

Letters

RESEARCH LETTER

Suicide Attempts of Muslims Compared With Other Religious Groups in the US

Suicide is one of the leading causes of death and has steadily increased throughout the past 2 decades.¹ Religious affiliation may be associated with a lower risk for both suicide attempt and death through multiple mechanisms, including the promotion of social support, personal empowerment, healthy lifestyle, and commitment to religious life-preserving morals.² In the US, Muslim individuals represent a religious minority group who are vulnerable to religious discrimination but may access mental health services more infrequently than other groups. We compare the prevalence of suicide attempts among Muslim adults compared with adults of other faith communities in the US.

Methods | Participants completed the 2019 Institute for Social Policy and Understanding national community-based survey³ conducted over landline, cell phone, and online by Social Science Research Solutions during January 2019. Muslim and Jewish participants were oversampled, and other religious groups were weighted to provide nationally representative and projectable estimates of the US adult population 18 years and older. The eMethods in the Supplement include a description of sample design, survey administration, and weighting procedures. The Stanford University institutional review board exempted the study from ethical review because it was an analysis of deidentified poll data.

Participant demographics were collected using self-reported items. Participants were asked to self-identify their religion from the following categories: agnostic, atheist, Buddhist, Catholic, Christian, do not know, Hindu, Jewish, Mormon, Muslim, no religion, Orthodox, Protestant, something else, or Unitarian (Universalist). Participants were also asked to self-identify their race and ethnicity using the following categories: African American, Arab, Asian/Chinese/Japanese/Indian/Pakistani, Native American/American Indian/Alaska Native, Native Hawaiian/Pacific Islander, mixed, Hispanic, White, or other. Lifetime suicide attempt was assessed with a question adapted from the Columbia-Suicide Severity Rating Scale: “Have you ever tried to do anything to try to kill yourself or make yourself not alive anymore?”⁴

Descriptive statistics and cross-tabulations were used to categorize and compare the frequency of the chosen study characteristics of participants. Univariate and multivariate logistic regression analyses were performed using Stata version 15 (StataCorp) to calculate unadjusted and adjusted odds

ratios. Demographic factors were coded as categorical variables in the adjusted analyses. Individuals who refused to identify with a religious group or other demographic variable were coded as missing and excluded. Two-sided *P* values were statistically significant at .05. Analysis took place from March to December 2020.

Results | The response rate for the prescreened landline and cell phone sample was 22.8% (648 of 2836). The response rate for the listed telephone sample was 4.1% (133 of 3279). The web panel response rate for Muslim respondents was 6.4% (383 of 5986). The web probability panel response rate for general population respondents was 14.3% (1108 of 7733). The sample included 2376 participants, of which 809 (34%) were Muslim, 1226 (52%) were men, 1522 (65%) were White, 801 (34%) were aged 30 to 49 years, 637 (29%) had an annual income more than \$100 000, 726 (31%) had a bachelor's degree, 1132 (48%) reported religiosity as very important, and 1908 (81%) were born in the US (Table 1). Across religious groups, 7.9% of Muslim (*n* = 809), 5.1% of Protestant (*n* = 314), 6.1% of Catholic (*n* = 245), and 3.6% of Jewish (*n* = 415) respondents reported a lifetime suicide attempt. As shown in Table 2, when adjusting for demographic factors, Muslim respondents were 2.18 (95% CI, 1.13-4.20; *P* < .05) times more likely to report a lifetime suicide attempt compared with Protestant respondents. Respondents who identified as Jewish, Catholic, atheist/agnostic, and other Christian denomination had no significantly different odds of reporting suicide attempt in the last year as Protestant respondents. Level of religiosity did not affect the odds of reporting suicide attempt.

Discussion | Despite the stigma associated with suicide among Muslim individuals,⁵ US Muslim adults were 2 times more likely to report a history of suicide attempt compared with respondents from other faith traditions, including atheists and agnostics. The proportion of US Muslim respondents who reported suicide attempts was larger than the proportion reported from Muslim-majority communities.⁶ Unlike other studies, self-reported level of religiosity was not a protective factor for reporting suicide attempts.

Limitations of this study include a difference in sampling methods between Muslim respondents and other religious groups that could account for reported results despite weighting procedures. Additionally, only 1 question from the Columbia-Suicide Severity Rating Scale was included in the survey because of concern for respondent fatigue. The study underscores the importance to further understand and address social, cultural, and spiritual factors in suicide and mental health among US Muslim individuals.

Table 1. Characteristics of Study Respondents Stratified by Self-Identified Religious Affiliation

Characteristic	No. (%)							Total
	Muslim	Jewish	Atheist/ agnostic	Protestant	Catholic	Christian	Other	
Total	809 (34.1)	415 (17.5)	319 (13.4)	314 (13.2)	245 (10.3)	190 (8.0)	84 (3.5)	2376 (100)
Sex								
Men	471 (58)	228 (55)	173 (54)	140 (45)	103 (42)	70 (37)	41 (49)	1226 (52)
Women	337 (42)	187 (45)	146 (46)	174 (55)	142 (58)	119 (63)	43 (51)	1148 (48)
Total, No.	808	415	319	314	245	189	84	2374
Race/ethnicity								
White	206 (26)	384 (94)	258 (82)	264 (85)	201 (83)	141 (75)	68 (82)	1522 (65)
Black	207 (26)	5 (1)	19 (6)	32 (10)	11 (5)	30 (16)	2 (2)	306 (13)
Asian	194 (24)	2 (0)	14 (4)	1 (0)	1 (0)	3 (2)	7 (8)	222 (10)
Mixed/other ^a	78 (10)	17 (4)	24 (8)	14 (5)	29 (12)	13 (7)	6 (7)	181 (8)
Arab	107 (14)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	107 (5)
Total, No.	792	408	315	311	242	187	83	2338
Age, y								
18-29	218 (27)	25 (6)	38 (12)	16 (5)	19 (8)	23 (12)	3 (4)	342 (14)
30-49	375 (47)	79 (19)	125 (39)	62 (20)	67 (27)	65 (34)	28 (33)	801 (34)
50-64	136 (17)	109 (26)	65 (20)	107 (34)	75 (31)	68 (36)	30 (36)	590 (25)
≥65	74 (9)	199 (48)	91 (29)	129 (41)	84 (34)	34 (18)	23 (27)	634 (27)
Total, No.	803	412	319	314	245	190	84	2367
Mean (SD)	42 (16)	63 (19)	53 (20)	62 (18)	58 (19)	51 (17)	56 (17)	52 (20)
Income, \$								
<25 000	154 (20)	38 (11)	52 (17)	34 (11)	21 (9)	23 (12)	7 (9)	329 (15)
25 000-49 999	192 (25)	54 (15)	74 (24)	75 (25)	58 (24)	45 (24)	16 (21)	514 (23)
50 000-74 999	147 (19)	55 (15)	48 (15)	64 (21)	40 (17)	33 (18)	15 (19)	402 (18)
75 000-99 999	105 (14)	58 (16)	38 (12)	44 (15)	49 (21)	42 (23)	13 (17)	349 (16)
>100 000	159 (21)	153 (43)	102 (32)	84 (28)	70 (29)	43 (23)	26 (34)	637 (29)
Total, No.	757	358	314	301	238	186	77	2231
Mean (SD)	67 833 (48 305)	94 867 (51 820)	79 777 (53 155)	78 696 (49 028)	82 878 (48 354)	76 142 (46 747)	86 525 (49 705)	78 260 (50 478)
Education								
<High school or high school graduate	161 (20)	31 (8)	50 (16)	60 (19)	34 (14)	39 (21)	3 (4)	378 (16)
Technical school/other/some college/associates	187 (23)	77 (19)	93 (29)	90 (29)	80 (33)	76 (40)	25 (30)	628 (27)
Bachelor's degree	287 (36)	136 (33)	96 (30)	73 (23)	66 (27)	45 (24)	23 (27)	726 (31)
≥Graduate school	167 (21)	169 (41)	80 (25)	90 (29)	65 (27)	30 (16)	33 (39)	634 (27)
Total, No.	802	413	319	313	245	190	84	2366
Mean (SD)	2.57 (1.03)	3.07 (0.94)	2.65 (1.02)	2.62 (1.09)	2.66 (1.02)	2.35 (0.98)	3.02 (0.91)	2.68 (1.04)
Religiosity								
Not at all important	17 (2)	58 (14)	214 (67)	15 (5)	8 (3)	5 (3)	5 (6)	322 (14)
Not very important	51 (6)	86 (21)	66 (21)	26 (8)	32 (13)	13 (7)	16 (19)	290 (12)
Somewhat important	172 (21)	155 (37)	31 (10)	82 (26)	103 (42)	57 (30)	29 (35)	629 (27)
Very important	569 (70)	116 (28)	7 (2)	190 (61)	102 (42)	115 (61)	33 (40)	1132 (48)
Total, No.	809	415	318	313	245	190	83	2373
Mean (SD)	3.60 (0.70)	2.79 (1.00)	1.47 (0.76)	3.43 (0.84)	3.22 (0.79)	3.48 (0.74)	3.08 (0.91)	3.08 (1.07)
Location of birth								
Born in the US	449 (56)	367 (89)	300 (94)	305 (97)	228 (93)	183 (96)	76 (90)	1908 (81)
Born outside of the US	353 (44)	47 (11)	19 (6)	9 (3)	17 (7)	7 (4)	8 (10)	460 (19)
Total, No.	802	414	319	314	245	190	84	2368

^a Other included Native American, American Indian, Alaska Native, Native Hawaiian, Pacific Islander, Hispanic, mixed, or other.

Table 2. Lifetime Suicide Attempt by Religion, Sex, Race, Age, Income, Education, Religiosity, and Location of Birth

Subgroup	Unadjusted odds ratio (95% CI)	P value	Adjusted odds ratio (95% CI)	P value
Religion				
Protestant	1 [Reference]	NA	1 [Reference]	NA
Muslim	1.60 (0.91-2.82)	.10	2.18 (1.13-4.22)	.02
Jewish	0.71 (0.35-1.46)	.35	0.93 (0.43-2.02)	.86
Atheist/agnostic	2.14 (1.15-3.98)	.02	1.87 (0.83-4.20)	.13
Catholic	1.21 (0.58-2.49)	.61	1.20 (0.56-2.55)	.65
Christian	1.47 (0.70-3.09)	.31	1.18 (0.54-2.56)	.68
Other	1.95 (0.80-4.72)	.14	2.24 (0.89-5.66)	.09
Sex				
Male	1 [Reference]	NA	1 [Reference]	NA
Female	1.44 (1.05-1.99)	.02	1.35 (0.95-1.90)	.09
Race				
White	1 [Reference]	NA	1 [Reference]	NA
Black	0.96 (0.59-1.55)	.85	0.44 (0.25-0.78)	.005
Asian	0.69 (0.36-1.3)	.25	0.38 (0.18-0.82)	.01
Mixed/other ^a	1.52 (0.91-2.54)	.11	0.86 (0.48-1.53)	.60
Arab	0.37 (0.12-1.20)	.10	0.21 (0.06-0.72)	.01
Age, y				
18-29	1.42 (0.95-2.12)	.08	1.47 (0.93-2.31)	.10
30-49	1 [Reference]	NA	1 [Reference]	NA
50-64	0.55 (0.35-0.84)	.006	0.53 (0.33-0.86)	.009
65-98	0.27 (0.16-0.47)	<.001	0.26 (0.14-0.47)	<.001
Income, \$				
<25 000	2.48 (1.54-4)	<.001	2.54 (1.45-4.44)	.001
<50 000	1.5 (0.94-2.41)	.09	1.46 (0.86-2.48)	.16
<75 000	1.12 (0.66-1.92)	.67	1.06 (0.59-1.88)	.86
<100 000	1.2 (0.69-2.08)	.53	1.12 (0.63-1.98)	.71
≥100 000	1 [Reference]	NA	1 [Reference]	NA
Education				
<High school or high school graduate	1.04 (0.64-1.67)	.89	0.84 (0.49-1.43)	.51
Technical school/other/some college/associate	1.32 (0.89-1.95)	.17	1.02 (0.66-1.57)	.94
Bachelor's degree	1 [Reference]	NA	1 [Reference]	NA
≥Graduate school	0.58 (0.36-0.93)	.03	0.79 (0.48-1.32)	.37
Religiosity				
Not at all important	1.13 (0.71-1.81)	.60	0.82 (0.39-1.70)	.59
Not very important	0.85 (0.49-1.45)	.54	0.79 (0.41-1.53)	.49
Somewhat important	1.05 (0.72-1.53)	.81	1.15 (0.76-1.75)	.52
Very important	1 [Reference]	NA	1 [Reference]	NA
Location of birth				
Born in the US	1 [Reference]	NA	1 [Reference]	NA
Born outside the US	0.28 (0.15-0.52)	<.001	0.23 (0.12-0.46)	<.001

^a Other included Native American, American Indian, Alaska Native, Native Hawaiian, Pacific Islander, Hispanic, mixed, or other.

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CORRECTION

Error in Abstract: In the Original Investigation titled "Association of Opioid Agonist Treatment With All-Cause Mortality and Specific Causes of Death Among People With Opioid Dependence: A Systematic Review and Meta-analysis,"¹ there was an error in the Conclusions and Relevance section of the Abstract. In the second-to-last sentence of that section, the coverage is for opioid agonist treatment (OAT), not insurance, and should read as follows: "However, access to OAT remains limited, and coverage of OAT remains low." This article has been corrected online.

1. Santo T Jr, Clark B, Hickman M, et al. Association of opioid agonist treatment with all-cause mortality and specific causes of death among people with opioid dependence: a systematic review and meta-analysis. *JAMA Psychiatry*. Published online June 2, 2021. doi:[10.1001/jamapsychiatry.2021.0976](https://doi.org/10.1001/jamapsychiatry.2021.0976)