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# Effective approaches to suicide prevention in schools

Findings from a meta-analysis of suicide prevention programs in schools show that educational programs and gatekeeper training are beneficial for students and school staff.



Kiran and Colleagues, 2023

# This report summarizes findings from: “Controlled interventions to improve suicide prevention in educational settings: A systematic review and network meta-analysis”

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**This pamphlet was produced by:**



The HEDCO Institute for Evidence-Based Educational Practice  
College of Education | University of Oregon

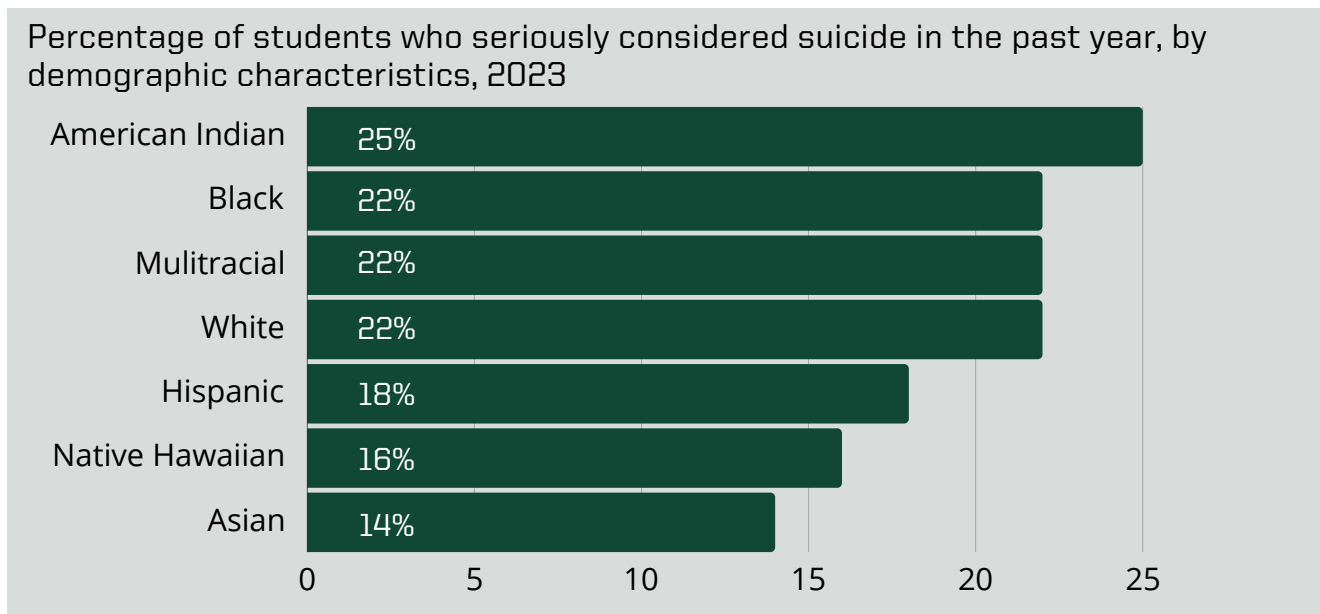
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Recommended citation: Day, E. & Golfen, J. (2024). Effective approaches to suicide prevention in schools, [hedcoinstitute.uoregon.edu/reports/suicide-prevention-programs](https://hedcoinstitute.uoregon.edu/reports/suicide-prevention-programs) DOI 10.17605/OSF.IO/2PTDZ

# Suicide was the second leading cause of death for youth ages 10 to 14 in 2021.<sup>1</sup>

A report from the [Centers for Disease Control and Prevention \(CDC\)](#)<sup>2</sup> looking at mental health and suicidal behaviors indicates that in 2023, 9% of high school students had attempted suicide and 20% had seriously considered it. That jumped to 20% for attempts for LGBTQ+ teens and 41% for those who had seriously considered it.

Alarming disparities exist between youth of different racial/ethnic groups: adolescents identifying as American Indian and Alaska Native had the highest rates of seriously considering attempting suicide in 2023 (25%).



41% of teens who had seriously considered suicide in 2023 identified as LGBTQ+

In 2023, 9% of high school students attempted suicide one or more times during the past year.

Female students were more likely than male students to attempt suicide.

# Schools have the potential to serve as a prime site for prevention efforts.<sup>3</sup>

## Approaches to suicide prevention in schools

The review authors included four types of programs in their analysis:



### Education and awareness

programs focused on educating participants around mental health and suicide risk in youth



### Gatekeeper training

programs that train individuals to identify and refer students at risk for suicidal thoughts and behaviors to mental health providers



### Psychotherapeutic treatments

therapies such as cognitive behavioral therapy or dialectic behavior therapy



### Other programs

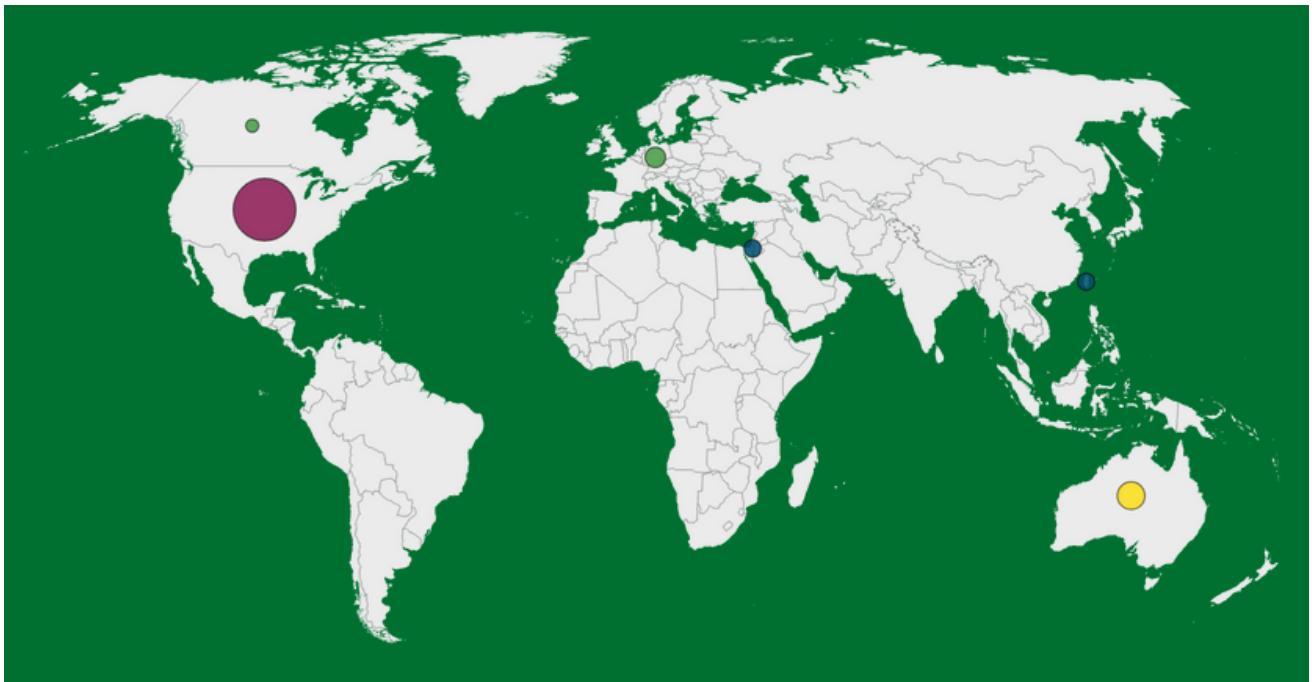
other types of programs such as suicide prevention website or email outreach programs

# Which students and schools were included in this study?

The analysis included 49 studies with a total of 42,039 students.

## Schools

Most studies took place in U.S. schools.



A larger dot indicates more studies in a given location.

United States: 35 (71%)

Australia: 6 (12%)

Europe: 3 (6%)

Taiwan: 2 (4%)

Israel: 2 (4%)

Canada: 1 (2%)

Most studies took place in K-12 schools (35 studies; 71%) and 14 studies took place in universities or college settings (29%).

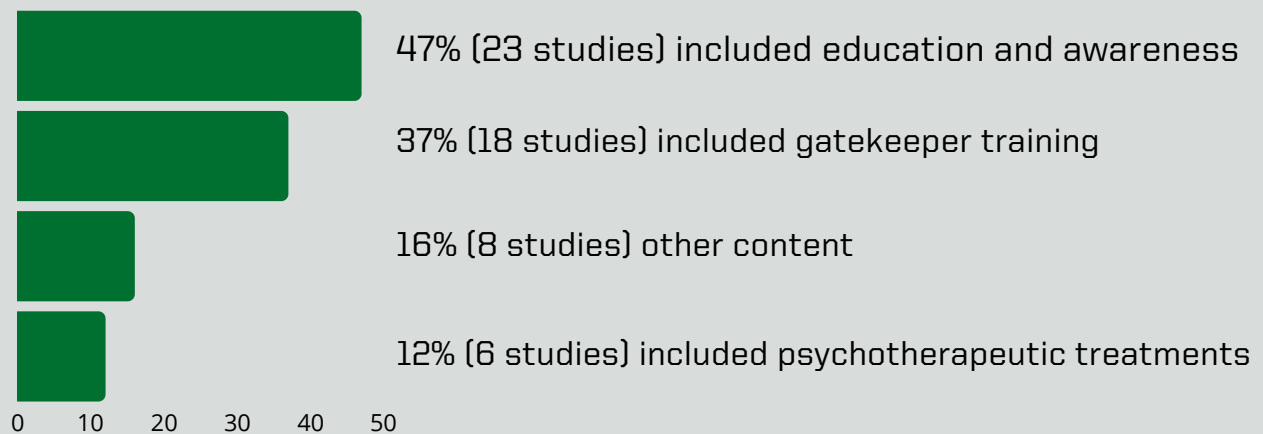
K-12 schools  
(36 studies, 71 %)

University/College  
(14 studies, 29%)

## Which programs were included in this study?

Most programs in the included studies targeted students (36 studies; 74%), while others targeted educators (11 studies; 22%) or healthcare staff working in the school (2 studies; 4%).

**Most programs in the included studies took an education and awareness approach or included gatekeeper training.**



Total does not equal 100% due to some programs involving multiple types or content.

## How were the programs assessed for effectiveness?

All programs were assessed on effectiveness at:

Reducing the odds of engaging in suicidal thoughts and behaviors (STBs)

- reduced suicide attempts
- reduced suicidal behaviors
- reduced suicidal ideation

Increasing suicide prevention competencies:

- suicide-related knowledge
- help-seeking skills
- attitudes

# Which programs were the most effective?

## Education & Awareness and Gatekeeper Training

### Education and awareness programs

Education and awareness programs were associated with both reduced suicidal thoughts and behaviors and increased suicide prevention competencies.

#### Reduced suicidal thoughts and behaviors

Education and awareness programs were associated with a 1.5 reduction in the odds of suicidal thoughts and behaviors

#### Increased suicide prevention competencies

61% of students in the programs had higher suicide prevention competencies compared to the average control group student

STBs (OR [reversed]= 1.59, 95% CI [1.23-2.02])  
Competencies (SMD= 0.28, [0.12-0.44])

# 80%

chance that education & awareness programs will increase suicide prevention competencies for students at your school

Assuming your school and students are similar to those in the review, you are more likely than not to benefit from implementing a program

# Which programs were the most effective?

## Education & Awareness and Gatekeeper Training

### Gatekeeper training programs

Gatekeeper training programs were associated with increased suicide prevention competencies.

#### Increased suicide prevention competencies

70-85% of students in programs had higher suicide prevention competencies compared to the average control group student

Gatekeeper universal interventions (SMD = 1.04, 95% CI [0.73-1.34]);  
selective interventions (SMD= 0.52, [0.26-0.77])

There was no evidence that gatekeeper training programs were associated with decreased suicidal thoughts and behaviors.

**93%**  
or greater

chance that gatekeeper programs will  
increase suicide prevention competencies  
for students at your school

Assuming your school and students are similar to those in the review, you are more likely than not to benefit from implementing a program.



# Program Content and Resources

## Education & awareness program content

Education and awareness training programs in this review focused on:

- enhancing mental health awareness
- modifying perceptions of depression and suicide
- increasing knowledge of suicide prevention resources
- improving intentions to engage in help-seeking behaviors

## Gatekeeper training program content

Gatekeeper trainings included in this review were programs such as:

- [Applied Suicide Intervention Skills Training \(ASIST\)](#)
- [Question, Persuade, Refer \(QPR\)](#)
- [Sources of Strength](#)

The HEDCO Institute does not promote or endorse any training program.

## Where can I find out more?

- [CDC's What Works in Schools Program](#)
- [Suicide Prevention Resource Center](#)
- [Suicide Prevention Resource Center Best Practices Registry](#)
- [National Association of School Psychologists](#)

If you or someone you know is having thoughts about suicide, help is available.

National Suicide Prevention Lifeline [800-273-8255]

Crisis text line [Text HOME to 741741]

## Additional Analyses

The authors also explored how different types of programs – universal, selective, and indicated – were associated with outcomes.

Universal programs were the only type to both reduce suicidal thoughts and behaviors and increase suicide prevention competencies when compared to no-treatment groups.

STBs: OR [reversed] = 1.85, 95% confidence interval [CI] [1.43-2.38]

Competencies: SMD = 0.40, [0.26-0.54]

Selective programs were moderately effective in increasing competencies: SMD = 0.51, 95% CI [0.32-0.70]

**Programs targeting students were more effective than those targeting staff.**

This was true for universal interventions aiming to reduce suicidal thoughts and behaviors ( $\beta = -0.21$ , 95% CI [-3.97 to -0.04],  $p = .037$ ), as well as indicated interventions aiming to increase suicide prevention competencies ( $\beta = 0.597$ , 95% CI [0.031-0.873],  $p = .042$ ).

## Program Prevention Types Defined

### Universal Prevention Programs

Targeted to a whole population of students who have not been identified as at risk for suicidal behaviors.

### Selective Prevention Programs

Targeted to individual students or a subgroup of students whose risk of developing suicidal behaviors are significantly higher than average.

### Indicated Prevention Programs

Targeted to individual students who are identified as having minimal but detectable signs or symptoms of suicidal behaviors, but they do not meet diagnostic levels at the time of the program.

## Methods

2,256 articles from database search

99 articles screened for full text

49 articles included

Network Meta-Analysis was used in this study, which allowed the authors to estimate the comparative effectiveness of interventions.

### Limitations to Note

The authors assessed studies for risk of bias and most studies showed high risk of bias (80.5% of randomized controlled trials and 100% of non-randomized controlled trials). This means that findings should be interpreted with caution, as more high-quality studies are needed to draw more definitive conclusions regarding program effectiveness.

## References:

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The HEDCO Institute for Evidence-Based Educational Practice is dedicated to strengthening connections between research and practice in K-12 education in the United States.

Part of the University of Oregon's College of Education, the HEDCO Institute provides education leaders with relevant, accessible, and reliable information about the latest research so they can implement evidence-informed practices and policies.



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