



# Suicide Prevention Among Oklahoma's Student Veterans

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## Introduction

- Oklahoma has the 6<sup>th</sup> highest suicide rate among all US states ([www.cdc.gov](http://www.cdc.gov))
- In 2020, the suicide rate among Oklahoma's Veterans was estimated to be 37.0 per 100,000 population, compared to a rate of 27.5 in the general population of Oklahoma and a national rate of 17.3 ([www.mentalhealth.va.gov](http://www.mentalhealth.va.gov))
- Among 18-34 year old Oklahoma Veterans, the rate is even higher at 51.6 per 100,000 ([www.mentalhealth.va.gov](http://www.mentalhealth.va.gov))
- In 2020, the Governor of Oklahoma issued a challenge to reduce and eliminate suicide among Oklahoma's Veterans
- In response to this challenge, a survey concerning suicidal ideation, depression, and related factors (demographics, social support, military affiliation, and academic status) among student Veterans was developed at the University of Central Oklahoma
- During the spring semester of 2022 the survey was distributed to Veterans attending school using GI Bill benefits at higher education institutions throughout Oklahoma
- In all, 105 student Veterans responded

## Demographics

	<i>n</i>	%
<b>General</b>		
Sex - Male	67	63.8
Race - Caucasian	72	68.6
Ethnicity - Hispanic	18	17.1
In a Committed Relationship	77	73.3
<b>Military</b>		
Military Branch*		
Army	35	33.3
Navy	13	12.4
Air Force	25	23.8
Marines	20	19.0
Other	30	28.6
Current Status*		
Active Duty	9	8.6
Retired	21	20.0
Active/Inactive Reserves	17	16.2
Discharged	59	56.2
Years on Active Duty		
0-4 Years	40	38.1
5-8 Years	34	32.4
9-12 Years	13	12.4
13+ Years	16	15.2
Served in Designated Combat Zone	50	47.6
Has a Service-Connected Disability	82	78.1
<b>Academic</b>		
Institution Type		
Community College	17	16.2
Primarily Undergraduate	53	50.5
Research	21	20.0
Private	12	11.4
Degree Program		
Associate's	16	15.2
Bachelor's	59	56.2
Graduate	29	27.6
Year in Program		
1 <sup>st</sup> Year	19	18.1
2 <sup>nd</sup> Year	28	26.7
3 <sup>rd</sup> Year	22	21.0
4 <sup>th</sup> Year	19	18.1
5 <sup>th</sup> Year+	15	14.3
<b>Mental Health</b>		
Thoughts of Suicide or Hurting Self	25	23.8
Depression Severity (PHQ-9 Score)		
None-minimal (0-4)	25	23.8
Mild (5-9)	22	21.0
Moderate (10-14)	26	24.8
Moderately Severe (15-19)	16	15.2
Severe (20-27)	16	15.2

\* Respondents were asked to select all that apply. Percentages for these categories may not sum to 100

## Methods

- Depression severity was measured using the PHQ-9 survey items (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1495268/>)
- Suicidal ideation was measured using the 9<sup>th</sup> item ("Thoughts that you would be better off dead, or of hurting yourself") from the PHQ-9 survey
- Bivariate analysis:
  - t*-tests or ANOVA were performed to identify factors significantly related to depression severity
  - Chi-square tests (\*or Fisher's exact test, when necessary) were performed to identify factors significantly related to suicidal ideation
  - Factors with a *p*-value less than 0.05 are presented in the tables below
- Multivariate analysis:
  - Factors with a *p*-value less than 0.25 were considered for inclusion in the multivariate analysis
  - A multiple logistic regression model was developed to estimate the probability of suicidal ideation
  - A multiple linear regression model was developed to estimate the mean PHQ-9 score

## Bivariate Analysis Results

Suicidal Ideation	<i>n</i>	no. (%)	<i>p</i> -value
Diagnosed with depression?			
No	36	2 (5.6%)	0.003
Yes	69	23 (33.3%)	
Accessed psychological health care in the past 12 months?			
No	39	3 (7.7%)	0.004
Yes	63	22 (34.9%)	
Adequate social support?			
No	42	16 (38.1%)	0.013
Yes	56	8 (14.3%)	
Current degree program			
Associate's	16	4 (25.0%)	0.023 <sup>+</sup>
Bachelor's	59	19 (32.2%)	
Graduate	29	2 (6.9%)	
Depression Severity	<i>n</i>	mean (sd)	<i>p</i> -value
Diagnosed with depression?			
No	35	5.5 (4.9)	<0.001
Yes	68	13.5 (6.4)	
Adequate social support?			
No	41	14.6 (6.2)	<0.001
Yes	55	8.5 (6.2)	
Accessed psychological health care in the past 12 months?			
No	38	7.8 (6.8)	<0.001
Yes	62	12.7 (6.7)	
Member of a religious or spiritual organization?			
No	90	11.5 (7.0)	0.003
Yes	13	6.1 (5.0)	
In a committed relationship?			
No	26	14.2 (7.3)	0.009
Yes	76	9.7 (6.6)	
Service-connected disability?			
No	0	7.9 (5.9)	0.020
Yes	80	11.6 (7.2)	
Member of an off-campus Veterans organization?			
No	87	11.3 (7.2)	0.024
Yes	16	7.8 (5.0)	
Current degree program			
Associate's	16	12.8 (7.4)	0.025
Bachelor's	58	11.7 (7.3)	
Graduate	28	7.8 (5.6)	
Type of Institution			
Community College	17	13.8 (8.0)	0.028
PUI	51	11.3 (7.0)	
Research	21	9.9 (6.4)	
Private	12	6.1 (5.2)	

## Multivariate Analysis Results

### Suicidal Ideation

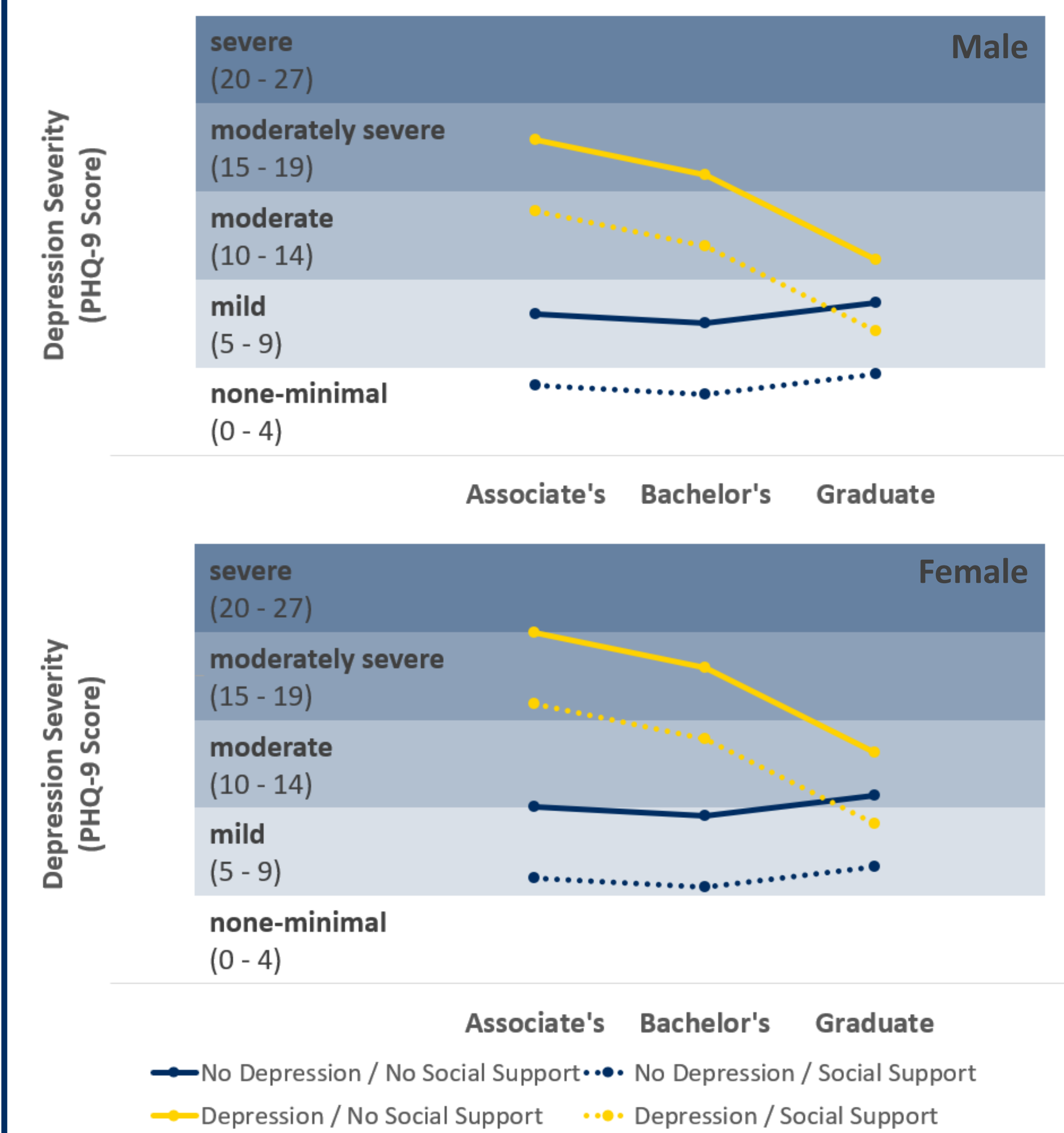
#### Odds Ratios

Comparison	OR	95% CI
Associate's vs. Graduate	6.37	(0.91, 61.03)
Bachelor's vs. Graduate	6.61	(1.47, 48.84)
5+ years vs. 1-4 years	4.17	(0.99, 19.70)
No social support vs. social support	2.58	(0.85, 8.12)
Psych. health care vs. No psych. health care	7.39	(1.77, 51.36)

#### Highest Probability of Suicidal Ideation

Degree Program	Years in Program	Social Support?	Psych. Health Care?	Prob.	95% CI
BA	5+	No	Yes	0.80	(0.50, 0.94)
BA	5+	Yes	Yes	0.61	(0.25, 0.88)
BA	1-4	No	Yes	0.50	(0.28, 0.71)
AA	1-4	No	Yes	0.49	(0.19, 0.79)
Grad	5+	No	Yes	0.38	(0.09, 0.80)

### Depression Severity



## Conclusions

- Veterans working on an Associate's or Bachelor's degree appear to be at greater risk for both depression and suicidal ideation
- Student Veterans who reported having no social support appear to be at greater risk for both depression and suicidal ideation
- Student Veterans who have spent 5 or more years working on their degree appear to be at greater risk for suicidal ideation
- Female student Veterans appear to have a slightly greater risk of depression than male student Veterans, although this difference was not significant at the 0.05 level

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