

Religious Beliefs May Reduce the Negative Effect of Psychiatric Disorders on Age of Onset of Suicidal Ideation among Blacks in the United States

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ABSTRACT

Objective: To evaluate the possible interaction between religious beliefs and psychiatric disorders among Black Americans.

Methods: In this study, we used data of 5181 adult Black Americans who had participated in National Survey of American Life (NSAL) from February 2001 to June 2003. Variables such as socio-demographics, religious beliefs, and psychiatric disorders were entered in a Cox regression to determine the possible interaction between psychiatric disorders (0, 1, ≥ 2) and the subjective religiosity on age of onset of suicidal thought among the participants. Main outcome was age of the first serious suicidal ideation.

Results: A dose-dependent effect of number of psychiatric disorders on suicidal ideation was observed. Psychiatric disorders had a higher impact on age of suicidal ideation among those with low self-reported religiosity.

Conclusion: Religious beliefs may buffer the effect of psychiatric disorders on suicidal thought. Blacks who are less religious and suffer psychiatric disorders are at the highest risk for early suicidal ideation.

Keywords: Religion, suicide, African Americans, mental disorders

INTRODUCTION

About 1 million suicides occurred worldwide in the year 2000. Rate of suicide has shown an increasing trend over the last half century.^[1] This results in about 20 million years of lost life,^[2] which means huge economic burden to society and families.^[1] These have increased the need for attention of public health officials to suicide as one of the most important health problems in the world.

Suicide has been explained by a long list of variables which may fall into different categories including individual (e.g. poverty, homelessness, substance use, educational underachievement), family (e.g. parental loss especially due to suicide, family structure), and social (e.g. retirement, single marital status, unemployment) characteristics.^[3-5] The most important known

risk factor for suicide may be the psychiatric disorders.^[5-9]

Religiosity is believed to have positive direct and indirect effect on mental health and behavior. For instance, religion has an indirect effect on health through social support from religious fellows,^[10,11] which is believed to buffer stress.^[12] Religious involvement increases life satisfaction.^[13] Kendler *et al.* defined seven components of “religion” and suggested that two of them (social religiosity and thankfulness) were related to lifetime risk for both internalizing and externalizing disorders.^[14] Four components (general religiosity, involved God, forgiveness, and God as judge) appeared to predict a reduced risk of externalizing disorders, more specifically. One (un-vengefulness) was associated with internalizing but not externalizing disorders.

Religion involvement and beliefs may prevent suicide. Some researchers have attributed this to cognitive dissonance^[15] and social support due to adherence to religious beliefs.^[16,17] However, few results have considered the association between religion and suicide.^[18] As a major theory around the relationship between suicide and religion, Emile Durkheim has pointed to the centrality of social integration and influence of social relations on the attitudes, beliefs, and behaviors, but without consideration of its role in regulating social behavior.^[17] Masaryk’s theory also suggests the association of decline in religious observance and belief with an increased incidence of suicide, at the community level.^[19] However, such theories mostly have focused on the social aspects of religiosity in exposure to suicide, rather than its individual aspects.

Different ethnic groups have different suicide rates.^[20-22] In this regard, Braun *et al.* conducted a study to evaluate the role of ethnicity toward planning for suicide.^[23] They showed that suicide variation among ethnic groups may originate from cultural values and socio-historical experiences which are specific to each ethnicity. However, a better understanding of the involved mechanism in suicide between ethnic groups needs more research. One important area is comparing ethnicities in the role of risk and resilient factors.

Very few surveys have been focused on the association between religiosity and suicide among Black Americans,^[24,25] probably because of their lower suicide rates in comparison to those of

Whites.^[25] Sean Joe *et al.* have conducted two analyses on suicide in the National Survey of American Life (NSAL). The first study showed that African Americans were five times more likely than Caribbean adolescents to attempt suicide.^[26] The other study showed that being in younger birth cohorts, less education, Midwest residence, and having one or more mental disorders are the associated risk factors of lifetime suicide attempt among Blacks.^[2] These are among the very few studies looking at suicide pattern, considering “ethnicity” of Blacks.

This study aimed to determine if subjective religiosity modifies the effect of psychiatric disorder(s) on age of onset for suicidal thought among Black Americans.

METHODS

As a part of the National Institute of Mental Health Collaborative Psychiatric Epidemiology Surveys, NSAL is a nationally representative household survey of 3570 African Americans, 1621 Caribbean Blacks, and 891 non-Hispanic White adults. Because this study was focused on the American Blacks, non-Hispanic Whites were not entered into the study. As the largest portion of NSAL sample, African American samples were selected from 48 neighboring states with at least one Black adult. From all Caribbean Blacks, 265 were taken from households in the core sample, and rest of them from housing units of geographic areas with high density of Caribbean ethnicity.

Participants who self-identified as Black but denied having ancestral ties to Caribbean countries were determined as African Americans. Other people who self-identified as Black and confirmed belonging to Caribbean countries (list of the countries presented by the interviewer), or reported that one of his/her parents or grandparents was born in such countries were defined as Caribbean blacks.

Socio-demographic data

Socio-demographic factors including ethnicity (African American and Caribbean Black), gender, education level (less than high school, high school graduate, some college, college graduate), marital status (married, previously married, never married), age (1939 or before, 1940–1954, 1955–1964,

1965–1974, 1975 or after), and region (Northeast, Midwest, South, and West Census regions) were investigated in this study.

Religious belief

Subjective religiosity is one of the dimensions of religious involvement among Blacks in the US. Chatters *et al.* defined three-dimensional models of religious involvement including organizational, non-organizational, and subjective. Subjective religiosity refers to perceptions and attitudes regarding religion. This dimension is measured by questions such as perceived importance of religion, the role of religious beliefs in daily life, and individual perceptions of being religious.^[27] Subjective religiosity has been validated in measurement models using structural equation modeling procedures among a general sample of African American adults,^[28] as well as among older adults.^[27] This aspect is non-behavioral aspect of religiosity, as opposed to other dimensional factors of organizational and non-organizational religiosity. Subjective religiosity is positively associated with life satisfaction, after controlling the effect of socio-demographic factors.^[28,29]

Subjective religiosity was asked in this study using the following single item: “How religious are you?” Responses included very religious, fairly religious, not too religious, and not religious at all. We merged very religious and fairly religious together to define high subjective religiosity (31.7%, 95% CI = 29.7–33.6%). We also combined those who believed that they were not too religious and those who believed they were not religious at all to define low subjective religiosity (68.3%, 95% CI = 66.4–70.3%).

Psychiatric disorders

To evaluate psychiatric disorders among the participants, The *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)* World Mental Health Composite International Diagnostic Interview (WMH-CIDI) was used. Psychiatric disorders were classified as: mood disorders (major depressive disorder, dysthymia, bipolar I and II disorders); anxiety disorders (panic disorder, agoraphobia, social phobia, generalized anxiety disorder, obsessive compulsive disorder, posttraumatic stress disorder); substance use disorders (alcohol abuse, alcohol dependence, drug abuse, drug dependence); disorders usually

diagnosed in childhood (separation anxiety disorder, oppositional defiant disorder, conduct disorder, attention deficit/hyperactivity disorder); and eating disorders (anorexia nervosa, bulimia nervosa, binge-eating disorder).

Main outcome

Suicidal ideation was assessed based on this question: “Have you ever seriously thought about suicide?” Every participant who answered positively was determined as ideator in this study. The first age at this experience was also asked.

Statistical analysis

We used Cox regression to determine the associated factors of age at first suicidal thought among the participants. Covariates including the interaction between psychiatric disorders and subjective religiosity were entered to the model. Hazard Ratios (HR) with 95% CI were reported. HR greater than 1 show higher chance of the suicidal thought at each time point (earlier thought).

Because of the complex sample design of the data, we used STATA-12 which estimates standard errors for design-based analysis of weighted and clustered nature of data. Taylor series linearization was used. We used subpopulation analyses for all our inferences. *P*-values less than 0.05 were considered statistically significant. Data were downloaded from The Interuniversity Consortium for Political and Social Research (ICPSR), Institute for Social Research (ISR), University of Michigan.

First we tested for possible multicollinearity between our covariates. To prevent multicollinearity, we did not specify psychiatric disorders. We also did not include number of psychiatric disorders larger than two because of very few people having three or more disorders. We did not impute missing data for this report.

RESULTS

About 44.4% of the participants were males, with a mean age of 42.2 (SE = 0.49) years. 31.7% had high and 68.3% had low subjective religiosity. Of the total participants, 69.3% (95% CI = 67.2–71.3%) did not have any lifetime psychiatric disorder, 21.8% (95% CI = 20.2–23.4%) had one psychiatric disorder, and 8.9% (95% CI =

7.6–10.1%) had two or more psychiatric disorders.

Among the participants, 11.7% (95% CI = 10.1–13.4%) had seriously thought about suicide, and these thoughts had started at a mean age of 28.5 years (95% CI = 27.3–29.7). Hazard rate of suicidal ideation was higher among participants who had low subjective religiosity [Figure 1].

Figure 2 shows that age at first suicidal thought decreased in parallel to an increase in the number of psychiatric disorders [Figure 2].

Cox regression

Higher age (HR = 0.969, 95% CI = 0.096–0.977, $P < 0.0001$) showed significant association with higher age at serious thinking about suicide. However, female gender (HR = 1.374, 95% CI = 1.043–1.811, $P = 0.025$) was associated with

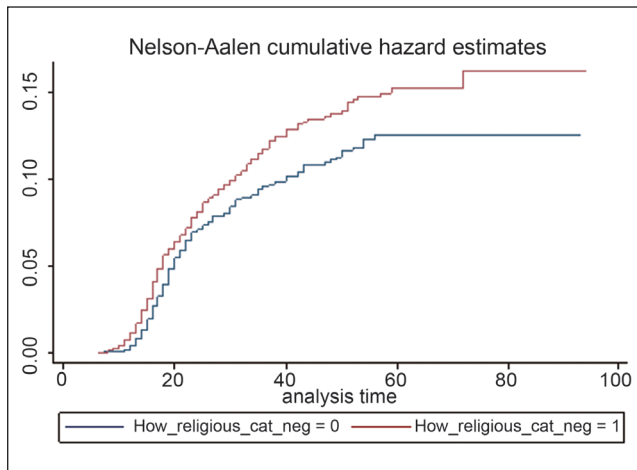


Figure 1: Hazard rate of age at first suicidal thought among American Blacks based on the perceived religiosity

an earlier onset of outcome. Among those who rated themselves as believer in religion, having psychiatric disorder(s) was associated with earlier suicidal thoughts (for one psychiatric disorder: HR = 2.120, 95% CI = 1.327–3.386, $P = 0.003$; and for two or more psychiatric disorders: HR = 4.426, 95% CI = 2.413–8.121, $P < 0.0001$).

We found an interaction between perceived religiosity and number of psychiatric disorders. In fact, the effect of psychiatric disorder on the age of first suicidal ideation depends on perceived religiosity. Among those with low perceived religiosity, psychiatric disorder had a higher impact on the age of the first serious thought about suicide [Table 1].

DISCUSSION

Our study shows that the negative effect of

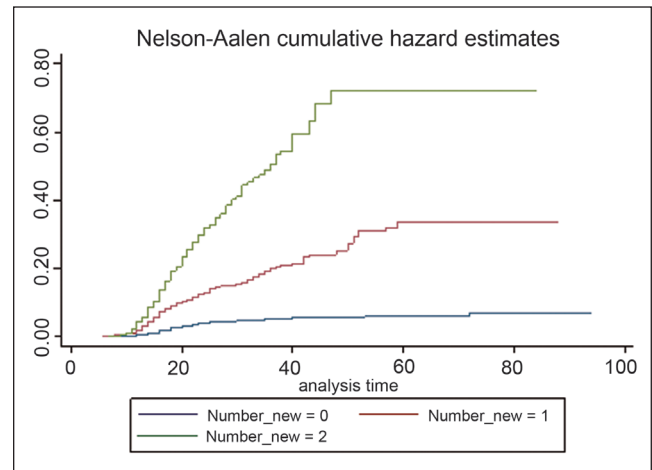


Figure 2: Hazard rate of age at first serious suicidal thought among American Blacks based on the number of psychiatric disorders

Table 1: Cox regression summary of first age at thinking seriously about suicide

Variable	P	Hazard ratio	95% CI	
			Lower	Upper
No religion	0.001	0.543	0.379	0.776
Age	<0.0001	0.969	0.960	0.977
Female	0.025	1.374	1.043	1.811
Psychiatric disorders among religion attendees				
One psychiatric disorder	0.003	2.120	1.327	3.386
Two or more psychiatric disorders	<0.0001	4.426	2.413	8.121
Interaction between the psychiatric disorders and religion attendance				
One psychiatric disorder	0.018	1.870	1.118	3.126
Two or more psychiatric disorders	0.036	2.056	1.051	4.022

Note: 20 strata were omitted because they contain no subpopulation members

psychiatric disorder is dose dependent (two or more are more damaging than only one disorder) and this effect depends on the self-reported religious beliefs. Effect of psychiatric disorders was higher among those who believed they were less religious.

Among those with low or high religious beliefs, psychiatric disorders had an effect on early suicidal ideation. This effect was dose dependent and exaggerated among those who believed less in religion. The dose-dependent association between the number of psychiatric disorders and suicide has been suggested previously.^[30-32] For instance, Kessler *et al.* reported number of psychiatric disorders as the strongest predictor of suicidal attempt.^[33]

Social, psychological, demographic, economic, historical, and cultural factors are among the suggested parameters which might justify the differences in the prevalence of psychiatric disorders among ethnic subgroups of the population;^[34] the same factors may also explain higher vulnerability of a subpopulation to engage in suicide.

Association between degree of religious behavior / involvement and suicidal behaviors has been suggested in the literature as early as 1968 by Kranitz *et al.*^[35] In the presence of statistical control for psychiatric disorders, Taylor *et al.*^[36] evaluated the relationship between suicidal behaviors and various components of religiosity among representative samples of African Americans and Caribbean Blacks. Although most religious indicators were significantly associated with the lower suicidal ideation and attempt, few others showed contrary associations among Caribbean Blacks. Because of their surprising finding, they suggested that both qualitative and quantitative researches are needed to better understand this pattern of relationships.

Based on the report of Joe *et al.*, psychiatric disorders and comorbid psychiatric disorders are determined as significant predictors of attempted suicide among Black ideators and the other populations.^[2] They found that individuals with psychiatric disorders are 8 times more likely to attempt suicide than their counterparts.

Literature shows an increasing trend of suicide among new generations. Changes to social disadvantages, inequality, family conflict and breakup, increased expectations, and individualism and changes in adolescent transitions may contribute in the change in cohort suicide attempt

rates. Considering ideation-to-attempt transition process,^[33] Beck's "late modern and postmodern theory of suicide" which talks about the "postmodern risk" and industrial society^[37] may explain changes in serious thinking about suicide among cohorts.

In this study, female gender was associated with a lower age of first suicidal ideation. Despite some exceptions,^[38] most research suggests more prevalent suicidal ideations among women, but more suicidal attempts among men.^[39-41] Cultural values persuade women to view suicide attempt but not commitment as acceptable.^[42] This is in contrast to men choosing highly lethal methods because they do not want to "fail."^[43] In this regard, Joe *et al.* reported a higher prevalence of suicide attempt among Black women; however, the highest risk of attempted suicide was seen among male Caribbean Blacks.^[2] Although gender difference in suicidal ideation, attempt, and commitment has been discussed in the literature frequently,^[4,44-45] possible mechanisms for the differences have not been understood. However, the differences between males and females with identical mental tasks (including thinking process) might be due to the biological differences and brain structures.^[46]

Based on the results of this study, public health programs which are intended to prevent suicide are needed to consider unmet mental health needs of Blacks.^[47] Gender, birth cohort, and religion involvement are the other factors which also should be considered as important in intervention programs targeting suicidal behaviors.^[42] Screening and treatment of psychiatric disorders is important, especially for those Blacks who are less involved in religion. Increase in religion involvement or treatment of mental disorders may have implications for suicide prevention among Black Americans.

Limitations

Our study had some limitations; one limitation was that effectiveness of the cultural factors to admit or recall the presence of symptoms or suicide by the participants was unknown. As the NSAL is cross-sectional, causative associations are not conclusive. Moreover, because the present data are taken based on self-reported answers, overreporting and underreporting might have occurred. Finally, Caribbean Blacks, who participated in this study,

were immigrant Caribbean Blacks (with the various lengths of stay in the US) as well as those who were born in the US, with no strong knowledge of Caribbean culture.

CONCLUSION

Based on our findings, it is concluded that the negative effect of psychiatric disorder is dose dependent and this effect depends on the degree of religious involvement.

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