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THE RELATIONSHIP RELIGIOUS AFFILIATION AND SUICIDE: A STATISTICAL ANALYSIS AT THE GLOBAL LEVEL

DİNİ BAĞLILIK VE İNTİHAR İLİŞKİSİ: KÜRESEL DÜZEYDE İSTATİSTİKSEL BİR ANALİZ

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Abstract

Despite the extensive literature addressing the intersection of religion and suicide, a comprehensive global-level examination of the relationship between religious affiliation and suicide rates remains notably absent. Furthermore, there exists a scarcity of empirical research delving into the influence of Islam, Christianity, and their respective denominations on suicide rates. To bridge these critical gaps, this article endeavors to investigate the intricate connection between religious affiliation and suicide rates on a worldwide scale. In pursuit of this objective, we construct an encompassing dataset by leveraging resources from the Association of Religion Data Archives and the World Health Organization. Through this dataset, we explore the dynamic between religiously affiliated populations and suicide rates, subsequently introducing the homogenized religious affiliation index (HRAI). The HRAI serves as a crucial metric to gauge the impact of religious affiliation on suicide rates at the country level. Our findings show that, first, as the Islamic population increases, a corresponding decrease in suicide rates is observed. In contrast, an increase in the Christian population aligns with an elevation in suicide rates. In addition, the HRAI demonstrates a negative correlation with suicide rates. Moreover, it is found that Catholicism is notably more effective in reducing suicide rates than Protestantism.

Keywords: religious affiliation, Islam, Christianity, suicide

Öz

Din ve intihar kesişimini ele alan geniş literatüre rağmen, dini aidiyet ve intihar oranları arasındaki ilişkinin küresel düzeyde kapsamlı bir incelemesi mevcut değildir. Ayrıca, İslam, Hristiyanlık ve mezheplerinin intihar oranları üzerindeki etkisini inceleyen ampirik araştırma sayısı oldukça azdır. Bu kritik boşlukları doldurmayı hedefleyen elinizdeki makale, dini aidiyet ile intihar oranları arasındaki kompleks bağlantıyı dünya ölçeğinde araştırmaya çalışmaktadır. Bu amaç doğrultusunda, Din Verisi Arşivleri Derneği'nin ve Dünya Sağlık Örgütü'nün verilerinden yararlanarak kapsamlı bir veri seti oluşturulmuştur. Bu veri seti aracılığıyla, dini aidiyete mensup nüfus ile intihar oranları arasındaki ilişkiyi araştırıyor ve ardından homojenleştirilmiş dini aidiyet endeksini (HRAI) ortaya koyuyoruz. HRAI, dini aidiyetin ülke düzeyinde intihar oranları üzerindeki etkisini ölçmek için çok önemli bir ölçüt olarak işlev görmektedir. Bulgularımız, ilk olarak, İslami nüfus arttıkça, intihar oranlarında bir düşüş gözlendiğini göstermektedir. Bunun aksine, Hristiyan nüfustaki artış intihar oranlarındaki artışla uyumludur. Buna ek olarak, HRAI intihar oranları ile negatif bir korelasyon göstermektedir. Ayrıca, Katolikliğin Protestanlığa göre intihar oranlarını azaltmakta daha etkili olduğu tespit edilmiştir.

Anahtar Kelimeler: dini aidiyet, İslam, Hristiyanlık, intihar

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1. Introduction

According to a recent report by the World Health Organization (2019), suicide is currently the leading cause of death worldwide, claiming the lives of over 700 thousand people each year. Scholars have been investigating the relationship between religion and suicide for more than a century, with notable contributions from researchers like Morselli (1882) and Durkheim (1897). Since the 1980s, a multitude of studies in psychology and sociology have consistently demonstrated that religious affiliation, commitment and practice are associated with a decreased probability of suicidal ideation or attempts (Stack, 1983; Dervic et al., 2004; Stack & Kposowa, 2011; Lawrence et al., 2016). At the individual level, religious beliefs offer various ideational factors that help reduce the risk of suicide, including moral objections and sanctions, the concept of an afterlife with rewards and punishments, faith-based resilience in the face of hardships, the comforting effect of prayers, and the belief in destiny (Dervic et al., 2004; Gearing & Alonzo, 2018; Sabriseilabi & Williams, 2022). Moreover, on a societal level, religious solidarity and communitarianism play vital roles in safeguarding individuals against suicidal tendencies and attempts. In this regard, the Durkheimian scholarship argued that the social integration and regulation imposed by religion reduce the propensity of suicide.

In the last century, numerous scholars have investigated the link between religion and suicide on both individual and societal levels. While cross-country studies using aggregate data predominated before the 1980s, studies have exhaustively focused on the individual dimension in the last 40 years. This shift was driven by the availability and practicality of global datasets, such as the World Values Survey and the European Values Survey. While this individual-level focus has yielded valuable insights, it has also limited the ability to make general arguments about the global relationship between religion and suicide. In addition, in the last decade, there has been a lack of studies examining completed suicides, i.e., the actual suicide rate, with most research instead focusing on suicide acceptability (Stack & Kposowa, 2011**)**. Furthermore, the existing literature has disproportionately emphasized the Western world, with a scarcity of studies investigating the nexus between religion and suicide in developing countries. Specifically, there have been only a few formal modeling attempts concerning Muslim countries. Despite the vast amount of research conducted, there is still no systematic study investigating the relationship between religion and suicide rates in all countries around the globe using available data. Addressing this gap could provide valuable insights into the complex interplay between religious factors and suicide on a global scale.

To address the caveats in the existing literature, we conducted a comprehensive statistical analysis to examine the relationship between religious affiliation and suicide rates on a global scale. The study presents descriptive-statistics and correlation analyses, followed by multivariate regression analysis to ascertain the impact of major religious affiliations (Islam, Christianity, and its denominations) on suicide rates in 177 countries. One of the key findings of this study is that there is a negative relationship between religious affiliation and suicide at the global level, indicating that higher religious affiliation is associated with a reduced propensity for suicide worldwide. Moreover, this research highlights that Islamic affiliation appears to have a stronger impact on lowering suicide rates compared to Christianity. In addition, when compared the two major Christian denominations, Catholicism

and Protestantism, the study reveals that Islam remains more effective in decreasing the likelihood of suicide. This suggests that Islamic practices and teachings may offer stronger protective factors against suicide when compared to certain Christian practices. Furthermore, the study emphasizes the significance of religious commitment in preventing individuals from contemplating suicide. It indicates that both religious practice and, more importantly, religious commitment play vital roles in reducing suicide risks. This study, after all, aims to contribute to a better understanding of the complex relationship between religious affiliation and suicide rates globally, shedding light on the potentially protective role of religion in preventing suicides on an international scale.

2. The Methodology of Research

To operationalize our research, we have identified religious affiliation as the independent variable, and the suicide rate as the dependent variable. Religious affiliation can be described as one's self-identification with a belief system, encompassing various religions, sects, cults, churches, and denominations. However, due to the impracticality of analyzing all religious affiliations globally, our study focuses on major religious affiliations by population. As such, we limit our analysis to two major religions, Islam and Christianity, and two major denominations, Catholicism and Protestantism.

To construct the independent variable, we have utilized data from the Association of Religion Data Archives (ARDA) to determine the percentage of the general population affiliated with each religion in 180 countries. For the dependent variable, we have used the World Health Organization (WHO) dataset, which provides suicide rates for 183 countries worldwide. To account for potential confounding factors, we have included economic development and urbanization ratio as control variables in line with existing literature. Economic development is assessed using the Human Development Index (HDI), a composite economic development index that considers per capita income, educational attainment, and life expectancy. Additionally, we have integrated two variables from the World Values Survey (WVS) to examine the impact of religious values on suicide rates.

By employing robust datasets and focusing on key variables, we provide comprehensive insights into the relationship between religious affiliation and suicide rates, while accounting for relevant confounding factors.

2.1. Hypothesis Development

First and foremost, it is important to acknowledge that the existing literature often uses the terms “religion,” “religiosity,” and “religious affiliation” interchangeably (Gearing & Alonzo, 2018, p. 2478). In this regard, religious affiliation encompasses doctrine, practice, and commitment as integral components of religion, while suicide ideation, attempt, and completion are regarded as the parameters of suicide (Lawrence et al., 2016, p. 1). This terminological complexity can sometimes lead to complications. Nevertheless, empirical research consistently indicates that there is a negative relationship between religion and suicide (Dervic et al., 2004; Colucci & Martin, 2008; Gearing & Alonzo, 2018). Existing studies show that religious communities, populations or countries tend to exhibit lower suicide rates compared to their secular counterparts. This observation is attributed to the fact that most religions advocate moral objections and sanctions against suicide, promoting “life-

saving" and "life-affirming" values that serve as protective factors against suicide (Gearing & Alonzo, 2018, p. 2484).

In addition to Durkheimian scholarship, there is a massive literature on the subject that dates back to the 1960s (Kranitz et al., 1968). Historical evidence consistently suggests that higher levels of religiosity are associated with a decreased probability of suicide risk (Gearing & Alonzo, 2018, p. 2479). Despite some contrasting evidence, recent literature to a large extent supports this finding (Dervic et al., 2004; Stack & Kposowa, 2011). Through a literature survey of 89 articles, Lawrence et al. (2016) underline that religious affiliation and attendance do not prevent suicide ideation but protect individuals against suicide attempts. Analyzing the relationship between religious participation and suicide rates across 42 countries in seven different geographical regions, Hsieh (2017) demonstrates that religiosity notably reduces the likelihood of suicide, particularly in Latin America, eastern, and northern Europe. Similarly, Sisask et al. (2010) investigate the suicide data gathered from the WHO for Brazil, Estonia, India, the Islamic Republic of Iran, South Africa, Sri Lanka, and Vietnam and find out that religious attendance decreases the likelihood of suicide in most of the countries under scrutiny. Examining crude suicide statistics and census data on religion, Spoerri et al. (2010) find that the suicide rate is highest among non-religious populations, followed by Protestants and then by Catholics in Switzerland. These studies consistently point to a negative relationship between religious affiliation and suicide.

It is important to highlight that the foundation of our article was laid a decade ago by Stack and Kposowa (2011). In their study, they analyzed data from 56 countries worldwide and observed a negative correlation between religiosity and suicide. The researchers found that suicide acceptability was significantly lower among individuals who were affiliated with the major four religions, exhibited high levels of religiosity, and lived in countries with a strong religious presence and network. These findings provide support for the moral community and religious integration theses. The moral community theory, originally introduced by Durkheim (1897/1970) and further developed by Stark (1996), posits that the overall level of religiosity within a country influences the "normal" and "pathological" attitudes and behaviors of individuals within that community. When dominant religious beliefs are reinforced by a significant number of people, deviant behaviors, such as acceptance of suicide, are expected to decrease (Stack & Kposowa, 2011).

Adopting a Durkheimian perspective, Hsieh (2017) asserts that the "proportion of co-religionists and degree of religious homogeneity in the local area may determine whether the effects of religious involvement are protective or deleterious" (p. 324). Religious homogeneity, often measured by the percentage of religious affiliation, plays a significant role in suicide studies. By promoting social regulation and integration, religious homogeneity acts as a preventive factor against suicide (Durkheim, 1897/1970, p. 209). It is important to emphasize that the moral community and religious integration theories, as mentioned earlier, encompass not only solidarity but also the dimension of domination. On one hand, religion offers individuals a sense of belonging and support; on the other hand, it constrains individual freedoms by imposing norms. In discussing Durkheim's regulation and integration theses, Stack and Kposowa (2011) highlight that "religion-based integration involves subordination of the individual to the collectivity, so the greater the sheer number of religious beliefs and

practices of a religious system, the higher the integration of individuals and the lower the suicide risk" (p. 291). Following this discussion, our first hypothesis is as follows:

> H_1: Religious homogeneity decreases the propensity for suicide at the global level. It is expected that as the percentage of the religiously affiliated population increase, the rate of suicide decrease.

The scarce literature on the subject indicates that social integration and regulation arguments also hold true for Muslim countries. Stack and Kposowa (2011) argue that "Islam with its large number of shared religious beliefs and practices represents a religious tradition high in religious integration" (p.292). Islamic belief (both *Quran* and *Hadith*s) strictly condemn suicide. In the Islamic tradition, it is clearly stated that those who commit suicide would be punished with eternal retribution (Gearing & Alonzo, 2018, p.2488). It is significant to remind that there are serious sanctions in some Islamic countries, and suicide is illegal in the countries ruled by Sharia. In general, suicide rates are lower among Muslims compared to Christianity, Judaism, and Hinduism (Gearing & Alonzo, 2018, p.2485). Comparing the suicide statistics between Muslims and Hindus, Ineichen (1998) finds that suicide rates are lower among Muslims than Hindus in Malaysia, Singapore, the UK, South Africa, and Fiji. Historical evidence confirms that suicide rates are lower in Muslim countries. Through an extensive sample of 71 countries, Simpson and Conklin (1989) find that there is a negative correlation between the percentage of the Muslim population and suicide rates. As much as the Muslim population increase in a country, the rate of suicide decrease. In order to test the validity of the results of this study, Shah and Chandia (2010) investigates the relationship between the percentage of Muslims and general suicide rates in 27 countries and confirm that there is a negative correlation between the Muslim population and suicide rates. In a recent study, Eskin et al (2020) analyze both suicide ideation and attempts among 7527 young adults in 11 Muslim countries and find that adherence to Islam prevents suicide attempts. Based on these empirical studies, our second hypothesis is as follows:

> H_2: Islam is more likely to reduce suicide rates compared to Christianity. It is expected that the rate of suicide will decrease as the percentage of Muslims among the general population increases within a country.

Durkheim's canonical study reveals that levels of social integration and regulation are higher among Catholics compared to Protestants, which explains the higher incidence of suicide among the latter. Following Durkheim's work, the proposition that suicide rates are lower among Catholics than Protestants has become known as sociology's "one rule" or "law" (Pope & Danigelis, 1981). The Durkheimian scholarship largely assumes that Catholics tend to be more communitarian, while Protestants lean towards individualism, which is associated with higher suicide risk.

> Catholicism permitted its followers very little freedom to inquire about their faith, including the interpretation of the Bible and the authority of the Catholic Church. In contrast, Protestantism allowed its followers greater freedom in thought and consequently did not have a strict set of common beliefs and practices to integrate the religious community […] this religious individualism weakened the cohesion and

vitality of collective life and thus exposed Protestants to a higher risk of suicide (Hsieh, 2017, p.323).

In discussing the distinction between Christian denominations, Stack and Wasserman (1992) put forth the argument that "churches with conservative theologies, non-ecumenical relations, and/or whose teachings are in tension with the larger society have lower levels of suicide ideology" (p. 457). It is crucial to note that Catholic and Protestant Churches differ in their attitudes toward moral punishment for suicide. The Catholic Church views suicide as an eternal sin, and those who commit suicide would face damnation. On the other hand, the Protestant Church considers suicide as an ordinary sin without eternal consequences. Additionally, the Catholic Church imposes stronger religious norms on individuals, leading to exclusion and stigmatization (Stack & Kposowa, 2011). Within the Catholic community, a higher incidence of stigmatization of suicide is observed, predominantly driven by hegemonic traditional-conservative values (Torgler & Schaltegger, 2014, p. 318).

By combining the analysis of religious denomination through the 20 years of panel data for Switzerland as well as the religious affiliation through cross-sectional data for 414 regions in 32 European countries, Torgler and Schaltegger (2014) confirm that suicides continue to be lower among Catholics than Protestants. While the literature on the sociology of religion and suicide prior to the 1980s looked at the religious affiliation parameter, the focus of attention shifted toward religious integration and religious regulation after the 1980s (Stack, 1983). This shift could be attributed to the convergence of suicide rates among Catholics and Protestants, which made the results of earlier studies focusing on religious affiliation insignificant (Torgler & Schaltegger, 2014, p.321). Based on the previous literature on the nexus between Christian denominations and suicide, our third hypothesis is as follows:

H_3: Catholicism is more likely to decrease the likelihood of suicide than Protestantism. It is expected that as the percentage of Catholics among the general population increase, the rate of suicide decreases in a country. In contrast, it is expected that as the percentage of Protestants among the general population increase, the rate of suicide increases in a country.

3. Analysis of Research

As stated, we consider the suicide rate at the country level as the dependent variable, and the percentage of religiously affiliated people among the general population in a country as the independent variable. These selection criteria are in line with the Durkheimian methodology, which prioritizes religious homogeneity vis-à-vis the impact of co-religionists. Table 1 shows the descriptive statistics gathered through the ARDA, WHO, and WVS datasets. In the table, the rate of suicide is coded as "SuicideR," and the religious affiliations are coded by their names. The religious affiliations show the percentage of Muslims, Christians, Catholics, and Protestants among the general population in countries. The homogenized religious affiliation index is created as the highest proportion of any religion in a country and coded as HRAI. For control variables, the percentage of the urban population, which is coded as "UrbanP" in the table, and HDI are used. The other two control variables are taken from the World Values Survey and coded as PARS and PCRI. While PARS shows the percentage of the general population that attends religious services at least once a month,

PCRI is the percentage of people that considers religion important. The number of observations varies with the selection of particular variables. The correlation and main regression analyses are conducted on the sample that involves 177 countries. When the PARS and PCRI variables are included, the sample size drops to 87. The descriptive statistics are presented in Table 1.

Table 1. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
SuicideR	183	.95	.80	.40	.72
Muslims	177	.27	.37	.00	.99
Christians	182	.55	.38	.00	.99
HRAI	182	.80	.18	.13	.99
Catholics	182	.28	.30	.00	.99
Protestants	182	.15	.20	.00	.79
UrbanP	181	.57	.23	.84	1.00
HDI	178	.69	.16	.40	.90
PARS	88	.43	.25	.03	.91
PCRI	89	.69	.26	.12	.99

Table 2 shows the correlations between all variables. For the purpose of this study, it is necessary to look at the correlations between religious affiliations (Islam and Christianity) and the rate of suicide. This would allow us to see the particular relationships between different religious affiliations and suicide. In addition, in order to show the general relationship between religion and suicide, we construct a homogenized religious affiliation index, which is shown as HRAI. This parameter shows the highest proportion of all religious affiliations in given countries. This latter parameter is also in accordance with Durkheim's religious homogeneity thesis that aims to measure the impact of social regulation and integration. The correlation analysis on the SuicideR and HRAI would also allow us to make comparisons between religious and secular countries in general.

Table 2. Correlation Analysis

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) SuicideR	1.000							
(2) Muslims	-0.306***	1.000						
(3) Christians	0.211***	-0.783***	1.000					
(4) HRAI	-0.177**	0.202***	0.237***	1.000				
(5) UrbanP	0.025	-0.065	0.051	-0.073	1.000			
(6) HDI	0.105	-0.251***	0.163**	-0.065	0.680***	1.000		
(7) PARS	-0.451***	0.185*	0.072	0.262**	-0.487***	-0.657***	1.000	
(8) PCRI	-0.570***	0.500***	-0.152	0.482***	-0.454***	-0.627***	0.823***	1.000

**** p<0.01, ** p<0.05, * p<0.1*

The correlations between all religious affiliation variables and the suicide rate are statistically significant; however, they exhibit opposite directions of association. Specifically, the rate of suicide is negatively correlated with the proportion of Muslims in the general population but positively correlated with the proportion of Christians. Moreover, religious practice and commitment are negatively correlated with suicide rates. As anticipated, both values show significant correlations with any religious affiliation (HRAI). In order to make the interpretation of correlations more accessible, the following graphs on fitted values are depicted.

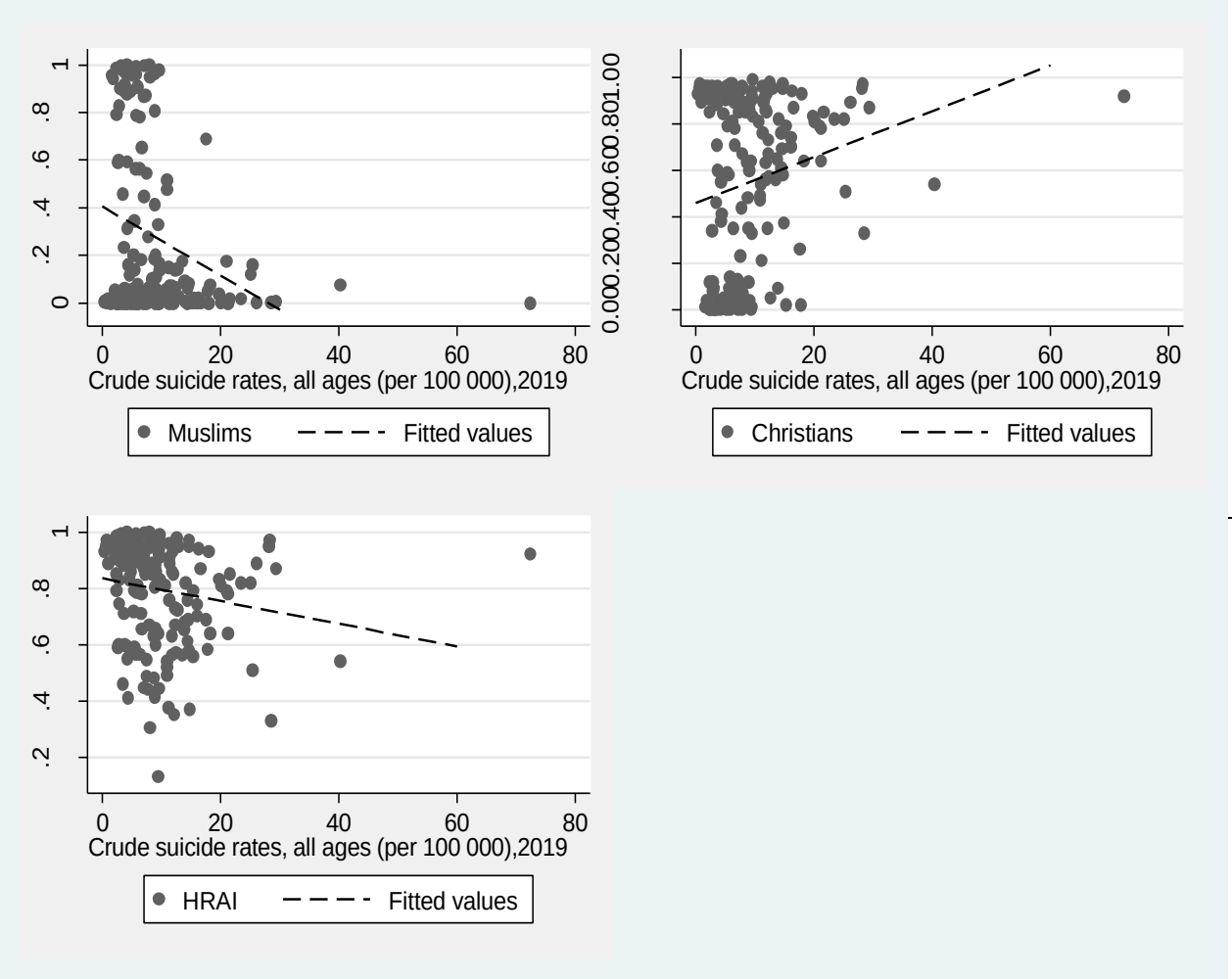

Figure 1. Relation between religious affiliation and the suicide rate

Both the results of the correlations and fitted values indicate that, as the percentage of Muslims among the general population increase, the rate of suicide decreases, on the one hand, as the percentage of Christians among the general population increase, the rate of suicide increases, on the other hand. Based on correlation analysis, it is likely to maintain that the rate of suicide is lower among the Muslim population than the Christian population at the global level. This result can be interpreted in a Durkhemian framework. It seems that the impact of co-religionists (i.e., measured by the percentage of religious affiliation in a country) against suicide (as well as other deviant behavior) might be higher among Muslims than

Christians. However, considering the homogenized religious affiliation index, HRAI, as the percentage of the religiously affiliated population increase, the rate of suicide decrease. This latter finding implies that, in general, any religious affiliation is effective against suicide compared to non-affiliation (either it can be called secularism, atheism, or else).

4. Regression Analysis:

This study does not only inquire into the correlation but also causation between religious affiliation and suicide. Based on the theoretical and empirical findings of the existing literature, we assess the impact of Islam, Christianity, and religious affiliation in general (i.e., homogenized religious affiliation index) on the rate of suicide. As stated, one of the main hypotheses of this study is that Islamic affiliation is more effective against suicide than Christianity (and its denominations), and the other hypothesis is that religious affiliation is more protective against suicide than non-affiliation. In line with these hypotheses, the main models that are used in this study are as follows:

$$\text{Model 1: SuicideR} = \alpha + \beta_1 Muslims + \beta_2 UrbanP + \beta_3 HDI + \varepsilon$$

$$\text{Model 2: SuicideR} = \alpha + \beta_1 Christians + \beta_2 UrbanP + \beta_3 HDI + \varepsilon$$

$$\text{Model 3: SuicideR} = \alpha + \beta_1 HRAI + \beta_2 UrbanP + \beta_3 HDI + \varepsilon$$

In these models, $Muslims$ and $Christians$, which are the two major religious affiliations, respectively show the percentages of Muslims and Christians among the general population, whereas $HRAI$ shows the percentage of all religiously affiliated population in a country. The control variables are the percentage of urban population and human development index in all models, which are respectively shown by the $UrbanP$ and HDI.

Beyond the impact of religious affiliation, we also analyze the impact of religious service attendance and the importance of religion in everyday life on suicide. In the existing literature, these two parameters are presented as significant factors that prevent suicide. The analysis of these two parameters allows us to understand the integrative dynamics of religion against suicide. Therefore, two supplemental models that are used in this study are as follows:

$$\text{Model 4: SuicideR} = \alpha + \beta_1 HRAI + \beta_2 PARS + \beta_3 UrbanP + \beta_4 HDI + \varepsilon$$

$$\text{Model 5: SuicideR} = \alpha + \beta_1 HRAI + \beta_2 PARS + \beta_3 PCRI + \beta_4 \text{UrbanP} + \beta_5 HDI + \varepsilon$$

In these models, $HRAI$ shows the percentage of all religiously affiliated population, $PARS$ denote the percentage of population attending religious services and $PCRI$ denotes the percentage of population considering religion important in a given country.

The results of the multivariate regression analysis are shown below (Table 3).

Table 3. Regression Analysis 1

Variables	(1) SuicideR	(2) SuicideR	(3) SuicideR	(4) SuicideR	(5) SuicideR
Muslims	-6.384***				
	(1.368)				
Christians		4.245***			
		(1.579)			
HRAI			-8.289***	-5.532	0.347
			(3.108)	(3.810)	(4.141)
PARS				-0.077**	0.019
				(0.036)	(0.038)
PCRI					-0.143***
					(0.035)
UrbanP	-0.003	-0.023	-0.036	-0.010	-0.019
	(0.030)	(0.032)	(0.031)	(0.034)	(0.029)
HDI	3.180	6.246	8.405**	7.914	4.489
	(4.222)	(4.197)	(3.681)	(5.944)	(5.630)
Observations	173	177	177	87	87
R-squared	0.100	0.053	0.048	0.240	0.326

**** p<0.01, ** p<0.05, * p<0.1*

The results of Model 1 and Model 2 show that both Islamic and Christian affiliations become statistically significant. However, the impact of these religions on suicide is in opposite direction: As the percentage of Muslims among the general population increases, the rate of suicide decreases; and as the percentage of Christians among the general population increases, the rate of suicide increases. In Model 3, *HRAI* becomes statistically significant, which means that as the percentage of the religiously affiliated population increases, the rate of suicide decreases in general.

The result of the Model 4 reveals that, after the inclusion of religious service attendance (PARS) parameter, the religious affiliation turns out to be insignificant. In this model, it is seen that as the percentage of religious service attendance increases, the likelihood of suicide decreases. This condition applies to Model 4. With the inclusion of the importance of religion in everyday life (PCRI) parameter, both the religious affiliation and religious service attendance parameters become insignificant. This estimation points out the fact that, as the proportion of the population who give importance to religion in everyday life increases, the suicide rate decreases in the country.

Among the control variables, the human development index becomes statistically significant. This means that economic development in a country increases the likelihood of suicide. The urbanization parameter is not significant in any models.

In addition to major religious affiliations, we extend our analysis with the comparison of Islam and two major Christian denominations. As there is no systematic study that compares Islam, Catholicism, and Protestantism, this regression analysis gains further

significance. For this analysis, we only replace the parameter of Christianity with the parameters of Catholics and Protestants.

Table 4. Regression Analysis 2

	(1)	(2)	(3)
Variables	SuicideR	SuicideR	SuicideR
Muslims	-9.433***	-8.938***	-7.183***
	(1.695)	(2.307)	(2.222)
Catholics	-5.192**	-2.669	-3.643
	(2.500)	(3.292)	(3.355)
Protestants	-3.169	-1.500	-3.158
	(3.423)	(2.723)	(2.896)
PARS		-0.077*	0.000
		(0.043)	(0.063)
PCRI			-0.090*
			(0.051)
UrbanP	0.008	-0.008	-0.006
	(0.029)	(0.034)	(0.031)
HDI	1.390	2.248	2.641
	(4.013)	(6.869)	(6.625)
Observations	173	87	87
R-squared	0.125	0.369	0.397

**** p<0.01, ** p<0.05, * p<0.1*

The estimation results show that Islamic affiliation becomes statistically significant in all trials. After the inclusion of religious service attendance (PARS) and the importance of religion in everyday life (PCRI) parameters, Islam continues to be significant. As the percentage of the Muslim population increases, the rate of suicide decreases at the country level. Although Catholic affiliation becomes statistically significant and negatively influences suicide in the first model, it turns out to be insignificant with the addition of PARS and PCRI parameters into the models. The Protestant affiliation is not significant in any trials. This latter result is in line with the findings of the Durkheim scholarship. In considering all religious affiliations, the variable of religious service attendance (PARS) becomes significant in the second model, and the variable of the importance of religion in everyday life (PCRI) becomes significant in the third model. Overall, this estimation results confirm the higher preventive impact of Islam on suicide, on the one hand, and the significance of religious practice and commitment against suicide, on the other hand.

5. Discussion and Conclusion:

This article delves into the relationship between religious affiliation and suicide rates on a global scale. The analysis focuses on the percentage of Muslims and Christians, including Catholic and Protestant denominations, within the general population of various countries. The main hypotheses put forth in this study are as follows: firstly, higher religious homogeneity (religiously affiliated population) is associated with lower suicide rates; secondly, Islam exhibits a greater potential to reduce suicide rates compared to Christianity; and thirdly, Catholicism proves more effective than Protestantism in reducing the likelihood of suicide.

To test these hypotheses, regression analyses were conducted using data from ARDA and WHO. The results of the regression analysis reveal that a higher percentage of Muslims among the general population is linked to a decrease in the suicide rate, while a higher percentage of Christians is associated with an increase in the suicide rate. It can be argued that Islamic affiliation is more potent in preventing suicide on a global scale than Christian affiliation. Additionally, estimations based on a homogenized religiosity index indicate that any form of religious affiliation diminishes the likelihood of suicide compared to non-affiliation. These findings affirm Durkheim's homogeneity, regulation, and integration theories, collectively suggesting that prevailing religious norms act as deterrents to suicide.

Regarding religious denominations, Catholic affiliation is shown to decrease suicide rates, whereas Protestant affiliation does not yield significant effects. Furthermore, the estimations underscore that religious service attendance and the significance of religion in daily life hold greater importance than religious affiliation. Notably, religious affiliation becomes statistically insignificant once these parameters are included in the models. However, this outcome doesn't diminish the prior argument. In fact, religious practice and commitment are intrinsic dynamics across most religions, serving as protective factors against suicide. Finally, the estimations emphasize the paramount significance of the importance of religion, signifying the religious commitment of individuals within a given society. Consequently, at the global level, religious commitment appears to exert more influence than religious identity and practice in relation to suicide prevention.

6. Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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