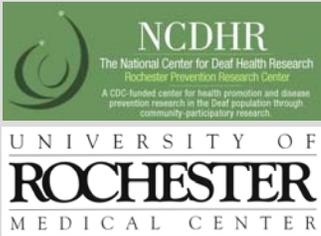


Deaf Students & Suicide: The Peculiar Relationship of Gender, Reading & Suicide



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ABSTRACT

Purpose: To estimate the rate of reported suicide ideation and suicide attempts in deaf and hard-of-hearing college-entering young adults, and to identify possible suicide risk factors.

Method: 166 college entering deaf and hard-of-hearing students and 576 college entering hearing students took the National Center for Deaf Health Research (NCDHR) Health Behavior Survey (HBS). The English language of the HBS was designed to be understood by deaf and hard-of-hearing college students. One survey item asked students if they had thought about committing suicide in the past 12 months (suicide ideation) and one asked how often they really attempted to commit suicide in the past 12 months (suicide attempts).

Results: Deaf and hard-of-hearing students and hearing students reported equivalent suicide ideation rates. Deaf and hard-of-hearing women reported a significantly higher suicide attempt rate than hearing women. Deaf and hard-of-hearing men and hearing men reported equivalent suicide attempt rates. Lower reading comprehension skill was associated with an increased rate of reported suicide ideation and reported suicide attempts for deaf and hard-of-hearing women, but not men. Relationships of reported suicidality with reported mental health risk factors also emerged.

Conclusion: At college entry, deaf and hard-of-hearing women who are poor readers may be at increased risk of attempted suicide. This risk could stem from interactions of gender-related traits and suicide mediating factors (e.g., life-long reading difficulty, depression, other mental health factors). Understanding these interactions, and the roles of gender and reading skill as suicide risk factors, may help to develop interventions for specific subgroups of deaf and hard-of-hearing young adults at risk for attempted suicide.

INTRODUCTION

Previous survey data suggests that deaf and hard-of-hearing college students have a relatively high previous-year suicide attempt rate (6% - 18%; Turner et al., 2006). However, those surveys did not control the English language difficulty of their items or their respondents' reading skills. Deaf and hard-of-hearing respondents could have misunderstood survey items due to weak reading skills and reported falsely elevated suicide attempt rates.

The National Center for Deaf Health Research developed the *Health Behavior Survey - Modified English Version* (HBS) to survey a broad range of health risk behaviors while minimizing English language comprehension demands on deaf and hard-of-hearing college respondents. The suicide-related survey items from a recent HBS administration and respondents' reading test scores were used to determine if deaf and hard-of-hearing college entering young adults report a higher rate of suicide ideation or suicide attempts than college-entering hearing young adults. Additional items from the HBS were used to explore relationships of reported suicidality with known risk factors such as depression, substance use, and other mental health factors.

METHOD

HBS Survey Construction

- Survey Scope:** 71 items about physical/mental health, demographics, and communication traits.
- Item Selection:** From national health surveys; some newly created items.
- English Content Modification:**
 - Purpose:** Maximize comprehension for the typical range of reading skills of college entering deaf and hard-of-hearing students.
 - Procedure:** NCDHR researchers and NTID teachers with expertise in English language, reading, and deafness modified the English structure and vocabulary of each item.

HBS Survey Items Used In This Study

- Suicide Ideation Item**
During the past 12 months, did you ever think about killing yourself?
A. Yes
B. No
- Suicide Attempt Item**
During the past 12 months, how many times did you really try to kill yourself?
A. 0 times
B. 1 time
C. 2 or 3 times
D. 4 or 5 times
E. 6 or more times

- Related Mental Health Items:** Sadness/Depression; Emotional, Developmental, Behavioral Problems; Drug/Alcohol Use.

Survey Respondents

- 166 deaf and hard-of-hearing, college entering students (82 females, 84 males), age: 17-27.
- 576 hearing, college entering students (173 females, 403 males), age: 16-22.

Data Collection

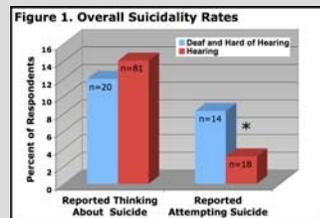
- Respondents anonymously provided:
 - Survey responses
 - Demographic/communication data records including California Reading Comprehension Test (Tiegls & Clark, 1963) scores (Deaf and hard-of-hearing respondents only).

RESULTS

OVERALL SUICIDALITY RATES

Figure 1

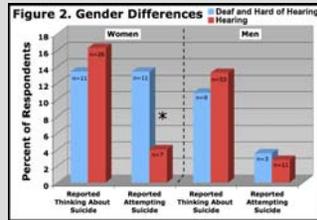
- Deaf and hard-of-hearing respondents:**
 - Reported thinking about suicide at a rate equivalent to hearing respondents.
 - Reported 2.7 times higher suicide attempt rate than hearing respondents (*, $p = .005$).



GENDER DIFFERENCES

Figure 2

- Deaf and hard-of-hearing women reported:**
 - Thinking about suicide at a rate equivalent to hearing women.
 - 3.3 times higher suicide attempt rate than hearing women (*, $p = .0085$).
- Deaf and hard-of-hearing men reported:**
 - Equivalent suicidality rates as hearing men.



READING SKILL AND SUICIDALITY

- After statistically equating reading skill across gender:** The higher reported suicide attempt rate for deaf and hard-of-hearing women stayed significant, $p < .02$.

Figure 3: Suicide Ideation

- Deaf and hard-of-hearing women:** Reported suicide ideation rate decreased as California Reading Comprehension increased ($p = .056$).
- Deaf and hard-of-hearing men:** Reported suicide ideation rate was not related to reading.

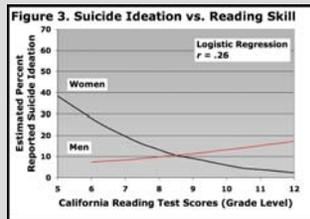
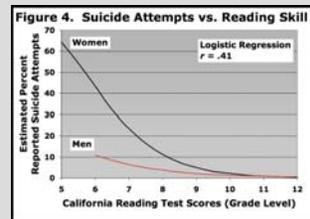


Figure 4: Suicide Attempts

- Deaf and hard-of-hearing women:** Reported suicide attempt rate decreased as California Reading Comprehension increased ($p = .002$).
- Deaf and hard-of-hearing men:** Reported suicide attempt rate was not related to reading.



MENTAL HEALTH CORRELATES

Figure 5: Relationship of Suicide Ideation To Suicide Attempts

- All groups:** Respondents who reported thinking about suicide within the 12 months prior to the survey also reported more suicide attempts within those 12 months (*, all p 's $< .05$).

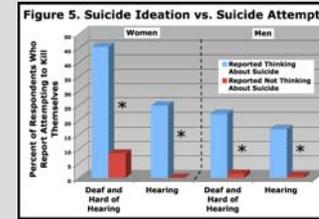


Figure 6: Relationship of Reported Depression to Reported Suicide Attempts Across Reading Scores

- Figure 6:** Depression amplifies the impact of low reading skill. Deaf/hard of hearing women with the highest level of reading comprehension do not have elevated suicide attempt rates compared with hearing women peers regardless of the presence or absence of depression, level of hearing loss, SES.

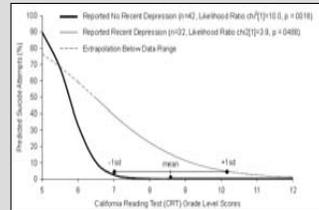


Figure 7: Relationship of Reported Emotional, Developmental, or Behavioral Problems to Reported Suicide Ideation and Suicide Attempts

- Figure 7a:** Hearing women and men who reported emotional, developmental, or behavioral problems reported higher suicide ideation rates (*, p 's $< .05$).



- Figure 7b:** Deaf and hard-of-hearing women, and hearing women and men who reported emotional, developmental, or behavioral problems reported higher suicide attempt rates (*, p 's $< .05$).

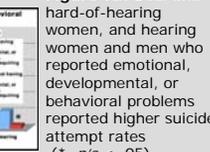
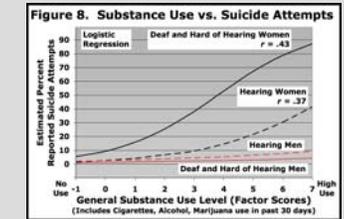


Figure 8: Relationship of Reported Substance Use to Reported Suicide Attempts

- Deaf and hard-of-hearing women and hearing women:** Reported suicide attempt rate increased as reported substance use increased (p 's $< .07$).
- Deaf and hard-of-hearing men and hearing men:** Reported suicide attempt rate was not related to reported substance use.



Summary and Conclusions

- Finding:** Deaf and hard-of-hearing young adults at college entry have an increased reported suicide attempt rate on the HBS (2.7 times greater) compared with hearing young adults.
- Implication:** Using a more linguistically controlled survey, this finding confirms previous survey findings and anecdotal observations.

- Finding:** The increased reported suicide attempt rate occurred only for deaf and hard-of-hearing women (3.3 times greater), not for men with equivalent reading skill.
- Implication:** The increased rate for women respondents is not an artifact of poor survey item comprehension. Rather, deaf and hard-of-hearing women at college entry may be at increased risk for attempted suicide.

- Finding:** Deaf and hard-of-hearing women with progressively lower reading skill reported progressively higher rates of suicide ideation and suicide attempts, while men did not.

- Implication:** Deaf and hard-of-hearing women with the lowest reading skill at college entry may be at particularly high risk for attempted suicide. The underlying causes or consequences of poor reading comprehension specifically, rather than the factors related to deafness per se, may primarily account for this overall elevated reported suicide attempt rate.

- Finding:** Deaf and hard-of-hearing women, in particular, showed associations among reading skill, reported suicide ideation, suicide attempts, and known mental health risk factors for suicide.
- Implication:** Further research should focus on interactions of gender and reading problems with known suicide risk factors such as depression, substance use, and other mental health risk factors. Understanding these interactions may lead to interventions that target specific subgroups of deaf and hard-of-hearing young adults at high risk for attempted suicide.

References

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