

# Religious-Ethnic Differences in Prevalence and Correlates of Suicidal Ideation and Attempts Among Israeli Vocational Education Students

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## ABSTRACT

**Background:** The current study is the first to examine serious suicidal ideation, suicide attempts and psychological distress among students belonging to different religious-ethnic groups attending VET high schools.

**Method:** 3,553 students studying in the VET high schools completed a self-report survey. The survey evaluated serious suicidal ideation, suicide attempts, depression, anxiety, somatization, self-efficacy, belonging and socio-demographic variables.

**Results:** Students coming from minority groups (Arab Muslim, Bedouin Arab Muslim, Druze) are more likely to have seriously considered suicide or attempted suicide compared to their Jewish counterparts, with the exception of Christian Arabs. Bedouin Arab Muslim students were more susceptible to suicide ideation and attempts upon high depression levels.

**Conclusions:** Minority youth at VET schools are at greater risk of experiencing suicidal ideation and attempting suicide compared to non-minority students. The education system must be highly alert to depressive symptoms among Bedouin Arab Muslim students since they may pose a greater risk to develop into suicidal ideation and attempt.

## INTRODUCTION

### SUICIDE AMONG ADOLESCENTS IN ISRAEL

Suicide is a leading cause of death among adolescents internationally (1) and in Israel (2). Two major risk factors for suicide among adolescents are suicide ideation and suicide attempts (3). Ethnic differences in the prevalence of suicide, suicide ideation and attempts among adolescents have been documented (4-9).

Israel is comprised of a multi-ethnic population that differs in religion as well. The majority of the population in Israel is Jewish (75%); 17.5% are Muslim, some of whom are Bedouin (3.5%, originally nomadic tribes of Muslims), most living in the south of Israel, and the rest are non-Bedouin Arab Muslims living in northern or central parts of Israel (14%). Two additional smaller groups include the Druze (1.64%) and Christian Arabs (1.98%) (2).

Studies have examined the prevalence of suicide (8, 10), suicide attempts (8, 10, 11) and suicide ideation (11) among Arab and Jewish adolescents in Israel. Although Arabs have a lower prevalence of completed suicide compared to Jews (6-10) they have higher prevalence of suicidal ideation and higher rates of suicidal attempts (10-13).

The lower prevalence of completed suicide among Arabs has been attributed to the stronger social ties and collectivist values characterizing Arab society (9, 10), in addition to leading an overall more religious way of life compared to the Jewish population (14). Religiosity and stronger social ties are known to serve as protective factors against suicide (15). In addition, incidents of suicide may be under-reported in Arab society due to the heavy stigma associated with it (10, 16). It should be noted that suicide as an act of terror

is a distinct phenomena and is beyond the scope of the current study. According to the Central Bureau of Statistics, despite receiving extensive media coverage, such incidents have been scarce in the last decade and therefore account for a negligible contribution to suicide rates in Israel as documented by the Ministry of Health.

Overall suicide rates among the Arab population are lower compared to the Jewish population (6-10), whereas ideation is higher (10-13). This gap indicates the complexity of the phenomena among Arabs in Israel. In accordance with the cultural model of suicide suggested by Chu and his colleagues (4), cultural sanctions concerning suicide can serve as a barrier between mental distress, suicidal ideation and the actualization of suicide. This model is applicable to Israel as well. Therefore, although mental distress levels are higher among minorities groups (17, 18), fortunately they are less often translated into actual suicide due to religiosity and stronger social taboo regarding suicide in the Arab society.

Risk factors associated with the increased suicidal ideation and attempts among the Arab population in Israel include the higher rates of depression documented among Arabs compared to Jews (11, 17-19), as well as exposure to discrimination and limited education and employment opportunities compared to Jews (20). In Israel unemployment rates vary across the religious-ethnic groups. In 2014 unemployment rates were 5.7%, 8.1%, 6.1% and 7.3% among Jews, Arab Muslims, Christians and Druze, respectively (21). Although unemployment rates among minority groups in Israel are not high compared to some Arab countries in the region such as Egypt (13.1%) or Jordan (11.55%) (22), relative to the majority group of Jews in Israel they remain higher. Employment prospects are highly related to education as well. Although the percentage of minority youth attending higher education has been rising in recent years, the Arab minority students are still under-represented in higher educational institutes in Israel (23). These gaps between minorities and the majority group may serve as contributing factors to the higher prevalence of suicide ideation reported among minority youth (11). Arab Israelis have a suicide rate that is higher compared to residents of Arab countries in the region. For instance, Egypt and Jordan have a suicide rate of 1.7 and 2 per 100,000, respectively (24), while Arab Israelis' suicide rate is 3.8 per 100,000 (12). A sense of belonging is another important factor for students' levels of depression and suicidal ideation and behavior. Minority groups are predisposed to experience conflict in identity formation and a sense of belonging, putting them at greater risk for

mental health problems (25). Although members of Arab society as a whole tend to embrace more collectivistic values, there may be age differences (26). For example, Arab youth are experiencing greater conflict in their identity formation and identification with the state's institutes (27-29). Therefore, it is worthwhile examining the sense of belonging adolescents feel in their school. Finally, a lower sense of self efficacy that characterizes members of minority groups (30, 31) may also contribute to increased risk of suicide attempts (32, 33).

Studies which have focused on suicide ideation and attempts among Arab adolescents have consistently shown that Arab students report more frequently attempting suicide and seriously considering suicide (11, 34). For example, a national report prepared for the WHO in 2004 found that 7.8% and 17.8% of 10th grade Jewish and Arab students, respectively, reported attempting suicide at least once in their lives, and 17% and 20% reported having seriously considered suicide at some point in their life (34). In a more recent study Harel-Fish and colleagues (11) examined suicidality among Jewish Israeli, Arab Israeli and Palestinian youth from the West Bank and Gaza among 10th grade high school students and found significant differences in suicide attempts (7.8%, 17.7%, 11.4%, respectively) and in serious consideration of suicide (17.4%, 20.5%, 11.4%, respectively). These findings indicate that Arab Israeli youths are at a significantly higher risk for suicide compared to Palestinian youths from the West Bank and Gaza and Jewish Israeli youths. Therefore it is important to further study risk factors underlining suicidality among Arab Israeli youths. Furthermore, the Arab population in Israel is highly heterogeneous and it might be of merit to distinguish between ethno-religious subgroups. Studies conducted thus far have not examine intra-ethnic differences in suicide ideation and attempts among subgroups of the Arab youths in Israel. In addition, previous studies were conducted among students in the regular educational system. In the current study, we focused on students in the vocational secondary schooling programs, where Arabs account for about 40%.

#### VOCATIONAL SECONDARY SCHOOLING IN ISRAEL

Vocational secondary school educational programs in Israel are operated by both the Ministry of Education and the Ministry of Economics. The Ministry of Economics' secondary school vocational program is unique in the sense that it provides practical training in workplaces (e.g., nursing, electronic engineering, car mechanics, electricity, cooking) in addition to theoretical knowledge. The

Ministry of Economics operates 62 vocational education and training (VET) high schools throughout the country. Four percent of the total high school students attend these schools reaching approximately 13,000 students in 2014. These schools include students who wish to pursue vocational training during their high school years and students struggling with schooling and are at risk of dropping out from the regular educational system.

Very few studies have examined mental health of VET students (35, 36) and only two studies examined suicidal ideation and attempts among VET students (35, 37). Findings from these studies were inconsistent. In a study by Tandon and colleagues (35) VET students were less likely to have seriously considered harming themselves or having made a suicide plan in the last 12 months compared to students in the regular education. The authors suggested that the differences may be explained by the notion that adolescents in the regular education system place greater pressure on themselves to succeed or are exposed to greater peer pressure compared to adolescents participating in vocational training programs (35). On the other hand, the second study, conducted in Norway which measured only suicide ideation, found higher probability of suicidal ideation in students in the vocational education program compared to students in regular high schools (37). The authors suggested that their findings may be attributed to the social climate associated with vocational schooling and/or the possibility that students who choose vocational education have a priori higher prevalence of suicide ideation. No study to date has examined the risk of suicide among ethnic minorities in the VET educational system.

The current study is the first to examine serious suicidal ideation, suicide attempts and psychological distress (e.g., depression, anxiety and somatization) among students belonging to different religious-ethnic groups who attend the VET high schools. In addition, we set out to explore the contribution of psychological distress, self-esteem and sense of belonging to suicidal ideation and attempts among members of the different religious-ethnic groups.

## METHOD

### DATA COLLECTION

Data was collected during November 2014. All 10<sup>th</sup> grade classes and two 11<sup>th</sup> grade classes (randomly sampled) from each of the 62 VET schools run by the Ministry of Economics were included in the study (N=3901). Participants completed the survey's questionnaires in

Hebrew or Arabic according to the student's mother tongue. Due to missing data the final number of students included in the data analysis was 3,553, representing 27.3% of the total VET student population. The research was approved by the educational committee in the Ministry of Economics and presented to parents and students as part of the schools' psychological evaluation agenda. Parents' consent and students' assent were obtained prior to administering the survey.

### PARTICIPANTS

Of the 3,553 students who completed the survey 2,832 (79.7%) were boys and 721 (20.3%) were girls. Students' age ranged from 13 to 20 years ( $M=15.42$   $SD=.97$ ). The majority of students reported that their parents live together (81.6%) and come from an average or above socio-economic status (94.2%). Students were from diverse religious-ethnic backgrounds: Jewish, 1,697 (47.8%), Arab Muslim, 1,163 (32.73%), Bedouin Arab Muslim, 315 (8.86%), Druze, 220 (6.19%), Christian Arab, 158 (4.4%).

### MEASURES

Socio-demographic information as reported by students including: gender, age, family status (parents living together or apart), family's economic status (below average, average, above average, high beyond average) and religion-ethnicity (Jewish, Arab Muslims, Bedouin Arab Muslim, Druze, Christian Arab).

Suicide ideation and suicide attempt questions were based on the Paykel Suicide Scale (PSS) (38) as used in the "The Saving and Empowering Young Lives in Europe" (SEYLE) study. We used two questions. The serious suicide ideation (SSI) item was: During the past two weeks, did you seriously consider attempting suicide? (no/yes). The item regarding suicide attempts (SA) was: During the past three months, did you attempt suicide? (no/yes).

### RISK FACTORS

Psychological distress was measured using a short version of the Brief Symptoms Inventory (39). This version includes a total of 18 items divided into three sub-scales: depression (e.g., "feeling no interest in things"), anxiety (e.g., "feeling tense or keyed up") and somatization (e.g., "nausea or upset stomach"). Participants were asked to rate items on a 5-point scale ranging from not at all (1) to very much (5). Final score on each scale was calculated as a mean of items comprising the subscale. Anxiety and somatization each included six items, while the depression

scale was calculated based on five items only. One item from the depression scale, addressing “thoughts about ending your life,” was omitted since it was redundant given our dependent variable of suicidal ideation. The BSI-18 has been shown to be valid and reliable in previous studies (40). Internal consistency in the current sample was satisfactory for all three subscales (Cronbach’s  $\alpha$  for depression=.73, anxiety=.73, somatization=.78).

### PROTECTIVE FACTORS

Belonging was measured using the belonging subscale from the Optimal Educational Climate questionnaire (41) developed by the Ministry of Education. Specifically the belonging subscale is comprised of eight items (e.g., “I can count on my classmates to help me in times of need”), each rated on a 5-point Likert scale, ranging from 1(not at all true) to 5 (very true). Total score was computed by averaging the items scores. This measure showed high internal consistency in the current sample (Cronbach’s  $\alpha = .83$ ).

Students self-efficacy was assessed using the Generalized Self-Efficacy Scale (42), which has been found to be valid and reliable across cultures (43). The scale included 10 items, each rated on a 4-point Likert scale, ranging from 1 (not at all true) to 4 (very true). The final score was computed by summarizing the score on all items. The scale showed high internal consistency in the current sample (Cronbach’s  $\alpha = .88$ ).

### STATISTICAL ANALYSIS

Differences among the religious-ethnic groups were examined using  $\chi^2$  test for categorical variables (SSI and SA). The Christian Arab group being the smallest ( $n=158$ ) group and exhibiting low rates of suicide ideation (one incident) and attempts (three incidents) was not included in this statistical analysis. A multivariate MANOVA test comparing the risk factors (depression, anxiety and somatization) was conducted. The latter yielded a significant ethnicity X measure interaction (*Wilk’s lambda* = .99;  $F = 5.89$ ;  $df = 6, 6702$ ;  $p < .001$ ), and therefore was followed by separate ANOVAs to interpret the findings. Family-wise Bonferroni correction for multiple comparisons was implemented to avoid an elevated type-I error for these comparisons; hence the significance level was set at .016 (.05/3). Differences among the groups in the protective factors (self-efficacy and belonging) were computed using one-way ANOVA tests. Bonferroni post-hoc tests were implemented to identify the source of the significant differences when present. Associations between the study

variables were examined using point-biserial correlation for dichotomous variables and Pearson’s correlation for continuous variables. Analyses were performed using SPSS version 20.0 for Windows.

In order to examine the effect of the risk and protective factors and possible interactions between ethnicity and the risk and protective factors on suicidal ideation and attempts we employed a Hierarchical Generalized Linear Modeling (HGLM). Since the data were hierarchically nested as students were nested within schools we used a Multi-Level Modeling analysis (MLM)(44) that controls for students’ non-independence while simultaneously assessing the associations between the study variables. MLM analyses allowed us to examine whether the student’s variance in suicide ideation and attempts (Level 1) can be explained by the risk and protective factors while controlling for between-schools variance (Level 2). Since suicidal ideation and attempts were binarily scored, we employed Hierarchical Generalized Linear Modeling (HGLM), a special case of MLM appropriate for binary outcomes using Bernoulli estimation or nonlinear logistic probability models. In the first step the socio-demographic variables (i.e., gender, age, family status, family’s economic status, religion-ethnicity) were entered, in the second step the risk and protective factors (i.e., depression, anxiety, somatization, self-efficacy, belonging) were entered and in the third and final step of the regression two-way interactions between religious-ethnic and the risk and protective factors were examined. Categorical variables were entered as dummies. Specifically, the ethnicity variable comprised of five categories was broken down so that each religious-ethnic group was turned into a dichotomous variable and the group of Jewish students served as reference. The MLM equations were computed using Hierarchical Linear Model (HLM) software version 7.

## RESULTS

Suicide ideation and attempts were significantly more prevalent among Arab Muslim, Druze and Bedouin Arab Muslim students compared to Jewish students (see Table 1). Although Christian Arab students were not included in this analysis, from the descriptive statistics we can observe relatively low rates of suicide ideation (one incident, 0.6% of the group total) and attempts (three incidents, 1.9% of the group total).

A similar pattern emerged when psychological distress was compared among the different religious-ethnic

**Table 1.** Prevalence of SSI and SA by religious-ethnic groups of students studying at the vocational education system in Israel (N=3,553)

	Jews (n=1697)	Arab Muslim (n=1163)	Druze (n=220)	Bedouin Arab Muslim (n=315)	
<b>Serious suicidal ideation (SSI)</b>					
No	1636 (96.4%)	1047 (90%)	197 (89.5%)	294 (93.3%)	$\chi^2$ (df=4) = 63.21***
Yes	61 (3.6%)	116 (10%)	23 (10.5%)	21 (6.7%)	
<b>Suicide attempt (SA)</b>					
No	1660 (97.8%)	1066 (91.7%)	203 (92.3%)	292 (92.7%)	$\chi^2$ (df=4) = 66.11***
Yes	37 (2.2%)	97 (8.3%)	17 (7.7%)	23 (7.3%)	

Note: \*p<.05, \*\*p<.01, \*\*\*p<.001

groups. Namely, Arab Muslim, Druze and Bedouin Arab Muslim students reported slightly higher levels of depression and anxiety compared to Jewish students. As for somatization, only Druze students significantly differed from the Jewish group of students (Table 2).

When examining differences in the protective factors, Jewish and Christian Arab students reported higher levels of self-efficacy compared to Arab Muslims, who in turn reported higher levels of self-efficacy than Bedouin Arab Muslim students. Druze were found to be higher on self-efficacy levels compared to Bedouin Arab Muslim students as well. Overall these comparisons point to the Bedouin Arab Muslim students having the lowest levels of self-efficacy.

Arab Muslim and Druze students reported higher levels of belonging compared to their Jewish counterparts. In addition, Druze reported higher levels of belonging compared to Bedouin Arab Muslim students. Although differences between the religious-ethnic groups in risk

and protective factors levels were statistically significant it should be noted that the effect sizes found for these comparisons were very small (range between 0.01- 0.03; see Table 2).

As expected, positive correlations were found between suicidal ideation and attempts and the risk factors. Namely, higher levels of depression, anxiety and somatization were positively associated with presence of suicidal ideation and behavior. Conversely, higher levels of self-efficacy and belonging were negatively associated with presence of suicidal ideation and behavior. The sub-scales of psychological distress were inter-correlated and negatively linked to the protective factors. Self-efficacy was positively associated with sense of belonging (see Table 3).

Multi-Level Hierarchical Logistic Regression Modeling was used to examine the collective associations between the research's variables. Due to the low rate of Christian students reporting suicidal ideation (1) and attempts (3) this ethnic group was excluded from this analysis. Results of the first step Level 1 (i.e., student level) equations in predicting suicide ideation and attempts are presented in Table 4. Results showed significant effect for gender, economic status and ethnicity, such that being female, coming from lower economic status and being non-Jewish predicted higher chances of suicide ideation and attempts.

**Table 3.** Correlation matrix for the study variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Serious suicidal ideation	-	.56**	.35**	.34**	.33**	-.11**	-.10**
(2) Suicide Attempt		-	.28**	.32**	.28**	-.10**	-.09
(3) Depression			-	.68**	.59**	-.15**	-.19**
(4) Anxiety				-	.66**	-.15**	-.13**
(5) Somatization					-	-.12**	-.13**
(6) Self efficacy						-	.42**
(7) Belonging							-

Note: \*p<.05, \*\*p<.01

**Table 2.** Means and SD of risk and protective factors by religious-ethnic groups of students studying at the vocational education system in Israel (N=3,553)

	Jews M (SD)	Arab Muslim M (SD)	Christian Arab M (SD)	Druze M (SD)	Bedouin Arab Muslim M (SD)	F values (df=4)	Significant differences	Size effect Partial $\eta^2$
Depression	1.58 (.68)	1.76 (.76)	1.64 (.72)	1.80 (.75)	1.72 (.88)	13.08***	J<AM,D,ABM	.02
Anxiety	1.59 (.52)	1.71 (.58)	1.66 (.61)	1.80 (.58)	1.75 (.73)	13.69***	J<AM,D,ABM	.02
Somatization	1.47 (.61)	1.52 (.64)	1.53 (.68)	1.63 (.67)	1.54 (.76)	3.81**	J<D	.01
Self-efficacy	29.67 (6.7)	27.93 (7.03)	29.59 (6.62)	29.05 (6.89)	26.12 (8.43)	23.18***	J,AC>AM>ABAM;D>ABM	.03
Belonging	3.32 (.89)	3.45 (.94)	3.41 (.89)	3.59 (.95)	3.30 (1.04)	6.76***	AM,D>J; D>ABM	.01

Note: \*p<.05, \*\*p<.01, \*\*\*p<.001; J = Jews, AC =Arab Christian, AM = Arab Muslim, D =Druze, ABM =Arab Muslim Bedouin

**Table 4.** Multilevel Hierarchical Logistic Regression Models Predicting Suicide Ideation and Attempts

	Suicide ideation				Suicide attempts			
	B	SE	OR	95%CI	B	SE	OR	95%CI
<b>Step 1</b>								
Gender	.65***	.14	1.92	1.43-2.57	.73***	.19	2.10	1.44-3.06
Age	.02	.01	1.0.	1.01-1.04	.01	.02	1.01	.99-1.05
Economic stat	-.49***	.10	.61	.51-.74	-.48***	.08	.61	.53-.72
Family stat	.09	.28	1.09	.74-1.61	.09	.38	1.10	.68-1.78
Arab Bedouin Muslim	.45	.28	1.57	.90-2.75	1.13***	.34	3.10	1.58-5.06
Arab Muslim	.92***	.21	2.51	2.29-5.75	1.29***	.23	3.63	2.29-5.75
Druze	1.11***	.32	3.02	1.69-6.63	1.21***	.32	3.47	1.69-6.63
<b>Step 2</b>								
Somatization	.47***	.13	1.54	1.25-2.05	.32*	.13	1.38	1.06-1.81
Depression	.71***	.12	1.48	1.63-2.56	.39***	.12	1.48	1.15-1.91
Anxiety	.59**	.17	2.54	1.30-2.52	1.05***	.24	2.85	1.99-4.07
Self Efficacy	-.03*	.01	.97	.95-.99	-.03**	.01	.97	.94-.92
Belonging	-.26**	.10	.76	.64-.93	-.33**	.10	.73	.59-.89
<b>Step 3</b>								
DepressionX Arab Muslim	.37* (p=.06)	.20	1.45	.98-2.16	.33	.23	1.40	.89-2.21
DepressionX Arab Bedouin Muslim	1.06**	.39	2.9	1.35-6.21	1.08**	.36	2.95	1.43-6.08
DepressionX Druze	.08	.33	1.08	.57-2.05	.65	.39	1.92	.90-4.10

Note. + p<.10, \*p<.05, \*\*p<.01, \*\*\*p<.001

An exception was Bedouin Arab Muslim students who were not found to significantly differ from Jewish students in their report of suicidal ideation after controlling for gender, economic status and interschool variance, although their suicide attempts rates did differ. In the second step risk and protective factors were entered into the regression. As can be seen in Table 4, reporting higher depression, anxiety and somatization levels and lower levels of self-efficacy and belonging predicted higher prevalence of suicide ideation and attempts. In the third step of the regression we added interactions between religious-ethnic groups and risk and protective factors to the model. Results did not show a significant interaction effect for most of the two-way interactions, with the exception of depression. Therefore, only the latter interaction was included in the final model and its effects are presented in Table 4. The interaction effect revealed that Bedouin Arab Muslim students were more susceptible to depression in the context of suicidal ideation and attempts compared to Jewish students. This means that, upon low levels of depression no significant differences exist, although at high levels of depression Bedouin Arab Muslim students are much more likely to experience serious suicidal ideation and attempt suicide compared to Jewish students. This effect approached significance for Arab Muslim students with regards to suicidal ideation as well.

## DISCUSSION

The main purpose of this study was to systematically evaluate the prevalence of suicide ideation and suicide attempts among a large sample of students attending VET high schools. In addition, the association of psychological risk and protective factors with suicide ideation and attempts were examined among different sub-groups of this population.

Results indicate that students coming from minority groups are more likely to have seriously considered suicide or attempted suicide compared to their Jewish counterparts. The only exception was Christian Arabs who had very low rate of both suicide ideation and attempts. These findings are consistent with previous studies indicating that Muslim and Druze adolescents have a higher rates of suicide ideation and attempts compared to Jewish adolescents (8, 10-12). Although they comprise a small group in numbers, Christian Arab students have a higher socioeconomic status compared to other minority groups (45), which may contribute to their low rates of suicide ideation and attempts.

Interestingly, the overall rate of suicide ideation and attempts among VET students was lower compared to students in the regular educational system, for both Jews and Arabs. This finding is in line with the study by Tandon

and colleagues (35), suggesting that the pressure they experience may be lower compared to students in the regular education system. The VET high school system in Israel, characterized by small classes, high student-personnel ratio, in-school psychological services, may serve as a protective factor against suicidal ideation and attempts among its students.

Although depression and anxiety levels among Arab Muslim, Bedouin Arab Muslim and Druze students were found to be significantly higher compared to Jews, the effect sizes of these comparisons were very small indicating that the differences reported should be interpreted with caution. Interestingly, Druze and Arab Muslims reported higher sense of belonging compared to Jewish students. This may be due to the more collectivistic values of the Arab society, which in this case serve as a factor of resilience. In addition, it may also indicate that the VET education system is effective in integrating minority students.

The risk and protective factors were all found to be unique predictors of suicidal ideation and attempts. Importantly, Bedouin Arab Muslim students were more susceptible to suicide ideation and attempts when higher levels of depression were present. This may mean that when Bedouin Arab Muslim students experience depression they are at greater risk for serious suicidal ideation and suicide attempts compared to members of other religious-ethnic groups.

The Bedouin population in Israel is distinct from other minority groups, with larger disparity from the general population. The Bedouin society has special cultural characteristics; it is highly traditional, collectivistic, patriarchal, and authoritarian (46, 47). Bedouin Arabs' attitudes towards psychological difficulties is more dismissive and they prefer the somatic idiom of distress (48, 49). Moreover, family members are expected to take an active part in the household from an early age. Depressive symptoms may undermine one's ability to meet the cultural norms and family expectations. Youths experiencing symptoms of depression may feel hopelessness and self-criticize, leading to suicidal ideation and attempts. An additional finding supporting this notion is that the Bedouin students reported the lowest self-efficacy levels compared to all other groups. Moreover, studies examining depression vulnerability among Bedouin college students have confirmed higher levels of depression among them and pointed to self-criticism as a mediating factor (18, 50). The authors suggested that self-criticism may play a more dominant role in understanding depressive experiences within collectivistic cultures (50).

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## LIMITATIONS AND FUTURE STUDIES

The current study was cross sectional and therefore causality cannot be inferred. Longitudinal studies that monitor suicidal risk and mental health of VET students throughout their high school years (9th to 12th grade) should be able to illuminate the directionality of the associations documented in the current investigation. Degree of religiosity was not measured in the current study but it is potentially an important explanatory factor that should be considered in future studies. Furthermore, future studies should also examine more culture specific factors such as social support, acculturation and sense of discrimination in the context of suicidality. An additional limitation of the study is that single-item measures for suicide ideation and attempts were used.

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## CONCLUSIONS

Results indicate that minority youth at VET schools are at greater risk of experiencing suicidal ideation and attempting suicide compared to non-minority students. The VET educational system should work closely with minority students and community members to reduce the risk for suicidal ideation and attempts. In addition, the educational system must be highly alert to depressive symptoms among Bedouin Arab Muslim students since they may pose a greater risk to develop into suicidal ideation and attempt.

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