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The Effect of Participating in Suicide Research: Does Participating in a Research Protocol on Suicide and Psychiatric Symptoms Increase Suicide Ideation and Attempts?

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Abstract

The current study explored the effect of engaging in an intensive research protocol that inquired extensively about psychiatric and suicide symptoms and exposed participants to a number of images that included suicide-related content. Individuals experiencing a Major Depressive Episode were called at one and three months after the initial protocol. Participants were asked about changes in suicide ideation and the occurrence of self-harm or suicide attempts following participation. Participants reported experiencing reductions in suicide ideation at the first follow-up and no changes at the second follow-up. No participant reported having engaged in self-harm or attempting suicide at either follow-up. Results suggest that basic science/non-treatment research can be conducted safely with suicidal participants and in a manner that does not increase suicide symptoms or suicide risk.

Keywords

Suicide Research; Suicide Ideation; Suicide Attempts; Self-Harm; Follow-up

Suicide is a major public health concern that demands greater attention in the research literature. However, such research is hindered by a number of problems, including difficulty obtaining Institutional Review Board (IRB) approval and reservations of researchers associated with liability and stress experienced when working with high-risk patients (Lakeman & FitzGerald, 2009; Pearson, Stanley, King, & Fisher, 2001). Lakeman and FitzGerald (2009) conducted a survey of IRB committee members' ethical concerns regarding the conduct of suicide research. All respondents reported that they believed suicide research could be of benefit to the health care system and society at large; with 19% suggesting that participation in suicide research could have a therapeutic benefit to participants (Lakeman & FitzGerald, 2009). However, approximately 65% of IRB committee members surveyed reported that they believed participation in suicide research could be detrimental to the individual participant (Lakeman & FitzGerald, 2009). Respondents indicated that suicide symptoms may intensify after participants have been exposed to assessment protocols and/or after discussing suicidal tendencies (Lakeman &

FitzGerald, 2009). Unfortunately, no studies have explored the potential for negative reactivity of suicidal participants to non-treatment research protocols. Researchers in other areas have examined distress following participation in research for other topics that could be distressing to participants.

Henderson and Jorm (1990) examined affective distress and impairment four to 43 weeks following completion of a survey regarding general mental health in a non-clinical sample. Only nine percent of participants reported experiencing distress when answering the questions. The majority of participants (approximately 91%) reported that general coping and life functioning was not affected by participation. A number of participants (approximately 8%) reported that their coping actually improved, while only two participants (<1%) reported feeling worse about life in general after participating. This study suggests that while some participants might experience distress when responding to mental health questions, such an effect is short lived and does not appear to result in psychological harm (Becker-Blease & Freyd, 2006).

Newman, Walker, and Gefland (1999) examined the negative reactions of women with a history of sexual trauma to completion of a self-report questionnaire focused on their experience of childhood sexual trauma and mental and physical health. Participants were interviewed between three and 12 months after completion of the questionnaire. While 51% of participants reported becoming upset during completion of the questionnaire, 32% reported that completing the questionnaire was beneficial. Additionally, 86% reported improvement in symptoms between the questionnaire and the interview, with less than one percent suggesting that they regretted participating. A similar pattern of results was found in a study of the impact of a questionnaire on bereaved individuals' experience of funeral rites (Cook & Bosley, 1995). Results indicated that completing the questionnaire was a generally positive experience that allowed participants to express their feelings about the funeral. The majority of participants (approximately 90%) indicated that they benefited from the study (e.g., felt a sense of altruism and gained personal insight). Notably, only four people reported that participation was stressful. These results again suggest that despite the potential for short-term upset, these effects are short lived and may result in symptom improvement over time.

While it is clear that IRB ethics committees remain concerned about the potential for adverse influences of participating in suicide-related studies, prior research in the areas of general mental health, trauma, and bereavement suggest that participants are not likely to react with increased distress. However, research has yet to examine how suicidal individuals respond to participation in non-treatment protocols. The current study evaluated the effect of participating in an intensive research protocol that inquired extensively about suicide and psychiatric symptoms and exposed participants to an experimental procedure involving several images of suicide. This experimental procedure was the affectively modulated startle reflex research paradigm, which examines participants' physiological reactivity to emotionally evocative images. This research paradigm has been shown to be a reliable and valid measure of participants' aversion to picture stimuli (cf., Lang, Bradley, & Cuthbert, 1990). The initial study tested whether, consistent with the acquired capability component of the Interpersonal-Psychological Theory of suicide, suicide attempters would exhibit less

physiological aversion to suicide-related images compared to suicide ideators (Joiner, 2005; Smith & Cukrowicz, in press; Smith, Cukrowicz, Poindexter, Hobson, & Cohen, 2009). In the current study participants were contacted for follow-up at two points (approximately one and three months) following the study. We hypothesized that participants would not react with an increase in suicide ideation, self-harm, or attempts more than would be expected by chance at the time of follow-up. Additionally, we predicted that the degree of change in suicide ideation and the occurrence/frequency of self-harm following the study would be related to severity of psychiatric symptoms during the initial assessment.

Method

Participants

The original study sample consisted of 31 adults between the ages of 19 and 57 years ($M = 30.55$, $SD = 12.90$). See Table 1 for demographic, psychiatric symptom scores, and diagnostic information for the sample. Of those who completed the initial study, 21 individuals (68% response rate) were able to be contacted at each follow-up. Due to the nature of the original study, participants were recruited to obtain equivalent numbers of depressed suicide ideators with no history of a suicide attempt or any other self-harm behaviors and depressed suicide attempters with a history of at least one past suicide attempt. Suicide ideation was identified by a Beck Scale for Suicide Ideation (BSSI; Beck & Steer, 1991) score of four or greater. This was chosen as it represents a score that is within one standard deviation of the mean score for clinical outpatients (BSSI normative sample mean = 11.23, $SD = 6.50$). A suicide attempt was identified using the Suicide Attempt Self-Injury Interview (SASII; Linehan, Comtois, Brown, Heard, & Wagner, 2006) and conformed to the definition offered by Silverman, Berman, Sanddal, O'Carroll, and Joiner (2007).

Additional inclusion criteria were: at least 18 years of age (1% excluded based on failure to fulfill this criteria), current Major Depressive Episode as identified by the Structured Clinical Interview for DSM-IV Diagnosis (SCID; First, Spitzer, Gibbon, & Williams, 2005; 15%), and suicide ideation as discussed above (13%). Exclusion criteria were: non-suicidal self-harm without a suicide attempt (9%), a SCID diagnosis of Posttraumatic Stress Disorder (14%), a current Manic Episode (1%), a Substance Use Disorder (2%), a Psychotic Disorder (2%), a medication change within previous two weeks (<1%), and non-English speaking (<1%). Additional reasons for exclusion included: failure to attend a scheduled appointment (5%), not interested in participating following a brief description of the study (7%), and not able to be contacted after leaving a message with our lab (28%). One potential participant was deemed to be at imminent risk for suicide and required intervention and did not later return calls from research personnel.

Participants were recruited through announcements distributed to local mental health facilities (both inpatient [$n=1$] and outpatient [$n=5$]) and through public advertisements ($n=25$). It is notable that while the majority of participants were recruited from community advertisements; demographic information, psychiatric symptom measures, and diagnostic testing indicated that this sample closely approximated an outpatient clinical sample. No differences in demographic information or psychiatric symptoms were found between those who were and were not able to be contacted at each follow-up ($p > .05$). All participants who

completed the initial protocol were paid \$50.00. Participants who began the initial protocol, but discontinued participation or were disqualified were paid \$10.00. Payment was not contingent upon successful contact at follow-up and no compensation was offered for completing these interviews.

Materials

Suicide ideation was measured using the Beck Scale for Suicide Ideation (BSSI) and the Modified Scale for Suicide Ideation (MSSI). The BSSI is a 21-item self-report instrument that measures the degree of severity of suicide ideation, wishes, and attitudes (Beck & Steer, 1991). The MSSI is a clinician-administered interview that assesses both suicide ideation and desire for death, and resolved plans and preparation for suicidal behavior (Joiner, Rudd, & Rajab, 1997; Miller, Normal, & Bishop, 1986). Both instruments have been shown to possess adequate reliability and validity (Beck & Steer, 1991; Clum & Yang, 1995)

Depressive symptoms were measured using the Beck Depression Inventory-II (BDI-II). The BDI-II is a 21-item self-report measure of depressive symptoms consistent with DSM-IV criteria for Major Depressive Episode over the previous two weeks (Beck, Steer, & Brown, 1996). Anxiety was measured using the Beck Anxiety Inventory (BAI). The BAI is a 21-item instrument that assesses anxiety symptoms in a manner that is distinct from depressive symptoms (Beck & Steer, 1990). Hopelessness was measured using the Beck Hopelessness Scale (BHS). The BHS is a 20-item self-report measure of the extent to which participants agree with statements associated with negative outcome expectancy (Beck & Steer, 1988). Each of these measures has been shown to possess adequate to good internal consistency, test-retest reliability, and convergent and discriminant validity (Beck & Steer, 1990; Beck & Steer, 1988; Beck, Steer, & Brown, 1996).

Procedure: Summary of Initial Study

As described above, the initial research study (Smith et al., 2009) was aimed at testing differences in physiological reactivity between suicide ideators and suicide attempters on the affectively modulated startle reflex (cf. Lang, Bradley, & Cuthbert, 1990). Individual study sessions lasted between three and a half and nine hours with most sessions lasting approximately five hours. During these sessions, participants completed an extensive assessment protocol, including both semi-structured interviews and self-report measures. These assessments included not only those included in the present study (as described in the Materials section), but also several others. See Table 2 for the schedule of assessments and procedures involved.

During the affectively modulated startle reflex task participants were seated in a chair placed in front of a computer monitor. Participants viewed a total of 90 images from positive, negative, neutral, smoking-related, alcohol-related, and suicide-related categories (15 images from each category). Positive, negative, neutral, and two of the suicide-related images were selected from the International Affective Picture System collection (IAPS; Bradley & Lang, 2007). Thirteen of the suicide-related images were selected from the World Wide Web.¹ Suicide-related images were subjectively evaluated by the first and third author to contain depictions of the act of suicide or dying persons and/or dead bodies that were judged to be

the result of suicide. Images were also selected to represent a diverse number of suicide methods (e.g., hanging, cutting, pills, etc.).² During picture viewing participants were exposed to a 95db acoustic burst of white noise presented via headphones and physiological responses (i.e., eye blink, skin conductance, and heart rate) were recorded. This portion of the experimental session lasted approximately 45 minutes.

Procedure: Current Study

Following completion of the original research protocol, participants were instructed that they would be contacted at approximately one and three months following the study for a brief assessment. Follow-up phone calls were conducted by graduate students in clinical psychology with experience in suicide risk evaluation and management. While follow-up calls were attempted at one and three months after the date of study participation, variability did exist in the time at which contact was made with each participant. The first follow-up calls were made at, on average, 37 days ($SD = 15.68$) following participation in the initial study. The second follow-up calls were made at, on average, 92.86 days ($SD = 4.66$) following participation in the initial study.

The follow-up interviews consisted of two questions: 1) *Have you experienced a change in the degree to which you think about death and/or suicide compared to prior to the study? Has it gotten better, gotten worse, or stayed the same?* Responses coded as better, worse, stayed the same; 2) *Have you attempted suicide or engaged in any form of self-harm since you participated in the research study? How many times? (Specify whether self-harm or suicide attempt, get any details they're comfortable giving and provide appropriate risk assessment and referral information).* Responses were coded none, self-harm with suicidal intent, self-harm without suicidal intent. Participants were also invited to offer any additional comments or feedback regarding their experience participating in the study.

Results

At the first follow-up, seven participants reported that their suicide ideation remained unchanged and 14 reported that their suicide ideation had reduced since participating in the study. No participants reported that their suicide ideation had increased. At the second follow-up, 12 participants reported that their suicide ideation was unchanged and nine reported that their suicide ideation had reduced. Again, no participants reported that their suicide ideation had increased at the second follow-up. It is notable that no participant reported attempting suicide or engaging in any form of self-harm between the time of the study and each of the follow-ups. Therefore, no analysis of suicide attempts and self-harm data was warranted. In order to determine whether participants' report of suicide ideation at each of the follow-ups is different than would be expected due to chance, two χ^2 tests were performed (one each for each follow-up).

¹Because the IAPS does not contain a sufficient number of images that are clearly suicide-related and there are no current standardized set of suicide-related images, this image group was collected primarily via the World Wide Web (internet).

²All images used in the current study as well as additional suicide-related images are available upon request.

The single sample χ^2 test is used to determine whether the number of responses to the options of a categorical dependent variable are significantly different than would be expected according to chance. In the current sample of 21 participants (i.e., those of the original study sample of 31 who were able to be contacted at follow-up), chance would predict an equal number of responses to each of the three options (i.e., seven reporting decreased suicide ideation, seven reporting increased suicide ideation, seven reporting no change in suicide ideation). The χ^2 test indicated that the observed number of responses to the three options at the first follow-up was statistically different than what would be expected according to chance, $\chi^2_{(2)} = 14.00, p < .05$. An examination of the number of responses to each of the options indicated that participants reported reductions in suicide ideation most frequently followed by no change in suicide ideation and increased suicide ideation at the first follow-up (no participants endorsed the latter option).

The second χ^2 test examined the number of responses to the three options at the second follow-up in the same manner (i.e., assumed equal distribution of responses across the response options). This test indicated that the observed number of responses was statistically different than would be expected according to chance, $\chi^2_{(2)} = 11.14, p < .05$. An examination of the number of responses to each of the options indicated that participants experienced no change in suicide ideation most frequently, followed by decreased suicide ideation and increased suicide ideation (as above, no participant endorsed the latter option) at the second follow-up.

To determine what modifiable factors that may have influenced whether one benefited from participating in this type of protocol, a series of *t*-tests using a Bonferroni correction for Type-1 error were computed. Within each analysis, individuals who reported decreased suicide ideation were compared to individuals who reported no change in suicide ideation. Factors evaluated for influence were: symptoms of depression (BDI-II), anxiety (BAI), hopelessness (BHS), suicide ideation (BSSI and MSSSI).³ No significant differences were found between those individuals who reported decreases in suicide ideation versus those who reported no change in suicide ideation on any symptom variable.

Discussion

The current study explored whether participation in an intensive research protocol that involved extensive assessment and a task exposing participants to a number of suicide-related images resulted in increases in suicide ideation and behavior at two follow-up interviews. This study extends previous research that has examined the negative reactions associated with participating in interview and survey studies on general mental health, bereavement, and trauma to an area in which negative reactions and adverse events are of the utmost concern. Consistent with research in these areas, our results indicated that participants did not experience increased thoughts of suicide, self-harm, or suicide attempts as a result of participation. In fact, most participants reported a decrease in suicide ideation at the first follow-up and no changes at the second follow-up. While the study protocol

³The use of *t*-tests for these analyses is preferred compared to other analysis approaches (e.g., logistic regression) due to the small sample size of the current study.

involved no explicit treatment, participation in this protocol provided, for some, what might be considered a treatment effect. Such an effect could be caused by any number of experiences inherent to the protocol.

Suicide symptoms have long been associated with interpersonal and social difficulties (e.g., egoistic and altruistic motivated suicide; Durkheim, 1951). Joiner's (2005) Interpersonal-Psychological Theory of suicide emphasizes interpersonal variables (i.e., interpersonal disconnection and perceived burdensomeness) in the onset of suicide ideation and the desire for death by suicide. Consistent with this theory, the interaction with the researcher(s) and knowledge that the researcher(s) would be following up with participants may have provided an experience of interpersonal connection.

The interaction between the participants and the researchers may also have influenced this treatment effect through the processing of emotionally important issues. In the open-ended comments elicited during the phone interview, several participants reported that the study gave them the opportunity to discuss issues and problems they had not previously talked about. Discussion of suicide and psychiatric issues may have provided a sense of normalcy and the ability to manage problems (as opposed to fear and avoidance) as well a sense of self-understanding or insight and hope. Additionally, at least one participant indicated that participating in the study prompted her to begin seeing a therapist; highlighting the importance of such an encounter in the belief that mental health providers (i.e., treatment) can be helpful.

Contrary to expectations, there was no relationship between the severity of psychiatric symptoms (e.g., depression and suicide ideation) during the initial study and changes in suicide ideation at follow-up. As such, it appears that participants with varying psychiatric symptoms might benefit from participation in such protocols. Most importantly, participation in this suicide research protocol did not, as IRB committee members fear (Lakeman & FitzGerald, 2009), result in increased suicide ideation or suicide attempts, even among those with more severe symptoms. This is especially important given that our sample was roughly equivalent to a clinical outpatient sample in terms of severity of depression and suicide ideation.

While these data indicate that basic research on suicide can be conducted in a manner that is not only free from adverse incidents, but potentially beneficial, the current research protocol adhered to strict ethical and methodological standards. These include: the use informed consent that explicitly addresses confidentiality and its limits in regard to suicide risk, the use of empirically based assessment and risk designation (i.e., the SASII, University of Washington Risk Assessment Protocol, MSSI; Joiner, Walker, Rudd, & Jobes, 1999), the adoption of a empirically based risk management protocol (cf., Cukrowicz, Wingate, Driscoll, & Joiner, 2004), and appropriate documentation indicating the information used to determine the level of risk and associated management strategy (Jobes, Overholser, Rudd, & Joiner, 2008). Last, research clinicians in the current study were graduate students and faculty working in the area of suicide prevention and all have received focused training on the assessment and management of suicide. In conducting suicide research, it is the researcher's responsibility that research personnel are trained and competent in risk

evaluation and management (see Cukrowicz, Smith, & Schlegel, 2009 for a discussion of developing competency in suicide).

Limitations

The current study suffered from several limitations. Most notably, while the nature of the original study required only 30 participants the current sample size limits the generalizability of these findings. Additionally, not all of the original participants were contacted at follow-up. While no differences were found between those who were and were not contacted, there may be other unmeasured factors that influenced their ability to be contacted; factors that may relate to risk and symptom change over time. Reductions in suicide ideation found at the first follow-up may have also been a function of a naturally resolving depression. No assessment of symptoms aside from a simple evaluation of suicide ideation and behaviors was completed at follow-up. It is feasible that participants would have naturally experienced reductions in suicide ideation. However, this does not negate the finding that the protocol did not result in any adverse events.

Conclusion

Conducting research on suicide continues to be a difficult endeavor for those researchers committed and bold enough to tackle this vital issue. While IRB committee members will continue to be cautious of the protocols they approve, these data support that basic, non-treatment research can be conducted with suicidal participants in a manner that is not only safe, but potentially therapeutic. While IRB ethics committees may continue to voice such concerns, we hope these data begin the process of building a sound and broad empirical base indicating that such research is not only beneficial to the field of Suicidology and the understanding and treatment of suicidal patients, but is not harmful for those participants involved in the research.

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Demographic Information, Psychological Symptoms, and Diagnoses

BDI-II = Beck Depression Inventory – II, BAI = Beck Anxiety Inventory, BHS = Beck Hopelessness Scale, BSSI = Beck Scale for Suicide Ideation, MSSS = Modified Scale for Suicide Ideation, MDE = Major Depressive Episode, AWOP = Agoraphobia without Panic, GAD = Generalized Anxiety Disorder, PD = Personality Disorder.

Table 2**Schedule of Assessments and Procedures Comprising the Initial Study Session**

1	Review of Informed Consent Form
2	University of Washington Risk Assessment Protocol-Part 1
3	Demographic and Health History Form
4	Beck Scale for Suicide Ideation
5	Psychiatric Diagnostic Screening Questionnaire
6	SCID-II Personality Questionnaire
7	Suicide Attempt Self-Injury Interview
8	Administration of relevant modules of the SCID-I as identified by the Psychiatric Diagnostic Screening Questionnaire
9	Administration of relevant modules of the SCID-II as identified by the SCID-II Personality Questionnaire
10	Affective Modulation of the Startle Reflex Task (preparation and image viewing protocol)
11	Acquired Capability for Suicide Scale
12	Cognitive Reactions to Stress Events Scale
13	Smoking Stage of Change-Fagerstrom Test for Nicotine Dependence
14	Painful and Provocative Events Scale
15	Impulsive Behavior Scale
16	Alcohol Use Disorders Identification Test
17	Life Experiences Survey
18	California Psychological Inventory
19	Beck Hopelessness Scale
20	Modified Scale for Suicide Ideation
21	Beck Depression Inventory II
22	Center for Epidemiological Studies – Depression Scale
23	Beck Anxiety Inventory
24	Interpersonal Needs Questionnaire
25	Liebowitz Social Anxiety Scale-Self-Report
26	Drinking/Smoking to Cope Questionnaire
27	Self Assessment Manikin rating sheets
28	University of Washington Risk Assessment Protocol-Part 2

Note: SCID=Structure Clinical Interview for DSM-IV-TR Diagnosis

Study sessions varied in time required to complete with session durations ranging from 3.5 to 9 hours with the majority of sessions lasting approximately 5 hours.