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Relationship Between Suicidality and Disability When Accounting for Depressive Symptomology

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Abstract

We examined suicidality and disability status in 485 U.S. adults. Compared with participants without disabilities, participants with disabilities (n = 92) had significantly higher suicidality scores even when accounting for depressive symptoms. Participants with psychiatric disabilities had significantly higher suicidality scores than participants with other disabilities even when controlling for depressive symptoms.

Keywords

mental illness and health, psychiatric, rehabilitation counseling, disability(ies), suicide

Research has consistently demonstrated that individuals with disabilities experience increased rates of suicidality relative to individuals without disabilities (e.g., Giannini et al., 2010; Pompili et al., 2012; Wetzel et al., 2011). Researchers have also found that the presence of depression and other mood disorders may be elevated among individuals with disabilities (Giannini et al., 2010; Wetzel et al., 2011), and individuals with disabilities and comorbid depression may be at even greater risk for suicidality (Giannini et al., 2010; Lunsky, Raina, & Burge, 2012; Pompili et al., 2012). However, very little research has examined how suicidality in individuals with disabilities compares with those without disabilities after statistically adjusting for depression.

Given the evidence that people with disabilities experience elevated rates of depression relative to the general population (Giannini et al., 2010; Wetzel et al., 2011), it may be that the higher rates of suicidality in this population can be attributed to the higher rates of depression in general. Alternately, people with disabilities could also experience other risk factors that put them at greater risk for suicidality independent of depression, and thus, effective intervention and prevention strategies may need to go beyond the treatment of depressive symptomology. Therefore, it is important to examine the impact of depressive symptoms on suicidality in this population to better understand the phenomenon of suicidality in individuals with disabilities. If depressive symptomology alone does not account for the increased suicidality observed in people with disabilities, researchers and clinicians need to examine other factors that may contribute to the increased risk in this population.

Dennis and colleagues (2009) found that controlling for anxiety and depressive disorders explained only some of the impact of activity limitations on suicidality. However, they controlled only for the presence of a disorder, not symptomology; symptomology has greater variability and is therefore a more stringent test.

It is important that rehabilitation counselors understand the issues of suicidality and depression in people with disabilities. As practitioners who work specifically with individuals with disabilities, rehabilitation counselors may serve as "front line" responders when their clients experience feelings of depression, suicidality, or both. Thus, it is important that rehabilitation counselors understand the relative suicide risk of their client populations and screen accordingly to enhance client safety and well-being.

This study seeks to expand the literature on suicidality and disability by answering the following questions:

1. Do participants with disabilities (PWD) report higher rates of suicidality relative to participants without disabilities (PWOD) when statistically adjusting for depression symptoms?
2. Do participants with psychiatric disabilities (PWPD) report higher rates of suicidality compared with

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participants with non-psychiatric disabilities (PWOPD) when statistically adjusting for depression symptoms?

Method

Participants and Procedures

A total of 485 U.S. adults were recruited from Amazon Mechanical Turk (MTurk), an online participant recruitment system, to participate in a survey study of attitudes toward suicide and disability. Participants represented 49 states and Puerto Rico; California ($n = 52$, 10.7%), Texas ($n = 41$, 8.5%), Florida ($n = 33$, 6.8%), Georgia ($n = 21$, 4.3%), and Pennsylvania ($n = 20$, 4.1%) were the most represented. Twenty-three (4.7%) participants did not include their state of residence. Samples from MTurk have generally been shown to produce valid data and to be fairly representative of the general population in terms of gender, with 55% of the worker base being female and 45% being male (Buhrmester, Kwang, & Gosling, 2011). The mean age in years of U.S. MTurk workers is early 30s (Buhrmester et al., 2011). Ninety-two participants (19.0%) reported having a disability and 25 of those reported psychiatric disabilities (see Table 1 for sample demographics).

Measures

Demographics, disability status, and suicide attempt history. Participants were asked to provide demographic information, including age, gender, disability status and type, and employment status. In addition, they were asked whether they had ever attempted suicide, and if so, how many times. Disability information was reported via an open-ended question. Participant responses were then coded for type of disability by the principal investigator. Conditions coded as psychiatric disabilities included anxiety, depression, bipolar disorder, attention deficit hyperactivity disorder, and psychotic spectrum disorders.

Depressive symptomology. Depressive symptomatology was assessed via the *Center of Epidemiological Studies Depression Scale* (CES-D; Radloff, 1977), a 20-item self-report measure. The CES-D is scored on a 4-point scale (0–3) with scores ranging from 0 to 60. It has been demonstrated to be a valid screening measure for detecting depressive symptoms (Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977). In the overall sample of 485, the mean was 16.81 ($SD = 13.29$, range = 0–57) with acceptable reliability ($\alpha = .789$).

The Suicidal Behaviors Questionnaire–Revised *(SBQ-R).* The SBQ-R (Osman et al., 2001) is a four-item, self-report measure designed to assess levels of suicide risk. The first item

Table 1. Sample Demographics ($N = 485$).

Variable	Percentage and (*n*) of sample
Age (*M, SD*), range (years)	35.75 (13.72), 18–75
Gender	
Male	40% (194)
Female	60% (291)
Ethnicity	
White	74.8% (363)
Black/African American	10.7% (52)
Hispanic/Latino/a	4.7% (23)
Asian/Pacific Islander	7.4% (36)
Native American	0.0%
Other	1.6% (8)
Prefer not to disclose	0.6% (3)
Disability ($n = 92$)[a]	
Psychiatric	27.2% (25)
Physical	24.0% (23)
Chronic health condition	22.9% (22)
Visual impairment	3.3% (3)
Hearing impairment	1.1% (1)
Speech impairment	3.3% (3)
Learning disability	4.3% (4)
Autism	2.2% (2)
Did not state type of disability[b]	13.0% (12)
Employment status	
Working full-time	36.3% (176)
Working part-time	14.6% (71)
Homemaker	7.0% (34)
Student	18.6% (90)
Unemployed	13.8% (67)
Retired	4.1% (20)
On disability	5.6% (27)
Education	
Grade school	0.2% (1)
Some high school	1.0% (5)
GED	3.5% (17)
High school diploma	10.9% (53)
Some college	32.0% (155)
Associate's degree	11.5% (56)
Bachelor's degree	28.9% (140)
Graduate degree	12.0% (58)
Annual income	
<US$10,000	10.9% (53)
US$10,000–US$14,000	6.0% (29)
US$15,000–US$24,999	13.6% (66)
US$25,000–US$34,999	14.2% (69)
US$35,000–US$49,999	15.5% (75)
US$50,000–US$74,999	17.5% (85)
US$75,000–US$99,999	8.9% (43)
US$100,000–US$149,000	5.8% (28)
US$150,000–US$199,999	0.8% (4)
US$200,000+	1.2% (6)
Do not know/prefer not to say	5.5% (27)

[a]Participants could indicate multiple disabilities. [b]These participants were excluded for analyses of psychiatric and non-psychiatric disabilities.

assesses past suicidal thoughts and suicide attempts, the second and third items inquires about past suicidal ideation and threats, and the fourth item asks about future suicidal behavior. Higher scores indicate greater suicidality. Unadjusted scores range from 3 to 18. Scores were logarithmically adjusted to account for non-normal distribution and to better meet the assumptions of our statistical tests. In the overall sample, the mean unadjusted score was 6.07 (SD = 3.24, range = 3–18), and the mean adjusted score was 1.68 (SD = 0.500, range = 1.10–2.89). The SBQ-R demonstrated acceptable reliability in the present sample (α = .784).

Results

SBQ-R scores and CES-D scores were positively correlated (r = .512, p < .001). Age was negatively correlated with both SBQ-R scores (r = −1.09, p = .016) and CES-D scores (r = −.151, p = .001). The mean age of PWD (40.29 years, SD = 15.52) was significantly higher, t(118.89) = 3.62, p < .000, than that of PWOD (34.74 years, SD = 13.07). PWD (M = 22.04, SD = 15.68) also had significantly higher CES-D scores, t(121.22) = 3.13, p < .000, than did PWOD (M = 15.59, SD = 12.38). These results support the need to control for symptoms of depression when comparing suicidality between these two groups.

Association Between Suicidality and Disability

PWD (1.86, SD = .551) had significantly higher mean SBQ-R scores, t(483) = 3.93, p < .000, than did PWOD (1.63, SD = .478), and disability status significantly predicted SBQ-R (β = .176, p < .001). Disability status remained a significant predictor of SBQ-R even when depression was controlled for via regression (β = 0.81, p = .041).

Twenty-two PWD (24.2%) reported a history of suicide attempts compared with 48 PWOD (12.3%). Among those with history of suicide attempts, the mean number of attempts reported was 1.88 (SD = 1.36) for PWOD and 2.41 (SD = 1.62) for PWD; this difference was not statistically significant, t(68) = 1.433, p = .157.

Psychiatric and Non-Psychiatric Disabilities

Among PWD, PWPD (n = 25, M = 2.08, SD = 0.364) had significantly higher mean SBQ-R scores than did PWOPD (n = 55, M = 1.77, SD = 0.580), t(70.0) = 2.92, p = .005, and psychiatric disability significantly predicted SBQ-R (β = .236, p = .016). Even when depression was controlled for via regression, psychiatric disability remained a significant predictor of SBQ-R (β = .220, p = .023).

Eight (33.3%) of the PWPD reported a history of suicide attempts compared with 21.8% (n = 12) of PWOPD. The difference in mean number of attempts between the two groups was not statistically significant, t(77) = .195, p = .846.

Given these differences, we used an ANOVA, F(2) = 9.954, p = .000, to compare mean SBQ-R scores for PWOD, PWPD, and PWOPD and used Tukey's HSD post hoc tests to compare groups. Compared with both groups, PWPD had significantly higher SBQ-R scores, but SBQ-R scores did not significantly differ when PWOPD were compared with PWOD. Given that SBQ-R scores were only significantly higher in one group (PWPD), we did not choose to control for the effects of the depressive symptomology in the three-way analysis. Furthermore, because this was not an experimental study, we chose to use regression, not ANCOVA, to account for the impact of depressive symptomology on suicidality. As discussed previously, regression analysis indicated that psychiatric disability significantly predicts suicidality, even when depressive symptomology is accounted for.

Discussion

This study corroborates existing research suggesting that people with disabilities experience greater suicidality than people without psychiatric disabilities. Expanding on the present literature, we found that between-group differences remained even when depressive symptoms were statistically controlled for, suggesting that disability is a predictor of suicidality above and beyond depression. We also found that people with psychiatric disabilities experienced significantly greater suicidality than people with non-psychiatric disabilities and that these differences remained even when depression was statistically controlled for. Furthermore, people with non-psychiatric disabilities did not differ significantly in suicidality compared with people without disabilities. This suggests that the presence of a psychiatric disability increases the risk of suicidality more so than the presence of a non-psychiatric disability in a way not explained by depressive symptoms alone. There may be other features of psychiatric disabilities, such as impulsivity or irrational thinking, that account for these differences.

Rehabilitation counselors and other professionals who work with individuals with disabilities, particularly psychiatric disabilities, should be aware of their clients' potentially increased risk for suicidality and should screen accordingly. Although assessing for depressive symptomology is an important part of such screening, these results suggest that it may not be sufficient. Therefore, it may be helpful to conduct additional screening for other risk factors, such as impulsivity, in addition to assessing for depressive symptoms. This screening could be done via clinical interviews that ask about impulsivity and impulse control and previous history impulsive or dangerous behavior or use of formal clinical measures of impulsiveness, risk tasking, and emotional regulation. Counselors may also want to consider making direct questions about suicidal ideation

part of a standard intake interview for clients with documented psychiatric disabilities or other risk factors, such as recent losses.

Some limitations of this study are the relatively small sample of individuals with disabilities, particularly when the sample is broken out into psychiatric and non-psychiatric disabilities. Future research should replicate this study with a large sample and examine other variables, such as impulsivity, that may more fully account for group differences in suicidality.

Declaration of Conflicting Interests

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