognitive theory of psychologically disturbed behavior, which became very popular in the 1980s, is based on the notion that our negative emotions and disturbing behaviors are not a result of the unpleasant events which we experience, but rather result from our thoughts about the events. The first noteworthy system, called Rational-Emotive Therapy, was devised by Albert Ellis (1962). Antecedent events (A) lead to beliefs (B) which result in consequences (C). If the beliefs are irrational, then the consequences are severe. If the beliefs are rational, then the consequences are mild. Ellis listed ten common irrational beliefs initially, later extending the list to thirteen. The irrational beliefs included such ideas as: the idea that it is a necessity for us to be loved or approved by almost every significant other in our lives, and the idea that we should be thoroughly competent in every possible respect.

The next major system was proposed by Aaron Beck (1976) and is known by various labels, most commonly Cognitive-Behavioral Therapy. The basic idea is identical, but Beck and his students classified the types of irrational beliefs more abstractly. A typical list was provided by Burns (1980, pp. 40–41): All or nothing thinking, Overgeneralization, Mental filter, Disqualifying the positive, Jumping to conclusions, Magnification (catastrophizing) or minimization, Emotional reasoning, Should statements, Labeling and mislabeling, and Personalization.

The next development was to realize that those with different psychiatric disorders had very different sets of irrational

thoughts. For example, Beck, Brown, Steer, Eidelson and Riskind (1987) found that depressed individuals had irrational thoughts centered around the themes of self-depreciation and negative attitudes toward the past and the future such as: I'm worthless, I'm a social failure, and No one cares whether I live or die. In contrast, people with anxiety disorders are characterized by themes of danger, physical or psycho-social, and anticipated harm in the future such as: I am going to be injured, What if I get sick and become an invalid, and I'm not a healthy person.

What irrational thoughts might be specific to suicidal individuals? There have been several suggestions for the irrational thoughts that characterize suicide individuals. The cognitive process most central to Beck's theory of suicide is hopelessness (Wenzel & Beck, 2008). Hopelessness was defined by Beck, Weissman, Lester and Trexler (1974) as negative expectations for the future. Beck suggested that trait hopelessness was not relevant to all suicides but only for those who engage in premeditated suicidal actions. Lester (2001) noted that the hopelessness scale items devised by Beck, et al. (1974) confused two concepts – hopelessness and helplessness. Hopelessness is concerned with negative expectations about the future (and the concept of hopelessness was originally labeled *pessimism*), while helplessness is concerned with whether individuals think that there is anything that they can do to remedy the situation. One can be a pessimist, but still make efforts (successful or unsuccessful) to change outcomes. Lester argued that hopelessness combined with helplessness could be a more potent causal factor for suicidal behavior. Typical items were: I look forward to the future with hope and enthusiasm (hopelessness – reversed scoring), and I don't seem to be able to cope with crises without the help of others (helplessness). (Lester also created a haplessness scale with items such as: Many of the unhappy things in my life are partly due to bad luck.)

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Gencoz, Vatan, Walker and Lester (2008) found that helplessness and hopelessness scores were associated with suicidal ideation in college students.

Gilbert and Allan (1988), arguing from an ethological perspective, proposed that depression results when individuals experience defeat and perceive themselves to be trapped with no escape possible. They tested this hypothesis by constructing a paper-and-pencil self-report inventory to measure both defeat and entrapment. Typical items are, respectively, "I am in a situation I feel trapped in" and "I feel defeated by life." Scores on these scales were positively associated with scores on measures of depression and hopelessness in a sample of undergraduates. (A similar model has been proposed by Williams (1997).)

Joiner (2005) has proposed a theory of suicide, known as the *interpersonal-psychological theory of suicide*. The theory focuses on two dispositional traits. First, individuals need to belong – to a family, peers, a group and a culture – and thwarted belongingness is a risk factor for suicide. Second, people also have a need to help others and to not be a burden to others, and perceived burdensomeness is the second risk factor for suicide. Van Orden, Witte, Gordon, Bender and Joiner (2008) devised measures of these variables, and a typical item on the perceived burdensomeness scale is, "These days I feel like a burden on the people in my life." Scores on the burdensomeness scale were positively associated with scores on measures of depression and suicidal ideation in a sample of undergraduates (Van Orden, et al., 2008).

The impostor phenomenon refers to a situation in which people who are competent believe that they are really incompetent, and they often live in fear of being identified as frauds. A typical item in an impostor scale is, "People tend to believe that I am more competent than I really am" (Harvey & Katz, 1985). Lester and Moderski (1995) found that high school students who obtained higher scores on a scale to measure this belief

were more likely to report prior suicidal ideation and suicide attempts, even after controls for depression scores.

There are some psychological constructs that can be viewed as cognitions or emotions or a combination of both. For example, self-esteem can have both cognitive and emotional aspects. In studying the role of this in suicidal behavior, it is important that the self-report inventories used to measure the construct choose words carefully so as to assess cognitive aspects rather than emotional aspects. For example, the word *feel* should be avoided since it is often used to mean *think*, yet it has primarily an emotional (feeling) connotation. The Rosenbaum self-esteem scale (Janis, 1954) has the item, "I feel capable of handling myself in most social situations." The word *feel* there was replaced by the words *think that I am* for the present study.

Each of these aspects of thinking may be judged to be irrational from the perspective that there is no evidence that the premises are true. For example, an individual who believes that the current unpleasant situation will never improve has no evidence for this premise. An individual who believes that they are a burden to others has no evidence that this is true (unless they check the validity of this premise with their significant others and find it confirmed). Individuals who believe that, despite their accomplishments, they are incompetent typically are quite competent in their endeavors.

The question then arises as to whether suicidal individuals think irrationally in only one of these ways (that is, they have a *specific deficit*) or whether their thinking is generally irrational and, therefore, they would obtain high scores on all of these measures of irrational thinking (that is, they have a *general deficit*). The research studies mentioned above to test particular hypotheses typically administer only the test of irrational thinking specific to the researchers' hypothesis. For example, in their study of burdensomeness, Van Orden, et al. (2008) administered only the burdensomeness scale and did not examine whether their subjects would have scored

high on the defeat and entrapment scales (or scales to measure other irrational thoughts). The present study was designed to give a number of tests of irrational thinking that have been proposed as characteristic of suicidal individuals and explore whether individuals who score high on one type of irrational thinking also score high on the other types of irrational thinking (that is, is their irrational thinking a generalized trait). This problem also characterizes the debate over cognitive deficits in schizophrenic patients. For example, Gold and Harvey (1993) argued that individuals with schizophrenia have a general cognitive deficit, while others have proposed specific deficits, such as sensory gating or attention deficits (Carter, Bizzell, Kim, Bellion, Carpenter, Dichter & Belger, 2010).

Method

A battery of questionnaires was administered to 152 undergraduate students (39 men and 113 women) enrolled in psychology courses, mean age 21.3 years ($SD = 3.6$; range 18 to 53). The questionnaire was administered in class, and the response rate was 100%. Neither age nor sex was significantly correlated with the scores on the tests of irrational thinking. Means, standard deviations and Cronbach alphas for all the scales for the present sample are shown in Table 1.

The battery of questionnaires included the following.

The Perseverative Thinking Questionnaire (PTQ; Ehring, Zetsche, Weidacker, Wahl, Schönfeld & Ehlers, 2011) is a 15-item scale with anchors 1 (never) to 5 (almost always), with items such as "The same thoughts keep going through my mind." Ehring et al. presented data indicating good reliability and validity for the scale.

A 10-item rumination scale devised by Treynor, Gonzalez and Nolen-Hoeksema (2003) with anchors 1 (never) to 4 (always), with items such as "Think 'Why do I always react this way?'" Treynor, et al. presented data indicating good reliability and validity for the scale.

Table 1. Mean scores on the scales used and their reliability

	Mean	SD	Cronback alpha	Range of actual scores	Range of possible scores
Burdensomeness	17.2	9.5	.92	9–53	9–63
Defeat	16.4	12.3	.95	0–64	0–64
Internal entrapment	7.1	6.0	.93	0–24	0–24
External entrapment	10.7	8.8	.93	0–38	0–40
Impostor	38.8	9.1	.79	19–61	12–72
Perseverative thought	43.4	12.0	.95	15–75	15–75
Rumination	23.3	6.7	.89	10–40	10–40
Self-esteem	23.7	9.9	.92	10–53	10–60
Helplessness	25.9	8.1	.84	10–58	10–60
Hopelessness	22.1	7.4	.86	10–48	10–60
Depression	3.9	1.6	.48	1–8	0–9

Table 2.

Pearson correlations between the scale scores (all significant two-tailed $p < .001$)

	1	2	3	4	5	6	7	8	9	10
1 Burden	–									
2 Defeat	.76	–								
3 Internal entrapment	.72	.86	–							
4 External entrapment	.70	.77	.78	–						
5 Impostor	.53	.60	.60	.61	–					
6 Perseveration	.54	.67	.75	.70	.57	–				
7 Rumination	.46	.55	.69	.53	.42	.69	–			
8 Self-esteem	.71	.76	.75	.65	.68	.61	.48	–		
9 Helplessness	.65	.70	.66	.63	.57	.60	.44	.70	–	
10 Hopelessness	.65	.73	.68	.60	.50	.54	.42	.73	.77	–

A scale to measure hopelessness and helplessness (Lester, 2001), in which each subscale has 10 items, answered on a 6-point Likert-type format with anchors SA (strong agreement) and SD (strong disagreement). Typical items are "I certainly feel useless at times" (helplessness) and "I don't expect to get what I really want" (hopelessness). The subscales have good reliability and correlate with suicidal ideation.

The burdensomeness scale is a 9-item scale devised by Van Orden, et al. (2008) with anchors 1 (not at all true for me) and 7 (very true for me). It has proven to have good reliability and to correlate with suicidal ideation and attempted suicide.

A typical item is "These days I think I am a burden on society."

The defeat and entrapment scales (Gilbert & Allan, 1998) have three subscales: internal entrapment (e.g., "I want to get away from myself"), external entrapment ("I feel trapped by other people") and defeat ("I feel defeated by life"), with 6, 10 and 16 items, respectively, answered with anchors 1 (never) and 4 (almost all the time). The subscales have good reliability and validity.

The 12-item impostor scale was devised by Harvey and Katz (1985) and is answered using a Likert-type format with anchors were SA (strongly agree) and SD (strongly disagree). A typical item is,

"People tend to believe I am more competent than I really am." Scores on this scale are associated with measures of general irrational thinking (Okoth, Moderski & Lester, 1994) and suicidal ideation (Lester & Moderski, 1995).

The self-esteem scale used was that developed by Janis (1954). It has ten items, and the scale was modified, replacing the word "feel" with the word "think" in order to assess thoughts rather than emotions. The anchors were SA (strongly disagree) and SD (strongly disagree). The scale has been used extensively with original wording and has good reliability and validity. A typical item is, "I think that I have a number of good qualities."

Depression was measured using the manic-depressive experiences scale developed by Thalbourne, Delin and Bassett (1994). The scale has nine items (e.g., I have experienced being so sad that I just sat [or lay in bed] doing nothing but feeling bad) answered using a true/false format. One item concerns suicidal ideation (On at least one occasion I have felt so discouraged about life that I wanted to commit suicide). The scale has good reliability and validity (Rogers & Lester, 2010).

Pearson correlations and a Principal Components extraction were applied to the total data set of all 152 students using SPSS, Version 19. Since only one component was extracted, SPSS did not attempt a rotation.

Results

The means scores (and standard deviations) are shown in Table 1, along with the Cronbach alpha reliability coefficients for each scale. Forty-five of the 152 respondents reported that they had suicidal ideation in the previous year. The scores were subjected to a principal component analysis (Table 3). Only one factor with an eigenvalue greater than one was identified, indicating that scores on all of the measures of specific irrational thoughts were positively associated and measuring the same trait. The matrix of correlations is shown in Table 2.

Table 3.
Principal components analysis and correlations with suicidal ideation and depression

	PC analysis unrotated factor loadings	Correlation with past suicidal ideation (point-biserial correlations)	Correlation with depression (Pearson correlation)	Partial correlations with past suicidal ideation controlling for sex and age	Partial correlations with depression controlling for sex and age
Burdensomeness	.82	.36**	.43**	.36**	.43**
Defeat	.91	.42**	.51**	.42**	.51**
Internal entrapment	.92	.44**	.52**	.44**	.51**
External entrapment	.85	.39**	.49**	.40**	.49**
Impostor	.74	.20*	.42**	.21*	.41**
Perseverative thought	.81	.38**	.54**	.37**	.53**
Rumination	.68	.37**	.49**	.38**	.48**
Self-esteem	.86	.36**	.43**	.37**	.42**
Helplessness	.82	.27**	.41**	.28**	.40**
Hopelessness	.81	.23*	.29**	.23*	.29**
% of variance	67.9%	* two-tailed $p < .02$ ** two-tailed $p < .001$			
eigenvalue	6.79				

All the cognitive variable scores correlated positively with depression scores and past suicidal ideation (see Table 3), even after controls for the sex and age of the respondents using partial correlation coefficients.

Discussion

The present study sought to identify the irrational thinking that characterizes suicidal individuals, above and beyond the irrational thinking that characterizes any psychiatric disorder that they may have. The results identified strong correlations between the scores on the measures of irrational thinking, and factor analysis identified only one factor. The results indicated that suicidal individuals may have a general trait of irrational thinking, and this tendency is apparent on any test of irrational thinking that is administered to them. For example, individuals with high scores on the measure of hopelessness also had high scores on the measure of burdensomeness. If the different irrational thoughts were independent, then two or more factors would have been identified.

This result has important implications. As Braginsky, Braginsky and Ring (1969) pointed out many years ago in their discussion of cognitive deficits in schizophrenia, researchers wishing to test a specific theory of cognitive impairment for schizophrenia not only must show that their predicted cognitive impairment is found in schizophrenic patients, but

also that other cognitive impairments are *not* found. In research on irrational thinking in suicidal individuals, researchers have, in the past, shown that their proposed irrational thinking is present, but they have never shown that other types of irrational thinking are not present. The present study is limited by the use of a primarily female non-clinical population and the fact that these students were enrolled in psychology courses. It is important in future research to examine the generality (or otherwise) of irrational thinking in clinical populations and in those showing current suicidal ideation and behavior. The lack of gender differences was noteworthy, and future research is needed to replicate this similarity in the responses of men and women to the scales used in this study. However, the present results suggest that irrational thinking in suicidal individuals may be a general trait and not specific to any particular type of irrationality.

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