

An Analysis of the Effectiveness of the SEHS Suicide Prevention Program Upon Unwanted Attitudes about Suicide

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Study design

A study of the effectiveness of the SEHS Suicide Prevention Program was conducted at South Elgin High School in South Elgin, Illinois, using an eight-question survey. The study was conducted in the spring of 2009 with 173 students in the 10th grade Health classes.

All students were randomly assigned to either Teacher A or Teacher B at the start of the 2008-2009 school year. All students with Teacher A were identified as the treatment group and received the presentation. All students with Teacher B were identified as the control group and did not receive the presentation. It was not practicable to randomly assign students to either group by teacher. The treatment and control groups completed the surveys at the same time. While the students in the control group did not receive the presentation in between the two survey periods the control group received the presentation later in the spring semester.

The initial pool of potential students for the study was larger than the N of 173. Only those students who completed a survey in the baseline that could be matched with the survey they completed in the post period (three weeks later) were included in the study. An attrition analysis of the inclusion of the treatment and control groups was not significantly different.

Table 1 shows the breakdown of the two samples. The ethnicity of the total sample was approximately 62% White, 21% Hispanic, 8% Asian, 7% Black, and 2% Mixed.

Sub Sample size	Subtotal Sample size
31 Females	
54 Males	/85 Treatment group
48 Females	
40 Males	/88 Control group
N=173	N=173

Table 2 shows the survey used:

Anonymous Survey on Teen Suicide

Today's date ____/____/____ Birth date ____/____/____ Gender _____

Health class period _____ Health class teacher _____

1. If my friend told me he/she was having suicidal thoughts several times a week I would be willing to help him/her without getting help from someone else.

_____ Yes

_____ No

2. If my friend told me he/she was having suicidal thoughts several times a week and he/she asked me not to tell anyone I:

_____ would not tell anyone

_____ would tell a trusted adult

3. If a friend said he/she was “thinking of suicide” and it seemed like they were saying it to get sympathy or attention from me I would probably:

_____ take them seriously

_____ ignore their comment

4. If a friend came to school in a bad mood and said “my family would be better off without me,” I would encourage him/her to get help from a guidance counselor, social worker or psychologist.

_____ Yes

_____ No

5. If suicidal thoughts crossed my mind several times a week I would talk to a friend about those thoughts.

_____ Yes

_____ No

6. If suicidal thoughts crossed my mind several times a week I would talk to a trusted adult, guidance counselor, social worker or psychologist about those thoughts.

_____ Yes

_____ No

7. Suicide is the result of (choose the most accurate):

_____ stress

_____ certain thinking errors

8. Most teens who killed themselves were probably suffering from a mental illness.

_____ Yes

_____ No

9. I would seriously consider suicide if I had an extremely serious social or emotional problem in the future.

_____ Maybe

_____ Never

Thank you for completing this survey. ☺

Methods of Analysis

Each of the 8 survey questions were analyzed using two tests of significance. Among those exposed to the presentation (treatment group) compared to those not exposed (control group), the Fisher Exact Test (two-sample test of probabilities) was used to see if the observed proportion for the former was significantly greater than that for the latter

(Table 3 upper). The ratio and corresponding proportion or percentage represent the desired or right answers to total number of answers given along with the p< value.

Among those in the treatment group who actually changed their answers to the survey a Sign Test (one-sample test of probability) was used to see if the observed proportion going in the right direction was significantly greater than 50% (Table 3 lower). The two cells of interest are the bottom left and top right as these cells represent the number of individuals who gave a different response post treatment. In each cell the upper numbers shown as a combination of a 0 and a 1 in parenthesis represent the (wrong and right) or (right and wrong) answer given in the pre and then post survey. Tables 3-12 show whether the 0 and 1 represents a wrong or right answer and those results.

The baseline responses of the treatment and control groups were not significantly different. The wrong (W) answer given in the baseline (B) period by the treatment (T) group is identified at the bottom of the table as WBT and is shown as a ratio with its corresponding proportion or percentage.

An analysis by gender using the same two tests was conducted. The results were all in the same direction and were very similar. Both genders were pooled and reported together so that its larger sample size could provide results that are more robust. An analysis of the five ethnic categories was not conducted because the sample size was not large enough for that type of comparison.

Results

Table 3

Question 1

Fisher Exact Test

Treatment Group	58/84	.6905
Control Group	20/88	.2273
	P-value	.0001

Sign Test

For question 1 Wrong is (0) Right is (1)

N=84 P-value .0001

(0-0) 24	(0-1) 44
(1-0) 2	(1-1) 14

WBT 68/84 .81

Table 4

Question 2

Fisher Exact Test

Treatment Group	79/85	.9294
Control Group	56/88	.6364
	P-value	.0001

Sign Test

For question 2 Wrong is (0) Right is (1)

N= 85 P-value.0001

(0-0) 4	(0-1) 26
(1-0) 2	(1-1) 53

WBT 30/85 .35

Table 5

Question 3

Fisher Exact Test

Treatment Group 75/85 .8824

Control Group 53/87 .6092

P-value .0001

Sign Test

For question 3 Wrong is (1) Right is (0)

N= 85 P-value .0001

(0-0) 49	(0-1) 3
(1-0) 26	(1-1) 7

WBT 33/85 .39

Table 6

Question 4

Fisher Exact Test

Treatment Group 77/85 .9059

Control Group 55/88 .6250

P-value .0001

Sign Test

For question 4 Wrong is (1) Right is (0)

N= 85 P=value .0001

(0-0) 52	(0-1) 0
(1-0) 25	(1-1) 8

WBT 33/85 .39

Table 7

Question 5

Fisher Exact Test

Treatment Group 74/85 .8706

Control Group 66/88 .7500

P-value .054

Sign Test

For question 5 Wrong is (1) Right is (0)

N= 84 P-value .0045

(0-0) 57	(0-1) 3
(1-0) 16	(1-1) 8

WBT 24/85 .29

Table 8

Question 6

Fisher Exact Test

Treatment Group 74/85 .8706

Control Group 55/87 .6322

P-value .0004

Sign Test

For question 6 Wrong is (1) Right is (0)

N= 85 P-value .0001

(0-0) 44	(0-1) 5
(1-0) 30	(1-1) 6

WBT 36/85 .42

Table 9

Question 7

Fisher Exact Test

Treatment Group 73/84 .8690

Control Group 27/84 .3214

P-value .0001

Sign Test

For question 7 Wrong is (0) Right is (1)

N= 84 P-value .0001

(0-0) 20	(0-1) 53
(1-0) 1	(1-1) 9

WBT 73/84 .87

Table 10

Question 8

Fisher Exact Test

Treatment Group 68/84 .8095

Control Group 48/88 .5455

P-value .0004

Sign Test

For question 8 Wrong is (1) Right is (0)

N= 83 P-value .0001

(0-0) 25	(0-1) 3
(1-0) 43	(1-1) 12

WBT 55/83 .66

Table 11

Question 9

Fisher Exact Test

Treatment Group 80/85 .9412

Control Group 72/88 .8182

P-value .019

Sign Test

For question 9 Wrong is (0) Right is (1)

N=85 P-value .0003

(0-0) 4	(0-1) 13
(1-0) 0	(1-1) 68

WBT 17/85 .20

Concerning Question 9 an analysis of those who switched from the wrong to right answer was conducted using the Sign Test (Table12) to see how this small but important sample responded to two other questions in the survey; Question 7 which addressed the association of thinking errors and suicide, and Question 8 which addressed the association of mental illness and suicide.

Table 12

Sign Test

For question 7 Wrong is (0) Right is (1)

N=13 P-value .0020

(0-0) 2	(0-1) 10
(1-0) 0	(1-1) 1

For question 9 Wrong is (1) Right is (0)

N=12 P-value .0040

(0-0) 2	(0-1) 0
(1-0) 9	(1-1) 1

Discussion

Some may be concerned that the results of this evaluation may be compromised, holding the view that the students are being taught how to do well on the test, learning what the presenter wants them to learn, or giving answers that are socially acceptable. However, the students were not allowed to discuss or share their answers during the survey periods. Furthermore, teens are generally already highly opinionated about the topics of friendship and suicide and most believe that their opinion is their own for them to keep or change and that that is their right. Therefore, the attitudinal change as measured in this study is considered valid.

The results show that the presenter was able to change unwanted attitudes about suicide in all of the 8 targeted areas in the treatment group to a more significant degree than any changes noted in the control group. However, the analysis of Question 5 showed the least degree of change. One possible explanation for this may be that exposure to the presentation caused more students to be willing to talk to a mental health profession in place of talking to their friend. The question was not phrased as either talking to a friend or to a mental health profession; it was just to a friend or not to a friend. Because of this ambiguity in the question the results are ambiguous.

The most impressive result is with question 9. Seventeen out of 85 (20%) in the test group said in the baseline that they would “seriously consider suicide” if significantly upset.

After exposure to the presentation 13 (or 76%) switched from giving a “maybe” response to a “never” response. The P-value of .0003 indicates that this shift is real and not related to chance.

A separate analysis was conducted on the 13 students from Question 9 who switched from giving a “maybe” response to a “never” response. This analysis as shown in Table 12 explored their responses to Question 7 which addressed the association of thinking errors and suicide; and Question 8 which addressed the association of mental illness and suicide. For this sub sample, all of those who switched did so in the right direction for Question 7 and Question 8. The P-values for each were significant. This suggests that a presentation which makes these two important associations does not appear to have a negative effect upon those who are at-risk for suicide.

The baseline responses from the treatment group show a range of unwanted answers ranging from 20% for Question 9 to over 80% for Questions 1 and 7. For example, 81% would be willing to help a suicidal friend all on their own and not seek the help of another person. 35% would be willing to keep secret the suicidal thoughts reported to them by a friend. 39% would ignore the suicidal comments of a friend thought to be seeking attention. 39% would not encourage a suicidal friend to seek help from a mental health professional. 42% would not agree to talk with a mental health professional if they had suicidal thoughts. 87% mistakenly believe that suicide is primarily the result of stress versus thinking errors. 66% did not view suicide as a manifestation of a mental illness. And finally, and most disconcerting, 20% would seriously consider suicide if they had a serious social or emotional problem.

Conclusion

The results of this study show significant change in the desired direction for all of the targeted attitudes. Moreover, a majority of students considered to be at-risk appear to have been positively impacted by the presentation. The results also show an unacceptably high baseline level of undesirable or incorrect attitudes about suicide. The unacceptably high baseline levels, and the positive attitudinal changes noted, demonstrate the need for continued presentations of this type on the topic of suicide in the health classes at South Elgin High School as it is assumed that these attitudes are a typical representation of those held by many incoming 10th graders.

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