Published in final edited form as:

Suicide Life Threat Behav. 2007 April ; 37(2): 165–178. doi:10.1521/suli.2007.37.2.165.

Suicide Acceptability is Related to Suicide Planning in U.S. Adolescents and Young Adults

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Abstract

The association between adolescents' and young adults' attitudes toward suicide and their own suicidality across five racial-ethnic classifications was studied in a nationally representative sample of 3,301 youth ages 14 to 22 years from the National Annenberg Risk Survey of Youth. Results indicate that adolescents and young adults who most strongly believe that it is acceptable to end one's life are more than fourteen times more likely to make a plan to kill themselves as those who do not have such beliefs ($p < .001$). Future behavioral prevention and intervention research should take into consideration adolescents' and young adults' approval of suicide as a risk factor for taking their own lives.

Suicide is the third leading cause of death among U.S. youth, including ethnic minorities (Arias, Anderson, Kung, Murphy, & Kochanek, 2003). Research suggests that racial disparities in suicide among U.S. youth are on the decline due to increases in suicide and suicidal behavior among ethnic minority youth (Goldsmith, Pellmar, Kleinman, & Bunney, 2002; Mohler & Earls, 2001; Thompson, 2004). An examination of race and gender trends in attempted suicides in adolescents with nationally representative Centers for Disease Control and Prevention's data found a significant increase in suicide attempts among African American males, in contrast to declining trends among African American females and Whites of both genders (Joe & Marcus, 2003). Why has suicide increased among ethnic minority youth? It has been presumed that more religious involvement among African Americans and other ethnic minorities has resulted in a less accepting attitude toward suicide that might be protective against suicidal behavior (Joe, 2003; Neeleman, Wessely, & Lewis, 1998; Prudhomme, 1938). This explanation assumes that suicide acceptance plays an important role in regulating people's consideration of suicide as a solution to life problems (Goldsmith et al., 2002).

The increase in suicidal behavior among African American youth raises the question of whether their attitudes toward suicide have become more accepting, thereby reducing the effects of this formerly protective factor for this population. In considering this question, it is important to realize that attitudes toward suicide depend on the reason for the behavior (Durkheim,

1987/1951). Acceptance of suicide for fatalistic reasons, such as facing an incurable disease, has dramatically increased over the past 30 years across racial-ethnic categories (Romer & Jamieson, 2003). However, this form of acceptance should be less related to adolescent and young adult suicidal behavior than attitudes toward ending one's life for anomic reasons, such as lacking a purpose for living (Girard, 1993). An analysis of long-term trends in suicide acceptability indicates that younger African Americans have exhibited increasing acceptance of such reasons for suicide (Joe, Romer, & Jamieson, 2005).

Previous research has demonstrated that social attitudes toward suicide vary by race, gender, and religiosity (Early, 1992; Early & Akers, 1993; Eskin, 2004; Neeleman et al., 1998). A recent study showed that African American adults are less accepting of anomic suicide than European Americans, a finding attributed to more orthodox religious beliefs (Neeleman et al., 1998). Early's unique study of religion and suicide found that African Americans have a combined religious and secular condemnatory attitude toward suicide as a mortal sin and define it as a "white thing" foreign to African American culture (Early, 1992); nevertheless, we are unaware of any studies that have examined the relation between acceptability of anomic suicide and suicidal behavior or precursors to suicide (i.e., ideation) among ethnic minority adolescents and young adults.

Several studies using international adolescent samples have examined factors related to adolescents' suicide acceptability. In an Israeli sample, Stein, Witzum, Brom, Denour, and Elizur (1992) found that among adolescents, significantly more females, those with prior exposure to suicidal behavior among family and friends, the nonreligious, and those with a prior history of suicidality held more accepting attitudes toward suicide (including for anomic reasons). In a study of Australian youth, those with a family or personal history of suicidal behavior were more accepting of suicidal behavior (Beautrais, 2003). A study of Turkish adolescents found that adolescents undergoing religious education were less personally accepting of anomic suicide but more positive toward individuals who have considered suicide than adolescents undergoing secular education (Eskin, 2004). These studies suggest it is important to assess attitudes toward suicide in adolescents, particularly in relation to suicidal ideation.

Although favorable attitudes toward suicide might make the behavior more acceptable, one would expect accepting attitudes to be especially relevant to persons who feel hopeless about the future. In that case, having an accepting attitude might increase the chances that suicide would be considered as a course of action. Indeed, hopelessness in itself is a strong predictor of suicidal tendencies (Beck, Steer, Kovacs, & Garrison, 1985), and large proportions of young people report experiencing hopelessness in the past year (Centers for Disease Control and Prevention [CDC], 2006). As a result, the recent increases in accepting attitudes toward suicide in African American youth may act in concert with the experience of hopelessness to increase suicidality in black youth.

Despite the importance of attitudes in directing social behavior (Eagly & Chaiken, 1993), few studies have attended to the relation between adolescents' and young adults' attitudes toward suicidal behavior and their own suicidality (Goldsmith et al., 2002). Increased societal acceptance of anomic suicide has been related to a rise in suicidal behavior in a Canadian sample of 12th graders (Boldt, 1982), but the extent to which racial differences in suicidal behavior are related to attitudes toward suicide have not been examined. Several studies have compared suicidal to nonsuicidal youth and found the former to be more accepting of their own suicidal behavior and that of others (Butler, Novy, Kagan, & Gates, 1994; De Wilde, Keinhorst, Diekstra, & Wolters, 1993); another recent study found that an approving attitude toward suicide was correlated with a higher level of suicidal ideation (Stein, Brom, Elizur, & Witzum, 1998). However, these studies used small samples, did not control for demographic or other

background variables, and did not examine the association between suicide acceptability and suicidality among U.S. adolescents and young adults, though the evidence does imply that such a link may exist.

The purpose of this study was to investigate racial and gender differences in attitudes toward suicide in a nationally representative sample of American young people and to examine the extent to which attitudes toward suicide are related to suicidal planning. An investigation of adolescents' and young adults' attitudes toward suicide can contribute to intervention development and greater understanding of the societal influences that shape secular changes in adolescent and young adult behavior. Given the recent rise in suicide acceptability in African American youth, as well as the rise in suicidal behavior among this group, it is of interest to determine if suicide acceptability is related to a predictor of suicidal behavior; namely, planning to commit suicide. Suicide planning is related to attempted suicide (Kessler, Borges, & Walters, 1999) which is the strongest predictor of suicide completion (Harris & Barraclough, 1997). We hypothesized that there would be little or no difference in attitudes toward suicide between White and African American adolescents and young adults, yet we expected that suicide acceptability would be related to planning suicide among youth across all major racial-ethnic classifications (Latino, Asian, White, African American, and other racial groups) and that this relationship would be stronger among those who had experienced severe symptoms of hopelessness and depression in the recent past. We also expected that participation in religious activity would be inversely related to suicide acceptance and that acceptance would partially account for any relationship between religious activity and suicide planning.

METHODS

Study Population and Data Collection

The National Annenberg Risk Survey of Youth (NARSY) is a nationally representative telephone survey of 14 to 22 year olds designed by the Annenberg Public Policy Center at the University of Pennsylvania (Grassel, Wintemute, Wright, & Romero, 2003). The samples were obtained using random digit dialing procedures. For this study, we used NARSY data collected in the spring and summer of 2002 ($N = 900$), 2003 ($N = 900$), and 2004 ($N = 1,501$). The survey was approved by the Institutional Review Board of the University of Pennsylvania. For youth under the age of 18, parents or guardians were asked for permission to interview their child. In households with more than one eligible youth, the one with the most recent birthday was interviewed. Completed interviews represented an overall response rate of 52.7%, comparable to the rate obtained by CDC (49.8%) in its national risk behavior survey (CDC, 2003). We report summary statistics for all variables using weighted data that matched marginal percentages defined by the U.S. Census Bureau for age, gender, race, education, and country region (U.S. Bureau of the Census, 2001).

Measures

To identify those who had engaged in suicidal ideation, the survey used items from the Youth Risk Behavior Survey (Kann et al., 2000): "During the past 12 months, did you ever seriously consider attempting suicide?" If the answer was yes, respondents were asked: "Did you make a plan about how you would attempt suicide?" (yes and no were responses). In addition, to assess recent experiences of hopelessness and symptoms of depression, respondents were asked: "During the past 12 months, did you ever feel so sad or hopeless for two weeks or more in a row that you stopped doing your usual activities?" Approximately 6.9% of the sample reported having seriously considered suicide in the past 12 months, and 3.3% reported making a plan. A considerably larger percentage of the sample reported experiencing symptoms of hopelessness and depression (20.3%). Because such experience might increase both planning and accepting attitudes toward suicide, we held it constant in our analysis. Youth who said they

had made a plan to commit suicide were asked if they were still planning on committing suicide. The few (less than 1%) who admitted to this were counseled to seek help from a national suicide telephone hotline.

To assess suicide acceptability, the survey asked for agreement with this item taken from the General Social Survey (GSS; Davis & Smith, 2003): “I think it’s ok to end your life if you are tired of living.” Because of ambiguity in the term “tired of living,” an item was added to provide validation for the idea that suicide is acceptable simply because a person sees no purpose in living. This item asked: “I think it’s ok to end your life if you don’t see any reason to keep on living.” Unlike the GSS, responses for these items were recorded on a 4-point Likert scale (1 = *strongly agree*, 2 = *somewhat agree*, 3 = *somewhat disagree*, and 4 = *strongly disagree*). The two items were highly correlated, $r = .62$, $p < .001$, indicating that the phrase “tired of living” was related to a lack of purpose in life. Another item from the GSS, “I think it’s ok to end your life if you are suffering from an incurable disease” was also asked; however, because it correlated at a much lower level with the two target items (r ’s = .37, .35) and did not predict suicide ideation in our young sample, it is not discussed here.

Because the two acceptability items were highly correlated, we took the mean of the two items as a measure of acceptability. Approximately 81% of the sample strongly disagreed with both items ($M = 4.0$), yet it was possible to identify three groups of respondents who displayed increasing degrees of acceptance of this form of suicide. Approximately 7.3% strongly disagreed with one item but only somewhat disagreed with the other item ($M = 3.5$). Two additional groups had means of 2.5 to 3.0 (8.4%) and 1.0 to 2.0 (3.3%). We constructed a 4-point scale of acceptance that assumed the following values: 1 (*strongly disagree*), 2 (*somewhat disagree*), 3 (*somewhat agree*), and 4 (*agree*). Since this scale was highly skewed, we contrasted the two groups reporting agreement (12%) with the two expressing disagreement (88%) using logistic regression. For predicting suicidal ideation, we used the more sensitive 4-point scale.

The NARSY included measures of education, region of the country, race and ethnicity, urban versus rural or suburban residence (based on the telephone exchange), frequency of religious participation, age, and gender. Religious participation was defined by a combination of two questions. One asked the religious affiliation of the respondent, and the other asked the frequency of attending religious activities (*once a week, once a month, never*). For those who reported not participating regularly (43.2%), we distinguished between those who had an affiliation from those who did not. This resulted in a 4-point scale of religious participation.

The data file was supplemented with a measure taken from the U.S. Census to assess the median income level of the respondent’s neighborhood based on self-reported postal zip code. For those respondents who could not identify their zip code (5.0%), we imputed the median value in the sample. In addition, the NARSY included four items from the Brief Sensation Seeking Scale (Hoyle, Stephenson, Palmgreen, Lorch, & Donohew, 2002) to assess tendencies to act impulsively. This scale was used to control for the potential that high sensation-seekers, who are also inclined to report suicidal ideation (Grassel et al., 2003), might also be more likely to express acceptance of suicide.

Data Analysis

Logistic regression analysis using the computer program STATA (Long & Freese, 2003) was conducted to identify relations between suicide acceptability and racial classification (Black, White, Asian, Latino, and other racial categories) by age and gender both at bivariate and multivariate levels. The program adjusts for population weighting in its univariate tests of model parameters. For multivariate analyses, all relevant demographic differences were held constant using unweighted data. A series of hierarchical logistic regression analyses was

performed to predict planning of suicide with the first step (model A) including demographic variables (age, gender, ethnicity, urban versus rural location, and region of the country) and religious participation, the second step (model B) including suicide acceptance, and the third step (model C) including past symptoms of hopelessness and sensation seeking. The final step tested the possibility that these background variables (i.e., hopelessness, inability to carry out normal functions, and sensation seeking) might be responsible for the association between planning and acceptance. We also tested all interactions between ethnic categories and gender with acceptance as well as between acceptance and hopelessness and sensation seeking.

RESULTS

Sample Characteristics

Table 1 shows the percentages of respondents observed across demographic categories used in the analysis weighted to match the 2000 U.S. population estimates (U.S. Bureau of the Census, 2001).

Prevalence of Suicide Acceptability by Racial-Ethnic Categories

Table 2 presents proportions of respondents reporting any acceptance of suicide by race-ethnicity and gender. At the bi-variate level, neither those of African American nor Latino identity were significantly less accepting of suicide than non-Hispanic Whites. However, both Asian (OR = 2.40; 95% CI = 1.42, 4.07) and other racial groups (OR = 1.97; 95% CI = 1.37, 2.82) were more likely to endorse suicide acceptance than Whites. Females were less likely to endorse acceptance of suicide than males (OR = 0.75; 95% CI = 0.60, 0.92). A multivariate logistic regression analysis indicated that there were no interactions between racial-ethnic classifications or gender ($p > .15$).

Multivariate Analysis of Suicide Acceptance

A multiple logistic regression analysis of those who exhibited any agreement with the suicide items found only four significant predictors: gender, urban residence, other race, and religious participation (Table 3). Males were more accepting of suicide than females; persons living in urban environments were more accepting than those living in the suburbs, while rural residents were no different from suburban dwellers; members of other racial classifications were more accepting than Whites; and those who were strongly involved in religious activity were less likely to endorse suicide. Each of these relations was also observed at the bivariate level. Respondents living in wealthier areas were marginally more likely to endorse acceptability items. There were no differences by age or region of the county.

Multivariate Analysis of Suicide Planning

To assess the relation between suicide acceptance and planning, we conducted a series of hierarchical logistic regressions; model A included demographic predictors of planning. This analysis, shown in Table 4, found that females, persons in rural areas, those in wealthier neighborhoods, and those who participated less in religious activity were more likely to report planning. There was a marginal tendency for persons of "other" races to report more planning than Whites, but no differences between Whites and other racial-ethnic classifications.

In model B, suicide acceptability was added. This analysis found a very strong relation between acceptability and planning. Although the relation between gender and planning increased, the effect of religion declined considerably, suggesting that attitudes toward suicide are a major mediator of the protective effect of religion on suicidality. The relation with neighborhood income also declined, although not as dramatically.

In model C, variables were added that might account for the relation between suicide acceptance and planning, namely reports of past symptoms of hopelessness and sensation seeking. This analysis indicated a relationship between two of the three potential predictors added to the model and suicide planning. Persons who had experienced hopelessness symptoms, including feeling sad and unable to carry out normal functions, were more likely to report suicide plans. This effect was clearly the strongest predictor in the model. Additionally, those reporting higher levels of sensation seeking were also more likely to report planning. However, neither of these variables removed the relation between acceptance and planning. A further analysis of the interactions between suicidal attitudes and hopelessness as well as sensation seeking revealed no evidence of any interaction effects. Indeed, the relation between attitudes and planning was quite robust despite the strong effect of hopelessness. In addition, there was no evidence of interactions between racial-ethnic categories or gender and the relation between acceptance and planning.

As seen in Figure 1, there was a clear increase in planning as a function of increasing acceptance and this effect was particularly evident among those who had experienced hopelessness. Approximately half of the young persons with the greatest acceptance of suicide (scale value 4) who had been hopeless had planned their suicide. This was more than six times more likely than those who most strongly disagreed with the suicide items (scale value 1) but had nevertheless been hopeless. Across the entire sample, young persons with the greatest acceptance of suicide were more than fourteen times more likely to plan their suicide as those with the least acceptance of suicide (26.3% versus 1.8%).

DISCUSSION

The study results demonstrate the important role of adolescent and young adult attitudes toward suicide in the risk for serious suicidal ideation. We show for the first time in a nationally representative sample that acceptance of anomic suicide is strongly related to suicide planning in young people. The relation is not simply the result of prior symptoms of hopelessness or differences in sensation seeking. Most notable is that adolescents and young adults who believe that it is okay to end your life are more than fourteen times more likely to think about killing themselves as those who do not. The effect of attitudes was particularly striking among young persons who had experienced hopelessness in the past year. In this case, nearly half of those with the most accepting attitudes were likely to have planned their suicide. This relation was present for African American, Hispanic, Asian, and young people in other racial-ethnic categories. Youth endorsing such attitudes and reporting previous experiences of hopelessness and sensation seeking should be considered at higher risk for suicidality.

We found no differences in suicide approval among the largest racial-ethnic categories, although other racial groups including American Indians and Pacific Islanders were more likely to report acceptance of suicide for anomic reasons. This finding is consistent with the very high rates of suicide among American Indian youth (Goldsmith et al., 2002). The lack of differences between other groups is consistent with the finding that suicide approval has increased among Black adolescents and young adults over the past decades (Joe et al., 2005). The high rate of suicide acceptance found among Asians is consistent with findings of a cultural view of suicide as a rational, acceptable, and even honorable way to deal with stressful situations, especially situations that shame or dishonor the family (Chantler, Burman, & Bat-sleer, 2003; Newhill, 1993; Pearson & Liu, 2002; Pearson, Phillips, He, & Ji, 2002). Findings prior to the 1990s indicating that U.S. Whites were significantly more likely to be accepting of suicidal behavior no longer hold true (Agnew, 1998; Johnson, Fitch, Alston, & McIntosh, 1980). Our results provide evidence of growing similarities between adolescents and young adults from various racial-ethnic groups on the risk factors for suicidal behavior.

Given comparable acceptance levels of suicide across racial-ethnic boundaries, adolescents' and young adults' attitudes toward suicide may be viewed as a reflection of broader social-cultural normative attitudes toward human life (Stillion & Stillion, 1998); namely, that one has the right to die by a manner and time of their choosing. This emerging cultural norm may incline some to consider suicide as an acceptable response to life problems. The etiologic roots of African American and other ethnic minority adolescents' and young adults' attitudes toward suicide, once thought to be untraditional (Early, 1992; Early & Akers, 1993; Neeleman et al., 1998), may be changing as a result of current acculturation and socialization processes. One may speculate that African American and other nonWhite youth are increasingly being absorbed into White middle class culture, hence the increase in acceptance of anomic reasons for suicide. These hypotheses should be examined in future research. The increased rates of suicide among all adolescents and young adults from the 1960s to 1994 and the rise in nonfatal suicidal behavior, particularly among African American and other ethnic minority youth since the 1990s (CDC, 2004, 2006; Joe & Marcus, 2003), imply that social approval of suicide must be understood in the context of broader changes in the social culture in ways related to significant public health consequences.

Regarding the determinants of suicide acceptability, our primary findings are consistent with previous research that lack of religious participation, living within an urban area, and being male were positively correlated with suicide acceptance (Agnew, 1998; Singh, Williams, & Ryther, 1986; Stillion, McDowell, & May 1984; Stillion & Stillion, 1998). This study also builds on previous research that indicates that suicidal approval is higher among males and those with high incomes (Agnew, 1998). However, it should not be assumed that the characteristics of those who are more likely to approve of suicide are the same as for those who are likely to engage in suicidal behavior. Nevertheless, it is intriguing to consider the possibility that males, who are more accepting of suicide but less prone to report planning than females, are at greater risk of completing the act than females. Males also rank higher on measures of impulsivity, such as sensation seeking, which is a significant determinant of suicide planning. These differences in risk factors may play a large role in distinguishing between persons who merely plan their death and those who manage to accomplish it.

Study Strength and Limitations

Several limitations of our study should be noted. First, the data are based on self-reports and only use a few items to assess suicidality, thus we may be underestimating suicidal behavior and suicide acceptability for this population. Unfortunately, the NARSY does not include questions on attempted suicide, which is the best predictor of suicide completion (Harris & Barraclough, 1997). Also, the information provided by single-item indicators and indicators with only a few items (e.g., suicide acceptability, suicidal behavior, depressive symptoms, religious participation, and sensation seeking) is limited, therefore our ability to draw definitive conclusions from these indicators and the possible interactions of these indicators are restricted. The NARSY has not been administered over a sufficient time period to examine secular trends in suicide approval among ethnic minority adolescents and young adults. Finally, a little over half of the youth sampled completed surveys; although this overall response rate is comparable to the rate obtained by other studies, it is possible that the results may only generalize to youth who are accessible and willing to participate in surveys.

Despite its limitations, this study overcomes several shortcomings of previous studies, such as having small unrepresentative samples, no ethnic minority subjects, and excluding potentially important determinants of suicide approval (e.g., age, sensation seeking, and hopelessness). In addition, previous studies tend to only examine the bivariate associations between these variables and suicide acceptability.

Despite the greater ability to examine the relation between suicide acceptability and planning, the study remains cross-sectional and hence does not permit any analysis of changes in suicide acceptance that might precede suicide planning. One major alternative explanation for our findings, therefore, is that acceptance is merely a consequence of planning and is only a strong predictor of this behavior because it tends to happen after people experience suicidal ideation. There are signs, however, that this is not an adequate explanation for the findings. For example, variables that were related to planning, such as rural location and neighborhood income, did not predict acceptance. At the same time, acceptance appeared to fully mediate the relation between religious activity and planning. Given that religious attachment is likely to be a precursor of suicide acceptance (rather than a consequence), there is evidence to suggest that acceptance leads to greater planning rather than the other way around.

Implications for Prevention

Despite the limitations, our findings contribute to the existing empirical evidence on the role of adolescents' and young adults' behavioral attitudes, specifically suicide approval, in serious suicide planning. Future studies should examine the degree to which assessing suicide acceptability can be used as a predictive tool for identifying adolescents and young adults who are likely to attempt or complete suicide. Several studies show that individuals who approve of suicide tend to score higher on suicide risk scales, and when comparing suicidal to nonsuicidal adolescents and young adults, suicidal youth tend to be more accepting of their own suicidal behavior and that of others (De Wilde et al., 1993). Changing individual attitudes toward suicide should be considered a possible technique for preventing suicide (Pokorny, 1992). Individual attitude has been associated with health-related behavior across several domains (Eagly & Chaiken, 1993; Kraus, 1995), and promising components of preventive interventions may be ones in which the factors that influence behavioral attitudes are targeted. There is considerable evidence that psychosocial interventions altering the behavioral and normative beliefs of suicidal adolescents and young adults have resulted in reduced risk for suicide (Evans et al., 1999; Guthrie et al., 2001; Linehan, Heard, & Armstrong, 1991). A final implication of our findings is that asking about adolescents' and young adults' attitudes toward suicide could prove to be an effective way for clinicians to screen patients perceived to be at risk for suicide. Clinicians tend to be reticent about asking patients questions concerning suicidality for fear it might induce such behavior (Goldsmith et al., 2002), even though suicide screening is regarded as a safe component to youth suicide prevention (Gould et al., 2005). Due to the stigma and fear surrounding suicide, clinicians may feel more comfortable asking adolescents and young adults about their attitudes toward suicide, and adolescents and young adults may perceive this question as less intrusive and easier to answer. If adolescents and young adults that are more accepting of suicide are more likely to make an attempt, then a screening question about young peoples' attitude toward suicide may identify these at-risk youth. However, if adolescents and young adults that have thought about suicide to the point of making a specific plan subsequently develop more accepting attitudes about suicide, the addition of attitude assessment to risk screening may not increase the percentage of at-risk youth identified because they will be identified by other traditional measures. Future research will hopefully elucidate the direction and meaning of the relationship between suicide acceptability and suicidal risk.

Acknowledgments

Dr. Joe's involvement in this research was supported in part by grant K01-MH65499 from the National Institute of Mental Health, U.S. Department of Health and Human Resources awarded, which was awarded to him. Daniel Romer and Patrick Jamieson were supported by the Annenberg Foundation through its endowment of the Adolescent Risk Communication Institute at the Annenberg Public Policy Center.

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Figure 1.
Proportion of youth reporting suicide planning as a function of suicide acceptance and experience of hopelessness (predicted scores).

TABLE 1
Percentages of Respondents in Survey by Demographic Categories (weighted)

Demographic Characteristic	Male (n = 1,669)	Female (n = 1,632)	Total (n = 3,301)
Age			
14–17	46.5	45.3	45.9
18–22	53.5	54.7	54.1
Race/Ethnicity			
Non-Hispanic White	68.9	63.5	66.2
Non-Hispanic Black	12.2	16.2	14.2
Hispanic	14.6	15.0	14.8
Non-Hispanic Asian	1.8	1.8	1.8
Non-Hispanic Other	2.5	3.4	3.0
Education			
Grade 8 or lower	7.6	6.3	7.0
High School	54.0	51.7	52.9
Post High School	26.5	26.2	26.3
College Degree	10.1	13.6	11.8
Post College	1.8	2.3	2.0
Region			
Northeast	19.9	17.4	18.7
Midwest	22.8	24.4	23.6
South	32.1	35.5	33.8
West	25.2	22.6	23.9
Urbanicity			
Urban	27.4	30.5	28.9
Suburban	52.6	47.4	50.0
Rural	20.0	22.1	21.1
Religious Activity			
Most Days	20.7	26.5	23.6
Some Days	32.7	33.9	33.3
Never but affiliated	26.1	23.0	24.6
Never not affiliated	20.5	16.7	18.6
Zip code Income (\$)			
7,600–31,265	17.6	20.2	18.9
31,265–37,340	17.6	20.5	19.0
37,341–44,538	24.6	23.4	24.0
44,539–56,971	20.9	18.4	19.7
56,972–175,000	19.3	17.5	18.4

TABLE 2
Suicide Acceptance by Racial-Ethnic Groups and Gender (weighted data)

Race-Ethnicity	<i>n</i>	Percentage Acceptance	95% CI
Male			
Non-Hispanic White	1,140	11.98	9.86, 14.09
Non-Hispanic Black	201	11.10	5.73, 16.47
Hispanic	241	15.57	10.67, 20.46
Non-Hispanic Asian	30	29.56	12.18, 46.95
Non-Hispanic Other	42	18.33	5.74, 30.91
Total	1,654	12.87	11.16, 14.78
Female			
Non-Hispanic White	1,036	8.95	7.10, 10.79
Non-Hispanic Black	265	11.16	6.55, 15.77
Hispanic	245	10.34	6.49, 14.19
Non-Hispanic Asian	30	31.81	15.10, 48.51
Non-Hispanic Other	55	19.43	9.34, 29.51
Total	1,631	10.28	8.69, 11.86
Total			
Non-Hispanic White	2,176	10.53	9.12, 11.95
Non- Hispanic Black	466	11.13	7.63, 14.63
Hispanic	486	12.93	9.82, 16.04
Non-Hispanic Asian	60	30.68	18.62, 42.73
Non-Hispanic Other	97	18.96	11.07, 26.84
Total	3,285	11.64	10.43, 12.85

Note. Total *N* sums to less than 3,301 due to missing data for race-ethnicity.

TABLE 3
Sociodemographic Predictors of Suicide Acceptance in Multivariate Analysis

Characteristics	Adjusted OR ^a	95% CI ^a
Gender		
Female	0.78	0.63, 0.97
Male	1.00	—
Age		
18–22	0.96	0.76, 1.20
14–17	1.00	—
Race/Ethnicity		
Asian	2.49	1.42, 4.37
Black	1.27	0.87, 1.84
Hispanic	1.33	0.98, 1.79
Other Race	1.84	1.12, 3.03
White	1.00	—
Education (1 to 5)	1.01	1.00, 1.03
Neighborhood Income (1 to 5)	1.09	0.99, 1.19
Religious Activity (1 to 4)	0.63	0.57, 0.70
Region		
Northeast	0.90	0.65, 1.25
Midwest	0.86	0.63, 1.17
South	1.12	0.81, 1.54
West	1.00	—
Urbanicity		
Rural	1.08	0.77, 1.51
Urban	1.51	1.16, 1.98
Suburban	1.00	—
Year of Survey		
2004	1.24	0.95, 1.62
2003	0.92	0.67, 1.25
2002	1.00	—

^aBold odds ratios indicate significant relation

TABLE 4

Predictors of Suicide Planning in Multivariate Analyses

Variables	Model A Odds Ratio (95% CI)	Model B Odds Ratio (95% CI)	Model C Odds Ratio (95% CI)
Age			
18–22	.96 (0.60, 1.61)	1.05 (0.63, 1.77)	0.84 (0.51, 1.41)
14–17	1.0	1.0	1.0
Gender			
Female	1.73 (1.18, 2.54)	2.13 (1.42, 3.20)	1.63 (1.05, 2.54)
Male	1.0	1.0	1.0
Race/Ethnicity			
Asian	0.77 (0.18, 3.24)	0.58 (0.14, 2.53)	0.79 (0.17, 3.64)
Black	0.88 (0.42, 1.84)	0.81 (0.38, 1.74)	0.89 (0.39, 2.03)
Hispanic	1.26 (0.75, 2.13)	1.17 (0.68, 2.01)	1.01 (0.56, 1.81)
Other Race	2.08 (0.97, 4.49)	1.59 (0.70, 3.63)	1.45 (0.58, 3.63)
White	1.0	1.0	1.0
Education	0.97 (0.90, 1.04)	0.95 (0.87, 1.03)	0.98 (0.91, 1.05)
Neighborhood Income	1.19 (1.02, 1.41)	1.18 (1.00, 1.39)	1.24 (1.04, 1.49)
Religious Activity	0.75 (0.63, 0.90)	0.88 (.73, 1.07)	0.95 (0.77, 1.18)
Region			
Northeast	1.12 (0.64, 1.96)	1.20 (0.67, 2.14)	0.98 (0.52, 1.85)
Midwest	0.80 (0.46, 1.40)	0.87 (0.49, 1.56)	0.83 (0.44, 1.55)
South	1.08 (0.61, 1.90)	0.99 (0.55, 1.80)	0.99 (0.52, 1.87)
West	1.0	1.0	1.0
Year of Survey			
2004	1.07 (0.68, 1.68)	0.99 (0.62, 1.58)	1.10 (0.66, 1.82)
2003	0.85 (0.51, 1.44)	0.94 (0.55, 1.62)	1.08 (0.61, 1.93)
2002	1.0	1.0	1.0
Urbanicity			
Rural	1.94 (1.14, 3.30)	2.01 (1.16, 3.49)	2.32 (1.29, 4.19)
Urban	1.34 (0.83, 2.17)	1.13 (0.68, 1.88)	1.51 (0.87, 2.64)
Suburban	1.0	1.0	1.0
Suicide Acceptability			

Variables	Model A Odds Ratio (95% CI)		Model B Odds Ratio (95% CI)		Model C Odds Ratio (95% CI)	
Low			2.73 (1.42, 5.24)		2.49 (1.25, 5.00)	
Medium			6.60 (4.06, 11.75)		5.21 (3.06, 8.87)	
High			18.06 (10.22, 31.94)		12.70 (6.65, 24.25)	
None			1.0		1.0	
Hopelessness Symptoms					16.10 (9.81, 26.44)	
Sensation Seeking					1.64 (1.18, 2.27)	
NagelKirke R ²	.030		.147		.347	
Omnibus Test of Model	Chi ² 26.46	df 15	Sig. 0.03	Chi ² 130.08	df 18	Sig. .001

Note. Odds ratios statistically adjusted for the other variables in the table. Bold values are significant, $p < .01$.