

Suicidality and Psychosis: Beyond Depression and Hopelessness

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The present study examined recent suicide attempters with and without psychotic disorders in order to understand factors that contribute to suicide ideation during and following the suicide attempt. Patients with psychotic disorders endorsed higher levels of suicide ideation than patients without psychotic disorders. Even when depression, hopelessness, substance abuse, and social problem solving were controlled for, there was a significant association between psychotic disorder and suicide ideation. During the follow-up period, patients with psychotic disorders subsequently attempted suicide at a significantly higher rate than patients without psychotic disorders. The clinical relevance of these findings is discussed.

Individuals who make suicide attempts are at significant risk for eventual suicide (Brown, Beck, Steer, & Grisham, 2000). Those who have made suicide attempts are up to 38 times more likely to commit suicide than those who have not attempted suicide (Harris & Barraclough, 1997). Psychosis is one risk factor that has long been known to be associated with suicide ideation, attempts, and eventual suicide. Specifically, suicide attempts are made at a strikingly high rate by individuals with schizophrenia; between 18% and 55% of patients with schizophrenia make suicide attempts (Siris, 2001). Highlighting the severity of this issue, approximately 10% of those with schizophrenia eventually commit suicide (Siris, 2001). The association between psychosis

and suicide is not limited to schizophrenia, however. Individuals with psychotic depression are two to five times more likely to commit suicide than nonpsychotic depressed individuals (Roose, Glassman, Walsh, Woodring, & Vital-Herne, 1983; Wolfersdorf, Keller, Steiner, & Hole, 1987). Considering the magnitude of the association between psychotic disorder and suicide, an investigation of the factors contributing to suicidality among patients with psychotic disorders is warranted.

Most studies that have examined the association between psychotic disorder and suicide have limited their investigations to patients with schizophrenia-spectrum disorders and to completed suicide. Patients with schizophrenia and schizoaffective disorder who kill themselves are generally depressed, hopeless, and in despair about their current situation, though they maintain high expectations for themselves (Cotton, Drake, & Gates, 1985; Drake & Cotton, 1986; Drake, Gates, Cotton, & Whitaker, 1984). The association between depression and suicide in patients with psychotic disorders appears to be generalizable to suicide attempters; schizophrenia patients who attempted suicide reported that

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depression was their primary reason for doing so (Harkavy-Friedman et al., 1999). Highlighting the importance of understanding variables associated with suicide attempts, patients with schizophrenia-spectrum disorders who eventually committed suicide had a history of suicide behavior (Drake, Gates, Whitaker, & Cotton, 1985).

Despite the strong relationship between schizophrenia-spectrum disorders and suicide behavior, the role of general psychotic disorder (i.e., not limited to schizophrenia-spectrum disorders) and suicide has been relatively unexamined. Those studies that have examined psychotic disorders in general have found that risk of suicide behavior is elevated in individuals with psychotic disorders, regardless of specific diagnosis (Cohen, Lavelle, Rich, & Bromet, 1994; Radomsky, Haas, Mann, & Sweeney, 1999; Verdoux et al., 2001), and that those with major depression with psychosis seem to be at particular risk for suicide attempts (Cohen et al., 1994; Radomsky et al., 1999). Thus, in order to expand knowledge of the association between suicide ideation and suicide attempts, examining a heterogeneous sample of suicide attempting individuals would be helpful in order to determine factors contributing to this relationship.

One association between psychotic disorder and suicide attempts may be decreased impulsivity resulting from substance abuse. Recent studies indicate that psychotic patients who abuse substances are likely to make more suicide attempts (Gut-Fayand et al., 2001), with substance abusing psychotic patients being seven times more likely to demonstrate suicide behavior than non-substance abusing psychotic patients (Verdoux et al., 2001). It is possible that patients with psychotic disorders who abuse substances are not only depressed and hopeless, but demonstrate heightened impulsivity and poor problem solving.

Despite the research that indicates that depression, hopelessness, and substance abuse are important factors for understanding suicide attempts by patients with psychotic disorders, it is currently unknown whether such factors fully explain suicide ideation by patients with such disorders. Previous studies

have examined a homogenous group of patients with schizophrenia-spectrum disorders retrospectively in order to determine predictors of suicide (e.g., Drake & Cotton, 1986). Other studies have examined a heterogeneous group of psychotic patients who were hospitalized for various reasons to determine rates of suicide behavior (Radomsky et al., 1999). To our knowledge, no studies have investigated a heterogeneous group of patients who were hospitalized for a suicide attempt in order to determine the impact of psychotic disorder on suicide ideation during and after their attempt.

The present study's goal is to further explore the relationship between psychotic disorder and suicide. Patients with and without psychotic disorders who recently made a suicide attempt were examined in order to determine whether psychosis in and of itself predicts suicidality, and what factors mediate the relationship between psychosis and suicidality. Participants were assessed in terms of their level of depression, hopelessness, and suicide ideation during and after their suicide attempt. In addition, patients' substance abuse/dependence and problem-solving skills were assessed. Study participants were also followed for a period up to 2 years. Differences in subsequent suicide attempts between patients with and without psychotic disorders were examined.

We hypothesized that patients with psychotic disorders would demonstrate higher suicide ideation during and following their suicide attempt. It was expected that the well-known risk factors—depression, hopelessness, substance abuse, and poor problem-solving—would be associated with their elevated suicide ideation. It was further expected that these risk factors would not fully explain the higher suicide ideation found in patients with psychotic disorders, but that they would partially mediate the relationship; we speculated that other variables, perhaps unique to those with psychotic disorders, would contribute to their increased suicide ideation. Furthermore, it was expected that the association between psychotic disorder and suicidality would continue after the initial assessment and that those with psychotic disorders would reattempt suicide

at a faster rate than patients without psychotic disorders.

METHOD

Participants

One hundred fifty-eight suicide attempters (90 women and 68 men, mean age = 33.5 years) agreed to participate in the study. Participants were selected from the medical or psychiatric emergency department of the Hospital of the University of Pennsylvania (HUP) following a suicide attempt. All patients who sought treatment at HUP following a suicide attempt were invited to participate in the study. *Suicide attempt* was defined as a potentially self-injurious behavior with a nonfatal outcome for which there is evidence, either explicit or implicit, that the individual intended to kill himself or herself (O'Carroll et al., 1996). In order to be eligible to participate in this study, participants needed to have made a suicide attempt within the previous 3 weeks, sought help at an emergency room within 48 hours of having made the attempt, be age 16 or older, and be able to provide written, informed consent. If the individual met the above criteria and was able and willing to provide informed consent for the study, he or she was enrolled in the study. Diagnoses were made by trained diagnosticians using the SCID-I (First, Spitzer, Gibbon, & Williams, 1995) and were used to sort participants into individuals with and without psychotic disorders (see Table 1). The participants in this study were all part of a larger outcome evaluation of a cognitive therapy program for suicide prevention. The study was fully approved by the University of Pennsylvania's Institutional Review Board.

Materials

Scales for Suicide Ideation—Current and Worst (SSI-C, SSI-W; Beck, Brown, & Steer, 1997; Beck, Kovacs, & Weissman, 1979). The 19-item SSI-C is used to evaluate the current intensity of a patient's specific attitudes, be-

haviors, and plans to commit suicide. Each item consists of three options graded according to the intensity of the suicidality and rated on a 3-point scale ranging from 0 to 2. The SSI-C has been found to have moderately high internal consistency and good concurrent and discriminant validity for psychiatric outpatients. Inter-rater reliability has been found to be higher than .98. The predictive validity of the SSI-C for completed suicide has been established (Beck et al., 1997). The SSI-W uses the same format and scoring as the SSI-C, but patients are asked to recall the approximate date and circumstances when they experienced the worst point in their lives. Because suicide ideation following a recent suicide attempt was the focus of the present study, only results from the SSI-C will be reported.

Suicide Intent Scale (SIS; Beck, Schuyler, & Herman, 1974). The SIS is a 20-item, interviewer-administered assessment of the intensity of an attempter's wish to die at the time of the index attempt. The scale is completed using retrospective data obtained from the patient. The SIS comprises three sections: circumstances related to the suicide attempt (e.g., precautions made against discovery); self-report (e.g., expectation of fatality); and additional risk factors (e.g., use of alcohol before the attempt). The items are scored 0–2 for severity. Only the first 18 items are scored. The authors report an internal consistency of .82 and inter-rater reliability of .95 (Beck, Brown, Steer, Dahlsgaard, & Grisham, 1999; Beck et al., 1974). Discriminant validity has been demonstrated (Beck, Kovacs, & Weissman, 1975). The major constructs of the SIS have been found to be predictive both of future suicide attempts and suicide completions (Beck et al., 1999). Predictive validity for the overall scale has been demonstrated in several longitudinal studies (Beck, Kovacs et al., 1975; Beck, Steer, & Brown, 1996) and by higher scores just before suicide completion (Lester, Beck, & Narrett, 1978). Although this measure includes scales for both the most recent attempt and the patient's most severe attempt, only the patient's suicide intent at the time of index attempt will be examined for the present study.

TABLE 1
Axis I Diagnoses of Study Participants

DSM-IV Axis I Diagnosis	<i>n</i>	% of sample
<i>Overall</i>	158	100
Psychotic Disorder	55	34.8
Major Depressive Disorder with Psychotic Features	37	23.4
Schizoaffective Disorder	8	5.1
Bipolar I Disorder with Psychotic Features	7	4.4
Psychotic Disorder NOS plus Depressive Disorder NOS	2	1.3
No Psychotic Disorder	103	65.2
Major Depressive Disorder	87	55.1
Bipolar I Disorder	7	4.4
Bipolar II Disorder	6	3.8
Dysthymia	2	1.3
Depressive Disorder NOS	1	.6

Beck Depression Inventory-II (BDI; Beck et al., 1996). The revised BDI (Beck, Beck, & Kovacs, 1975) is a 21-item self-report instrument developed to measure severity of depression in adults and adolescents. Each of the items consists of four statements reflecting increasing levels of severity for a particular symptom of depression. With respect to predictive validity, patients who scored 22 or higher on the BDI were 3.5 times more likely to commit suicide than patients who scored below 22.

Beck Hopelessness Scale (BHS; Beck & Steer, 1993). The BHS consists of 20 true-false statements designed to assess the extent of positive and negative beliefs about the future. The Kuder-Richardson-20s (KR-20) described for the BHS across diverse clinical and nonclinical populations are typically in the .80s, and the correlations for the BHS with clinical ratings of hopelessness are in the .70s (Beck & Steer, 1993). Beck, Steer, Kovacs, and Garrison (1985) found that the BHS was significantly related to eventual suicide, $p < .05$. The predictive validity of the BHS has been established with psychiatric inpatients (Beck et al., 1985) and psychiatric outpatients (Beck et al., 1997; Beck, Brown, Berchick, Stewart, & Steer, 1990). Patients who scored 9 or higher on the BHS were 4.5 times more

likely to commit suicide than patients who scored less than 9.

Social Problem Solving Inventory-Revised (SPSI-R; D'Zurilla, Nezu, & Maydeu-Olivares, 1999). The SPSI-R is a 25-item, multi-dimensional, self-report measure of social problem-solving ability that is based on the prescriptive model developed previously by D'Zurilla and his associates. This instrument is designed to measure respondents' abilities to define problems, generate alternative solutions, make decisions, and implement solutions. Preliminary studies indicate excellent test-retest ($r = .87$) and internal ($\alpha = .94$) reliabilities, and good concurrent validity (D'Zurilla et al., 1999).

Lethality Scale (LS; Beck, Beck, & Kovacs, 1975). The LS is an interviewer-administered rating scale that measures the medical lethality of a suicide attempt on a scale from 0 (*fully conscious and alert*) to 10 (*death*). One of 8 separate subscales may be rated according to method of the attempt. Lethality ratings are based on an examination of the patient's physical condition on admission to hospital, review of the patient's medical record, and consultation with the attending physician. Previous research has established an adequate level of inter-rater reliability ($r = .80$, Lester & Beck, 1975) and adequate concurrent

validity with the Risk-Rescue Rating measure (Weisman & Worden, 1972).

Procedure

Participants were recruited for the present study after having made a suicide attempt. After providing written, informed consent, participants were given all baseline measures. Participants' subsequent suicide attempts were monitored in two ways. First, emergency room logs were scrutinized on a weekly basis for evidence that a study participant had been readmitted. Second, participants were asked about subsequent suicide behavior during each of their study follow-ups, which occurred at 1 month, 3 months, 6 months, 12 months, 18 months, and 2 years following the index attempt.

RESULTS

Demographics

Individuals with psychotic disorders were compared to individuals without psychotic disorders on the demographic variables age, gender, and ethnicity. These results, which are presented in Table 2, indicate that patients with psychotic disorders were more likely to be older, male, and African American than

TABLE 2
Demographic Variables by Psychotic Diagnosis Status

Demographic Variable	Psychotic Diagnosis Status	
	Psychotic	Non-Psychotic
Age*	37	31
Female*	48%	61%
Ethnicity*		
Caucasian	20%	36%
African American	76%	52%
Other	4%	12%

*Psychotic Disorder/No Psychotic Disorder difference significant at the $p < .05$ level.

patients without psychotic disorders ($p < .05$). All the analyses presented below were first conducted using these demographic variables as covariates; however, since the results were virtually identical to the results of analyses without these covariates only the latter analyses were reported for the sake of simplicity and clarity.

Suicide Ideation

Patients with psychotic disorders scored significantly higher on measures of suicide ideation at time of assessment, $t(156) = 4.85$, $p < .001$ (see Table 3). A regression analysis was conducted with depression, hopelessness, social problem solving, and substance abuse diagnosis entered as a first step, and psychotic diagnosis entered as a second step, with suicide ideation as the dependent variable. Results of this analysis (also presented in Table 3) indicated that psychotic disorder was associated with greater levels of suicide ideation over and above the four variables entered on the first step.

Suicide Intent

Patients with psychotic disorders, compared with patients without psychotic disorders, reported greater levels of suicide intent at the time of attempt, $t(156) = 3.70$, $p < .001$ (Table 4). A regression analysis was conducted with depression, hopelessness, social problem solving, and substance abuse diagnosis entered as a first step, and psychotic diagnosis entered as a second step, with suicide intent as the dependent variable. Results of this analysis (also presented in Table 4) indicated that psychotic disorder was associated with greater levels of suicide intent over and above the four variables entered on the first step.

Lethality

Because individuals with psychosis had higher suicide ideation at the time of the assessment and had higher suicide intent at the time of the suicide attempt, the lethality of

TABLE 3

Psychotic and Non-Psychotic Means, t-test Results Comparing Means, and Multiple Regression Results with Suicide Ideation as the Dependent Variable

	Means (SD)	No Psychotic Diagnosis	Student <i>t</i> test		Regression		<i>R</i> ² change	<i>F</i> change	<i>df</i>	<i>p</i>	Partial <i>r</i>
	Psychotic Diagnosis		<i>t</i>	<i>p</i>	Model 1 <i>R</i> ²	Model 2 <i>R</i> ²					
Suicide Ideation	10.98 (8.91)	4.71 (7.06)	4.85	<.001	.31	.34	.03	6.81	1,156	.01	.21

Note. Model 1 includes the independent variables depression, hopelessness, social problem solving, and substance abuse diagnosis. In Model 2 psychotic diagnosis is entered as a second step.

participants' suicide attempts was examined using the Lethality Scale. Patients with psychotic disorders and patients without psychotic disorders did not differ in terms of lethality of their suicide attempt, $t(148) = 1.40$, $p = .17$. A LS score of 0–3 is considered “low” lethality (physical injury that did not require medical attention) and a score of 4 or higher is considered “high” lethality (physical injury that required medical attention). Of patients assessed ($n = 150$), 61.22% of patients with psychotic disorders ($n = 49$) and 52.78% of patients without psychotic disorders ($n = 101$) made an attempt that was classified as high in lethality.

Reattempt

Individuals in the larger study were followed for up to 2 years after baseline assess-

ment and can be classified as either reattempters (those who made an additional suicide attempt subsequent to the index attempt) or non-reattempters (those who did not make an additional attempt). When cross-tabulated against psychotic disorder status, it emerged that those with a psychotic disorder were significantly more likely to have reattempted (30.9%) than those without a psychotic disorder (16.5%), as judged by a chi-square test ($\chi^2 = 4.41$, $df = 1$, $p < .04$). However, due to censored data and variability in follow-up time, a survival analysis is a more appropriate statistical test. Thus a survival analysis was conducted with “survival” being defined as having not made a subsequent suicide attempt, and time computed as number of days elapsed between assessment and either follow-up or reattempt. Results indicated that the survival functions between patients with psychotic dis-

TABLE 4

Psychotic and Non-Psychotic Means, t-test Results Comparing Means, and Multiple Regression Results with Suicide Intent as the Dependent Variable

	Means (SD)	No Psychotic Diagnosis	Student <i>t</i> test		Regression		<i>R</i> ² change	<i>F</i> change	<i>df</i>	<i>p</i>	Partial <i>r</i>
	Psychotic Diagnosis		<i>t</i>	<i>p</i>	Model 1 <i>R</i> ²	Model 2 <i>R</i> ²					
Suicide Intent	21.33 (5.31)	18.20 (4.93)	3.70	<.001	.19	.21	.02	4.13	1,156	.04	.17

Note. Model 1 includes the independent variables depression, hopelessness, social problem solving, and substance abuse diagnosis. In Model 2 psychotic diagnosis is entered as a second step.

orders and patients without psychotic disorders were significantly different (Breslow value = 5.62, $df = 1$, $p < .02$), with patients with psychotic disorders being more likely to reattempt. In fact, an inspection of the survival curves (Figure 1) reveals that by 1–1.5 years post-index attempt, 50% of patients with psychotic disorders reattempted compared to only 25% of patients without psychotic disorders. In order to control for other variables, a Cox regression was conducted with depression, hopelessness, substance abuse, and social problem solving entered at step 1, and psychotic disorder entered at step 2. The change from step 1 to step 2 was not significant ($p > .20$). Despite the high rate of suicide reattempt, as of this assessment, no patient in the study died from suicide.

DISCUSSION

Individuals who make suicide attempts are at significant risk for killing themselves (Brown et al., 2000). Individuals with psychotic disorders also are at heightened risk for

suicide. Most studies that have examined the relationship between psychotic disorder and suicide have been retrospective in nature and have limited their investigations to schizophrenia-spectrum disorders (Drake & Cotton, 1986). Because these studies examined only completed suicide, important features related to suicide attempts may have been overlooked. Furthermore, limiting investigations to patients with schizophrenia-spectrum disorders may restrict understanding of the relationship between suicide and psychotic disorder. This is an important relationship to understand because regardless of diagnosis, those with psychotic disorders demonstrate a high rate of suicide behavior (Radomsky et al., 1999). The present study is the first to examine a heterogeneous group of patients with and without psychotic disorders who had recently made a suicide attempt in order to determine factors contributing to their suicide ideation during and after their attempt. Specifically, this study addressed whether well-known risk factors for suicide could fully account for suicide ideation by patients with psychotic disorders or whether other variables may help explain the

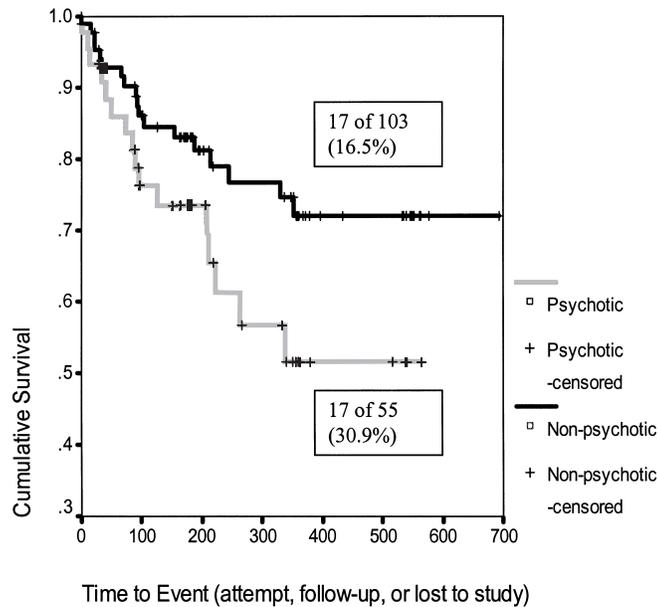


Figure 1. Psychotic and non-psychotic survival curves with *survival* defined as not having made a repeat suicide attempt during the follow-up period

relationship between psychotic disorder and suicide ideation in patients who have recently attempted suicide.

As predicted, patients with psychotic disorders in this sample demonstrated higher levels of suicide ideation during and following a suicide attempt than patients without psychotic disorders. This finding is consistent with previous studies that indicated that patients with psychotic disorders, regardless of diagnosis, demonstrate high rates of suicide behavior (Radomsky et al., 1999). Thus, even among a group of patients who all had recently attempted suicide, those with psychotic disorders reported a higher level of suicide ideation following their attempt and a higher level of suicide ideation at the time of their attempt.

As predicted, depression, hopelessness, substance abuse, and poor problem solving were associated with suicide ideation during and following the suicide attempt. This relationship was not surprising; hopelessness has been demonstrated to be a powerful predictor of suicide for patients with and without psychotic disorders (Beck, Brown, & Steer, 1989; Drake & Cotton, 1986; Drake et al., 1984). Furthermore, this is consistent with research indicating that patients with schizophrenia-spectrum disorders who attempted suicide reported they did so because they were depressed (Harkavy-Friedman et al., 1999).

Despite the strong relationship between depression, hopelessness, substance abuse, and problem solving with suicide, when these variables were controlled for, psychotic disorder predicted suicide ideation, both during and after the attempt, uniquely. Although depression, hopelessness, substance abuse, and poor problem solving explained part of the variance regarding psychotic disorder and suicide ideation, these risk variables did not fully explain the increased suicide ideation found by patients with psychotic disorders. This finding lends support to the notion that depression, hopelessness, substance abuse, and impaired social problem solving are associated with suicide in individuals with psychotic disorders. Nevertheless, these variables do not fully explain increased suicide ideation during and following a suicide attempt found in patients

with psychotic disorders who attempted suicide. It is possible that some other variable or variables, perhaps unique to those with psychotic disorders, play a role in increased suicide ideation.

Patients with psychotic disorders reattempted suicide over the follow-up period at nearly twice the rate of patients without psychotic disorders. This is consistent with the finding that patients with psychotic disorders are at particular risk for suicide behavior (Radomsky et al., 1999). It is possible that patients' high suicide ideation during and following their index suicide attempt helps to explain the high rate of reattempts. The question remains of what variables, other than the ones described earlier that are known to be associated with high risk, may contribute to increased suicide ideation.

Although it remains unanswered what variables other than depression and hopelessness put a suicidal patient with a psychotic disorder at such heightened risk, it is important to consider potential treatment interventions. While medication treatment is expected to be invaluable for decreasing psychotic symptoms, many patients are treatment non-compliant. Furthermore, many patients who are compliant with medication continue to experience distressing psychotic symptoms. Over the past 10 years, there have been considerable advances in psychosocial treatments targeting psychotic symptoms (Fowler, Garety, & Kuipers, 1995; Sensky et al., 2000). Cognitive-behavioral treatment for schizophrenia has been shown to decrease both positive and negative symptoms associated with schizophrenia (Gould, Mueser, Bolton, Mays, & Goff, 2001; Rector & Beck, 2001). While, to date, these treatments have not focused on decreasing suicide ideation, it is possible that such treatments are uniquely suited to do so. Such treatments could target the various areas that may cause individuals with psychotic disorders difficulty; depression, hopelessness, and psychotic symptoms themselves could all be areas of discussion and modification.

The present study has several strengths in determining the general and specific role of psychotic disorder in suicide. A heterogeneous

sample was investigated, thus making the results unlikely due to specific diagnosis, but, rather, to psychotic disorder in general. Furthermore, the patient population studied here can be considered particularly high-risk, as each patient had recently made a suicide attempt. In addition, most of the patients with psychotic disorder were diagnosed with major depression with psychotic features, a group identified as being at particular risk even among those with psychotic disorders (Radomsky et al., 1999). However, this study has limitations as well. The small number of patients within each psychotic disorder diagnosis precluded examining differences in responses between patients of different diagnostic categories. It is possible that certain diagnoses predict suicide ideation, during and after a suicide attempt, and reattempt differently. In addition, specific psychotic symptomatology was not examined

in this study; rather, psychotic diagnosis was the focus. It is possible that by examining specific symptoms in the future, specific risk factors for increased suicide ideation will be more fully understood.

In conclusion, although patients with psychotic disorders who make suicide attempts are depressed and feel hopeless, these variables do not fully explain their increased suicide ideation. Other variables, perhaps unique to psychotic disorder, are relevant. Highlighting the severity of the relationship between psychotic disorder and suicide, patients with psychotic disorders reattempted over the follow-up period at nearly twice the rate as patients without psychotic disorders. The significance of determining what variables contribute to suicide ideation for individuals with psychotic disorders is important, as those issues could then be targeted for treatment.

REFERENCES

- BECK, A. T., BECK, R., & KOVACS, M. (1975). Classification of suicidal behaviors: I. Quantifying intent and medical lethality. *American Journal of Psychiatry*, *132*, 285–287.
- BECK, A. T., BROWN, G., BERCHICK, R. J., STEWART, B. L., & STEER, R. A. (1990). Relationship between hopelessness and ultimate suicide: A replication with psychiatric outpatients. *American Journal of Psychiatry*, *147*, 190–195.
- BECK, A. T., BROWN, G., & STEER, R. A. (1989). Prediction of eventual suicide in psychiatric inpatients by clinical rating of hopelessness. *Journal of Consulting and Clinical Psychology*, *57*, 309–310.
- BECK, A. T., BROWN, G., & STEER, R. A. (1997). Psychometric characteristics of the Scale for Suicide Ideation with psychiatric outpatients. *Behaviour Research and Therapy*, *35*, 1039–1046.
- BECK, A. T., BROWN, G. K., STEER, R. A., DAHLGAARD, K. K., & GRISHAM, J. R. (1999). Suicide ideation at its worst point: A predictor of suicide in psychiatric outpatients. *Suicide and Life-Threatening Behavior*, *29*, 1–9.
- BECK, A. T., KOVACS, M., & WEISSMAN, A. (1975). Hopelessness and suicidal behavior: An overview. *Journal of the American Medical Association*, *234*, 1146–1149.
- BECK, A. T., KOVACS, M., & WEISSMAN, A. (1979). Assessment of suicidal intention: The Scale for Suicide Ideation. *Journal of Consulting and Clinical Psychology*, *47*, 343–352.
- BECK, A. T., SCHUYLER, D., & HERMAN, I. (1974). Development of suicidal intent scales. In A. T. Beck, H.L.P. Resnik, & D. J. Lettieri (Eds.), *The prediction of suicide* (pp. 45–56). Bowie, MD: Charles Press.
- BECK, A. T., & STEER, R. A. (1993). *Manual for the Beck Hopelessness Scale*. San Antonio, TX: Psychological Corporation.
- BECK, A. T., STEER, R. A., & BROWN, G. K. (1996). *The Beck Depression Inventory—Second Edition*. San Antonio, TX: Psychological Corporation.
- BECK, A. T., STEER, R. A., KOVACS, M., & GARRISON, B. (1985). Hopelessness and eventual suicide: A 10-year prospective study of patients hospitalized with suicidal ideation. *American Journal of Psychiatry*, *42*, 559–563.
- BROWN, G. K., BECK, A. T., STEER, R. A., & GRISHAM, J. R. (2000). Risk factors for suicide in psychiatric outpatients: A 20-year prospective study. *Journal of Consulting and Clinical Psychology*, *68*, 371–377.
- COHEN, S., LAVELLE, J., RICH, C., & BROMMET, E. (1994). Rates and correlates of suicide attempts in first-admission psychotic patients. *Acta Psychiatrica Scandinavica*, *90*, 167–171.
- COTTON, P. G., DRAKE, R. E., & GATES, C. (1985). Critical treatment issues in suicide among schizophrenics. *Hospital and Community Psychiatry*, *36*, 534–536.
- DRAKE, R. E., & COTTON, P. G. (1986). Depression, hopelessness and suicide in chronic

- schizophrenia. *British Journal of Psychiatry*, 148, 554–559.
- DRAKE, R. E., GATES, C., COTTON, P. G., & WHITAKER, A. (1984). Suicide among schizophrenics: Who is at risk? *The Journal of Nervous and Mental Disease*, 172, 613–617.
- DRAKE, R. E., GATES, C., WHITAKER, A., & COTTON, P. G. (1985). Suicide among schizophrenics: A review. *Comprehensive Psychiatry*, 26, 90–99.
- D'ZURILLA, T. J., NEZU, A. M., & MAYDEU-OLIVARES, A. (1999). *Manual for the Social Problem-Solving Inventory-Revised*. North Tonawanda, NY: Multi-Health Systems.
- FIRST, M. B., SPITZER, R. L., GIBBON, M., & WILLIAMS, J.B.W. (1995). *Structured clinical interview for DSM-IV: Axis I disorders with psychotic screen*. New York: Psychiatric Institute.
- FOWLER, D. GARETY, P., & KUIPERS, E. (1995). *Cognitive behaviour therapy for psychosis: Theory and practice*. Chichester: Wiley.
- GOULD, R. A., MUESER, K. T., BOLTON, E., MAYS, V., & GOFF, D. (2001). Cognitive therapy for psychosis in schizophrenia: An effect size analysis. *Schizophrenia Research*, 48, 335–342.
- GUT-FAYAND, A., DERVAUX, A., OLIE, J., LOO, H., POIRIER, M., & KREBS, M. (2001). Substance abuse and suicidality in schizophrenia: A common risk factor linked to impulsivity. *Psychiatry Research*, 102, 65–72.
- HARKAVY-FRIEDMAN, J. M., RESTIFO, K., MALADPINA, D., KAUFMANN, C. A., AMADOR, X. F., YALE, S. A., & GORMAN, J. M. (1999). Suicidal behavior in schizophrenia: Characteristics of individuals who had and had not attempted suicide. *American Journal of Psychiatry*, 156, 1276–1278.
- HARRIS, E. C., & BARRACLOUGH, B. (1997). Suicide as an outcome for mental disorders: A meta-analysis. *British Journal of Psychiatry*, 170, 205–228.
- LESTER, D., & BECK, A. T. (1975). Suicidal intent, medical lethality of the suicide attempt, and components of depression. *Journal of Clinical Psychology*, 31, 11–12.
- LESTER, D., BECK, A. T., & NARRETT, S. (1978). Suicidal intent in successive suicidal actions. *Psychological Reports*, 43(9), 110.
- O'CARROLL, P. W., BERMAN, A. L., MARIS, R. W., MOSCICKI, E. K., TANNEY, B. L., & SILVERMAN, M. M. (1996). Beyond the Tower of Babel: A nomenclature for suicidology. *Suicide and Life-Threatening Behavior*, 26, 237–252.
- RADOMSKY, E. D., HAAS, G., MANN, J. J., & SWEENEY, J. A. (1999). Suicidal behavior in patients with schizophrenia and other psychotic disorders. *American Journal of Psychiatry*, 156, 1590–1595.
- RECTOR, N. A., & BECK, A. T. (2001). Cognitive behavioral therapy for schizophrenia: An empirical review. *The Journal of Nervous and Mental Disease*, 189, 278–287.
- ROOSE, S. P., GLASSMAN, A. H., WALSH, T., WOODRING, S., & VITAL-HERNE, J. (1983). Depression, delusions, and suicide. *American Journal of Psychiatry*, 140, 1159–1162.
- SENSKY, T., TURKINGTON, D., KINGDON, D., SCOTT, J. L., SCOTT, J., SIDDLE, R., O'CARROLL, M., & BARNES, T.R.E. (2000). A randomized controlled trial of cognitive behavioral therapy for persistent symptoms in schizophrenia resistant to medication. *Archives of General Psychiatry*, 57, 165–172.
- SIRIS, S. G. (2001). Suicide and schizophrenia. *Journal of Psychopharmacology*, 15, 127–135.
- VERDOUX, H., LIRAUD, F., GONZALES, B., ASSENS, F., ABALAN, F., & VAN OS, J. (2001). Predictors and outcome characteristics associated with suicidal behaviour in early psychosis: A two-year follow-up of first-admitted subjects. *Acta Psychiatrica Scandinavica*, 103, 347–354.
- WEISMAN, A. D., & WORDEN, J. W. (1972). Risk-rescue rating in suicide assessment. *Archives of General Psychiatry*, 26, 553–560.
- WOLFERSDORF, M., KELLER, F., STEINER, B., & HOLE, G. (1987). Delusional depression and suicide. *Acta Psychiatrica Scandinavica*, 76, 359–363.

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