

Religiosity and Its Correlation with Negative Externalities: A Cross-Cultural Analysis

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Abstract

This research investigates the relationship between religiosity and a range of negative societal externalities, including crime rates, global peace, terrorism, press freedom, drug and addiction rates, global inequality, and political stability. The study uses data from major international databases, normalizes it for consistency, and analyzes the correlation. A moderate positive correlation is found, suggesting that higher levels of religiosity might be associated with higher rates of these negative externalities. However, the relationship is not strong enough to conclude that religiosity is the primary factor influencing these externalities. The role of governance and economic development are considered as potential mediating factors.

Keywords: Religiosity, Negative Externalities, Correlation Analysis

Introduction:

In the intricate tapestry of human societies, the interplay between religiosity and various societal outcomes has captivated the attention of scholars and policymakers alike. This research embarks on a nuanced exploration of the relationship between religiosity and a spectrum of negative externalities, seeking to illuminate the potential connections between faith-based beliefs and consequential societal indicators.

Background:

Religiosity, a multifaceted construct encapsulating the depth of an individual's adherence to religious doctrines, has long been acknowledged as a potent influencer of cultural norms and ethical frameworks. While numerous studies have explored the positive aspects of religiosity, the examination of its potential association with negative externalities remains an underexplored frontier.

Rationale:

Motivated by the need to comprehend the intricate interplay between religiosity and societal dynamics, this research posits that religiosity may exhibit connections with a range of negative externalities. The negative externalities under scrutiny include crime rates, global peace, terrorism, press freedom, drug and addiction rates, global inequality, and political stability.

Research Objectives:

This study endeavours to achieve the following objectives:

Investigate the correlation between religiosity and a suite of negative externalities, including crime rates, global peace, terrorism, press freedom, drug and addiction rates, global inequality, and political stability. Examine potential mediating factors that may shape the observed relationships.

Analyse variations in the religiosity-negative externalities associations across diverse cultural, social, and economic contexts.

Methodology:

1. Data Collection:

The data for the selected indicators—Crime Index [11], Human Right Index [7], Global Peace Index (GPI) [9], Global Terrorism Index (GTI) [10], Press Freedom [12], Religiosity [8], Political Stability, Drug & Addiction Rate [3], and Global Inequality Index[1]—was sourced from major international databases, including the United Nations (UN) repositories and other recognized data banks.

Table 1: Preliminary Data Collection

Country	Crime Score [11]	GPI Score [9]	GTI Score [10]	HRI Score [7]	Press Score [12]	Pol_Stab_Round [13]	GII Score [1]	D&Ad Score [3]	RScore [8]
Scores out of	/10	/4	/10	/1	/100	/100	/1	/100	/100
Afghanistan	7.10	3.448	9.603	0.56	40.19	40.2	0.678	5	92
Albania	5.17	1.745	0.42	0.874	30.59	30.6	0.144	11	15
Algeria	4.88	2.094	3.409	0.553	47.26	47.3	0.499	10	73
Argentina	5.00	1.837	1.68	0.914	28.99	29	0.287	15	43
Armenia	2.82	1.929	1.173	0.906	28.83	28.8	0.216	14	53
Australia	4.00	1.525	2.645	0.931	19.79	19.8	0.073	35	18
Austria	4.13	1.316	1.655	0.919	16.34	16.3	0.053	26	12
Azerbaijan	4.80	2.09	0.698	0.415	58.77	58.8	0.294	16	38
Bangladesh	5.12	2.051	5.208	0.404	49.71	49.7	0.53	8	80
Belarus	5.87	2.248	0	0.241	50.82	50.8	0.104	41	21
Belgium	4.43	1.523	3.636	0.953	11.69	11.7	0.048	22	11
Bolivia	4.95	2.001	3.387	0.727	35.47	35.5	0.418	12	71
Bosnia and Herzegovina	5.85	1.892	1.388	0.821	28.34	28.3	0.136	11	54
Botswana	4.35	1.762	0	0.885	23.25	23.3	0.468	9	71
Brazil	6.77	2.462	2.53	0.669	36.25	36.3	0.39	23	72
Bulgaria	5.65	1.643	0.372	0.858	37.29	37.3	0.21	8	19
Burkina Faso	5.92	2.868	5.418	0.793	23.17	23.2	0.621	2	93
Cameroon	6.27	2.66	6.62	0.557	43.78	43.8	0.565	4	90
Canada	3.88	1.35	3.591	0.942	15.25	15.3	0.069	39	27
Chad	5.50	2.699	4.762	0.354	40.2	40.2	0.652	1	86
Chile	5.18	1.874	4.123	0.88	27.89	27.9	0.187	22	41
China	6.37	2.009	4	0.205	78.72	78.7	0.192	15	3
Colombia	7.75	2.693	5.912	0.659	43.74	43.7	0.424	15	77
Costa Rica	5.53	1.731	0	0.946	8.76	8.8	0.256	17	76
Croatia	5.15	1.45	0	0.858	27.95	28	0.093	18	42

Czech Republic	4.68	1.379	0.866	0.921	23.38	23.4	0.12	18	7
DRC	7.35	3.214	7.039	0.52	48.59	48.6	0.601	6	88
Denmark	4.02	1.31	0.957	0.942	8.57	8.6	0.013	36	9
Djibouti	4.65	2.196	0.32	0.409	78.62	78.6	0.552	6	89
Dominican Re- public	5.02	2.019	0.177	0.893	25.6	25.6	0.429	10	78
Ecuador	7.07	2.095	2.455	0.904	32.83	32.8	0.362	12	76
Egypt	5.05	2.267	6.794	0.2	56.17	56.2	0.443	5	72
El Salvador	5.92	2.279	0	0.667	30.49	30.5	0.376	35	85
Estonia	4.25	1.563	0.115	0.955	15.25	15.3	0.1	50	6
Ethiopia	5.68	2.872	5.345	0.528	33.63	33.6	0.52	8	98
Finland	2.98	1.399	2.026	0.96	6.99	7	0.033	33	10
France	5.82	1.939	5.008	0.918	22.6	22.6	0.083	22	11
Georgia	3.60	2.071	1.335	0.907	28.64	28.6	0.28	11	51
Germany	5.33	1.456	4.254	0.955	15.24	15.2	0.073	22	10
Ghana	5.80	1.799	1.559	0.907	21.33	21.3	0.529	6	89
Greece	5.35	1.89	4.167	0.916	29.01	29	0.119	12	56
Guatemala	6.60	2.13	1.331	0.717	38.45	38.5	0.481	31	89
Guinea-Bissau	5.10	2.045	0	0.797	32.68	32.7	0.627	3	91
Honduras	7.05	2.265	0.992	0.794	49.35	49.4	0.431	18	90
Hungary	4.62	1.508	0.181	0.827	31.76	31.8	0.221	15	14
India	5.75	2.314	7.518	0.56	46.56	46.6	0.49	9	80
Indonesia	6.85	1.829	5.07	0.718	37.4	37.4	0.444	5	93
Iran	7.03	2.8	4.717	0.304	72.7	72.7	0.459	19	78
Iraq	7.13	3.006	9.241	0.369	55.57	55.6	0.558	8	82
Ireland	5.08	1.312	2.692	0.961	11.91	11.9	0.074	35	22
Israel	4.85	2.706	4.525	0.849	30.9	30.9	0.083	14	36
Italy	6.22	1.662	3.109	0.911	23.39	23.4	0.056	11	21
Japan	4.28	1.336	2.291	0.925	28.88	28.9	0.083	6	10
Jordan	4.93	1.895	3.091	0.613	42.89	42.9	0.471	10	85
Kazakhstan	4.47	1.98	1.566	0.511	50.28	50.3	0.161	37	22
Kenya	7.02	2.254	5.756	0.678	33.65	33.7	0.506	4	87
Kyrgyzstan	5.32	2.11	1.467	0.651	30.37	30.4	0.37	28	47
Latvia	3.90	1.582	0.229	0.949	19.26	19.3	0.151	30	11
Lebanon	7.10	2.581	4.395	0.716	34.93	34.9	0.432	16	57
Liberia	5.50	1.946	0.105	0.86	33.36	33.4	0.648	4	9
Lithuania	3.90	1.671	0.458	0.929	20.15	20.2	0.105	30	16
Malaysia	6.23	1.513	2.495	0.712	39.47	39.5	0.228	10	77
Mali	5.93	2.963	6.653	0.757	33.5	33.5	0.613	1	94
Mexico	7.57	2.599	4.08	0.71	46.71	46.7	0.309	15	45
Moldova	5.60	1.873	0.115	0.804	31.61	31.6	0.205	23	42

Morocco	4.80	2.02	1.215	0.611	43.94	43.9	0.425	9	91
Mozambique	6.20	2.259	5.542	0.62	35.39	35.4	0.537	4	87
Netherlands	4.97	1.49	2.347	0.933	9.67	9.7	0.025	16	20
Nicaragua	5.72	2.294	2.952	0.252	39.98	40	0.424	25	88
Niger	5.70	2.625	5.596	0.78	28.44	28.4	0.611	1	86
Nigeria	7.28	2.713	8.597	0.653	39.69	39.7	0.68	2	88
Norway	3.75	1.55	0.076	0.926	6.72	6.7	0.016	28	19
Pakistan	6.03	2.745	7.889	0.443	46.86	46.9	0.534	6	94
Palestine	5.556	2.538	5.177	0.672	43.18	43.2	0.715	7	86
Panama	6.98	1.942	0.038	0.876	29.94	29.9	0.392	12	61
Paraguay	7.52	1.942	3.119	0.813	33.52	33.5	0.445	23	56
Peru	6.40	2.13	2.84	0.863	31.71	31.7	0.38	15	73
Philippines	6.63	2.229	7.137	0.531	45.64	45.6	0.419	7	91
Poland	4.48	1.634	0.477	0.838	28.84	28.8	0.109	28	30
Portugal	4.88	1.333	0	0.932	10.11	10.1	0.067	16	36
Romania	4.58	1.649	0	0.887	24.91	24.9	0.282	11	50
Russia	6.87	3.142	4.9	0.431	48.71	48.7	0.203	38	16
Rwanda	3.60	2.051	2.948	0.275	50.66	50.7	0.388	10	90
Senegal	5.52	1.827	1.186	0.873	25.22	25.2	0.53	4	98
Serbia	6.22	1.921	0.115	0.787	32.03	32	0.131	13	34
Slovakia	4.72	1.578	0.057	0.903	23.02	23	0.18	17	23
South Korea	4.43	1.763	0.296	0.934	23.43	23.4	0.067	20	16
Spain	5.90	1.649	3.354	0.946	20.44	20.4	0.057	17	22
Sweden	4.70	1.625	3.45	0.966	7.24	7.2	0.023	26	10
Switzerland	4.87	1.339	0.191	0.955	10.55	10.6	0.018	25	9
Tajikistan	5.45	2.114	3.947	0.207	55.52	55.5	0.285	14	50
Tanzania	6.20	2.058	3.272	0.657	40.69	40.7	0.56	5	93
Tunisia	4.45	2.01	3.938	0.786	29.53	29.5	0.259	10	78
Turkey	7.03	2.785	6.533	0.337	49.79	49.8	0.272	9	68
Uganda	6.55	2.3	3.957	0.431	41.19	41.2	0.53	3	86
Ukraine	6.48	3.043	5.547	0.757	32.96	33	0.2	28	23
United Kingdom	5.75	1.693	5.405	0.895	21.59	21.6	0.098	32	10
United States	5.67	2.448	5.691	0.904	23.93	23.9	0.179	67	53
Uruguay	3.22	1.798	0.172	0.948	16.38	16.4	0.235	16	29
Uzbekistan	4.95	2.033	0.019	0.366	50.74	50.7	0.227	11	29
Venezuela	6.72	2.693	4.101	0.349	47.6	47.6	0.492	9	67
Vietnam	6.55	1.745	0.999	0.408	78.46	78.5	0.296	14	18
Zambia	4.73	1.898	0.305	0.614	38.21	38.2	0.54	5	91

2.Data Transformation:

Upon retrieval, the raw data for each indicator was normalised to a scale out of 100 for consistency and comparability. This involved transforming the original values into a standardised scale, where 0 represents the lowest and 100 represents the highest observed values for each indicator.

Table 2: Transformed Data

Country	Cri-meAVG	GPIAvg	GTIAvg	HRI Avg	Press Avg	Pol_Stab_Round	GII Avg	D&Ad Avg	RAvg
Afghanistan	71	86.2	96.03	56	40.19	-84.3	67.8	5	92
Albania	51.7	43.625	4.2	87.4	30.59	3.7	14.4	11	15
Algeria	48.8	52.35	34.09	55.3	47.26	-29.3	49.9	10	73
Argentina	50	45.925	16.8	91.4	28.99	-3.7	28.7	15	43
Armenia	28.2	48.225	11.73	90.6	28.83	-28	21.6	14	53
Australia	40	38.125	26.45	93.1	19.79	28.3	7.3	35	18
Austria	41.3	32.9	16.55	91.9	16.34	30.3	5.3	26	12
Azerbaijan	48	52.25	6.98	41.5	58.77	-28.3	29.4	16	38
Bangladesh	51.2	51.275	52.08	40.4	49.71	-32.3	53	8	80
Belarus	58.7	56.2	0	24.1	50.82	-24.7	10.4	41	21
Belgium	44.3	38.075	36.36	95.3	11.69	20.3	4.8	22	11
Bolivia	49.5	50.025	33.87	72.7	35.47	-10.7	41.8	12	71
Bosnia and Herzegovina	58.5	47.3	13.88	82.1	28.34	-12.7	13.6	11	54
Botswana	43.5	44.05	0	88.5	23.25	32.7	46.8	9	71
Brazil	67.7	61.55	25.3	66.9	36.25	-16.3	39	23	72
Bulgaria	56.5	41.075	3.72	85.8	37.29	15.3	21	8	19
Burkina Faso	59.2	71.7	54.18	79.3	23.17	-54.7	62.1	2	93
Cameroon	62.7	66.5	66.2	55.7	43.78	-47	56.5	4	90
Canada	38.8	33.75	35.91	94.2	15.25	31.3	6.9	39	27
Chad	55	67.475	47.62	35.4	40.2	-44.7	65.2	1	86
Chile	51.8	46.85	41.23	88	27.89	2	18.7	22	41
China	63.7	50.225	44.65	20.5	78.72	-16	19.2	15	3
Colombia	77.5	67.325	59.12	65.9	43.74	-30.3	42.4	15	77
Costa Rica	55.3	43.275	0	94.6	8.76	29	25.6	17	76
Croatia	51.5	36.25	0	85.8	27.95	23.7	9.3	18	42
Czech Republic	46.8	34.475	8.66	92.1	23.38	32	12	18	7
Democratic Republic of the Congo	73.5	80.35	70.39	52	48.59	4.7	60.1	6	88
Denmark	40.2	32.75	9.57	94.2	8.57	31.7	1.3	36	9
Djibouti	46.5	54.9	3.2	40.9	78.62	-23.7	55.2	6	89

Dominican Republic	50.2	50.475	1.77	89.3	25.6	-53.7	42.9	10	78
Ecuador	70.7	52.375	24.55	90.4	32.83	-9	36.2	12	76
Egypt	50.5	56.675	67.94	20	56.17	-34	44.3	5	72
El Salvador	59.2	56.975	0	66.7	30.49	-7	37.6	35	85
Estonia	42.5	39.075	1.15	95.5	15.25	25.3	10	50	6
Ethiopia	56.8	71.8	53.45	52.8	33.63	-69	52	8	98
Finland	29.8	34.975	20.26	96	6.99	32.7	3.3	33	10
France	58.2	48.475	50.08	91.8	22.6	12.3	8.3	22	11
Georgia	36	51.775	13.35	90.7	28.64	-14	28	11	51
Germany	53.3	36.4	42.54	95.5	15.24	25.3	7.3	22	10
Ghana	58	44.975	15.59	90.7	21.33	2.3	52.9	6	89
Greece	53.5	47.25	41.67	91.6	29.01	5	11.9	12	56
Guatemala	66	53.25	13.31	71.7	38.45	-13	48.1	31	89
Guinea-Bissau	51	51.125	0	79.7	32.68	-32.3	62.7	3	91
Honduras	70.5	56.625	9.92	79.4	49.35	-20.3	43.1	18	90
Hungary	46.2	37.7	1.81	82.7	31.76	28.7	22.1	15	14
India	57.5	57.85	75.18	56	46.56	-20.7	49	9	80
Indonesia	68.5	45.725	50.7	71.8	37.4	-17	44.4	5	93
Iran	70.3	70	47.17	30.4	72.7	-54	45.9	19	78
Iraq	71.3	75.15	92.41	36.9	55.57	-80	55.8	8	82
Ireland	50.8	32.8	26.92	96.1	11.91	28.7	7.4	35	22
Israel	48.5	67.65	45.25	84.9	30.9	-35.3	8.3	14	36
Italy	62.2	41.55	31.09	91.1	23.39	19.3	5.6	11	21
Japan	42.8	33.4	22.91	92.5	28.88	34.3	8.3	6	10
Jordan	49.3	47.375	30.91	61.3	42.89	-9.3	47.1	10	85
Kazakhstan	44.7	49.5	15.66	51.1	50.28	-8.3	16.1	37	22
Kenya	70.2	56.35	57.56	67.8	33.65	-36.3	50.6	4	87
Kyrgyzstan	53.2	52.75	14.67	65.1	30.37	-14.3	37	28	47
Latvia	39	39.55	2.29	94.9	19.26	23	15.1	30	11
Lebanon	71	64.525	43.95	71.6	34.93	-49.7	43.2	16	57
Liberia	55	48.65	1.05	86	33.36	-8	64.8	4	9
Lithuania	39	41.775	4.58	92.9	20.15	27.3	10.5	30	16
Malaysia	62.3	37.825	24.95	71.2	39.47	4.7	22.8	10	77
Mali	59.3	74.075	66.53	75.7	33.5	-78.3	61.3	1	94
Mexico	75.7	64.975	40.8	71	46.71	-21.3	30.9	15	45
Moldova	56	46.825	1.15	80.4	31.61	-7	20.5	23	42
Morocco	48	50.5	12.15	61.1	43.94	-13.3	42.5	9	91
Mozambique	62	56.475	55.42	62	35.39	-41	53.7	4	87
Netherlands	49.7	37.25	23.47	93.3	9.67	30.7	2.5	16	20
Nicaragua	57.2	57.35	29.52	25.2	39.98	-15.7	42.4	25	88

Niger	57	65.625	55.96	78	28.44	-54	61.1	1	86
Nigeria	72.8	67.825	85.97	65.3	39.69	-59.3	68	2	88
Norway	37.5	38.75	0.76	92.6	6.72	36.7	1.6	28	19
Pakistan	60.3	68.625	78.89	44.3	46.86	-55.7	53.4	6	94
Palestine	55.56	63.45	51.77	67.2	43.18	-61.3	71.5	7	86
Panama	69.8	48.55	0.38	87.6	29.94	9.7	39.2	12	61
Paraguay	75.2	48.55	31.19	81.3	33.52	0	44.5	23	56
Peru	64	53.25	28.4	86.3	31.71	-13.7	38	15	73
Philippines	66.3	55.725	71.37	53.1	45.64	-31	41.9	7	91
Poland	44.8	40.85	4.77	83.8	28.84	17	10.9	28	30
Portugal	48.8	33.325	0	93.2	10.11	31.7	6.7	16	36
Romania	45.8	41.225	0	88.7	24.91	17.7	28.2	11	50
Russia	68.7	78.55	49	43.1	48.71	-21.7	20.3	38	16
Rwanda	36	51.275	29.48	27.5	50.66	5.7	38.8	10	90
Senegal	55.2	45.675	11.86	87.3	25.22	-5.7	53	4	98
Serbia	62.2	48.025	1.15	78.7	32.03	-4.3	13.1	13	34
Slovakia	47.2	39.45	0.57	90.3	23.02	18.7	18	17	23
South Korea	44.3	44.075	2.96	93.4	23.43	22	6.7	20	16
Spain	59	41.225	33.54	94.6	20.44	19.3	5.7	17	22
Sweden	47	40.625	34.5	96.6	7.24	34.3	2.3	26	10
Switzerland	48.7	33.475	1.91	95.5	10.55	37.7	1.8	25	9
Tajikistan	54.5	52.85	39.47	20.7	55.52	0	28.5	14	50
Tanzania	62	51.45	32.72	65.7	40.69	-14.7	56	5	93
Tunisia	44.5	50.25	39.38	78.6	29.53	-23.3	25.9	10	78
Turkey	70.3	69.625	65.33	33.7	49.79	-36.7	27.2	9	68
Uganda	65.5	57.5	39.57	43.1	41.19	-28.7	53	3	86
Ukraine	64.8	76.075	55.47	75.7	32.96	18	20	28	23
United Kingdom	57.5	42.325	54.05	89.5	21.59	-36.7	9.8	32	10
United States	56.7	61.2	56.91	90.4	23.93	35	17.9	67	53
Uruguay	32.2	44.95	1.72	94.8	16.38	0	23.5	16	29
Uzbekistan	49.5	50.825	0.19	36.6	50.74	-8	22.7	11	29
Venezuela	67.2	67.325	41.01	34.9	47.6	-51	49.2	9	67
Vietnam	65.5	43.625	9.99	40.8	78.46	-3.7	29.6	14	18
Zambia	47.3	47.45	3.05	61.4	38.21	2	54	5	91

3.Weight Assignment:

Weights were assigned to each normalised indicator based on the predefined weightage scheme. The weights were determined as follows:

Table 3: Weightage for CSQ

Weightage for CSQ	
CrimeAVG	0.1
GPIAvg	0.2
GTIAvg	0.2
HRIAvg	0.1
PressAvg	0.1
Pol_Stab_Round	0.1
D&Ad_Avg	0.1
GII_Avg	0.1
	1

4. Composite Index Calculation: Comprehensive Safety Quotient (CSQ):

The Comprehensive Safety Quotient (CSQ) was derived by applying the assigned weights to each normalised indicator and summing the products.

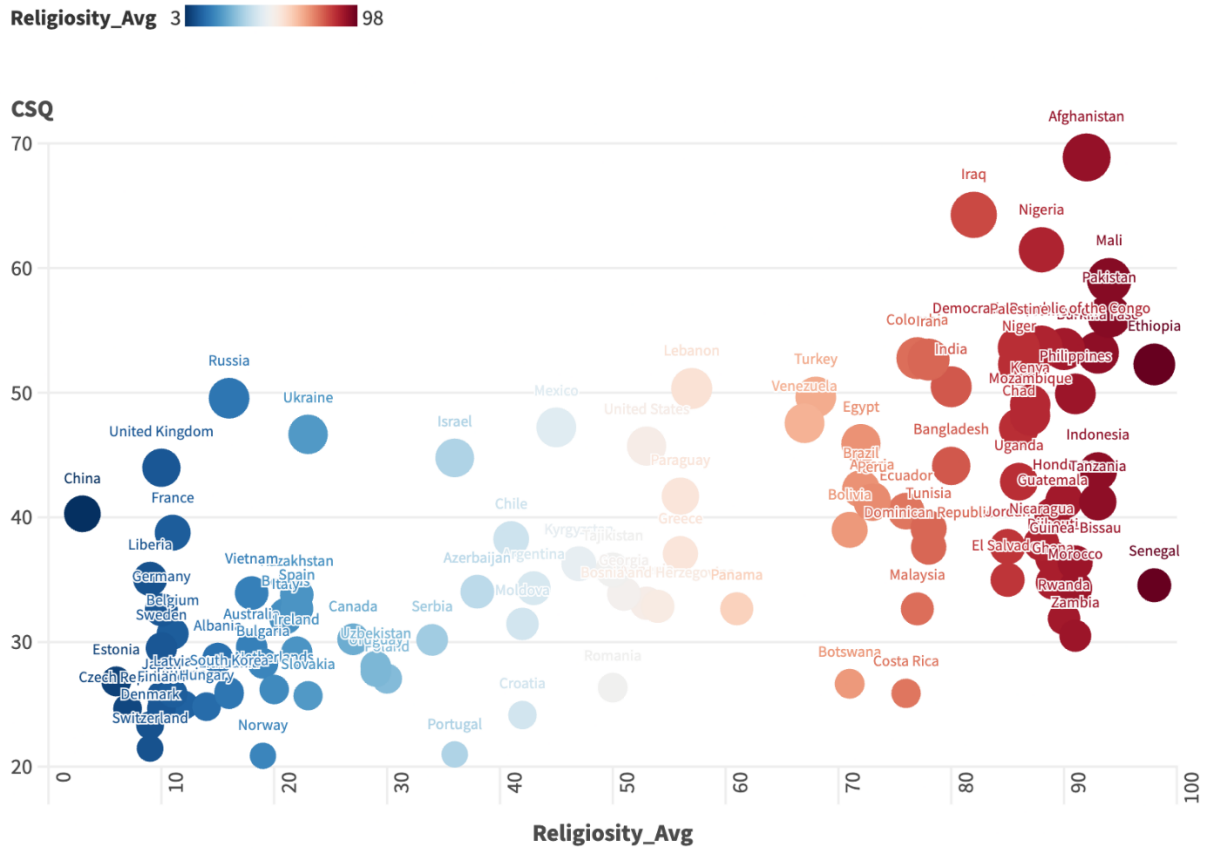
Table 4: Final Data

Country	Religiosity_Avg	CSQ
Afghanistan	92	68.88
Albania	15	28.7
Algeria	73	41.34
Argentina	43	34.32
Armenia	53	33.11
Australia	18	29.6
Austria	12	24.94
Azerbaijan	38	34.04
Bangladesh	80	44.13
Belarus	21	32.21
Belgium	11	30.67
Bolivia	71	39
Bosnia and Herzegovina	54	32.86
Botswana	71	26.65
Brazil	72	42.29
Bulgaria	19	28.29
Burkina Faso	93	53.22
Cameroon	90	53.51
Canada	27	30.22
Chad	86	47.17
Chile	41	38.26
China	3	40.29
Colombia	77	52.77

Costa Rica	76	25.88
Croatia	42	24.14
Czech Republic	7	24.66
Democratic Republic of the Congo	88	53.7
Denmark	9	23.32
Djibouti	89	36.71
Dominican Republic	78	37.62
Ecuador	76	40.5
Egypt	72	45.92
El Salvador	85	34.99
Estonia	6	26.84
Ethiopia	98	52.27
Finland	10	24.69
France	11	38.77
Georgia	51	33.86
Germany	10	32.59
Ghana	89	34.78
Greece	56	37.09
Guatemala	89	40.14
Guinea-Bissau	91	36.36
Honduras	90	41.37
Hungary	14	24.81
India	80	50.48
Indonesia	93	43.7
Iran	78	52.66
Iraq	82	64.27
Ireland	22	29.2
Israel	36	44.77
Italy	21	31.93
Japan	10	25.68
Jordan	85	37.65
Kazakhstan	22	33.78
Kenya	87	49.04
Kyrgyzstan	47	36.28
Latvia	11	25.89
Lebanon	57	50.34
Liberia	9	35.06
Lithuania	16	25.8
Malaysia	77	32.66
Mali	94	59.03
Mexico	45	47.22

Moldova	42	31.45
Morocco	91	34.31
Mozambique	87	48.19
Netherlands	20	26.19
Nicaragua	88	37.92
Niger	86	52.27
Nigeria	88	61.47
Norway	19	20.87
Pakistan	94	56.16
Palestine	86	53.62
Panama	61	32.67
Paraguay	56	41.7
Peru	73	41.2
Philippines	91	49.91
Poland	30	27.06
Portugal	36	20.98
Romania	50	26.34
Russia	16	49.56
Rwanda	90	31.88
Senegal	98	34.55
Serbia	34	30.17
Slovakia	23	25.69
South Korea	16	25.99
Spain	22	32.7
Sweden	10	29.51
Switzerland	9	21.46
Tajikistan	50	35.79
Tanzania	93	41.24
Tunisia	78	39.11
Turkey	68	49.66
Uganda	86	42.86
Ukraine	23	46.66
United Kingdom	10	43.98
United States	53	45.72
Uruguay	29	27.62
Uzbekistan	29	28.06
Venezuela	67	47.56
Vietnam	18	33.93
Zambia	91	30.49

Figure 1: Religiosity to CSQ Scatter Plot



5. Correlation Analysis

A Pearson correlation coefficient was computed to assess the linear relationship between advertising spend and total revenue.

There was a moderate positive correlation between the two variables, $r(103) = 0.6271$

6. Sampling

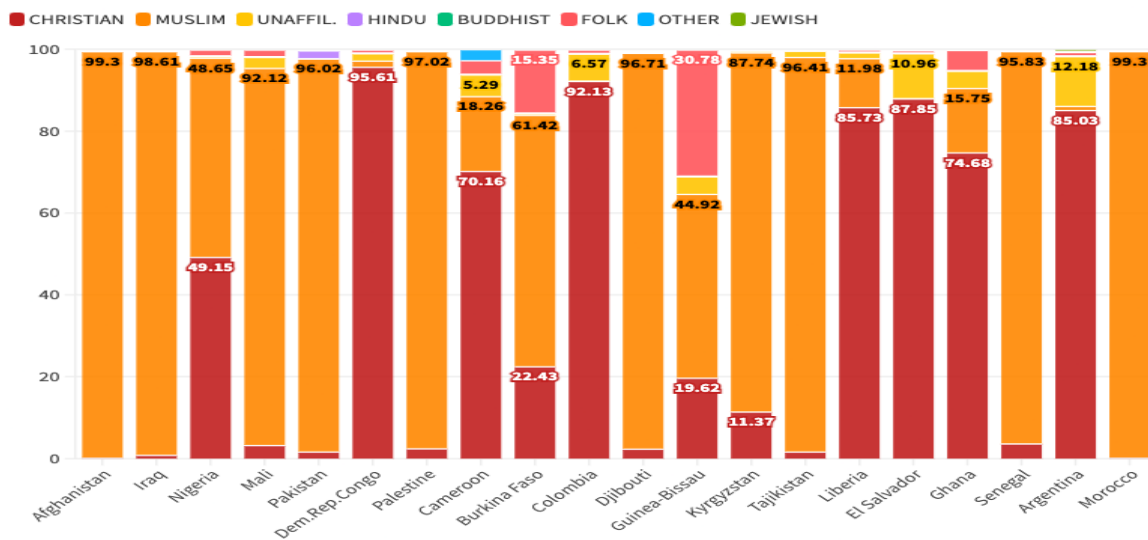
Finding the Highest, Median and lowest religiosity to CSQ countries to create an accurate sample mentioning its religious distribution.

Table 5: Sample Data with religious distribution

Countries with highest Religiosity to CSQ										
Country	RAvg	CSQ	CHRIS-TIAN%	MUS-LIM %	UN-AF-FIL %	HINDU %	BUD-DHIST %	FOLK RELI-GION %	OTHER %	JEW-ISH %
Afghanistan	92	68.88	0.1 %	99.7 %	< 0.1 %	< 0.1 %	< 0.1 %	< 0.1 %	< 0.1 %	< 0.1 %
Iraq	82	64.27	0.8	99.0	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nigeria	88	61.47	49.3	48.8	0.4	< 0.1	< 0.1	1.4	< 0.1	< 0.1
Mali	94	59.03	3.2	92.4	2.7	< 0.1	< 0.1	1.6	< 0.1	< 0.1
Pakistan	94	56.16	1.6	96.4	< 0.1	1.9	< 0.1	< 0.1	< 0.1	< 0.1

Dem.Rep.Congo	88	53.7	95.8	1.5	1.8	< 0.1	< 0.1	0.7	0.1	< 0.1
Palestine	86	53.62	2.4	97.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cameroon	90	53.51	70.3	18.3	5.3	< 0.1	< 0.1	3.3	2.7	< 0.1
Burkina Faso	93	53.22	22.5	61.6	0.4	< 0.1	< 0.1	15.4	< 0.1	< 0.1
Colombia	77	52.77	92.5	< 0.1	6.6	< 0.1	< 0.1	0.8	< 0.1	< 0.1
Countries with median Religiosity to CSQ										
Djibouti	89	36.71	2.3	96.9	0.2	< 0.1	< 0.1	0.3	< 0.1	0.2
Guinea-Bissau	91	36.36	19.7	45.1	4.3	< 0.1	< 0.1	30.9	< 0.1	< 0.1
Kyrgyzstan	47	36.28	11.4	88.0	0.4	< 0.1	< 0.1	0.1	< 0.1	< 0.1
Tajikistan	50	35.79	1.6	96.7	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Liberia	9	35.06	85.9	12.0	1.4	< 0.1	< 0.1	0.5	0.1	< 0.1
El Salvador	85	34.99	88.2	< 0.1	11.0	< 0.1	< 0.1	0.5	0.3	< 0.1
Ghana	89	34.78	74.9	15.8	4.2	< 0.1	< 0.1	4.9	0.2	< 0.1
Senegal	98	34.55	3.6	96.4	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Argentina	43	34.32	85.2	1.0	12.2	< 0.1	< 0.1	0.8	0.3	0.5
Morocco	91	34.31	< 0.1	99.9	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Countries with least Religiosity to CSQ										
Japan	10	25.68	1.6	0.2	57.0	< 0.1	36.2	0.4	4.7	< 0.1
Austria	12	24.94	80.4	5.4	13.5	< 0.1	0.2	< 0.1	0.1	0.2
Hungary	14	24.81	81.0	< 0.1	18.6	< 0.1	< 0.1	< 0.1	< 0.1	0.1
Finland	10	24.69	81.6	0.8	17.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Czech Republic	7	24.66	23.3	< 0.1	76.4	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Croatia	42	24.14	93.4	1.4	5.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Denmark	9	23.32	83.5	4.1	11.8	0.4	0.2	< 0.1	< 0.1	< 0.1
Switzerland	9	21.46	81.3	5.5	11.9	0.4	0.4	< 0.1	0.1	0.3
Portugal	36	20.98	93.8	0.6	4.4	0.1	0.6	0.5	< 0.1	< 0.1
Norway	19	20.87	84.7	3.7	10.1	0.5	0.6	< 0.1	0.2	< 0.1

Figure 2: Religious distribution of the Sample



Discussion:

The moderate positive correlation ($R = 0.6271$) suggests that there is a relationship between higher levels of religiosity and the composite score of negative externalities across the 104 countries studied. This might indicate that in countries with higher religiosity scores, there could be higher rates of crime, less peace, more terrorism, less press freedom, higher drug and addiction rates, more global inequality, and less political stability. However, the relationship is not strong enough to suggest that religiosity is the sole or even the primary factor influencing these negative externalities.

One potential mediating factor could be the role of governance and political systems; countries with strong, stable governments might both moderate the negative externalities and also influence the role of religion in society. Additionally, economic development could play a crucial role; countries with higher GDP per capita often have better infrastructure to deal with crime, addiction, and inequality, and may also afford more secular lifestyles that diminish the role of religion in everyday life.

Discussion with Specific Examples:

Afghanistan has a high religiosity score (RAvg) of 92 and a high CSQ of 68.88, with a dominant Muslim population (99.7%). This suggests a strong presence of religion in the country. The high CSQ could be influenced by political instability, historical conflicts, and economic challenges.

Norway, in contrast, shows a low RAvg of 19 and a low CSQ of 20.87. Norway's predominantly Christian population (84.7%) and high levels of economic development may contribute to this lower CSQ, reflecting better overall societal health.

Nigeria presents an interesting case with a significant Christian and Muslim population (49.3% and 48.8%, respectively). Despite a high RAvg of 88, the CSQ is also high at 61.47, which could be influenced by economic disparities, ethnic conflicts, and issues of governance.

Japan has the lowest RAvg of 10, indicating low levels of religiosity, and a low CSQ of 25.68. This aligns with Japan's high economic development and stable political environment.

Limitations:

This study has several limitations. First, the research is correlational in nature, which means it does not establish causality between religiosity and negative externalities. Second, the study relies on a composite index for measuring negative externalities, which may not capture the complexity and nuances of these phenomena. Third, the study does not account for potential mediating factors that could influence the observed relationships, such as government policies, economic development, education levels, and societal norms.

Conclusion:

In conclusion, this study provides preliminary evidence of a correlation between religiosity and negative externalities. However, the strength of this relationship varies across different cultural, social, and economic contexts. Further research is needed to explore potential mediating factors and to examine these

associations in more detail. This could provide valuable insights for policymakers and stakeholders interested in mitigating negative externalities and promoting societal well-being.

Appendix:

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