Religiosity's Moderation Effect on the Relationship between Inequality and Subjective Well-being across the Globe

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Abstract

This paper reports two studies that sought to examine whether religiosity moderates the relationship between income inequality and subjective well-being. Using multi-level and national-level analyses on 85 and 127 nations, respectively, we found evidence in support of this hypothesis. We also examined whether religiosity is a linear or a quadratic moderator of the relationship between income inequality and subjective well-being. We found that while religiosity is a linear moderator of this relationship for 85 commonly studies nations, it is a quadratic moderator when data from a larger sample of 127 nations, including many understudied nations, were analysed. The importance and implications of the results are discussed.

Keywords: income inequality, religiosity, subjective well-being, life satisfaction, happiness, culture, religion

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Introduction

For the last 30 years, many nations around the world have observed continual increases in income inequality (Atkinson and Piketty, 2007). This has caused many social scientists to investigate the effects of income inequality on societies and individuals, although few psychologists have investigated the issue (Oishi, Kesebir, & Diener, 2011). The relationship between income inequality and subjective well-being "is generally hypothesized to be negative" (Senik, 2009, p. 12), although the evidence has been described as "mixed" (Dolan, Peasegood, & White, 2008, p. 108). For example, while Rözer and Kraaykamp (2012) found a positive relationship between income inequality and subjective well-being, many other researchers have argued that income inequality has negative effects on mental health and subjective well-being (e.g., Oishi et al., 2011; Pickett & Wilkinson 2010; Verme, 2011). Several studies and reviews have argued that the relationship between income inequality and subjective well-being will differ across cultures because of divergent beliefs, for example, about the fairness of income inequality and the extent of income mobility (Alesina, Di Tella, & MacCulloch, 2004; Dolan et al., 2008; Napier & Jost 2008; Oishi et al., 2011; Savani & Rattan, 2012; Senik, 2009). Despite many studies investigating the relationship between income inequality and subjective well-being, few of them have looked outside of Europe and North America, potentially leading to an under-appreciation of cultural moderators of this relationship. To address this issue, this paper investigates whether an important psychological variable, religiosity, moderates the relationship between income inequality and subjective well-being across a wide range of Western and non-Western cultures.

Predictions of the present studies

The mixed results for the relationship between income inequality and subjective well-being suggest competing pressures, i.e. income inequality is probably both positively and negatively linked to subjective well-being in different ways and in different contexts. Regardless of the exact net relationship between income inequality and subjective well-being, negative effects are likely to be present in the relationship, and those effects might be buffered by religiosity. Studies have shown that religiosity tends to act as a buffer on relationships between many negative life circumstances and mental health or subjective well-

being (Diener, Tay, & Myers, 2011; Inglehart, 2010; Lazarus, 1993; Ryff, Singer, & Palmersheim, 2004; Smith, McCullough, & Poll, 2003; Williams, Larson, Buckler, Heckmann, & Pyle, 1991), including poverty (Gebauer, Nehrlich, Sedikides, & Neberich, 2012) and injustice (Joshanloo & Weijers, 2013). This religiosity-as-buffer effect is often explained with reference to the Terror Management theory of religion (Greenberg, Pyszczynski, & Solomon, 1986) or the Life Stress paradigm (Ellison, 1994; Schnittker, 2001). With both kinds of explanation, religious belief or participation is argued to quell various forms of anxiety or distress, such as by instilling the belief that no matter how bad life might seem, there is nevertheless a good, God-given, reason for why it is this way (Hackney & Sanders, 2003).

If the negative effects of poverty and injustice on subjective well-being are buffered by religiosity (e.g., Gebauer et al,. 2012; Joshanloo & Weijers, 2013), then religiosity might also buffer the negative effects of the related concept, income inequality, on subjective well-being. Those with strong religious beliefs might find the negative aspects of income inequality in their country less stressful or depressing because of their belief that God will either correct this problem or has permitted or caused this problem for an important reason. Therefore, the religiosity-as-buffer hypothesis predicts that the negative effect of income inequality on subjective well-being reduces as religiosity increases. The present two studies sought to cross-culturally examine this prediction.

Studies have also shown that religiosity has a complex relationship with mental health and subjective well-being (e.g., Okulicz-Kozaryn, 2010). For example, by building on previous studies investigating potential non-linear relationships between religiosity and mental health (e.g., Riley, Best, & Charlton, 2005; Ross, 1990), Galen and Kloet (2011) found a curvilinear relationship between religiosity and subjective well-being, such that people with firm beliefs in religion or atheism tended to be more satisfied with their lives than those who were undecided about their religious beliefs. Since the relationship between religiosity and subjective well-being is not entirely linear, we also investigated whether religiosity is a non-linear (i.e., quadratic) moderator of the relationship between income inequality and subjective well-being.

Study 1

This study examines our hypotheses using data from the most recent waves of the World Values Survey and European Values Study. The data were simultaneously subject to two levels of analysis (individual and national) using multi-level modelling (Hox, 2010). In

multi-level analysis, both individual- and cultural-level predictors can be used, which enables the investigation of cross-level interactions between predictors, and makes this kind of analysis the most appropriate for this study. We also included national economic prosperity as a control variable because it might independently affect our variables of interest, as implicated by its correlations with life satisfaction (e.g., Di Tella, MacCulloch, & Oswald, 2003; Helliwell, 2003) and religiosity (e.g., Pew Forum on Religion & Public Life, 2007; Barro & Mitchell, 2004). Furthermore, when cross-culturally investigating the relationship between income inequality and subjective well-being, Berg and Veenhoven (2010) found that controlling for wealth significantly affected the relationship, even changing negative relationships to positive ones.

Method

Participants

We combined data from all waves of the World Values Survey and European Values Study from 1999 to 2010 (i.e., 1999–2004, 2005–2007, and 2008–2010 waves). A total of 227,462 participants from 85 nations completed all measures of the study (EVS, 2011; WVS, 2009). The included countries, sample sizes, and national-level means of the variables under study are reported in Table 1.

Measures

Life satisfaction. Personal-level life satisfaction scores were used as the outcome in multi-level analysis. Participants answered the question "All things considered, how satisfied are you with your life as a whole these days?" on a 10-point scale ranging from 1 = *completely dissatisfied* to 10 = *completely satisfied.*

Religiosity. Personal-level religiosity was measured with participants answers to the question "How important is God in your life?" on a 10-point scale ranging from 1 = *not at all important* to 10 = *very important*. Personal religiosity scores were group-mean centred. For national religiosity, average personal religiosity was calculated for each nation. National religiosity was grand-mean centred to be used as a national-level predictor. The quadratic terms of personal and national religiosity were calculated by squaring centred variables.

National income inequality. The income Gini index was used to measure income inequality in the nations of the study. This index is a "measure of the deviation of the distribution of income (or consumption) among individuals or households within a country from a perfectly equal distribution. A value of 0 represents absolute equality, a value of 100

absolute inequality" (UNDP, 2013, p. 155). The most recent measurement available from 2000–2010 was used (UNDP, 2010)[1]. This variable was grand-mean centred.

National economic prosperity. To measure the economic prosperity of the nations in the study, the economy sub-index of the 2012 Legatum Prosperity Index was used. This index measures "countries' performance in four key areas: macroeconomic policies, economic satisfaction and expectations, foundations for growth, and financial sector efficiency" (Legatum Institute, 2012, p. 12). The economy index ranges from -6.78 to 3.33. This variable was grand-mean centred.

Age and gender were also included in the analysis as control variables because previous research has indicated that they are significant predictors of life satisfaction (e.g., Alesina et al., 2004; Greene & Yoon, 2004).

Results

Multi-level analyses were conducted using SPSS 19 with restricted maximum likelihood to estimate the models. We used a random-intercepts/random slopes model. We first tested an unconditional means model (Peugh & Enders, 2005), excluding all the predictors. An unconditional means model is identical to a one-way ANOVA with random effects. The results of this analysis reveal the proportion of variability in life satisfaction that exists at the individual and cultural levels before adding covariates. The results showed that there was statistically significant variability both at the individual (b = 5.14, Wald Z = 335.33, p (one-sided) < .001) and cultural (b = .91, Wald Z = 6.49, p (one-sided) < .001) levels. Therefore, it was justifiable to add predictors to the model to explain the existing unexplained variance at both levels.

In a second analysis, we added all the predictors to the model. Age, gender, and national economic prosperity were included to control for their effects. The results showed that the slopes of personal religiosity (b = .003, Wald Z = 4.170, p (one-sided) < .001), the quadratic term of personal religiosity (b = .00009, Wald Z = 4.060, p (one-sided) < .001), age (b = .0001, Wald Z = 6.052, p (one-sided) < .001), and gender (b = .024, Wald Z = 4.753, p (one-sided) < .001) were significantly variable across the cultures, therefore these random slopes were kept in the model.

[1] Data is prepared and provided by Cross-National Socio-Economic and Religion Data, 2011, Obtained from http://www.thearda.com/.

Adding all of the predictors to the model reduced the unexplained within-culture variability by (5.14 - 5.03 =) 0.11, meaning the covariates explained about 2% of the variability in the individual-level scores of life satisfaction. The remaining amount of unexplained variance is still highly significantly different from zero (b = 5.03, Wald Z = 329.687, p (one-sided) < .001). Adding the predictors to the model also reduced the unexplained between-culture variability by (.91 - .50 =) 0.41, meaning the covariates explained about 45% of the variability in the nation-level scores of life satisfaction. A significant amount of variance remains to be explained by additional covariates (b = .50, Wald Z = 5.604, p (one-sided) < .001).

The estimates are shown in Table 2. Among the individual-level variables, age (negative), personal religiosity (positive), and the quadratic term of personal religiosity (positive) were significant predictors. While national income inequality was not a significant predictor of individual-level life satisfaction, national economic prosperity was. The interactions between personal and national religiosity and national income inequality were both significant. These results are consistent with our main hypothesis that religiosity buffers the negative effect of income inequality on subjective well-being. The moderating effect of national religiosity is schematically shown in Figure 1. As can be seen, whereas the relationship between national income inequality and personal life satisfaction is negative for less religious nations, it is slightly positive for moderately religious nations, and more positive for nations with high levels of religiosity.

The significant relationship between the quadratic term of personal religiosity and life satisfaction indicates that the relationship between personal religiosity and life satisfaction is not entirely linear. However, we found that the relationship between national income inequality and the quadratic term of personal religiosity was not significant. The relationship between national income inequality and the quadratic term of national religiosity was also not significant. These results indicate that religiosity is not a quadratic moderator of the relationship between national income inequality and life satisfaction.

Finally, in keeping with previous research, there was a significant cross-level interaction between personal and national religiosity, such that the relationship between personal religiosity and life satisfaction was stronger in more (vs. less) religious nations.

Discussion

The results of the multi-level modelling for the control variables are generally consistent with previous research. Age was a negative predictor of life satisfaction, which is

to be expected when a linear relationship is assumed (Blanchflower & Oswald 2004). Although many multi-national studies of this type have found that women report slightly higher levels of subjective well-being than men (e.g., Alesina et al., 2004), the result for gender was not significant. This probably reflects the recent decline in the subjective well-being of women in developed nations, in which women generally used to report slightly higher levels of subjective well-being (Stevenson & Wolfers, 2009), and is certainly not an unprecedented result (e.g., Louis & Zhao, 2002). National economic prosperity was a significant predictor of life satisfaction in the analysis, which, when combined with the previously reported correlations between economic prosperity and religiosity at the national-level (e.g., Pew Forum on Religion & Public Life, 2007; Barro & Mitchell, 2004), supports its inclusion as a control variable in the present study.

The results are in line with our main prediction—religiosity buffers the negative effects of income inequality—such that the negative relationship between national income inequality and life satisfaction becomes slightly positive (and then more positive) as national religiosity increases to moderate and then high levels. The schematic representation of the moderation analysis presented in Figure 1, clearly demonstrates this buffering effect. This result supports our main hypothesis and is at least partially explained by the postulations of the previously mentioned theories—that belief in a higher power enables religious devotees to provide positive justifications for negative circumstances and thereby experience less negative effects from those circumstances (Hackney & Sanders, 2003).

The results vividly display how different the relationship between individual religiosity and life satisfaction is from the relationship between national religiosity and life satisfaction. Personal religiosity was a positive predictor of life satisfaction, whereas national religiosity was a negative predictor of life satisfaction. The result for personal religiosity corroborates previously reported findings (e.g., Pew Forum on Religion & Public Life, 2007; Barro & Mitchell, 2004) and support the idea that personal religiosity acts a kind of psychic safety net, offering consolation and meaning in difficult circumstance (Eichhorn, 2012). That negative relationship between national religiosity and life satisfaction, which held even after national economic prosperity was controlled for, is probably best explained by the lack of freedom, justice, and social capital that tends to be found in many highly religious nations (Inglehart, 2010).

Confirming recent reviews of the relationship between inequality and life satisfaction (e.g., Senik, 2009), national income inequality is not significantly correlated with life satisfaction. This result probably reflects one of the bases for this study; the idea that the

relationship between national income inequality and life satisfaction is affected by competing mechanisms with different strengths in different cultural and economic contexts.

In line with previous research (e.g., Eichhorn, 2012), the interaction between personal and national religiosity was a significant predictor of life satisfaction, such that the relationship between personal religiosity and life satisfaction was stronger in more (vs. less) religious nations. This result reveals the importance of cross-level analysis of religion data because of the effect the context of national religiosity has on the correlational properties of personal religiosity (Diener et al., 2011). Furthermore, many of the extant explanations for national religiosity buffering negative effects tend to appeal directly to the highly plausible personal level explanation (e.g., Joshanloo & Weijers 2013). However, the interaction of national religiosity and national income inequality is a stronger predictor, suggesting that specifically national-level, probably cultural, factors are at play and could benefit from further explanation

In this study, we tested our hypothesis in a large number of nations, representative of most of the world's population. However, many nations have been excluded from this study because they are not included in the World Values Survey or the European Values Study. Study 2 sought to replicate the current findings in an even larger number of nations, using slightly different scales and data sources.

Study 2

This study examines our main hypotheses using national-level data from three different large multi-national data sets, allowing for a more complete cross-cultural analysis. The data were subject to a moderated regression analysis with centred variables (Aiken & West, 1991; Jose, 2013a).

Method

The same national income inequality and economic prosperity indexes that were used in Study 1 were used to measure these variables in Study 2. The national religiosity scores provided by Diener and colleagues (2011) were used to assess religiosity. These scores capture the average importance of religion in individuals' daily lives for each nation[2]. The life satisfaction index from the World Database of Happiness was used as the outcome variable in the analyses (Veenhoven, 2013). The life satisfaction scores for each nation

[2] Calculated using data provided by the Gallup World Poll from 2005 to 2009.

indicate the average extent to which people are satisfied with their life as a whole on a scale ranging from 0–10. The life satisfaction data are from 2000–2009. The income inequality, economic prosperity, and religiosity indexes were centred. The included nations and national-level means of the variables under study are reported in Table 3.

Results

We conducted a moderated regression analyses to test the main hypotheses of the study. The M&M (moderation & mediation) statistical program was used to graph the interaction (Jose, 2013b). The predictor (income Gini) and moderator (religiosity) were entered together with the interaction term of the predictor and moderator, the quadratic term of the moderator, and the interaction term of the predictor and quadratic term of the moderator. There is a significant linear moderation if the interaction between the predictor and the moderator is significantly different from zero. There is a significant quadratic moderation if the interaction between the predictor and the quadratic term of the moderator is significantly different from zero.

This analysis was conducted on the 127 nations for which data was available for income inequality, religiosity, economic prosperity, and life satisfaction. The results of the regression analysis (excluding economic prosperity) showed that approximately 29% of the variance in life satisfaction was explained by the predictors (R^2 = .29, adjusted R^2 = .26, F (5, 121) = 9.809, p < .001). The results are presented in Table 4. The interaction of the linear term of religiosity and income inequality was not a significant predictor, indicating that religiosity was not a linear moderator of the relationship between income inequality and life satisfaction. The quadratic term of religiosity was a significant predictor, showing that the relationship between religiosity and life satisfaction is not entirely linear. The interaction of income inequality and the quadratic term of religiosity was also a significant predictor of life satisfaction, indicating that the influence of income inequality on life satisfaction is quadratically moderated by religiosity. The quadratic moderation is graphically depicted in Figure 2. The graph indicates that for highly religious nations, the relationship between income inequality and life satisfaction is negative. However, as religiosity lowers to moderate levels, this relationship becomes positive. Finally, as religiosity decreases from moderate to very low levels, the relationship becomes negative again, resembling the relationship at very high levels of religiosity.

We repeated the analysis adding the economic prosperity measure used in the first study as a covariate. National economic prosperity was a strong positive predictor of life

satisfaction (b = .557, β = .716, t = 11.005, p < .001), and accounted for about 36% of the variance in life satisfaction scores over and above the other variables. However, the quadratic moderation effect remained significant (b = -.362, β = -0.242, t = -2.004, p < .05).

Discussion

The results of the second study show that national religiosity was a negative predictor of life satisfaction, which can be justified in the same way as in the first study. The interaction between religiosity and income inequality was not a significant predictor, indicating that religiosity is not a linear moderator of the relationship between income inequality and life satisfaction. The interaction between the quadratic term of religiosity and income inequality was however significant, which indicates that national religiosity is a quadratic moderator of the relationship.

As shown in Figure 2, we found a negative relationship between income inequality and life satisfaction for nations with both very high and very low levels of religiosity, whereas the relationship for moderately religious nations is positive. These patterns are largely consistent with the religiosity-as buffer-hypothesis and what we found in Study 1. That is, compared to the slope for the least religious nations, the clear majority of the other slopes demonstrate a less negative or positive relationship between income inequality and life satisfaction. However, the patterns indicate that although religiosity functions as a buffer for inequality in a large portion of the world's nations, this buffering effect is not at work in highly religious nations. Highly religious nations also tend to be less wealthy, but this difference cannot explain the lack of evidence for a buffering effect in these nations because the quadratic moderation remained significant when we controlled for economic prosperity in our analyses.

We propose that a particular feature common to the very religious nations causes income inequality to be negatively correlated with life satisfaction: highly conservative cultural, political, and economic institutions, i.e. cultural norms and political and economic structures that permit very little economic mobility at the national or individual level, and are very rarely subject to change themselves. Indeed, many studies have revealed that nations replete with highly religious individuals and institutions are likely to value and endorse conformity, hierarchy, tradition, and preserving the social order (e.g., Roccas & Schwartz, 1997; Saroglou, Delpierre, & Dernelle, 2004; Schwartz & Huismans, 1995). One effect of such conservative norms and institutions in a nation is likely to be low economic growth. The idea that highly religious nations are culturally, politically, and economically conservative is

consistent with the most thorough analysis of the effects of religiosity on economic growth; Durlauf, Kourtellos, and Tan (2012) found that the only measure of religiosity to robustly (i.e. significantly across several different methods of statistical analysis) predict economic growth was negatively correlated, indicating that nations with high levels of religiosity are less likely to be experiencing economic growth.

Another likely effect of conservative cultural norms and political and economic structures in a nation is the widespread perception of very low income mobility. This is because, in nations with highly conservative political and economic institutions, the economic policies are not conducive to large increases in individual incomes, nor are they likely to change in the near future. Recall that previous studies (e.g., Alesina & La Farrara, 2005) have demonstrated that perceptions of high income mobility tend to make the relationship between income inequality and subjective well-being positive. Therefore the decline of the relationship between income inequality and life satisfaction (from positive to negative) as religiosity increases from moderate to high levels, could be explained by highly religious nations tending to be more culturally, politically, and economically conservative (and thereby offering less chances for income mobility) than less religious nations. This income-mobility-based explanation can explain why moderately religious nations tend to report a positive relationship between income inequality and life satisfaction and nations with very high levels of religiosity tend to report a negative relationship.

General Discussion

The main purpose of this paper was to test whether religiosity moderates the relationship between income inequality and subjective well-being. The results provide evidence in support of religiosity moderating the relationship between income inequality and subjective well-being. The results and the discussion above indicate that several different and occasionally competing mechanisms govern the impact of religiosity on the relationship between income inequality and subjective well-being, including individual-level, national-level, and cross-level mechanisms.

This paper also examined whether religiosity was a linear or a quadratic moderator of the relationship between income inequality and subjective well-being. Here the benefit of conducting two studies, one on a larger sample of nations, becomes apparent. In study 1, our analysis of multi-level data from 85 nations revealed support for both personal and national religiosity being linear moderators of the relationship between national income inequality and life satisfaction. The support for a linear moderation was strong in this case because the

coefficients for linear moderations were significant and the coefficients for the quadratic moderations were not significant. However, our analysis of national-level data from 127 nations in Study 2, revealed support for religiosity being a quadratic moderator of the relationship between national income inequality and life satisfaction. The support for a quadratic moderation was strong in this case because the coefficient for quadratic moderation was significant and the coefficient for linear moderation was not significant. Despite the seeming contradiction this difference can be accounted for in an instructive manner.

Study 2, included 41 more nations than Study 1, and many of the new nations were much more religious (for religiosity scores see Diener et al., 2011). In fact, a majority of the most religious nations were not included in the analysis in Study 1. Furthermore, the addition of many highly religious nations in Study 2 caused most of the nations in the high religiosity group from Study 1 to end up in one of the moderately religious groups in Study 2. This indicates that the shift of the high religiosity group from a positive relationship (found in Study 1, as shown in Figure 1) to a negative relationship (found in Study 2, as shown in Figure 2) is very likely to have been caused by the addition of many highly religious nations to the sample in Study 2, which happen to be understudied and generally neglected in psychological research. Therefore we can conclude that religiosity acts as a liner moderator on the relationship between income inequality and subjective well-being for the most commonly studied nations. However, when more of the most religious and least studied nations are included in the analysis, religiosity acts as a quadratic moderator. It also should be mentioned that in the first study, our outcome variable, life satisfaction, was assessed at the individual level, but in the second study, life satisfaction was assessed at the national level. This might have led to slightly different results. Unfortunately at the moment, it is not possible for us to examine our hypotheses in a sample larger than that in Study 1 using individual-level life satisfaction scores due to the lack of data. Future research could venture in this direction.

This paper has several important implications for cross-cultural research on equality, religion, and subjective well-being. First, multi-level analysis can add important insights by illuminating whether the relevant mechanisms are working on the national level or the individual level, providing guidance for explaining the observed relationships. Second, cross-cultural analyses should aim to gather relevant data from as many cultures as possible, even if this means drawing data from multiple sources, since inclusion of understudied cultures can alter the results to various degrees. Third, as Greene and Yoon (2004) point out, studies of the relationship between income inequality and subjective well-being rarely take religiosity into

account (Haller & Hadler, 2006 is an exception), and may be partially confounding their results by doing so.

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Tables and Figures

Table 1

Sample sizes and mean scores for Study 1

	Sample size	**Life satisfaction**	**Religiosity**	**Income Gini**	**Economic prosperity**
Tanzania	1171	3.87	9.61	34.60	-.34
Zimbabwe	1002	3.95	9.61	50.10	-6.78
Pakistan	2000	4.85	10.00	31.20	-1.26
Rwanda	1507	4.97	9.45	46.70	-1.34
Ethiopia	1500	4.99	9.21	29.80	-1.83
Georgia	3000	5.21	9.10	40.80	-2.11
India	4003	5.47	8.01	36.80	.50
Ukraine	3702	5.49	6.95	27.60	-1.12
Bulgaria	3501	5.52	5.61	29.20	-.56
Egypt	6051	5.57	9.77	32.10	-.84
Burkina Faso	1534	5.57	9.11	39.60	-.72
Belarus	2500	5.59	6.26	28.80	-.54
Russian Federation	6037	5.62	5.86	43.70	.37
Uganda	1002	5.65	9.26	42.60	-.61
Armenia	1500	5.67	8.43	30.20	-1.93
Moldova	3605	5.67	8.15	37.40	-1.67
Algeria	1282	5.67	9.81	35.30	.86
Bangladesh	1500	5.78	9.66	31.00	-.07
Morocco	3464	5.78	9.83	40.90	1.43

Albania	2534	5.88	7.12	33.00	-.66
Lithuania	2518	5.91	6.46	35.80	-.35
Azerbaijan	1505	5.91	6.98	16.80	-.47
Latvia	2519	5.92	5.69	36.30	-.25
Romania	4411	5.96	8.88	32.10	-.56
Zambia	1500	6.06	9.18	50.70	-1.31
Mali	1534	6.09	9.17	39.00	-.45
Hungary	2513	6.11	5.38	30.00	.00
Ghana	1534	6.12	9.78	42.80	-1.19
Macedonia	2555	6.13	7.65	42.80	-1.04
Turkey	8337	6.17	9.26	41.20	-.07
South Korea	2400	6.30	5.56	31.60	2.00
Estonia	2523	6.35	4.38	36.00	.38
Jordan	2423	6.40	9.93	37.70	-.71
Iran	5199	6.40	9.49	38.30	-.03
Hong Kong	1252	6.41	4.31	43.40	2.70
Kyrgyzstan	1043	6.48	7.80	33.50	-1.66
Bosnia and Herzegovina	2712	6.49	7.79	36.30	-1.25
Serbia	2732	6.52	7.03	28.20	-1.59
Slovakia	2840	6.58	6.81	25.80	.67
Philippines	1200	6.65	9.56	44.00	.99
China	3015	6.68	3.58	41.50	2.59
Portugal	2553	6.69	7.34	38.50	.86
Japan	2458	6.71	5.01	24.90	2.59
Peru	3001	6.73	9.08	50.50	1.26
South Africa	5988	6.76	9.14	57.80	-.42
Greece	2642	6.77	7.62	34.30	-.39
Malaysia	1201	6.84	8.07	37.90	2.45
Poland	3605	6.85	8.28	34.90	.84
Viet Nam	2495	6.86	4.99	37.80	1.25
Nigeria	2022	6.87	9.62	42.90	-1.61
Indonesia	3019	6.93	9.70	37.60	1.09
Croatia	2528	6.93	7.22	29.00	.39

France	4117	6.99	4.43	32.70	2.03
Israel	1199	7.03	7.78	39.20	1.71
Germany	6175	7.04	4.32	28.30	2.78
Italy	4531	7.10	7.44	36.00	1.39
Czech Republic	3729	7.11	3.82	25.80	1.68
Spain	5109	7.18	5.74	34.70	1.23
Chile	2200	7.18	8.71	52.00	1.79
Thailand	1534	7.21	7.98	42.50	2.24
Singapore	1512	7.24	8.23	42.50	3.22
Trinidad and Tobago	1002	7.26	9.67	40.30	-.25
Australia	1421	7.30	6.09	35.20	2.65
Slovenia	3409	7.35	5.22	31.20	1.17
Montenegro	1516	7.45	7.03	36.90	-.85
Uruguay	1000	7.46	7.32	47.10	.87
United States	2449	7.46	8.39	40.80	2.12
Argentina	2282	7.48	8.41	48.80	.92
Great Britain	3602	7.51	5.10	36.00	1.86
Belgium	3421	7.51	5.03	33.00	2.08
Venezuela	1200	7.52	9.53	43.40	.23
Brazil	1500	7.64	9.63	55.00	1.59
Sweden	3205	7.69	4.00	25.00	2.79
Austria	3032	7.79	6.20	29.10	2.56
Finland	3186	7.79	5.65	26.90	2.40
Canada	4095	7.79	7.43	32.60	2.76
Netherlands	3607	7.87	4.90	30.90	2.48
New Zealand	954	7.89	5.35	36.20	1.81
Guatemala	1000	7.95	9.72	53.70	.24
Switzerland	2513	7.96	6.13	33.70	3.33
Ireland	2025	8.01	7.48	34.30	1.91
Norway	2115	8.03	4.20	25.80	3.26
Mexico	3095	8.19	9.41	51.60	1.43
Colombia	3025	8.31	9.67	58.50	1.00
Denmark	2530	8.31	4.07	24.70	2.13

Table 2

Hierarchical Linear Modelling Predicting Life Satisfaction

	b	St. Error	*t*	Sig.
Intercept	7.328	.133	54.963	.000
Age	-.008	.001	-6.708	.000
Female	-.003	.020	-.158	.875
Personal religiosity	.086	.007	10.885	.000
Quad_personal religiosity	.008	.001	6.057	.000
National religiosity	-.267	.059	-4.501	.000
Quad_national religiosity	-.145	.028	-5.089	.000
National income inequality	.017	.019	.867	.389
National economic prosperity	.140	.057	2.434	.017
Personal religiosity × national income inequality	.002	.001	2.044	.045
National religiosity × national income inequality	.026	.006	4.130	.000
Quad_personal religiosity × national income inequality	.0001	.0001	1.008	.316
Quad_ national religiosity × national income inequality	.0008	.003	.237	.814
Personal religiosity × national religiosity	.017	.005	3.547	.001

Note. 'Quad' indicates the quadratic term of the moderator

Table 3

Mean scores for the national-level variables used in Study 2

	Life satisfaction	**Religiosity**	**Income Gini**
Togo	2.6	.88	34.40
Tanzania	2.8	.97	34.60
Burundi	2.9	.87	33.30
Benin	3.0	.91	38.60
Zimbabwe	3.0	.85	50.10
Sierra Leone	3.5	.97	42.50
Congo, Republic of the	3.7	.94	47.30
Kenya	3.7	.95	47.70
Mozambique	3.8	.88	47.10
Niger	3.8	.98	43.90
Cameroon	3.9	.95	44.60
Haiti	3.9	.78	59.50
Ethiopia	4.2	.90	29.80
Angola	4.3	.91	58.60
Georgia	4.3	.78	40.80
Liberia	4.3	.96	52.60
Rwanda	4.3	.90	46.70
Bulgaria	4.4	.35	29.20
Burkina Faso	4.4	.91	39.60
Congo, Democratic Republic of the	4.4	.98	44.40
Cote d'Ivoire	4.4	.88	48.40
Guinea	4.5	.97	43.30
Senegal	4.5	.98	39.20
Albania	4.6	.35	33.00
Central African Republic	4.6	.94	43.60
Botswana	4.7	.74	61.00
Macedonia	4.7	.80	42.80
Mali	4.7	.93	39.00
Uganda	4.8	.93	42.60
Yemen	4.8	.95	37.70

Cambodia	4.9	.92	44.20
Mauritania	4.9	.98	39.00
Moldova	4.9	.75	37.40
Armenia	5.0	.68	30.20
Pakistan	5.0	.97	31.20
Ukraine	5.0	.43	27.60
Zambia	5.0	.94	50.70
Sri Lanka	5.1	.99	41.10
Tajikistan	5.1	.80	33.60
Belarus	5.2	.33	28.80
Ghana	5.2	.93	42.80
Montenegro	5.2	.49	36.90
Namibia	5.2	.92	74.30
Azerbaijan	5.3	.59	16.80
Bangladesh	5.3	.99	31.00
Nepal	5.3	.93	47.30
Algeria	5.4	.90	35.30
Chad	5.4	.93	39.80
Latvia	5.4	.36	36.30
Morocco	5.4	.94	40.90
Serbia	5.4	.53	28.20
Hungary	5.5	.41	30.00
India	5.5	.85	36.80
Kyrgyzstan	5.5	.68	33.50
Lithuania	5.5	.41	35.80
Russia	5.5	.32	43.70
Bosnia and Herzegovina	5.6	.69	36.30
Turkey	5.6	.82	41.20
Djibouti	5.7	.98	39.90
Egypt	5.7	.99	32.10
Nigeria	5.7	.97	42.90
Portugal	5.7	.73	38.50
Romania	5.7	.84	32.10

South Africa	5.8	.85	57.80
Iran	5.9	.81	38.30
Jordan	5.9	.95	37.70
Philippines	5.9	.96	44.00
Slovakia	5.9	.48	25.80
Tunisia	5.9	.92	40.80
Croatia	6.0	.69	29.00
Estonia	6.0	.17	36.00
Korea, South	6.0	.42	31.60
Uzbekistan	6.0	.60	36.70
Kazakhstan	6.1	.50	30.90
Vietnam	6.1	.35	37.80
Laos	6.2	.98	32.60
Malawi	6.2	.98	39.00
Peru	6.2	.83	50.50
Bolivia	6.3	.88	57.20
Indonesia	6.3	.98	37.60
Ecuador	6.4	.82	54.40
Greece	6.4	.71	34.30
Poland	6.4	.75	34.90
Czech Republic	6.5	.26	25.80
Japan	6.5	.26	24.90
Malaysia	6.5	.89	37.90
Belize	6.6	.65	59.60
France	6.6	.27	32.70
Hong Kong	6.6	.23	43.40
Thailand	6.6	.95	42.50
Chile	6.7	.69	52.00
El Salvador	6.7	.88	46.90
Italy	6.7	.73	36.00
Jamaica	6.7	.71	45.50
Uruguay	6.7	.42	47.10
Paraguay	6.8	.92	53.20

Singapore	6.9	.60	42.50
Slovenia	6.9	.43	31.20
Honduras	7.0	.88	55.30
Israel	7.0	.48	39.20
Trinidad and Tobago	7.0	.86	40.30
Germany	7.1	.41	28.30
Nicaragua	7.1	.86	52.30
Guatemala	7.2	.86	53.70
Spain	7.2	.43	34.70
United Kingdom	7.2	.30	36.00
Argentina	7.3	.64	48.80
Belgium	7.3	.39	33.00
United States	7.4	.66	40.80
Brazil	7.5	.88	55.00
Dominican Republic	7.5	.86	48.40
New Zealand	7.5	.35	36.20
Venezuela	7.5	.77	43.40
Austria	7.6	.53	29.10
Ireland	7.6	.57	34.30
Netherlands	7.6	.33	30.90
Australia	7.7	.32	35.20
Colombia	7.7	.85	58.50
Canada	7.8	.45	32.60
Panama	7.8	.87	54.90
Sweden	7.8	.16	25.00
Finland	7.9	.28	26.90
Mexico	7.9	.68	51.60
Norway	7.9	.22	25.80
Switzerland	8.0	.43	33.70
Denmark	8.3	.19	24.70
Costa Rica	8.5	.84	48.90

Table 4

Summary of Moderated Regression Analyses with National-Level Centred Variables Predicting Life Satisfaction Moderated by National Religiosity

Predictors	*b*	*β*	*t*
Income inequality	.05	.36	2.99**
Religiosity	-3.21	-.60	-5.27**
Income inequality × religiosity	-.05	-.08	-.68
Quad_religiosity	-5.89	-.28	-2.27*
Income inequality × quad_religiosity	-.61	-.41	-2.43*

* $p<0.05$ ** $p<0.01$

Note. 'Quad' indicates the quadratic term of the moderator

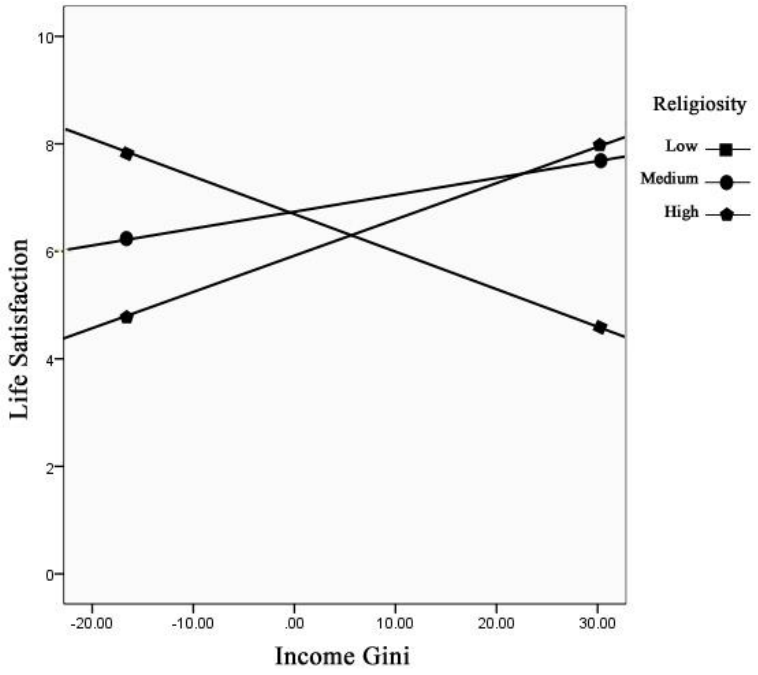

Figure 1. Graphical depiction of the moderation results. *Note.* Income Gini is grand-mean centred.

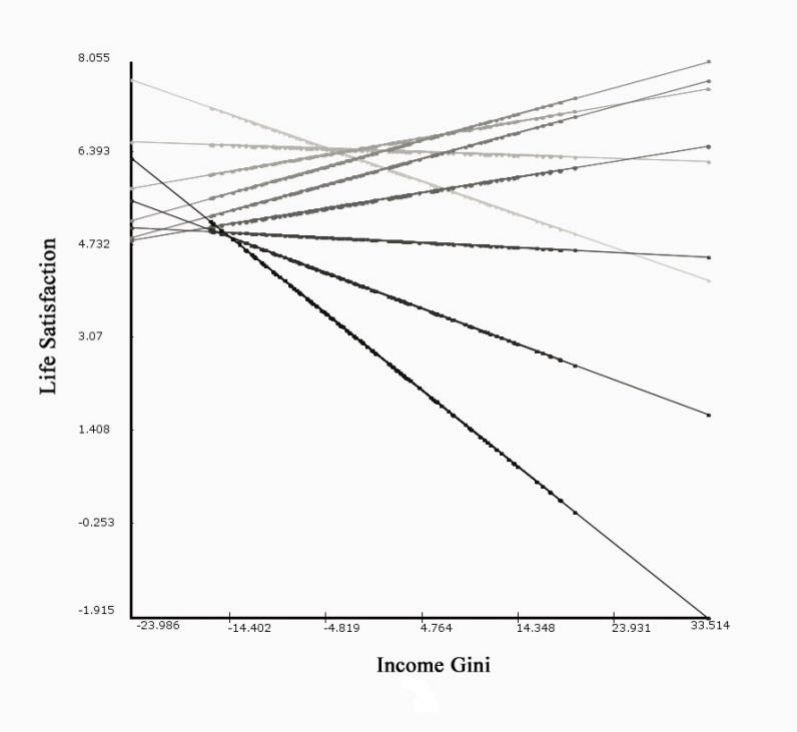

Figure 2. Graphical depiction of the quadratic moderation results

Note. Dark lines represent high levels of religiosity, and light lines represent low levels of religiosity.